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# INDUSTRIAL DEVELOPMENT

*Global Report 1995*

***Erratum***

*Page 168*

The manufacturing value added figures for the Islamic Republic of Iran for 1990 and 1993 were computed using MVA data expressed in national currencies at 1990 prices and then converted to 1990 United States dollars on the basis of exchange rates as of May 1995. In accordance with the new figures reported in the *International Financial Statistics* (October 1995), which give the average floating exchange rate and manufacturing value added in the national currency, these figures have been revised as shown below. Other related figures are subject to revision as necessary.

| | 1990 | 1993 |
|---|---|---|
| **MANUFACTURING:** | | |
| Value added (millions of dollars) | 9,129 | 10,359 |

# INDUSTRIAL DEVELOPMENT

## *GLOBAL REPORT 1995*


Published by Oxford University Press for the
UNITED NATIONS INDUSTRIAL DEVELOPMENT ORGANIZATION

*Oxford University Press, Walton Street, Oxford OX2 6DP*

*Oxford New York*
*Athens Auckland Bangkok Bombay*
*Calcutta Cape Town Dar es Salaam Delhi*
*Florence Hong Kong Istanbul Karachi*
*Kuala Lumpur Madras Madrid Melbourne*
*Mexico City Nairobi Paris Singapore*
*Taipei Tokyo Toronto*

*and associated companies in*
*Berlin Ibadan*

*Oxford is a trade mark of Oxford University Press*

*Published in the United States*
*by Oxford University Press Inc., New York*



*British Library Cataloguing in Publication Data*
*data available*

*Library of Congress Cataloging in Publication Data*
*data available*

*ISBN 0-19-829038-1*
*ISBN 0-19-829036-5 (Pbk)*

*Typeset by United Nations Office at Vienna*
*Printed in Great Britain*
*on acid-free paper by*
*Butler and Tanner Ltd., Frome, Somerset*

# Preface

In 1994, the world industrial economy came to a crossroads following a series of rapid developments in the global economic environment and a decade of change on a scale virtually unprecedented since the Second World War. The year marked a turning-point as developed economies emerged from a lengthy recession and appeared to be entering a new phase of growth. The vigorous growth of the more advanced developing economies, regarded by global investors as emerging markets, continued unabated. At the same time, the pace of industrial growth in most other developing countries and in several economies in transition remained slow, while the least developed economies suffered increasingly severe levels of poverty.

Six months into 1995, the signs of a slow-down in growth in the United States of America were perceived by many economists as a soft landing for an economy which was tending to become overheated. On the other hand, the meteoric rise of the yen led many Japanese companies to readjust their profit forecasts downwards. Disquieting trends in trade relations with the United States may have an adverse impact on growth in Japan during 1995. The currency crisis, international capital movements and continuing debt problems in many Latin American countries have compelled several Governments in the region to review their macroeconomic policies and to restrict growth. At the same time, political and ethnic tension in Africa, eastern Europe and western Asia has undermined the prospects for socio-economic stability and progress in the countries concerned.

The theme of *Industrial Development Global Report 1995*—"sustaining the growth impulse"—has to be considered in the light of the above-mentioned developments. What are the major issues that developing countries will have to deal with if they are to achieve sustained and more equitably distributed economic and industrial growth beyond the year 2000. There can be little doubt that economic reform, industrial restructuring, deregulation and national competitiveness will assume increasing importance in both developing and developed countries. At the same time, technological developments in transport and telecommunications will bring greater globalization and a much higher degree of economic interdependence. All the aspects involved will have to be effectively integrated into new industrial development strategies, with the active participation of Governments and the private sector.

Developing economies are most vulnerable to changes in the global economic environment, and some remain ill equipped to cope with the challenges confronting them. Industrialization must be recognized as the crucial engine of growth and the primary catalyst for development in those economies. The analysis of the issues contained in part one of the present *Global Report* highlights the various implications for developing countries of the ongoing process of change, and provides Governments with a basis upon which to build strategies for restructuring their industries to meet the emerging challenges. Part two, as in the past, provides up-to-date surveys of industrial development in the 10 regions classified by UNIDO.

At the World Summit for Social Development held at Copenhagen in March 1995, UNIDO reiterated its commitment to the promotion of industrial growth in developing countries, to the strengthening of their industrial capabilities, and to ensuring their rapid entry into the mainstream of global trade and investment. Only thus will the benefits of increased global economic integration be more equitably spread among all members of the world community.

MAURICIO DE MARIA Y CAMPOS
*Director-General*

*Industrial Development Global Report 1995* was prepared by the Studies and Research Branch of UNIDO as an annual review of the world industrial economy. The team was led by Jang-Won Suh and comprised Choy-Sim Chak, Kee-Yung Nam and Cristina Pitassi. A number of experts were consulted and provided valuable inputs for the preparation of this *Global Report.* Background papers for part one were prepared by Charles Cooper, Gary Hufbauer, Herman Muegge and Se-Hark Park. The first inputs for the preparation of part two were derived from detailed analyses of the economic situation and of industrial development in the major regions of the world, presented during a workshop of the world economic outlook held at UNIDO headquarters in October 1994. Major contributions were received from Idrak-ul-Zaman Bhatty, Hassan Charif, Shunichi Furukawa, Peter Havlick, Fanzhang Huang, Peter Jarrett, Matthias Luecke, Elfatih Shaaeldin and Ziga Vodusek. Background papers for part two were then prepared by a team led by Meghnad Desai and comprising Mahvash Alerassool and Gautam Sen.

Bruno Dissmann and Gerhard Margreiter contributed to the statistical annex, and were responsible for the short- and medium-term forecasts. Maria Fermie provided invaluable assistance in finalizing the text for publication.

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# Explanatory notes

The following terms and symbols have been used throughout the report:

References to dollars ($) are to United States dollars, unless otherwise stated.

References to tonnes are to metric tons, unless otherwise specified.

A slash (1980/81) indicates a crop year or a financial year.

The term "billion" signifies a thousand million.

Countries are referred to by the names that were in official use at the time the relevant data were collected. Where the designation "country or area" appears in the heading of tables or figures, it covers countries, territories, cities or areas.

In some tables and figures, the designation "developed" or "developing" economies is intended for statistical convenience and does not necessarily express a judgement about the stage reached by a particular country or area in the development process.

The term "NICs" is used extensively to describe developing economies, be they countries, provinces or areas, where there has been particularly rapid industrial growth. It does not imply any political division within the ranks of developing countries and is not officially endorsed by UNIDO.

Industry categories referred to in this publication are based on Revision 2 of the International Standard Industrial Classification (ISIC). References to ISIC codes are accompanied by a descriptive title (for example, ISIC 323 — "Manufacturing of leather and products of leather, leather substitutes and fur, except footwear and wearing apparel"). Considerations of space, however, require a shortening of this description (for example, ISIC 323 may be referred to simply as "Leather and fur products"). In some cases, ISIC categories have been aggregated and the descriptive titles adjusted accordingly.

The following symbols and terms have been used in tables:

Two dots (..) indicate that data are not available or are not separately reported.

A dash (—) indicates that the amount is nil or negligible.

Totals may not add precisely because of rounding.

## Technical notes for tables

Data on gross domestic product (GDP), manufacturing value added (MVA) and labour productivity have been compiled by the Studies and Research Branch of UNIDO on the basis of existing international data sources. Data are disaggregated by main regions according to United Nations geographical groupings and by product group according to the ISIC system of classification.

GDP and MVA are valued in national currencies at 1990 prices, and then converted to 1990 United States dollar exchange rates. Regional totals are computed by aggregating the corresponding figures for each individual country.

Growth rates are based on data in constant prices. Growth rates for time periods exceeding one year are average annual growth rates. See also technical notes to the statistical annex to the present *Global Report* for details concerning the definition and methodology used.

Shares referring to time periods exceeding one year are average annual shares.

Historical data in the present *Global Report* may differ from those contained in previous *Global Reports* because of constant updating as more reliable data become available or because of changes in country reporting.

* * *

The following abbreviations and acronyms appear in this publication:

| | |
|---|---|
| ACP | Africa, the Caribbean and the Pacific |
| APEC | Asia-Pacific Economic Co-operation |
| ARPA | Advanced Research Product Agency |
| ASEAN | Association of South-East Asian Nations |
| CAD | computer-aided design |
| CAM | computer-aided manufacturing |

| | |
|---|---|
| CFA | Communauté financière africaine (African Financial Community) |
| CIS | Commonwealth of Independent States |
| ECOWAS | Economic Community of West African States |
| FDI | foreign direct investment |
| GATT | General Agreement on Tariffs and Trade |
| GATS | General Agreement on Trade in Services |
| GCC | Gulf Cooperation Council |
| GDP | gross domestic product |
| GNP | gross national product |
| IEA | International Energy Agency |
| ILO | International Labour Organisation |
| IMF | International Monetary Fund |
| ISIC | International Standard Industrial Classification of all Economic Activities |
| Mercosur | Mercado Común del Sur (Southern Cone Market) |
| MODVAT | moderated value-added tax |
| MVA | manufacturing value added |
| NAFTA | North American Free Trade Agreement |
| NIC | newly industrializing country |
| OECD | Organisation for Economic Co-operation and Development |
| OPEC | Organization of Petroleum Exporting Countries |
| OPT | outward processing trade |
| PBDAC | Principal Bank for Development and Agricultural Credit |
| PEO | public enterprise organization |
| PTA | Preferential Trade Area for Eastern and Southern African States |
| R and D | research and development |
| SEB | State Electricity Board |
| SACU | Southern African Countries Union |
| SITC | Standard International Trade Classification |
| TRIMS | trade-related investment measures |
| TRIPS | trade-related intellectual property rights |
| WTO | World Trade Organization |

**This report is based on information available as of May 1995.**

# *Part One*

# Industry in a changing world: sustaining the growth impulse

Since the 1970s, developing countries have managed to achieve higher average annual rates of economic growth compared to those of developed economies and the world as a whole. Statistics show manufactured exports of developing countries currently accounting for close to 60 per cent of their total exports, with their share of world manufactured exports exceeding 26 per cent in 1993. However, this highly favourable picture of the economic success achieved by developing countries begins to fade when seen from a regional perspective. There are vast discrepancies in the levels of economic, social and industrial development between individual developing countries. The top performers are the newly industrializing countries (NICs) in the Asian and Pacific region and Latin America. On the other hand, the development efforts of countries in Africa are severely hampered by political uncertainty and ethnic tensions. Most African countries are still dependent upon primary commodity exports which are highly vulnerable to the dictates of nature and global market demand.

The economies in transition in eastern Europe and the Commonwealth of Independent States are just beginning to recover from the after-effects of the end of the cold war. While their levels of technology are adequate, they face a severe challenge in the process of readjustment following the break-up of the former Union of Soviet Socialist Republics and the unification of Germany. Much will need to be done to bring the economies of the region into line with the rest of Europe.

The challenge faced by all developing countries and the economies in transition in a changing global economic environment is therefore how to sustain the growth impulse and to expand their share in world output. There is no lack of will on the part of their Governments to improve the social and economic status of their peoples, and industry is still seen to provide the most viable path towards the achievement of that goal, as evidenced by the increasing implementation of industrial reform programmes and policies in the countries concerned. Their Governments have also chosen to follow the example of NICs in adopting a more open market, export-oriented approach to development. Current changes in the world economic environment, however, have placed the least developed countries before additional obstacles on the road to success. Those changes include the emergence of a more liberalized global trading system, growing numbers of regional integration arrangements, advances in industrial technology, increasing pressures on the ecosystem and the intensification of competition on world markets. Furthermore, developing countries are still highly dependent upon developed market economies for their exports, and any slow-down in economic growth or adverse changes in trading policies in those economies could have a negative impact on the future growth prospects of developing countries.

Gains from free trade should be equitably divided between rich and poor countries. The fruits of industrialization have so far been unevenly spread among developing countries, the majority of which have suffered economic stagnation and fallen further behind in the face of intense global competition. The gap between rich and poor at both the international level as well as within individual countries has widened over the last decade. Severe poverty continues to affect the least developed countries, especially those in sub-Saharan Africa and South Asia. Approximately one third of the total population of developing countries, currently estimated at 1.2 billion people, live below the poverty line, with an annual per capita income of $350. The number of hard-core poor, those that fall under the extreme poverty line with an annual per capita income of $275, make up close to half of the above-mentioned total.

Since one of the goals of economic development and industrialization is to ensure a minimal acceptable standard of living for all, the alleviation of global poverty should be accorded high priority on the global industrialization agenda. To achieve that goal, the commitment to economic reform in developing countries should be maintained, and industrial growth closely monitored. In that connection, funding for infrastructure and investment through higher rates of savings and the removal of barriers to capital flows will be necessary.

# World economic trends and key influences

In 1994, the world industrial economy saw a recovery from the recession that affected developed countries during the late '80s and early 1990s. A change in the pattern of MVA was observed in 1994, resulting in a surge in the growth rate to 4.4 per cent. This positive trend is forecast to continue in 1995, with a growth rate of 3.2 per cent. Moreover, for the first time in many years the world is in a growth mode, with average growth in gross domestic product (GDP) estimated at 3.1 per cent for 1994 and forecast to reach 2.9 per cent in 1995 (see table 1 and figures 1 and 2).

MVA growth in developing countries as a whole continues to surpass that of developed countries. Consequently, the share of developing countries in world MVA has increased steadily, and is forecast to be 17.4 per cent in 1995. Over the past two decades, developing countries have been able to maintain their comparative advantage in the textiles and wearing apparel industries. Their share of world MVA has been increasing, with no significant declines in average annual growth rates. The metal products industry has also performed well, implying a shift into more intermediate products (see table 2).

Recovery in the United States started as early as 1992 and has maintained a good pace since then, with GDP growth of approximately 3 per cent per annum for 1992 and 1993 and an estimated 4.0 per cent in 1994. While the unemployment rate in the country as a whole fell below 6 per cent, it was lower than 5 per cent in a group of States that account for one third of the labour force.[1] The United Kingdom of Great Britain and Northern Ireland followed suit in 1993, and succeeded in maintaining growth above its historical trends in 1993 and 1994. Japan and western Europe were the last to reverse the negative trends, and by the end of 1994, Germany and Japan were well on the way to recovery, with France and the Benelux countries following closely.

The second half of the 1990s may thus witness a buoyant North, with countries in the Asian and Pacific region continuing to grow at a very rapid pace, thereby feeding each other's growth impulses. There has been some concern that the economy of China may be overheating, given its relatively high double-digit growth rates of GDP and inflation over the past few years. Repeated efforts by the Government of China to check runaway inflation has shown some positive results, but the longer-term effects remain to be seen. In Latin America, the impressive performance of Argentina, Brazil, which managed to halve its average annual inflation rate, and China will provide the impetus for growth in the region. Poland and the economies in the territory of the former Czechoslovakia are showing signs of recovery, but not eastern Europe as a whole, which continued to register negative economic growth with no signs of a trend reversal in 1995.

Although the liberalization measures and market-oriented reforms which have been adopted worldwide since the end of the cold war are expected to lead the economies of eastern Europe into a growth phase, the recession and the difficulties facing the countries in transition have dampened early hopes. Nevertheless, having endured the initial rigours of transition, eastern Europe and Latin America, together with the developed and developing countries in Asia, are poised to expand. South Asia, on its part, has implemented many of the required adjustments, and should be ready to join the other high-performing countries in Asia. The principal weak link is sub-Saharan Africa, which unfortunately has not yet overcome its historical low-growth syndrome, despite the adoption of reforms.

Improvements in technology and telecommunications in the industrialization process have resulted in what can be described as the "globalization" of markets for goods, services, technologies and financing, as well as of production locations. Industries throughout the world have experienced greater trade and cross-border capital flows, a growing international division of labour based on specialization and comparative advantage, the expansion of transnational networks and increasing joint ventures between enterprises in different countries. Globalization, which has accelerated in recent years, is bound to have a resounding impact on overall economic and social development well into the twenty-first century. Some of the major changes that have influenced, and will continue to influence, the shape of industry are described below.

## Liberalization and integration of world trade

One significant issue for national economies, including developing countries as a group, has been the conclusion of the Uruguay Round of the General Agreement on Tariffs and Trade (GATT) and the creation of the World Trade Organization (WTO). The substantial opening of markets, combined with the inclusion of new areas and procedural reform, promises to set in motion changes of far-reaching importance. For developing countries, the gradual liberalization of the textiles and wearing apparel industries will offer significant opportunities, although the distribution of their benefits are likely to remain skewed in the short run, favouring the NICs and China. The beginnings of liberalization in agriculture is also looked upon favourably with regard to efficiency and equity.

The inclusion of trade-related intellectual property rights within the GATT framework currently appears to provide a one-sided benefit, in favour of the

more developed countries. In the case of trade-related investment measures, gains and losses are harder to compute, but the seriousness of the restrictions on national policy options is likely to be less severe than feared, given the overall climate of market liberalization. The greatest potential gain is in the dispute settlement mechanism of WTO, which promises to deter unilateral national actions, a source of friction and frustration for developing countries. However, its actual impact on the misuse of anti-dumping and countervailing duties remains to be seen.

The conclusion of the Uruguay Round brings to the fore labour standards and environmental issues in international trade disputes. Attempts by developed countries to link trade privileges to improvements in labour and environmental standards are becoming more commonplace. In fact, efforts to put labour standards formally on the agenda of WTO have ended with a compromise, whereby the issue was to be discussed in the preparatory committee for WTO. A committee on trade and environment has already been set up, and will become part of WTO in 1995. Though such issues have their merits, developing countries regard them as disguises for protectionism.

Apart from the problems that WTO will face in policing the new regime, the general consensus is that large gains can be made which will benefit the world industrial economy as a whole, provided competitiveness can be achieved by developing countries. Over time, the new global trading agreement will also usher in a more efficient and competitive global environment that will lead to changes in industrial production and new economies of specialization.

## Revival of regionalism

Regionalism has become a resurgent force in several parts of the world. The emergence of the single market in Europe has been matched by the expansion of the North American Free Trade Agreement (NAFTA) to include Mexico, not to mention the swift institutionalization of Asia-Pacific Economic Cooperation (APEC). Each of these regional trading agreements, as well as agreements on a smaller scale, such as the Association of South-East Asian Nations (ASEAN) free trade area (AFTA) and the Mercado Común del Sur (Mercosur), represent attempts to secure greater leverage through collective action within an increasingly integrated world economy.

Members within each economic group hope to experience increased levels of cross-border trade and investment, free flow of labour, greater exchange of information, increased technology transfer and the formation of strategic alliances. Economic interdependence and globalization will make the location of industrial activities more sensitive to cost differences, and developing countries will have to take advantage of these twin processes to enhance trade and investment links with developed countries.

## Private-sector-led growth

The focus of the growth strategy of most developing countries has been on a market-oriented structure, where the greater emphasis is placed on the private sector as the engine of growth. Many countries wish to replicate the experience of Japan and the Asian NICs, whose model for growth was characterized by intense competition, export orientation, international competitiveness and a very significant role for the private sector.

In Latin America and in many countries in Africa and the economies in transition in eastern Europe and the former Union of Soviet Socialist Republics (USSR), State-owned enterprises controlled much of industry, especially iron and steel, petrochemicals and fertilizers, as well as basic infrastructure services, such as utilities and transportation. In fact, in eastern Europe, State enterprises account for over 90 per cent of industrial production. In general, the monopoly status of State enterprises was seen to breed inefficiency and a lack of competitiveness, which filtered down to the private sector operating in a highly protected market environment. Over the past few years, however, many developing countries have adopted privatization as the crux of their economic reform.

Privatization has in the past been implemented in many forms. In addition to the outright sale of public assets to the private sector, another common form has been the setting-up of joint ventures between foreign and domestic enterprises to bid for privatization projects. In the case of China, automobile manufacturers in the United States have recently been encouraged to participate in a "people's car" project. India, for its part, opened up its telecommunications sector to international operators such as British Telecom, AT&T and US West. Privatization has thus emerged as an integral component in the creation of a market economy in which competition is allowed to flourish, with corresponding improvements in efficiency and productivity.

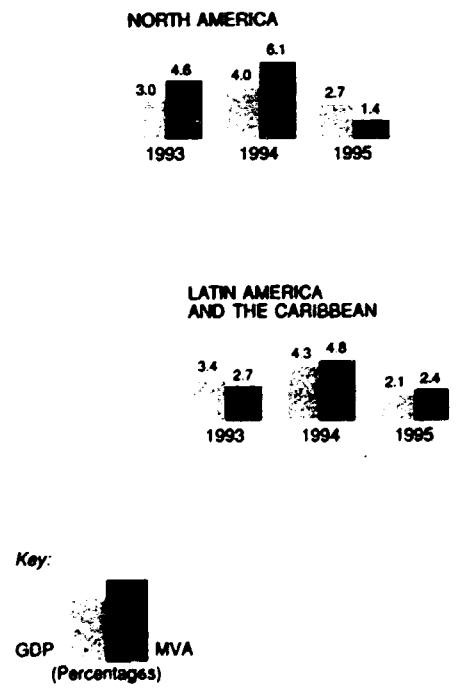
## Emergence of global corporations and role of foreign capital flows

The significance of transnational corporations in the industrialization process in developing countries cannot be disputed. Even though the amount of technology that has been transferred to the host country leaves much to be desired, transnational corporations have nevertheless provided employment opportunities to millions of unskilled and semi-skilled workers, as well as introducing modern management disciplines to local industries.

Today, as a result of rapid technological progress, instant mobility of financial capital, the international division of labour with global sourcing, as well as new patterns of cooperation and competition, transnational corporations have evolved into a form of

## Table 1. Regional and country estimates of GDP and

| Region, country or territory | GDP growth rates (percentage) | | | MVA growth rates (percentage) | | |
|---|---|---|---|---|---|---|
| | 1993 | 1994 | 1995 | 1993 | 1994 | 1995 |
| World | 1.6 | 3.1 | 2.9 | 0.3 | 4.4 | 3.2 |
| Developing countries (excluding China) | 3.5 | 4.0 | 3.7 | 4.4 | 5.3 | 5.4 |
| Developed market economies | 1.0 | 2.9 | 2.6 | -1.1 | 4.2 | 2.4 |
| China | 13.8 | 11.4 | 9.0 | 20.0 | 15.8 | 14.0 |
| Eastern Europe and former USSR (excluding former Yugoslavia) | -8.4 | -8.8 | -11.3 | -9.2 | -12.5 | -9.2 |
| North America | 3.0 | 4.0 | 2.7 | 4.6 | 6.1 | 1.4 |
| Bermuda | 2.0 | 2.5 | 2.5 | 2.6 | 2.7 | 2.7 |
| Canada | 2.2 | 4.1 | 3.2 | 5.0 | 6.7 | 2.7 |
| United States | 3.1 | 4.0 | 2.7 | 4.5 | 6.0 | 1.3 |
| Western Europe | -0.4 | 2.8 | 2.8 | -3.3 | 4.6 | 2.9 |
| Austria | -0.1 | 2.6 | 2.4 | -2.8 | 2.4 | 0.8 |
| Belgium | -1.7 | 2.2 | 1.7 | -4.6 | 2.7 | 3.6 |
| Denmark | 1.5 | 5.4 | 3.1 | -2.9 | 10.2 | 3.3 |
| Finland | -1.6 | 3.7 | 5.5 | 5.3 | 11.4 | 7.0 |
| France | -0.9 | 2.1 | 3.0 | -4.5 | 3.2 | 2.6 |
| Germany, eastern part | 5.8 | 9.0 | 9.2 | 6.9 | 10.5 | 10.7 |
| Germany, western part | -1.7 | 2.5 | 2.4 | -7.7 | 3.7 | 2.3 |
| Greece | -0.5 | 0.9 | 1.3 | -3.2 | 3.5 | — |
| Iceland | 0.8 | 2.0 | 2.5 | -2.3 | -0.4 | 0.4 |
| Ireland | 4.0 | 5.2 | 4.5 | 5.4 | 10.4 | 5.9 |
| Israel | 3.0 | 7.9 | 4.1 | 6.9 | 7.9 | 4.4 |
| Italy | -0.7 | 2.2 | 2.8 | -3.0 | 2.3 | 3.5 |
| Luxembourg | 0.3 | 3.3 | 3.0 | -3.0 | 6.5 | 2.9 |
| Malta | 5.0 | 4.0 | 6.0 | 4.9 | 3.4 | 6.6 |
| Netherlands | 0.3 | 2.3 | 2.1 | -2.5 | 3.8 | 1.5 |
| Norway | 2.3 | 5.5 | 2.7 | 2.0 | 6.7 | 2.3 |
| Portugal | -1.0 | 0.8 | 1.0 | -1.9 | -0.5 | -0.3 |
| Spain | -1.1 | 1.9 | 2.6 | -4.9 | 8.2 | 2.4 |
| Sweden | -1.8 | 2.1 | 2.2 | 2.5 | 11.1 | 2.8 |
| Switzerland | -0.8 | 2.0 | 2.2 | -0.6 | 8.0 | 3.2 |
| United Kingdom | 2.1 | 3.9 | 2.8 | 1.3 | 4.2 | 1.6 |
| Eastern Europe and former USSR (including former Yugoslavia) | -8.7 | -9.3 | -3.3 | -8.7 | -11.6 | -8.5 |
| Albania | -9.0 | -5.0 | -3.0 | -12.5 | -6.5 | -4.2 |
| Bulgaria | -4.7 | -1.5 | -2.0 | -11.7 | 4.0 | -6.0 |
| Former Czechoslovakia | -2.0 | 2.0 | 3.0 | -2.8 | 2.1 | 3.3 |
| Hungary | -3.3 | 3.0 | 1.5 | 3.8 | 8.6 | 3.1 |
| Poland | 4.0 | 5.0 | 5.0 | 8.3 | 6.6 | 6.6 |
| Romania | 1.2 | — | -1.0 | -0.1 | -1.5 | -2.9 |
| Former USSR | -13.0 | -16.0 | -7.0 | -15.0 | -23.0 | -19.5 |
| Former Yugoslavia | -3.5 | -3.0 | -2.0 | -2.2 | -1.8 | -1.0 |
| Japan | 0.1 | 0.8 | 1.8 | -4.5 | 0.8 | 2.9 |
| Other developed countries | 3.3 | 4.5 | 3.1 | 4.5 | 6.0 | 2.8 |
| Australia | 3.7 | 5.2 | 3.4 | 6.5 | 8.5 | 3.1 |
| New Zealand | 5.2 | 4.3 | 3.3 | 6.0 | 4.4 | 2.8 |
| South Africa | 1.1 | 2.3 | 2.2 | — | 1.6 | 2.2 |
| Latin America and the Caribbean | 3.4 | 4.3 | 2.1 | 2.7 | 4.8 | 2.4 |
| Argentina | 6.0 | 6.5 | 3.5 | 6.7 | 7.9 | 3.9 |
| Bahamas | 2.0 | 2.0 | 4.6 | .. | .. | .. |
| Barbados | 1.5 | 2.4 | 4.5 | -3.7 | 5.6 | 3.0 |
| Belize | 4.2 | 3.5 | 4.3 | -1.3 | 2.7 | 2.7 |
| Bolivia | 4.0 | 4.2 | 4.0 | 4.9 | 5.2 | 4.9 |
| Brazil | 5.0 | 5.3 | 3.5 | 3.9 | 3.9 | 4.0 |
| Chile | 6.0 | 4.4 | 5.7 | 3.6 | 2.4 | 5.5 |
| Colombia | 5.3 | 5.0 | 4.8 | 1.9 | 5.2 | 4.9 |
| Costa Rica | 6.4 | 4.5 | 4.1 | 6.5 | 5.2 | 4.8 |
| Cuba | -17.0 | — | 2.0 | -7.0 | -7.9 | 1.4 |
| Dominican Republic | 3.0 | 3.0 | 4.8 | 1.7 | 1.8 | 5.2 |
| Ecuador | 2.0 | 2.5 | 2.5 | 2.3 | 1.9 | 1.3 |
| El Salvador | 5.1 | 6.0 | 4.9 | 7.6 | 7.4 | 6.0 |
| French Guiana | -0.1 | 0.6 | 0.8 | 2.0 | 2.1 | 2.0 |
| Guadeloupe | 4.6 | 3.3 | 3.6 | 3.9 | 2.8 | 3.1 |
| Guatemala | 3.9 | 4.0 | 3.2 | 2.9 | 3.5 | 2.7 |
| Guyana | 8.2 | 7.7 | 4.5 | 2.9 | 12.7 | 9.6 |
| Haiti* | -4.0 | -5.0 | — | -12.0 | -10.4 | -2.1 |
| Honduras | 6.1 | -1.0 | 0.8 | 3.7 | 3.7 | 3.4 |
| Jamaica | 0.7 | 2.2 | 2.1 | 0.2 | 1.8 | 1.6 |
| Martinique | 5.5 | 8.0 | 5.0 | 5.8 | 12.4 | 4.5 |
| Mexico | 0.4 | 3.1 | -2.5 | -0.9 | 4.1 | -2.6 |
| Montserrat | 12.5 | 9.9 | 4.5 | 12.7 | 10.4 | 5.6 |
| Netherlands Antilles and Aruba | 1.2 | -2.7 | 5.2 | 0.4 | -4.6 | 5.5 |
| Nicaragua | -0.9 | 1.8 | 0.7 | -1.5 | 5.0 | 0.8 |
| Panama | 5.4 | 4.5 | 1.8 | 9.8 | 4.5 | 1.2 |
| Paraguay | 3.7 | 4.0 | 5.1 | 3.2 | 3.5 | 4.7 |
| Peru | 6.4 | 10.0 | 4.1 | 6.7 | 17.0 | 5.9 |
| Puerto Rico | 3.2 | 4.0 | 4.3 | 4.0 | 5.1 | 4.9 |
| Suriname | — | -3.0 | 0.6 | 1.5 | 0.5 | -3.3 |
| Trinidad and Tobago | -2.4 | 2.5 | 2.7 | 0.7 | 1.5 | 2.1 |
| Uruguay | 1.5 | 1.4 | 2.0 | -8.7 | -0.4 | 0.3 |
| Venezuela | -0.4 | -3.3 | 0.3 | -1.4 | -2.9 | 0.9 |
| Tropical Africa (sub-Sahara) | 1.2 | 1.8 | 1.9 | -1.1 | 2.9 | 3.8 |
| Benin* | 3.3 | 4.9 | 4.5 | 2.6 | 3.3 | 3.1 |
| Botswana* | 3.0 | 6.8 | 7.3 | 5.0 | 11.0 | 18.8 |
| Burkina Faso* | 0.4 | 2.5 | 2.1 | 1.0 | 1.7 | 2.3 |
| Burundi* | -1.2 | 5.6 | 2.5 | -3.1 | 9.6 | 6.7 |
| Cameroon | -4.9 | -3.4 | -2.2 | -5.4 | -3.7 | -1.9 |
| Cape Verde* | 4.0 | 3.8 | 3.3 | 6.4 | 6.5 | 6.5 |



## MVA growth for 1993 and 1994 and projections for 1995

| Region, country or territory | GDP growth rates (percentage) | | | MVA growth rates (percentage) | | |
|---|---|---|---|---|---|---|
| | 1993 | 1994 | 1995 | 1993 | 1994 | 1995 |
| Central African Republic* | -2.5 | 3.4 | 2.4 | 0.4 | 3.1 | 2.7 |
| Chad* | -2.9 | 3.9 | 2.7 | -3.0 | 3.9 | 2.7 |
| Congo | -2.1 | 1.3 | 6.1 | -2.8 | -3.1 | -0.7 |
| Côte d'Ivoire | -1.1 | 2.5 | -0.8 | 0.3 | 2.5 | -1.1 |
| Djibouti* | 2.2 | 3.3 | 2.0 | 2.4 | 2.8 | 2.4 |
| Equatorial Guinea* | 7.3 | 3.6 | 5.6 | 10.0 | — | 5.5 |
| Ethiopia and Eritrea* | 7.7 | 1.5 | 2.0 | 21.9 | 3.6 | 4.1 |
| Gabon | 2.5 | 6.5 | 3.3 | 1.1 | 11.9 | 5.3 |
| Gambia* | 1.5 | 5.1 | 5.3 | 2.8 | 4.9 | 5.0 |
| Ghana | 4.8 | 7.0 | 6.6 | 2.3 | 9.6 | 9.6 |
| Guinea* | 4.5 | 4.1 | 4.6 | 5.0 | 6.0 | 6.5 |
| Guinea-Bissau* | 3.0 | 3.1 | 2.5 | -1.4 | -1.4 | -1.4 |
| Kenya | -0.2 | 2.0 | 3.0 | 1.8 | 4.0 | 4.9 |
| Lesotho* | 6.2 | 4.9 | 2.4 | 5.0 | 9.8 | 9.7 |
| Liberia* | — | — | -1.5 | 2.0 | 0.8 | -1.6 |
| Madagascar* | 2.1 | -3.1 | -0.1 | 3.1 | -2.3 | -0.5 |
| Malawi* | 10.8 | 3.9 | 5.8 | -1.0 | 11.1 | 7.3 |
| Mali* | 7.7 | 1.4 | 1.4 | 6.5 | 9.2 | 7.5 |
| Mauritius | 5.4 | 7.5 | 5.1 | 10.0 | 9.4 | 7.4 |
| Mozambique* | 18.6 | 5.5 | 10.9 | 21.7 | 27.3 | 22.4 |
| Namibia | -2.2 | 2.3 | -2.9 | -2.8 | 2.1 | -2.6 |
| Niger* | 1.4 | 0.6 | 1.3 | 3.7 | 3.8 | 3.7 |
| Nigeria | 2.3 | — | -0.9 | -10.2 | -6.0 | -1.0 |
| Réunion | 3.9 | 5.2 | 4.3 | 3.9 | 4.4 | 4.0 |
| Rwanda* | 3.2 | -10.0 | 1.6 | — | -15.0 | 1.8 |
| Sao Tome and Principe* | 12.2 | 2.2 | 1.1 | 11.5 | 2.2 | 1.2 |
| Senegal | -2.0 | 3.3 | 3.1 | -1.4 | 4.4 | 3.8 |
| Seychelles | 3.9 | 5.7 | 6.8 | 12.4 | 9.9 | 10.5 |
| Sierra Leone* | -2.4 | -0.8 | 2.0 | 8.2 | 6.6 | 3.5 |
| Somalia* | 2.0 | 3.1 | 2.5 | -5.0 | 5.0 | 5.2 |
| Swaziland | 2.0 | 4.9 | 6.6 | 6.1 | 7.0 | 7.6 |
| Togo* | -12.7 | -3.4 | 4.8 | -40.8 | -21.8 | -0.6 |
| Uganda* | 6.4 | 2.8 | 2.0 | 3.7 | 3.9 | 3.4 |
| United Republic of Tanzania* | 4.8 | 4.5 | 4.5 | 7.4 | 5.3 | 6.1 |
| Zaire* | -8.2 | -2.1 | -1.2 | -11.5 | -4.2 | -3.2 |
| Zambia* | 6.8 | 0.2 | 1.8 | 5.8 | 3.4 | 3.9 |
| Zimbabwe | 2.0 | 5.6 | 5.1 | -8.9 | 6.6 | 6.0 |
| North Africa | 0.2 | 2.1 | 1.8 | -0.4 | 2.9 | 2.7 |
| Algeria | -2.2 | -1.6 | 1.1 | -2.9 | 0.5 | -4.2 |
| Egypt | 2.9 | 3.8 | 4.6 | -3.1 | 1.9 | 3.9 |
| Libyan Arab Jamahiriya | -0.2 | 3.5 | -0.4 | 9.6 | 9.7 | 9.6 |
| Mauritania* | 5.0 | 1.7 | 2.1 | 6.2 | 6.5 | 6.4 |
| Morocco | -0.2 | 5.6 | 3.7 | -2.0 | 1.5 | 4.2 |
| Sudan* | 1.7 | 1.9 | -1.4 | 1.5 | 1.6 | -0.6 |
| Tunisia | 2.1 | 4.4 | 4.0 | 3.0 | 6.9 | 6.3 |
| Western Asia | 2.1 | 1.3 | 2.2 | 6.2 | 2.1 | 3.8 |
| Bahrain | 6.1 | 5.6 | 2.6 | 4.7 | 4.4 | 2.6 |
| Cyprus | 5.6 | 3.1 | 4.9 | 6.6 | 4.4 | 4.1 |
| Iran (Islamic Republic of) | 1.8 | 3.4 | 2.4 | 5.0 | 4.5 | 3.5 |
| Iraq | -26.1 | -23.0 | 3.0 | -17.8 | -24.2 | -2.3 |

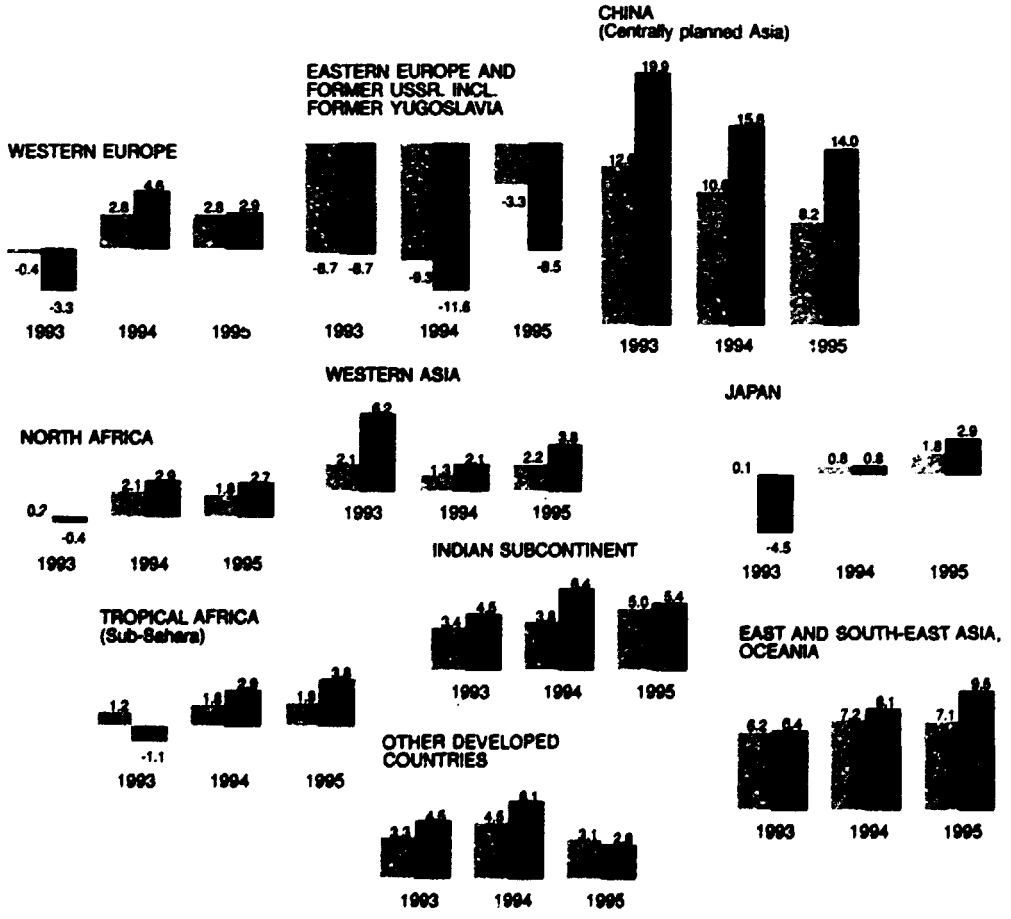


**Table 1 *(continued)*. Regional and country estimates of GDP and MVA growth for 1993 and 1994 and projections for 1995**

| Region, country or territory | GDP growth rates (percentage) | | | MVA growth rates (percentage) | | |
|---|---|---|---|---|---|---|
| | 1993 | 1994 | 1995 | 1993 | 1994 | 1995 |
| Jordan | 5.7 | 4.7 | 2.9 | 1.7 | 2.1 | 1.3 |
| Kuwait | 21.5 | 8.0 | 10.0 | 33.7 | 12.0 | 12.0 |
| Oman | 4.0 | -1.0 | 3.7 | 5.0 | 1.5 | 4.0 |
| Qatar | 5.0 | 4.5 | 2.8 | 8.6 | 5.1 | 3.6 |
| Saudi Arabia | 1.0 | 0.6 | -0.2 | 4.5 | 2.8 | 5.1 |
| Syrian Arab Republic | 0.2 | 4.8 | 3.2 | 1.4 | 6.3 | 4.6 |
| Turkey | 7.6 | -5.0 | 1.7 | 9.3 | -3.7 | 3.1 |
| United Arab Emirates | 1.0 | -1.0 | -0.4 | 1.5 | 5.2 | 5.0 |
| Yemen, northern part* | 4.1 | 11.2 | 7.1 | 2.6 | 8.8 | 10.4 |
| Yemen, southern part* | 3.0 | 5.4 | 3.1 | 2.8 | 3.7 | 2.8 |
| Indian subcontinent | 3.4 | 3.8 | 5.0 | 4.5 | 6.4 | 5.4 |
| Afghanistan* | 2.0 | 3.0 | 0.5 | 6.0 | 4.0 | 2.7 |
| Bangladesh* | 4.5 | 4.6 | 3.5 | 8.0 | 5.4 | 4.4 |
| Bhutan* | 6.7 | 4.9 | 6.9 | 8.0 | 10.7 | 11.0 |
| India | 3.1 | 4.0 | 5.0 | 4.0 | 6.7 | 5.2 |
| Myanmar* | 6.0 | 0.8 | 6.2 | 6.3 | — | 6.6 |
| Nepal* | 2.9 | 7.8 | 3.9 | 4.7 | 8.7 | 5.5 |
| Pakistan | 2.6 | 4.0 | 5.0 | 5.6 | 6.2 | 6.8 |
| Sri Lanka | 6.9 | 5.3 | 3.6 | 9.0 | 7.2 | 4.4 |
| East and South-East Asia, Oceania | 6.2 | 7.2 | 7.1 | 6.4 | 8.1 | 9.5 |
| Brunei Darussalam | 2.9 | 5.6 | 1.0 | 1.7 | 5.0 | -0.4 |
| Fiji | 1.7 | -1.3 | 0.7 | 5.0 | 11.1 | -1.4 |
| French Polynesia | 5.7 | 5.4 | 4.6 | 5.8 | 5.4 | 4.5 |
| Hong Kong | 5.4 | 5.4 | 5.7 | 2.6 | 3.7 | 2.5 |
| Indonesia | 6.5 | 6.5 | 5.3 | 9.4 | 8.4 | 10.5 |
| Macao | 5.8 | 5.3 | 4.1 | .. | .. | .. |
| Malaysia | 8.3 | 8.5 | 6.5 | 13.0 | 11.1 | 9.5 |
| New Caledonia | 1.7 | 3.7 | 5.8 | 0.1 | 1.8 | 3.5 |
| Papua New Guinea | 15.4 | 9.3 | 2.8 | 9.3 | 14.3 | 7.7 |
| Philippines | 2.0 | 4.4 | 4.9 | 0.7 | 4.4 | 5.0 |
| Republic of Korea | 5.6 | 7.9 | 8.0 | 4.2 | 9.7 | 11.4 |
| Samoa* | 3.0 | 1.1 | 1.2 | 1.6 | 0.8 | 0.8 |
| Singapore | 9.9 | 10.2 | 9.0 | 10.2 | 13.1 | 10.8 |
| Taiwan Province of China | 6.2 | 6.3 | 7.4 | 5.0 | 4.7 | 7.3 |
| Thailand | 7.8 | 8.4 | 8.2 | 11.5 | 9.8 | 11.3 |
| Tonga | 3.6 | 4.9 | 4.6 | 3.7 | 7.3 | 4.7 |
| Tuvalu* | .. | .. | .. | .. | .. | .. |
| Vanuatu* | 1.8 | 4.5 | 4.5 | 9.3 | 12.9 | 10.6 |
| Centrally planned Asia | 12.6 | 10.6 | 8.2 | 19.9 | 15.8 | 14.0 |
| China | 13.8 | 11.4 | 9.0 | 20.0 | 15.8 | 14.0 |
| Democratic People's Republic of Korea | -2.4 | -5.0 | -6.0 | .. | .. | .. |
| Lao People's Democratic Republic* | 5.9 | 4.4 | 4.2 | 8.1 | 8.5 | 4.2 |
| Mongolia | -1.4 | -6.0 | 3.0 | -5.0 | — | -2.1 |
| Viet Nam | 8.1 | 8.0 | 5.1 | .. | .. | .. |

*Note:* Calculations are based on 1990 United States dollars.
* Least developed country.

**Table 2. Share of manufacturing value added of developing countries in world total in 1975 and 1990, projected share for 1995 and growth rates for 1975-1995**

*(Percentage)*

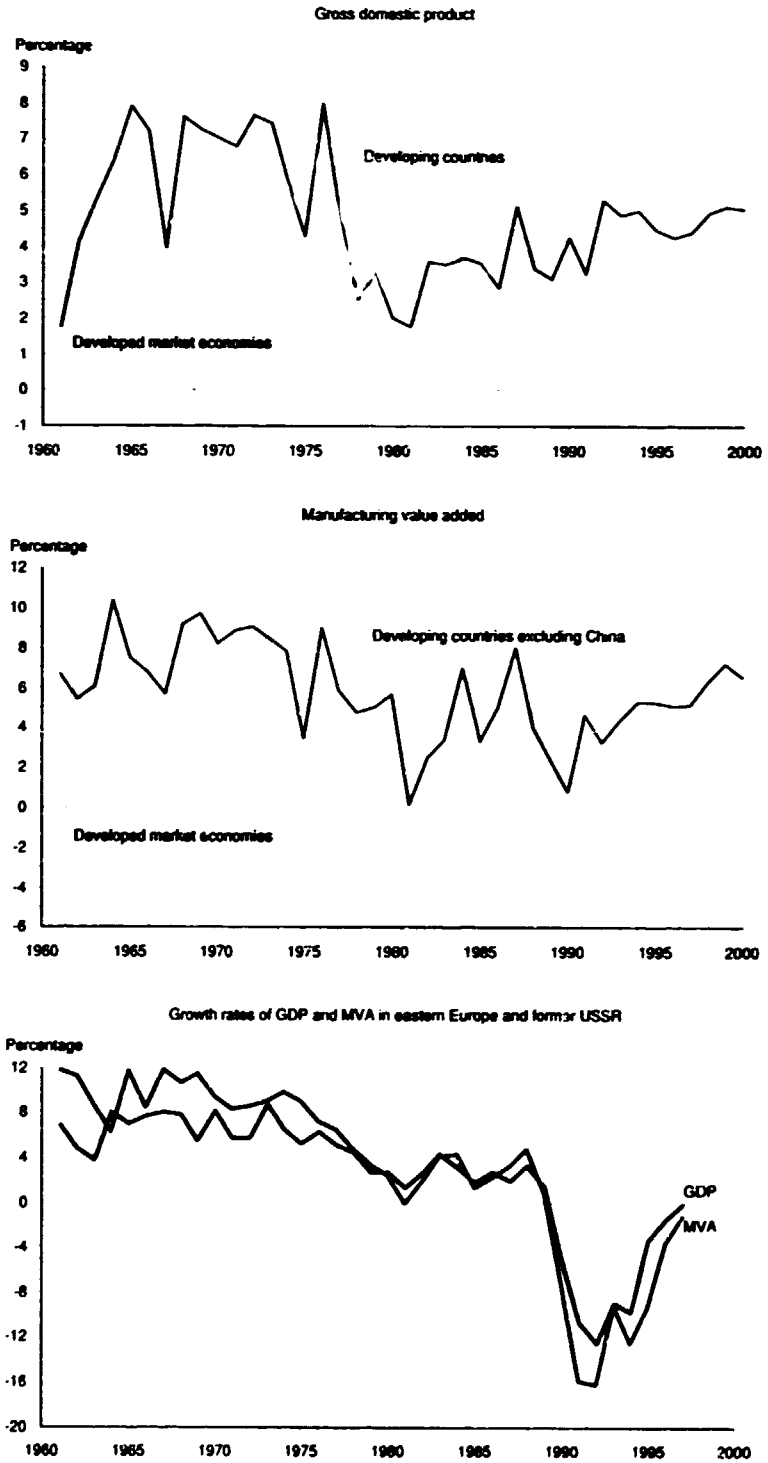
| ISIC | Industry | Share of developing countries in world total (excluding China)* | | | Average annual growth rates | | | |
|---|---|---|---|---|---|---|---|---|
| | | | | | Developed market economies | | Developing market economies | |
| | | 1975* | 1990 | 1995 | 1975-1985 | 1985-1995 | 1975-1985 | 1985-1995 |
| 3 | Manufacturing | 12.1 | 14.7 | 17.4 | 2.1 | 1.5 | 4.6 | 3.6 |
| 311 | Food | 15.3 | 17.2 | 18.3 | 1.6 | 2.3 | 3.0 | 2.2 |
| 313 | Beverages | 21.1 | 25.8 | 27.3 | 0.8 | 1.7 | 3.0 | 2.9 |
| 314 | Tobacco manufactures | 33.7 | 29.5 | 30.2 | 1.8 | 3.8 | 3.8 | 2.1 |
| 321 | Textiles | 19.6 | 30.4 | 36.4 | -0.4 | -0.7 | 2.8 | 2.6 |
| 322 | Wearing apparel | 12.8 | 25.3 | 29.2 | -0.5 | 0.1 | 4.9 | 4.1 |
| 323 | Leather and fur products | 19.3 | 30.5 | 34.0 | -1.3 | -0.7 | 3.6 | 1.2 |
| 324 | Footwear, excluding rubber or plastic | 19.9 | 31.9 | 43.8 | -0.7 | -2.3 | 4.7 | 3.2 |
| 331 | Wood and cork products | 13.0 | 12.6 | 13.1 | -0.1 | 1.4 | 1.3 | 1.4 |
| 332 | Furniture and fixtures | 10.2 | 10.5 | 13.6 | 0.9 | 1.9 | 2.7 | 5.0 |
| 341 | Paper and paper products | 9.9 | 11.1 | 13.5 | 1.6 | 1.6 | 4.7 | 3.7 |
| 342 | Printing and publishing | 9.0 | 6.7 | 7.6 | 3.7 | 2.4 | 2.2 | 4.3 |
| 351 | Industrial chemicals | 9.3 | 13.3 | 16.7 | 1.7 | 1.4 | 6.9 | 3.3 |
| 352 | Other chemical products | 17.5 | 16.7 | 17.5 | 3.7 | 3.5 | 6.4 | 2.6 |
| 353 | Petroleum refineries | 22.7 | 33.2 | 36.7 | 1.0 | 0.8 | 6.2 | 1.6 |
| 354 | Miscellaneous petroleum and coal products | 11.0 | 22.7 | 24.0 | 0.2 | 0.5 | 9.3 | -0.2 |
| 355 | Rubber products | 13.5 | 20.4 | 21.5 | 1.1 | 0.8 | 5.7 | 2.3 |
| 356 | Plastic products n.e.c. | 13.7 | 13.3 | 12.8 | 5.6 | 4.4 | 7.2 | 3.8 |
| 361 | Pottery, china and earthenware | 16.5 | 20.9 | 25.7 | -0.5 | 0.7 | 5.4 | 2.5 |
| 362 | Glass and glass products | 10.9 | 13.8 | 17.8 | 1.5 | 1.2 | 3.5 | 4.8 |
| 369 | Other non-metallic mineral products | 14.7 | 20.9 | 26.2 | 0.6 | 1.1 | 3.3 | 4.4 |
| 371 | Iron and steel | 10.3 | 20.7 | 28.3 | -1.8 | -1.0 | 5.9 | 4.7 |
| 372 | Non-ferrous metals | 10.0 | 17.9 | 20.8 | 1.1 | 0.7 | 6.6 | 4.1 |
| 381 | Metal products, excluding machinery | 10.1 | 10.8 | 15.0 | 1.2 | 1.3 | 3.7 | 5.1 |
| 382 | Non-electrical machinery | 5.8 | 6.8 | 9.6 | 2.8 | 0.8 | 4.6 | 4.9 |
| 383 | Electrical machinery | 8.5 | 11.9 | 14.1 | 5.0 | 1.0 | 6.5 | 5.9 |
| 384 | Transport equipment | 7.3 | 9.7 | 12.6 | 3.0 | 1.4 | 5.2 | 5.9 |
| 385 | Professional and scientific goods | 4.0 | 5.4 | 6.2 | 3.2 | 4.6 | 7.9 | 6.0 |
| 390 | Other manufactures | 10.4 | 16.0 | 18.4 | 0.9 | 2.3 | 5.1 | 2.1 |

*Source:* UNIDO database.

*Notes:* MVA growth rates are based on deflated national currencies converted to 1990 United States dollars. Growth rates are derived from 120 sample countries—25 developed and 95 developing (industrial statistics consolidated by UNIDO).
ISIC = International Standard Industrial Classification of all Economic Activities (Revision 2).

*This share calculation is based on 1975 prices and exchange rates; other years are in 1990 United States dollars. China and other Asian centrally planned economies are not included in the sample (their share in the world total is estimated to have amounted to 2.8 per cent in 1990 for total manufacturing).

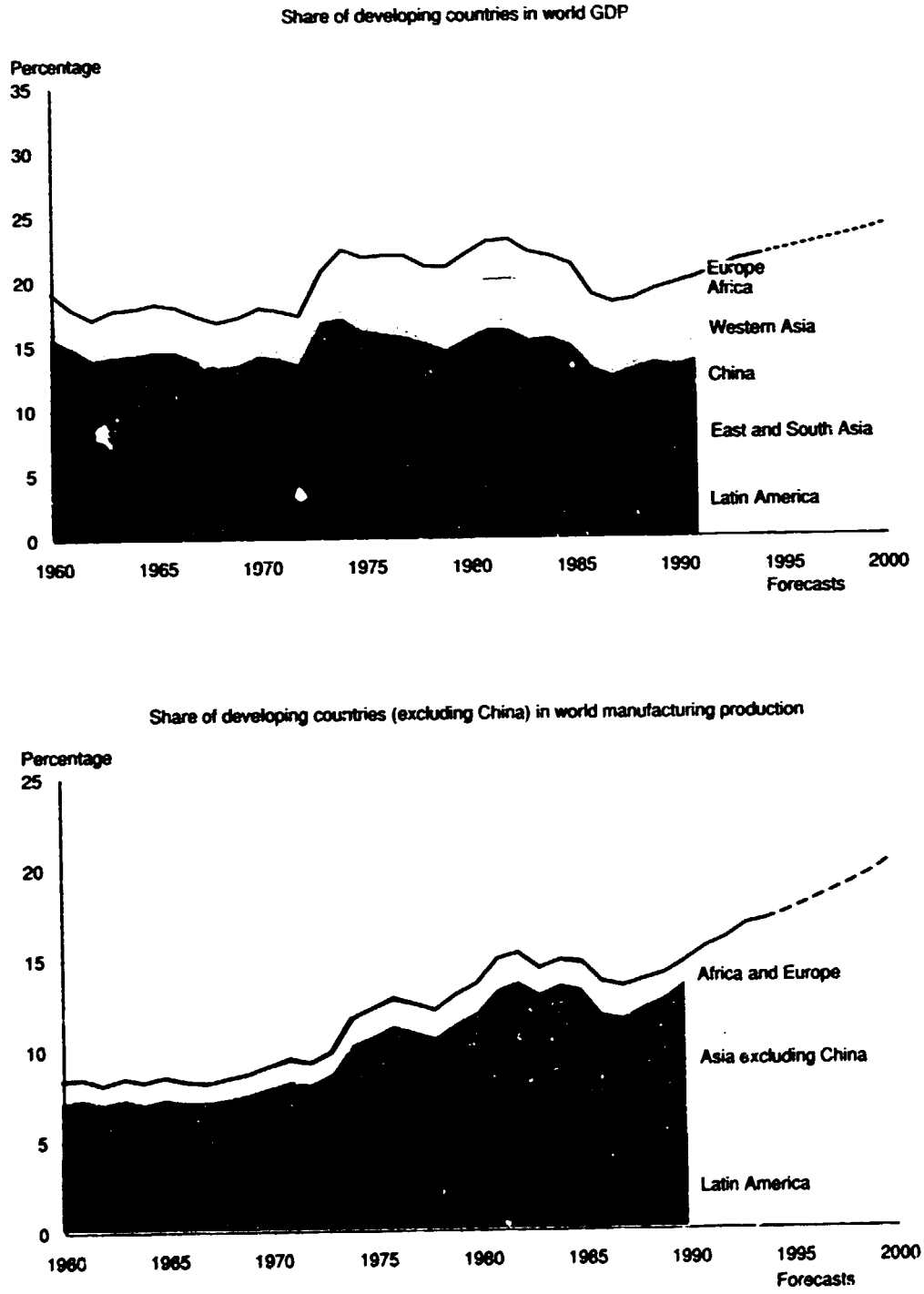
**Figure 1.** Growth rates of GDP and MVA in developed and developing regions, 1960-2000




*Source*: United Nations National Account Statistics and UNIDO/PRD/RES.

*Note*: Growth rates are computed using GDP and MVA data expressed in national currencies at 1990 prices and aggregated in terms of 1990 United States dollar exchange rates. The dashed lines show the long-term historical trend.

**Figure 2.** Share of developing countries in world GDP and world manufacturing, 1960-2000




*Source:* United Nations National Accounts Statistics and UNIDO/IRD/RES.

*Note:* Regional GDP and MVA shares are computed using national currency figures, which are aggregated in terms of United States dollars at current prices and exchange rates. The single dashed lines show the historical and projected world share of all developing countries for GDP and of all developing countries except China for MVA. They are computed using national currency figures expressed in 1990 prices and aggregated in terms of 1990 United States dollar exchange rate.

global corporation. The subtle difference lies in the fact that a global corporation has much wider regional base in its leadership. It does not attempt to clone its head office in every subsidiary, nor does it introduce new products first in the country where its headquarters are located. A global corporation treats the world much less asymmetrically than did the earlier transnational corporations. Whether qwned by developed or developing countries, a global corporation, as it spreads across the world, has vast potential to transform the world industrial economy.[2]

To achieve the desired high rates of growth, developing countries need capital to finance public infrastructure and business ventures. Investment levels in developing countries in Asia average over 30 per cent of GDP, compared with 16 per cent in the United States. Much of the required capital has come from foreign direct investment (FDI) via transnational corporations. Inflows of FDI into developing countries more than douoled from 31 billion United States dollars (US$) in 1990 to $80 billion in 1993. But FDI flows have not been evenly distributed among developing countries. Almost 60 per cent has gone to Asia, where China is the largest recipient, while Tropical Africa, with declining FDI flows, has been increasingly bypassed.

FDI in developing countries has hitherto centred mainly on manufacturing. With increasing deregulation in the public sector, however, there has been a shift towards services, such as telecommunications, power, transport and financial services. Within manufacturing, investments have been directed more towards capital-intensive, high-technology industries. cial services. Within manufacturing, investments have been directed more towards capital-intensive, high-technology industries.

## New technologies and human resources development

As a result of better worldwide communication links, industrial technology is currently distributed faster than in the past. Several examples illustrate the length of time required to effect such a change. After the beginning of the industrial revolution in the late eighteenth century, the United Kingdom needed 58 years to double its real per capita income; it took the United States 47 years to do the same, from 1839; in Japan the process involved 34 years, from 1885; for the Republic of Korea, it was possible in 11 years, from 1966; and in the most recent case, China, it was done in less than 10 years.[3]

Developing countries are beginning to realize that access to natural resources and the availability of cheap labour are no longer the overriding factors for achieving international competitiveness. Increasingly, comparative advantage is being based on technological capability and innovation, and the ability to apply and adapt new technologies in the production process. A new trend is also emerging. Consumers demand products that fit their specific needs. The age of mass production for mass consumption is fast becoming a thing of the past. Automation and information technology have been identified as the answer, offering personalized products at reasonable prices in half the time.

The introduction of modern technologies, however, has its negative effects, particularly on employment in the manufacturing sector. Many developed countries are experiencing a worrisome pattern of growing unemployment, despite the fact that they have managed to increase their GDP through productivity increases by employing more efficient technologies. Unfortunately, the unskilled or semi-skilled workers who lose their jobs are unlikely to have the proficiency to move into new industries and services. This adjustment process is an inevitable by-product of industrial and economic growth, and has significant implications for education and training.

Few economists can deny that human resource development is a key factor in the industrialization process. As the industrial base widens, so must the skills base. In the same vein, as existing industries adopt more advanced technologies, the average skills requirements of the labour force would have to increase. To this end, developing countries will need to identify the generic skills most likely to be in demand for meeting the requirements of world industry in the coming decades, so that the educational and training programmes can generate those skills in sufficient quantity and quality. The appropriate strategy for human resource development, therefore, depends on the country's current level of industrial development, its existing human resource base, and its network of institutions for human capital formation.

In view of rapid technological progress, human resource development in developing countries should focus on scientific and technical training. Similarly, in the coming decades, modern management expertise will increase in importance. It is therefore important to ensure that family operations and traditional management methods, used in many developing countries, are upgraded to enable industrial enterprises to cope more effectively with the requirements of an increasingly competitive world.

## Consumption of energy and other raw materials

The increasing industrialization of developing countries will continue to support the global demand for raw materials. Economic reforms and agricultural technology have contributed to increasing the yield capacity of many commodities. More open market economies and increasing FDI flows will provide the modern technology and finance required for mineral exploration and extraction. However, the demand for commodities will be kept in check by the substitution of human-made materials, such as synthetic rubber and plastics, and a decline in the input of raw materials for the manufacture of most products.

The greatest impact on industry in the future will, however, be caused by the increasing consumption of energy resources. As developing countries grow and their populations increase, their demand for energy will concurrently expand. Basic industries, such as steel and petrochemicals, found in most developing countries, tend to be more energy intensive. The International Energy Agency (IEA) has predicted that the real price of oil will reach $28 per barrel (in 1993 prices) by 2005, a 50-per-cent increase. A steady rise in oil prices would not pose too much of a problem, as economies would have time to adjust. But, a sudden surge in oil prices may trigger another "oil shock", which would greatly diminish the competitiveness of the products of developing countries, and result in a slow-down in economic growth.

## Environmental concerns and sustainable industrial development

Following the adoption of Agenda 21 at the United Nations Conference on Environment and Development, held at Rio de Janeiro from 8 to 14 June 1992, both developing and developed countries alike were forced to pay more attention to environmental issues and their links to sustainable industrial development. But as noted at the Conference of the Parties to the United Nations Framework Convention on Climate Change, held at Berlin from 28 March to 7 April 1995, not much progress has been made in decreasing or maintaining the level of "greenhouse" gases emitted globally.

Carbon-based fuels continue to supply 90 per cent of the world's energy needs. Any pressure to increase the use of non-polluting alternatives would cause havoc to the world economy, especially for those developing countries that depend on energy and pollution-intensive industries, such as iron and steel, petrochemicals and paper and pulp. Furthermore, regulatory measures for environmental protection could impose an additional barrier in their industrialization process. To add to their dilemma, efforts undertaken to develop new forms of clean technology is very much the monopoly of developed countries, and few are willing to supply the new technologies free of charge. Negotiations on emission targets are deadlocked, with developing countries refusing to employ means to reduce emissions unless developed countries are willing to pay the cost and provide them with non-polluting technologies.

In light of such problems, it is clear that urgent action by Governments is necessary. As such, policies would have to be devised to reduce greenhouse emissions. For example, ending State subsidies for industries with heavy energy consumption could lead to greater efficiency in energy usage, thereby promoting conservation. Efficient transport planning could contribute to reducing congestion and pollution in most major cities in the world, and Governments should ensure that adequate resources are available to research the science of climate change and ways to reduce the costs of non-polluting fuels.

# GATT and the gains from trade

The seven-year Uruguay Round of GATT world trade talks was concluded in April 1994 with the signing of an agreement at Marrakesh. One striking feature of the negotiations was the role played by developing countries in trying to establish a common framework for global free trade. Reversing their preference for protectionism and overcoming their distrust in new areas such as trade in services and intellectual property rights, developing countries took an active part in the Uruguay Round.

A number of statistics reflect the new mood of developing countries. After the launching of the Uruguay Round in 1986, over 60 developing countries reported unilateral liberalization measures to the GATT secretariat. Twenty-four developing countries joined GATT during the course of the Uruguay Round, and another 20 countries, including China, several former centrally planned economies and Saudi Arabia submitted their applications in the hope of becoming founder members of WTO. At the final count, 118 countries participated in the Uruguay Round.

The key reason for the interest of developing countries was the realization that liberalization would spur economic growth. By negotiating actively in the Uruguay Round, developing countries were in a position to set the stage for further liberalization of their own economies and, at the same time, ensure improved foreign market access for their exports. Developing countries are fast becoming a major force in world trade for manufactured goods. Their share in world manufacturing exports rose from less than 10 per cent in 1970 to around 26 per cent in 1992.[4, 5] At the same time, developing countries also increased their imports of manufactured goods; between 1970 and 1991, their share of world manufacturing imports grew from 5.5 to 17.2 per cent.[6]

The main results of the Uruguay Round negotiations are as follows:

*(a)* Reduced tariff and non-tariff barriers and expanded GATT discipline to cover agriculture and textiles and clothing;

*(b)* Reform of existing GATT rules, most notably those on safeguards, and on subsidies and countervailing duties;

*(c)* Extension of multilateral rules to the "new" areas of trade in services within the framework of

the General Agreement on Trade in Services (GATS), and agreements on trade-related investment measures (TRIMs) and trade-related intellectual property rights (TRIPs);

*(d)* Institutional reforms relating to the settlement of trade disputes (understanding on rules and procedures governing the settlement of disputes) and the functioning of the GATT system (trade policy review mechanism).

For the most part, the new rules take effect immediately; however, there are important transition periods for developing countries. Liberalized market access will generally be phased out over a 10-year period for all countries.

## Effects of the GATT agreement on developing countries

The GATT 1994 agreement and the new WTO will serve to help developing countries seeking to move in the direction of more open markets and less government intervention, and assistance will come in the form of lower tariff rates, removal of non-tariff barriers, fewer subsidies, better investment practices and stronger protection for intellectual property rights. One measure of the gains to developing countries relates to export market prospects, which are: first, further improvement in their access to markets of developed countries; and, secondly, the provision of an "insurance policy" against future barriers to those markets.

For developing countries, the industries that will reap the most benefit from the GATT 1994 agreement are listed in table 3. The product categories with the highest share of industrial export earnings of developing countries are textiles and clothing (22 per cent), electrical machinery (14 per cent) and metals (11 per cent). Other important industries, which individually account for less than 10 per cent of export earnings, include non-electrical machinery, other manufacturing, leather, rubber, footwear and travel goods.

However, one major disappointment for many developing countries, as exporters, is that some developing countries that were members of GATT did not reduce their applied tariff rates. Trade among developing countries is increasing as fast as their trade with the rest of the world. Table 4 shows that developing countries accounted for about 26 per cent of world exports of manufactured goods in 1992, and that the volume of their exports of manufactured goods to other developing countries was as great as that to developed countries. Future trade negotiations will therefore have to focus on the removal of trade barriers among developing countries themselves.

**Table 3.** Share of exports of selected industrial product groups of developing countries, 1992

| *Product categories* | *Percentage share* |
|---|---|
| Textiles and clothing | 22.0 |
| Electrical machinery | 14.0 |
| Metals | 11.0 |
| Mineral products, precious metals and stones | 9.5 |
| Non-electrical machinery | 9.0 |
| Other manufacturing | 8.5 |
| Leather, rubber, footwear and travel goods | 7.5 |
| Chemicals and photographic supplies | 7.0 |
| Wood, pulp, paper and furniture | 5.7 |
| Transport equipment | 3.0 |
| Fish and fish products | 2.8 |

*Source:* General Agreement on Tariffs and Trade, *An Analysis of the Proposed Uruguay Round Agreement, with Particular Emphasis on Aspects of Interest to Developing Countries* (Geneva, November 1993).

**Table 4.** Regional structure of exports of world manufactures, 1992

| | *Exports to* | | | |
|---|---|---|---|---|
| | *Developed countries* | | *Developing countries* | |
| *Exports from* | *Exports (billions of dollars)* | *Percentage share of total world exports* | *Exports (billions of dollars)* | *Percentage share of total world exports* |
| Developed countries | 1 480 | 54.0 | 550 | 20.0 |
| Developing countries | 330 | 12.0 | 370 | 14.0 |
| World | 1 810 | 66.0 | 920 | 34.0 |

*Source:* General Agreement on Tariffs and Trade, *International Trade Statistics* (Geneva, 1993).

### Lower tariff rates

The overall aim of the Uruguay Round was to cut average tariffs by a third, a goal generally achieved by developed countries. The average trade-weighted tariffs of developed countries for manufactured goods will be reduced by 37 per cent. More significant would be the level of reduction in applied tariff rates.* When the Uruguay Round agreement is fully implemented, the weighted average duties in developed countries is expected to decrease from 6.8 per cent to 4.3 per cent, a reduction of 2.5 percentage points. Tariff reductions of developed countries by major industrial product category is shown in table 5. For the more important industries of developing countries, namely textiles and clothing, electrical machinery and metals, tariff barriers of developed countries will be reduced by 3.3, 3.0 and 1.8 per cent, respectively.

Tariff binding is expected to reassure exporters that the tariffs on particular goods will not rise in the future. In the Uruguay Round negotiations, therefore,

* This can be seen as follows: a 100-per-cent reduction in a 2-per-cent tariff improves market access by two percentage points; however, a 20-per-cent reduction in a 20-per-cent tariff improves market access by four percentage points.

**Table 5.** Tariff reductions of developed countries by major industrial product group

*(Percentage)*

| *Product categories* | *Pre-Uruguay Round* | *Post-Uruguay Round* | *Percentage point reduction* |
|---|---|---|---|
| All industrial products | 6.8 | 4.3 | 2.5 |
| Fish and fish products | 6.6 | 4.8 | 1.8 |
| Wood, pulp, paper and furniture | 4.6 | 1.7 | 2.9 |
| Textiles and clothing | 14.6 | 11.3 | 3.3 |
| Leather, rubber and footwear | 8.1 | 6.6 | 1.5 |
| Metals | 2.7 | 0.9 | 1.8 |
| Chemicals and photographic supplies | 7.2 | 3.8 | 3.4 |
| Transport equipment | 3.8 | 3.1 | 0.7 |
| Non-electrical machinery | 4.7 | 1.6 | 3.1 |
| Electrical machinery | 6.3 | 3.3 | 3.0 |
| Mineral products and precious stones | 2.6 | 0.8 | 1.8 |
| Other manufacturing | 6.5 | 3.1 | 3.4 |
| Industrial tropical products | 4.2 | 1.9 | 2.3 |
| Natural-resource-based products[a] | 4.0 | 2.7 | 1.3 |

*Source:* General Agreement on Tariffs and Trade, *Market Access for Goods and Services: Overview of the Results* (Geneva, November 1994).

[a]Excluding petroleum products.

developing countries were given two options with respect to their tariff levels: they could either offer to bind their duties at some maximum or ceiling level, or reduce the already bound duties by a negotiated percentage. Some countries did a bit of both.

Manufactured imports by developing countries subject to bound tariff rates increased from 13 per cent to 61 per cent of their imports.*,[7] Furthermore, some of the bound duty rates were reduced: one calculation showed that the average bound duties on industrial goods imported by developing countries would decrease from 15.3 per cent to 12.3 per cent, and that the tariff reduction package for developing countries would affect imports valued at $305 billion.**,[8]

Proposals of the Uruguay Round tariff for 26 developing countries and territories were studied in detail by the GATT secretariat (see table 6). Of this group, 10 countries offered some tariff reductions, but few included new tariff bindings. For instance, India and the Republic of Korea will reduce their average tariffs on manufactured goods by more than a half, from 71.4 per cent to 32.4 per cent for India and from 18.0 per cent to 8.3 per cent for the Republic of Korea. Two territories, Hong Kong and Macao, have pre-Uruguay Round and post-Uruguay Round tariffs of zero. The remaining 14 countries have offered a mixture of tariff reductions and increased scope of products under tariff bindings.

While it is difficult to estimate the level of tariff reduction for developing countries, the applied tariff rates, on average, will probably drop by only 2-3 per cent under the rules of WTO. That will leave many applied rates in the range of 10-30 per cent. Hence, as a group, developing countries have a long way to go with regard to reducing their tariff barriers.

## Elimination of non-tariff barriers

Non-tariff barriers encompass a whole array of measures, including voluntary export restraints, orderly market arrangements, tariff quotas, surcharges, variable levies, prohibitions, licensing, import monitoring, anti-dumping and countervailing actions, price controls and the measures invoked under the Multi-fibre Arrangement. However, only the phasing-out of the Multi-fibre Arrangement, revision of the rules on voluntary export restraints and anti-dumping are discussed below.

### Multi-fibre Arrangement

The major market access gain for exports of developing countries will be the gradual elimination of quan-

**Table 6.** Bound tariffs on industrial goods of developing countries

| *Country or territory* | *Trade-weighted tariff averages (percentage)* | | *Percentage point change* |
|---|---|---|---|
| | *Pre-Uruguay Round* | *Post-Uruguay Round* | |
| Argentina | 38.2 | 30.9 | 7.3 |
| Brazil | 40.6 | 27.0 | 13.6 |
| Chile | 34.9 | 24.9 | 10.0 |
| Colombia | 44.3 | 35.1 | 9.2 |
| Costa Rica | 54.9 | 44.1 | 10.8 |
| El Salvador | 34.5 | 30.6 | 3.9 |
| Hong Kong | — | — | — |
| India | 71.4 | 32.4 | 39.0 |
| Indonesia[a] | 20.4 | 36.9 | 16.5 |
| Jamaica[a] | 16.5 | 50.0 | 33.5 |
| Macao | — | — | — |
| Malaysia | 10.2 | 9.1 | 1.1 |
| Mexico | 46.1 | 33.7 | 12.4 |
| Peru | 34.8 | 9.4 | 5.4 |
| Philippines | 23.9 | 22.2 | 1.7 |
| Republic of Korea | 18.0 | 8.3 | 9.7 |
| Romania[a] | 11.7 | 33.9 | 22.2 |
| Senegal[a] | 13.7 | 13.8 | 0.1 |
| Singapore | 12.4 | 5.1 | 7.3 |
| Sri Lanka | 28.6 | 28.1 | 0.5 |
| Thailand | 37.3 | 28.0 | 9.3 |
| Tunisia[a] | 28.3 | 34.1 | 5.8 |
| Turkey | 25.1 | 22.3 | 2.8 |
| Uruguay[a] | 20.9 | 30.9 | 10.0 |
| Venezuela | 50.0 | 30.9 | 19.1 |
| Zimbabwe | 4.8 | 4.6 | 0.2 |

*Source:* General Agreement on Tariffs and Trade, *Market Access for Goods and Services: Overview of the Results* (Geneva, November 1994).

[a]The average trade-weighted bound tariffs for this country increased following the Uruguay Round. However, in most cases, the scope of the tariff bindings also substantially increased.

* The percentage of tariff lines bound increased from 21 per cent to 73 per cent.

** The $305 billion reflects imports in different years for different countries, ranging between 1986 and 1992.

titative restrictions on textiles and clothing. Most developed countries currently enforce quantitative restrictions through bilateral agreements, negotiated under the auspices of the Multi-fibre Arrangement, whereby developed countries restrict their imports of textiles and clothing items from developing countries, but not from other developed countries through a system of bilaterally negotiated export quotas.

The Uruguay Round agreement on textiles and clothing requires the phasing-out of restraints stemming from the Multi-fibre Arrangement in four stages over a 10-year period. The process, however, is backloaded, since liberalization intensifies during the last stages. The four stages involve the following steps:

*(a)* The date on which the agreement becomes effective, each member shall remove quotas on products that account for at least 16 per cent of its total volume of 1990 imports in four categories of textiles and clothing, such as tops and yarns, fabrics, made-up textile products and clothing;

*(b)* Three years and one month after the agreement enters into force, quotas will be removed on products that account for not less than 17 per cent of the total volume of 1990 imports;

*(c)* After seven years and one month, quotas will be removed on products that account for not less than 18 per cent of the total volume of 1990 imports;

*(d)* After 10 years and one month, all other quota restrictions will be eliminated.

As a group, developing countries will gain from the elimination of the Multi-fibre Arrangement, but the gains will not be evenly spread over all countries. One study suggests that through the removal of both tariffs and quotas, developing countries could increase their exports of textiles by 78 per cent, and clothing by 135 per cent.*,9 Based on 1992 trade figures, this estimate translates into export gains of about $40 billion for textiles and over $100 billion for clothing, had it been possible to fully implement the measures in 1992. However, the Uruguay Round package will not eliminate tariffs on trade in textiles and clothing. A conservative estimate of additional exports by developing countries of both textiles and clothing as a result of quota liberalization alone might be $50 billion, about a third of the total figure, had liberalization taken full effect in 1992.

### Voluntary export restraints

When imports affect local producers, GATT members, especially developed countries, looked for protection by enforcing voluntary export restraints. The exporting country would, in turn, generally waive its GATT rights by consenting, under duress, to limit its exports to the distressed market.

GATT identified some 80 voluntary export restraints in force on industrial goods, excluding the textiles and clothing industry. Most of them are aimed by developed countries at other developed countries, simply because they are the source of most exports. However, some developing countries have been hurt by voluntary export restraints, namely Brazil, China and Republic of Korea, to the extent that their exports of consumer electronics, travel goods and footwear have been limited.

The GATT 1994 agreement stipulates that government-negotiated voluntary export restraints should be eliminated within four years of the establishment of WTO. This will represent a significant advance in limiting the use of opaque non-tariff barriers. Over time, as developing countries become more important suppliers of industrial goods, the process of eliminating voluntary export restraints will lead to the gradual abolition of such non-tariff barriers.

### Anti-dumping actions

Some observers have found that the Uruguay Round failed to deal adequately with the increasing use of anti-dumping measures to harass legitimate trade. Though GATT's anti-dumping rules have been tightened, they still leave national authorities considerable leeway to treat imports unfairly, with the possible outcome of a slow-down in the growth of imports.

Anti-dumping actions have increasingly become the cutting edge of restrictive trade policies. Both the number of cases and countries involved have grown substantially. Between 1985 and 1992 more than 1,000 cases were initiated, and more than 40 countries currently have anti-dumping laws in place. In a sense, anti-dumping rules have become the pressure valve in the trading system. When import-competing industries are distressed, they often find it easier to invoke anti-dumping relief than a safeguard action under article XIX of GATT.

While the new anti-dumping code established methodological and procedural rules governing dumping investigations by national agencies, it did not reform the arcane and often bizarre arithmetic of dumping calculations. Moreover, the code goes a long way towards insulating national anti-dumping findings from WTO review. In this area, unlike others, WTO dispute panels are only allowed to determine whether national authorities followed proper procedures and whether the evaluation of facts was unbiased. In other words, the WTO dispute panel does not have the power to review the facts of an anti-dumping case or the calculations that went into the assessment of a dumping margin. Exporting firms found guilty of dumping by a national agency therefore have only a slender chance of having that finding overruled by bringing a case to WTO.

Since the anti-dumping code did not address the flawed methodology of most dumping calculations, and also because the WTO review process is limited, it seems likely that anti-dumping actions will become a growing problem area in the future. Liberalization

* Another set of estimates with approximately the same results has been presented in N. Kiumani and others, *Effects of Increased Market Access on Exports of Developing Countries*, IMF Staff Papers (Washington, D.C., 1984).

by developed countries in areas such as textiles and clothing, as well as the elimination of voluntary export restraints on a range of goods, may intensify calls for anti-dumping relief. Moreover, as developing countries become more active users of anti-dumping systems, they will inevitably restrict each other's exports.

As important players in the world export markets, it is important for developing countries to devise a more rational method for calculating dumping margins and better multilateral surveillance of anti-dumping investigations. Effective multilateral discipline now awaits a future round of trade talks.

## Fewer subsidies

The new code on subsidies and countervailing duties negotiated during the Uruguay Round establishes stricter measures than those agreed upon in the Tokyo Round, and if it works, the results could include less political pressure to spend public money on subsidies, less distortion and better economic performance.

Subsidies are now classified as follows: prohibited (red category); permissible if linked to a specific industry, but actionable if they cause adverse effects to interests of other members (yellow category); and permissible and non-actionable (green category). Subsidies in the prohibited red category include non-agricultural export subsidies and subsidies contingent on domestic content requirements. Subsidies in the yellow category include certain low levels of assistance, such as subsidies given to European steel firms to cover operating losses, allowing unprofitable firms to stay in business instead of retrenching. These can be challenged if they harm the trading interests of other countries. Subsidies in the permitted green category include regional aid, environmental infrastructure and R and D—if they are provided within limits. However, even green subsidies can be challenged, if they have serious adverse effects on the trade interests of other WTO member States.

The Uruguay Round code expands the obligations of developing countries. New obligations will be welcomed by countries that want to resist pressure for subsidization by powerful business firms. More importantly, unlike the Tokyo Round code, the Uruguay Round code is not optional; all countries must join as part of their membership of WTO. However, special transition periods apply to developing countries. They have five years to forgo subsidies contingent on the use of domestic goods, and eight years to implement all GATT obligations regarding the use of export subsidies on non-agricultural products.*[10]

* However, during the transition period, developing countries must phase out export subsidies if the products benefiting from those subsidies account for at least 3.25 per cent of world trade for two consecutive years. In these circumstances, the subsidies must be eliminated within two years. Least developed countries and other developing countries with per capita GDP of less than $1,000 are, however, exempt from the prohibition on subsidies that are contingent on export performance.

## Trade-related investment measures

Some developing countries make extensive use of trade requirements when providing investment incentives to foreign firms, usually in the form of import protection or fiscal benefits. These linkage practices may entice foreign firms into high-cost purchase contracts or money-losing marketing arrangements. Indirectly, the developing country must pay for the higher costs and compensate for the money lost by offering a more attractive investment deal or granting "made-to-measure" protection. More often than not, the net result is lower real income for the developing country. However, once a country has adopted a system of TRIMs, the system tends to be self-perpetuating. The bureaucrats who administer the system will want to keep it going, and the firms that benefit from the investment side of the bargain will want to keep the fiscal benefits and import barriers in place.

The TRIMs agreement should help developing countries break this cycle. Local content requirements and trade balancing tests will have to be eliminated in five years (developed countries have two years). However, the agreement recognizes the right of developing countries to temporarily apply TRIMs to support infant industries and for balance-of-payments reasons.

To illustrate the potential benefits of the agreement, the motor vehicle industry in the Philippines may be considered.[11] This industry is protected by a virtual embargo on the import of new vehicles—a major benefit to established firms. However, the firms must meet requirements relating to domestic content and minimum exports. The import restriction drives up the price of motor vehicles, encouraging domestic production, but the local content and export requirements increase the costs of assembly and marketing. The overall regime imposes huge costs on consumers, and encourages very high-cost domestic production. If the Government of the Philippines fully implements the TRIMs agreement, these distortions will be phased out over the next decade.

## Trade-related intellectual property rights

The TRIPs agreement aims at higher standards of protection for intellectual property rights. WTO member States are required to make patent protection available for products and processes in almost all fields of technology for a period of 20 years. Copyright law must protect computer software and establish control over rentals to producers of sound recordings, films and software. The TRIPs agreement is also designed to combat counterfeit practices with regard to copyright, trade marks, geographical indications, industrial designs, patents, lay-out designs of integrated circuits and protection of undisclosed information. The agreement establishes mechanisms for the enforcement of intellectual property rights and for dispute settlement by WTO.

The TRIPs agreement will require significant changes in the intellectual property regimes of many

developing countries. In the short run, the economic impact on developing countries is likely to result in higher costs for the use of technology. As net importers of information, either in the form of technical know-how or products, developing countries will probably be required to pay more royalties, directly and indirectly, once they establish effective intellectual property systems. In some cases, developing countries will have to shut down pirate industries.

Despite the above-mentioned short-term costs, developing countries were willing to accept the TRIPs agreement in exchange for improved access to markets of developed countries in sectors such as agriculture and light manufacturing products. As an important concession to unwilling developing countries, the agreement contains transition provisions. At the end of a one-year period, all countries must accept the principle of national treatment and the obligations arising from the most-favoured-nation clause. Other provisions should be implemented after a transitional period of five years in the case of developing countries and after one year in the case of developed countries. In addition, developing countries that fail to provide patent protection are allowed nine years instead of the normal four-year period to implement the provisions concerning patent protection in so far as they apply to pharmaceutical and agricultural products.

In the longer run, adherence to the agreement will benefit many developing countries. A sound intellectual property system will inspire local inventors, encourage the international transmission of technology, and attract investment in high-technology industries. The benefits will be achieved earlier by those developing countries that have nourished knowledge-intensive products and services. Two examples of industries where selected developing countries will reap immediate benefits are computer software and the technology of tropical agriculture.

### Settlement of disputes

The newly formed WTO will provide a unified system to settle disputes arising under the various multilateral trade agreements (GATT, GATS, TRIPs, etc.). The new system allows for accelerated decisions by expert panels, creates a new appeals procedure, and helps ensure compliance with WTO decisions. Losing countries can no longer block panel recommendations by employing delaying tactics. What this means for developing countries is that they can direct to WTO their trade complaints against powerful trading States such as those of the European Union, Japan and the United States. In case of a favourable ruling by WTO, a developing country would not need to forgo its rights simply because of an imbalance in economic power.

The new trade policy review mechanism of WTO could also provide advantages for developing countries. The agreement on the mechanism codifies the system of periodic reviews inaugurated in the 1988 Montreal mid-term review of the Uruguay Round. The mechanism is designed to examine the trade policies and practices of member countries with a view to assessing their impact on the multilateral trading system, and not to serve as a basis for the enforcement of specific obligations. In addition, the Trade Policy Review Body will carry out reviews every six years for developing countries, and encourage the formation of domestic surveillance bodies to complement its own work. If a developing country so wishes, it can use these mechanisms to educate the public on the cost of its own protective barriers, and thereby strengthen domestic coalitions for liberalization.

## Uruguay Round benefits for developing countries

Since many of the WTO reforms have gradual phase-in periods, and since economies need time to adjust, most of the gains from the Uruguay Round will only be felt in the long term. However, in the near future, the new WTO will bring both static and dynamic gains to developing countries.

Static gains result from less distortion to production and consumption, and a consequent reallocation of resources. Dynamic gains arise from stronger competition within economies, higher investment rates, greater efficiency and thus faster growth. The dynamic gains, while harder to measure, are likely to be more important than the static gains.

A GATT study on static gains suggests that when the Uruguay Round is fully implemented, global trade will increase by about $750 billion (in 1992 dollars), or by about 12 per cent over the level that would otherwise exist in the year 2005.[12] If exports of developing countries benefit in proportion to their trade in manufactured goods (26 per cent as shown in table 4), their export gains would total about $200 billion.

Larger export and import gains should induce static income gains, on a global basis, of about $250 billion per year (in 1992 dollars) after 10 years.[4] This figure translates into a 0.8 per cent increase in world GDP at the end of the 10-year phase-in period. The developing country share of this gain is probably about a quarter, or approximately $60 billion.*[13]

Two static gain studies with a special focus on developing countries deserve mention. Goldin and others estimate that the GDP gains of developing countries from the Uruguay Round will be about $80 billion (in 1992 dollars) by the year 2002.[14] Nguyen and others estimate the GDP gains of developing countries at about $40 billion when fully phased in.[15]

A recent GATT study tries to incorporate both static and dynamic gains in its estimates of trade and income effects. In that study, GATT estimates that merchandise exports of developing countries will

* This fraction is based on the likely share of world GDP accounted for by developing countries in 10 years.

increase by about 37 per cent in real terms after the Uruguay Round benefits are fully phased in.[16] The growth of exports of developing countries is larger than the GATT estimates for developed countries and economic groupings, such as the United States, 8.2 per cent, and the European Union, 7.8 per cent.

Exports of developing countries with regard to manufactured goods amounted to $700 billion in 1992 (see table 4); at an estimated normal annual growth rate of 6 per cent that figure should reach $1,500 billion by the year 2005. Therefore, according to the GATT model, manufactured exports of developing countries might increase by $560 billion (37 per cent of $1,500 billion). When compared with the earlier estimate for static export gains of $200 billion, the implied estimate of additional dynamic export gains is about $360 billion ($560 billion less $200 billion).

Using the same model, GATT estimates static and dynamic income gains of $116 billion for developing countries. This $116 billion gain is broken down into the following three categories: gains from the reduction of tariffs on industrial goods; the elimination of non-tariff barriers on industrial goods; and the reduction of agricultural barriers. Respectively, the amounts are $33 billion, $68 billion and $14 billion. Based on these calculations, the most important gains are expected from the elimination of industrial non-tariff barriers, especially those of quotas under the Multi-fibre Arrangement. Based on the expected GDP growth of developing countries in 2005, total static and dynamic gains could be around 1.4 per cent of GDP. The implied division of gains is therefore expected to be around $60 billion for both static and dynamic benefits.

**Box 1.** Who will gain from the Uruguay Round?

A regional overview of the economic impacts of the Uruguay Round on developing countries, with respect to the manufacturing sector, is given below.

*Eastern Europe and the former USSR.* The leading exports of the region are manufacturing products, which in 1992 amounted to 48.6 per cent of total exports. An important sector in the former USSR is clothing, while countries such as Bulgaria, Czech Republic and Slovakia have significant textile industries. All these sectors will benefit from the phasing-out of the Multi-fibre Arrangement. In addition, countries such as Czech Republic, Hungary, Romania, Slovakia and Poland appear to have some comparative advantage in manufacturing and semi-manufacturing. As such, it is clear that in these countries there are many areas of manufacturing which could profit from greater access to western markets, and in time, greater access to manufactured and services inputs will also provide competitive benefits. Increased and more secure market access will inevitably encourage FDI, vital if countries of the region are to compete more favourably with developed countries.

*Latin America.* The region's contribution of manufactured exports to total exports stood at 45.8 per cent in 1992. Exports from Latin America are dominated by five main countries, namely Argentina, Brazil, Chile, Mexico and Venezuela, which together accounted for over 80 per cent of merchandise exports.

Overall, manufacturing trade reform is likely to lead to increased imports into Latin America, since the OECD economies hold comparative advantage throughout much of the range of manufactured goods. Latin America holds comparative advantage in iron and steel, and clothing. Since imports of metals and of textiles and clothing by developing countries are expected to increase by 2.1 per cent and 3.6 per cent, respectively, both sectors are likely to see gains in Latin America. Countries likely to gain from increased trade in textiles and clothing are Colombia, Peru and Uruguay. Other products expected to experience significant growth as a result of reductions in tariff barriers are leather, rubber and footwear. Latin America held world market shares of 2.2 per cent in rubber, 7.5 per cent in footwear and 10.3 per cent in leather and leather manufactures in 1989. All three industries are therefore likely to benefit.

*Africa.* Tariffs on manufactured goods are fairly high in Africa, averaging between 21 and 29 per cent. Reforms will lower prices of manufactured goods on the domestic markets, thereby benefiting the rural community. However, the manufacturing base of the continent is weak, accounting for a mere 0.7 per cent of world exports. Where manufactures are strong they tend to be associated with extracted natural resources, including oil, iron and steel, and only a relatively small number of countries in Africa have such natural resources. An increase in the exports of petrochemicals, other chemicals, metals, minerals and precious stones are expected to benefit Algeria, Egypt, Nigeria and Zimbabwe. The countries that will benefit from the phasing-out of the Multi-fibre Arrangement will be Egypt, Mauritius, Morocco and, to a lesser extent, South Africa.

On the whole, the economies of North Africa have a much stronger manufacturing base than those in the sub-Saharan region. For the sub-Saharan countries to benefit from agricultural or industrial trade reform considerable investment will have to be made to improve the region's infrastructure, which has deteriorated markedly since the 1950s. The GATT 1994 agreement will thus provide a more favourable backdrop against which internal reform can take place, but the difficulties surrounding such reform should not be underestimated.

*Western Asia.* The impact of the GATT 1994 agreement on western Asia is restricted because hydrocarbons, which are of vital importance to the region, were excluded from the Uruguay Round. Indeed, while mining products accounted for some 78.2 per cent of merchandise exports of western Asia in 1992, manufacturing accounted for only 17.5 per cent.

The region's most important manufacturing activities are linked to the petrochemicals industry. Here, a

cut of 30 per cent in tariffs was agreed upon in 1991, but implementation awaited the conclusion of the Uruguay Round. The impact of this is likely to be significant. A study by the Chemical Industries Association of the United Kingdom suggests that the gain in terms of world trade in petrochemicals will be of the order of $11 billion in 2002, a boost of between 3.0 and 3.5 per cent. While Gulf firms will not be the sole beneficiaries, the more competitive of them are likely to experience significant benefits. Increased world trade may cause some upward pressure on oil prices, although lower manufacturing export prices, a result of increased global competition, may offset this. With the exception of petrochemicals, the region's manufacturing base is modest. Therefore, greater market access will not yield significant gains.

*Asia and the Pacific.* The exports of the region are heavily dominated by manufactures, which accounted for close to 83.1 per cent of Asian merchandise exports in 1992. Levels of protection differ markedly across the region, from the relatively open countries of Malaysia, Philippines, Republic of Korea and Thailand, to the tightly controlled economy of India. Average import tariffs on manufactures range from 6 per cent in Asian countries with a high per capita income to 106 per cent in India. Overall, Asia is likely to gain significantly from trade reform in manufacturing products, both because it is a massive net exporter and because comparative advantage is held in a number of key sectors. With imports into developed countries forecast to increase by 2.6 per cent, Asian manufactures could benefit strongly. Key sectors likely to gain are machinery and transport equipment, office and telecommunications equipment, textiles, clothing and other consumer goods.

Large gains are likely to accrue to the clothing and textiles industry as a result of the phasing-out of the Multi-fibre Arrangement and the reduction in tariffs. Asia accounted for 40 per cent of world textile exports and around 45 per cent of clothing exports in 1992. Countries and territories in Asia which are likely to gain most are Bangladesh, China, Hong Kong, India, Malaysia, Pakistan, Republic of Korea, Sri Lanka, Taiwan Province of China and Thailand, and to a lesser extent Indonesia, especially if they hold relatively small quotas. In particular, this means Bangladesh and China, which are now the lowest-cost producers in the region, compared with Hong Kong and the Republic of Korea, which held that position at the time the quotas were set. The increase in textiles and clothing production will have a knock-on effect on light industry throughout the region.

The major exporters of machinery and transport equipment in Asia, namely Japan, Republic of Korea, Singapore and Taiwan Province of China, together held a quarter of the world market in 1992. Of these, Japan is by far the biggest exporter, accounting for 17.9 per cent of the world market. However, since exports of motor vehicles from Japan to the United States and the European Union are covered by voluntary export restraints, they will not be affected by the Uruguay Round. Asia is also a major exporter of office and telecommunications equipment, an industry which is likely to experience considerable market growth. Countries and territories such as Japan, Malaysia, Republic of Korea, Singapore, Taiwan Province of China and Thailand are likely to gain from increased trade in the sector.

*Source:* Phillip Evans and James Walsh, "The EIU guide to the new GATT" (London, *The Economist Intelligence Unit*, 1994).

# Regional integration: implications for developing countries

The potential static and dynamic gains for developing countries to be accrued from the Uruguay Round agreements have been amply discussed in the preceding section. Despite increasing efforts to liberalize the global trading system, the world is seeing the emergence of three major trading blocs centred around Europe, North America and the Asia-Pacific region. An increasing number of regional arrangements have been concluded in recent years, with 33 agreements notified to GATT between 1990 and 1994.

In many respects, the characteristics of the current regional integration schemes are notably different from those of the past. In contrast to the wave of regional groupings of the 1960s, which proved to be short lived, the current regional arrangements are likely to be more long lasting. These arrangements tend to go much deeper, beyond the promotion of intraregional free trade through a free trade agreement and the erection of common tariff barriers through a customs union, moving towards the complete integration of regional markets through the free flow of factors of production and harmonization of monetary, fiscal, industrial, trade and competition policies. They also cover a wider area. These characteristics are most evident in western Europe, with the coming into force of the Maastricht Treaty in 1993 and the establishment of the European Union.

One reason cited for the revival of regionalism has been the difficulties encountered during the Uruguay

Round negotiations. A number of countries undertook or contemplated new regional integration initiatives, as an "insurance policy" in the event of failure of the Uruguay Round. However, the overall context in which such regional arrangements were concluded kindled suspicions and fears of a possible breakdown of the existing trade regime, and of a relapse into inward-looking trade blocs that were protectionist in effect, if not in intent. For example, in addition to worries about a "fortress Europe", the world saw United States trade policies switch from multilateralism to regionalism (the conclusion of NAFTA) as well as quality-based trade relations (managed trade based on human rights in China and the framework talks to reduce the trade surplus of Japan).[17,18] The trade and economic policies of the two largest markets in the world, which are increasingly being conditioned by regional agreements, will have significant implications for countries which are not parties to those agreements.

In spite of the successful conclusion of the Uruguay Round and the establishment of WTO on 1 January 1995, the appeal of regional integration shows no sign of diminishing. The protectionist stance of the agreements, more than their increasing number, has caused the most concern about trends towards regional integration. The issues raised by the interaction between regional integration agreements and the world trading system are unlikely to disappear from the international policy agenda in the foreseeable future.

## Developments in regional integration

The recent wave of regionalism is characterized by the tendency to form trade groups comprising both developed and developing countries. The following examples are noteworthy: the conclusion of a free trade agreement between Canada, the United States and Mexico; the development of investment and trade links between Japan and the United States and China, the Asian NICs and ASEAN; and the integration of western Europe with the Maghreb (Algeria, Morocco and Tunisia) and Mashraq (Egypt, Jordan, Lebanon and Syrian Arab Republic) countries through the expanded Mediterranean agreements and with the countries of eastern Europe which are potential entrants into the European Union.

There are a number of reasons for the establishment of a trading bloc between neighbouring developed and developing countries. First, the complementarity of factor endowments between developed and developing countries tends to be greater than between developing countries, resulting in considerable welfare gains for all the participants. Secondly, a free trade agreement between developed and developing countries may prevent a large influx of migrants from the neighbouring developing countries. Investment in the developing countries will create much-needed employment, the output of which will find ready markets in the developed countries. This is evident in the eastern and southern borders of the European Union and the southern border of the United States. From the viewpoint of developing countries, forming a trading bloc with developed countries will secure stable and safe access to the markets of developed countries, avert the risk of trade discrimination against non-member countries, and open up greater opportunities to receive a wide range of assistance for policy reforms such as debt relief, aid, technology transfer and FDI.*

Many developing countries previously formed regional groupings to reduce their dependence on trade with developed countries. Attempts to develop a regional or subregional inward-looking strategy of import substitution often referred to as collective self-reliance, were particularly popular in Latin America in the 1970s and the early 1980s. Regional arrangements in Latin America include the following: the Central American Common Market established in 1961; the Latin American Free Trade Association established in 1960 and replaced by the Latin American Integration Association in 1980; and the Andean Pact. In Africa, a dozen preferential trade areas and common markets have been created over the last three decades, and three have ceased to exist.**

Regional arrangements among developing countries do not seem to have yielded significant dynamic gains through increased competition, learning and economies of scale.[19] The lack of effectiveness of trade regionalism among developing countries is due to many factors, including the following: incompatibility of inward-oriented development policies and regional integration; strong vested interests in import-competing industries; limited product coverage; and the less-than-full elimination of tariffs, resulting in a reduction in the potential trade and economic gains from liberalization to the countries concerned. Early agreements concluded by developing countries also encountered problems of implementation and a weak external environment in the 1970s and early 1980s.

Regional integration schemes have led to an unequitable distribution of benefits and costs among participating countries, which are usually highly disparate in terms of the level of development and industrialization. The allocation of resources tends to gravitate towards more advanced economies with more efficient production facilities and better infrastructure. Moreover, the stronger economies continue to pile up trade surpluses, while the weaker ones are plagued with chronic deficits. Finally, almost all the integration schemes among developing countries have lacked a dominant country or region that can, in principle, maintain some degree of monetary and fiscal discipline, or some workable institutional means

* For a more detailed discussion on this subject, see R. J. Langhammer, "The developing countries and regionalism", *Journal of Common Market Studies*, vol. XXX, No. 2 (June 1992), pp. 211-231.

** For a survey of regional economic integration efforts in Africa, see African Development Bank, *African Development Report 1990* (Abidjan, 1990), chap. 10.

of ensuring macroeconomic stability among the members of the group, given that macroeconomic stability is a prerequisite to the success of regional integration. Under the current regional arrangements of the European Union and NAFTA, there is a dominant economy (or economies) in each grouping which assumes the main responsibility for macroeconomic discipline by helping smaller economies to pursue sound monetary and fiscal policies, and ensuring the feasibility of compensation schemes for the losers in the process of market integration.

In response to the perceived risk of exclusion from established regional integration schemes, strong interest in the formation of subregional groupings has been revived throughout Latin America. The most notable examples of such groupings are Mercosur, established in March 1991, involving Argentina, Brazil, Paraguay and Uruguay, and the reactivation of the Andean group in May 1991, comprising Bolivia, Colombia, Ecuador, Peru and Venezuela. Mercosur is now perceived as the most important customs union in the region, and holds great promise (see box 8).

In contrast, regional integration in Asia, mainly involving the four NICs, ASEAN countries, China and Japan, is a market-induced rather than policy-induced process. It is a natural process, often characterized as "open regionalism". The trading arrangement is nurtured by complementarities in terms of stages of industrialization and development, factor endowments, technological capacities, etc. Market integration was first spurred by capital movements and technology flows, followed by relatively free trade. Regional capital exports were dominated by Japan in the 1970s and in the early 1980s, but was joined by the four above-mentioned NICs as a new generation of capital exporters. The overseas Chinese community will continue to act as an important catalyst in forging de facto regional integration as well as the process of globalization in the region. The formation of a policy-induced formal trading bloc is very unlikely in the Asia-Pacific region, with the exception of a loose consultative body such as APEC, which was created in November 1989, and which includes the United States. The reason is that the main markets for the Asian NICs and other developing countries are still the United States and the European Union, and not Japan. Furthermore, Japan is not well disposed to the idea of forming a trading bloc with Asian developing countries and excluding the United States.

Finally, the success and viability of such regional integration schemes among developing countries remains to be seen. But, if the past is any guide, their prospects for the future remain highly uncertain.

## Trade patterns and regional integration

Despite the existence of three major trading blocs, there is no conclusive evidence that world trade has become fragmented. Since the Second World War, world trade has increased at an average annual rate of 6.5 per cent, a twelvefold increase in real terms, as compared with a sixfold increase in world GDP.[20] During this period, western Europe maintained about the same share of trade, expressed as a percentage of national output, as the rest of the world. Only the economies in transition and North America showed changes in their share of extraregional trade. Overall, extraregional world trade as a percentage of output increased from 12.9 per cent in 1958 to 16.1 per cent in 1990 (see table 7).

**Table 7.** Share of extraregional trade (exports plus imports) in GDP by region, 1958-1990

*(Percentage)*

| *Region* | *1958* | *1963* | *1968* | *1973* | *1979* | *1983* | *1990* |
|---|---|---|---|---|---|---|---|
| Central/eastern Europe and the former USSR | 9.7 | 8.6 | 14.6 | 16.5 | 18.4 | 17.1 | 22.7 |
| Western Europe | 15.8 | 12.2 | 12.5 | 13.8 | 16.1 | 15.3 | 12.8 |
| North America | 6.3 | 5.7 | 6.0 | 8.5 | 13.6 | 11.0 | 13.2 |
| Latin America | 24.8 | 20.6 | 17.4 | 10.6 | 21.3 | 20.9 | 23.7 |
| Asia | 15.5 | 11.4 | 13.5 | 13.6 | 16.1 | 15.4 | 15.2 |
| Africa | 42.2 | 51.9 | 34.8 | 37.7 | 44.5 | 35.0 | 45.6 |
| Middle East | 51.0 | 33.6 | 34.2 | 44.6 | 52.5 | 46.9 | 50.0 |
| World | 12.9 | 11.8 | 11.6 | 14.2 | 18.8 | 17.4 | 16.1 |

*Source:* World Trade Organization, *Regionalism and the World Trading System* (Geneva, 1995).

The findings of an examination of trends in intraregional trade are set forth below. Western Europe and Asia saw an increase in their share of intraregional trade between 1958 and 1993. In other geographic regions, the importance of intraregional trade remained largely unchanged or even declined. The end of the cold war saw the deregionalization of trade among countries in central and eastern Europe and the former USSR. Overall, the share of world merchandise trade that is intraregional also increased from 40.6 per cent in 1958 to 50.4 per cent in 1993 (see table 8).

**Table 8.** Share of intraregional trade (exports plus imports) in total trade by region, 1958-1993

*(Percentage of each region's merchandise trade)*

| *Region* | *1958* | *1963* | *1968* | *1973* | *1979* | *1983* | *1993* |
|---|---|---|---|---|---|---|---|
| Central/eastern Europe and the former USSR | 61.2 | 71.3 | 63.5 | 58.8 | 54.0 | 57.3 | 19.7 |
| Western Europe | 52.8 | 61.1 | 63.0 | 67.7 | 66.2 | 64.7 | 69.9 |
| North America | 31.5 | 30.5 | 36.8 | 35.1 | 29.9 | 31.7 | 33.0 |
| Latin America | 16.8 | 16.3 | 18.7 | 27.9 | 20.2 | 17.7 | 19.4 |
| Asia | 41.1 | 47.0 | 36.6 | 41.6 | 41.0 | 43.0 | 49.7 |
| Africa | 8.1 | 7.8 | 9.1 | 7.6 | 5.6 | 4.4 | 8.4 |
| Middle East | 12.1 | 8.7 | 8.1 | 6.1 | 6.4 | 7.9 | 9.4 |
| World | 40.6 | 44.1 | 47.0 | 49.3 | 45.8 | 44.2 | 50.4 |

*Source:* World Trade Organization, *Regionalism and the World Trading System* (Geneva, 1995).

The above observations point towards increasing integration of the world economy. In other words, there has been a tendency for the share of extra-regional trade to increase, in keeping with the increase in intraregional trade.[21] A number of studies also support this conclusion; that is, there is no discernible trend towards increased regionalization of world trade, and the benefits of increased global trade have so far been widespread.[22, 23]

## Regional integration and the multilateral trading system

At one point in time, regionalization of world trade appeared to replace the multilateral system as the primary force shaping world trade. The negotiations behind the establishment of NAFTA and the signing of the Maastricht Treaty seemed to attract more attention from the world than the Uruguay Round.

Free trading arrangements among developing countries are not likely to pose a serious threat to the global trading system. Furthermore, the smaller the number of parties negotiating a multilateral trading system, the easier will be the task of striking far-reaching agreements. Following this reasoning, it would be much easier to negotiate multilateral trade liberalization agreements among a small number of major trading blocs than among a large number of individual States. On the other hand, with a secure and expanded internal market to fall back on in case of failure in the negotiations, each trading bloc may well be less motivated to strengthen the global trading system, and hence may take a less cooperative stance in multilateral trade talks.

The relationship between the GATT system and regional trade areas is centred on article XXIV of GATT. That article deals with the formation of customs unions and free trade areas, and provides a number of rules governing such agreements. In essence, there should be liberalization of "substantially all" internal trade, and non-member countries must not face more restrictive trade policies than they did before the adoption of the agreement. The broad nature of the conditions has meant that not one regional agreement has been found inconsistent with GATT since 1947.

Consistency with the global trading system hinges on the openness of a regional integration scheme *vis-à-vis* non-members. The fragmentation of the world economy is increasingly viewed as an inevitable process, because the existing regional groupings tend to separate non-members from the integrated markets. In principle, the multilateral trading system is considered superior to regional integration schemes because a multilateral reduction of trade barriers based on provisions under the most-favoured-nation clause achieves a net welfare gain in the same way as an equivalent reduction within a regional integration group. But, unlike trading blocs, it is non-discriminatory *vis-à-vis* non-member countries.

However, more serious threats to the multilateral trading system may come from a rising wave of protectionism in the form of non-tariff barriers, such as anti-dumping measures, countervailing duties, voluntary export restraints and voluntary import agreements in developed countries. It is ironic that over the last decade, developed countries have become increasingly protectionist, raising non-tariff barriers often against the very products with which developing countries have acquired manufacturing capabilities and comparative advantage; developing countries, however, have made a fundamental shift from an inward-looking industrialization strategy based on import substitution to an outward-looking export-oriented strategy. Developing countries have also instituted significant market reforms and unilateral trade liberalization policies.

## Implications for developing countries

Regional integration is likely to have a range of different effects for developing countries, whether they are members or non-members of the group concerned. Within the group, positive effects are likely to dominate. Integration is expected to provide economies of scale and larger scope for specialization, resulting in efficient allocation of regional resources and increased market competitiveness. The prospects of a larger regional market may also stimulate investment within the group by regional investors and exert a strong attraction for FDI. Firms in non-member countries that locate new production facilities in a member country can service other members of the group through intra-area exports. However, to the extent that the increased investment is not financed from a higher savings rate in the area or elsewhere, it must inevitably divert FDI flows away from non-member countries.

One of the main negative effects faced by non-member countries is the risk of trade diversion. In the short term, trade diversion reduces the exports of non-member countries to members of the regional grouping, and is more likely to occur when the margin of preference granted to member countries is substantial. However, the benefits derived from regional integration will increase aggregate real incomes in the area. Non-member countries collectively will profit from the real income effects because of the increased demand for imports of most goods and services into the group. The fact that non-member countries have a smaller share in the trade of member countries does not rule out an increase in the absolute level of exports by non-member countries. In the medium term, the trade prospects of non-member countries with respect to a regional market will depend on whether the external trade policies of the members become more restrictive or less so after its establishment.

The initial reaction of developing countries, particularly the smaller and weaker ones, prompted

by the fear of higher trade barriers, will be to form a trading bloc with their large neighbouring trading partners in order to secure safe and stable access to their markets. Unfortunately, only a relatively small number of developing countries are likely to be invited by developed countries to form a regional grouping for various social, political, economic and strategic reasons; the majority of the developing countries will be left in the lurch. This will be particularly so for the weakest and most vulnerable of the developing countries, such as the countries in sub-Saharan Africa and South Asia. Even for those developing countries which are fortunate enough to form a trading bloc with neighbouring developed countries, the arrangement is not always a blessing. They are likely to play a peripheral role, constantly having to yield to the wishes of their richer and larger neighbours.

It is evident that the current tripolar trading blocs will not be undergoing the same process of regional integration. For instance, the European Union has undertaken a deep policy-induced integration in sharp contrast to the more open market-induced process in the Asia-Pacific region. Moreover, each trading bloc is likely to have different impacts on different groups of developing countries. The implications for developing countries of the European Union and NAFTA are briefly discussed below.

## European Union

The European Union tends to strengthen its links with those developing countries which export primary products to, and import capital goods from, the European Union, and which have a large share of their total trade with the European Union. They include mainly the member countries of the Organization of Petroleum Exporting Countries (OPEC), the Africa, Caribbean and Pacific (ACP) countries and Latin American countries. The Asian NICs may face adverse effects from the further deepening of the integration process within the European Union, since they compete directly with the European Union in many manufactured exports, and they import their capital goods primarily from Japan and the United States. In particular, the domestic adjustment costs of the single European market could generate the pressure for greater protection against all developing countries other than some OPEC and ACP countries. This risk is significantly increased by the persistently high levels of unemployment in western Europe, and further reinforced by the preference for the expansion of trade, investment and aid to the member States of the Commonwealth of Independent States and to eastern Europe, in order to further the process of transformation to a market economy in the countries concerned.*

* For a more detailed discussion, see Charles Oman, *Globalization and Regionalization: Challenge for Developing Countries* (Paris, Organisation for Economic Co-operation and Development, 1994).

The single market programme has highlighted the importance of adjusting to common European Union standards, and the prerequisite of mutual recognition of national standards has brought important advantages to non-member-country suppliers. The latter can now trade with the European Union as a whole, under common procedures for access and European-Union-wide standards, instead of facing fragmented markets with different rules and regulations.[24]

## North American Free Trade Agreement

At present, a developing country that is a major beneficiary of NAFTA is Mexico, although United States enthusiasm for forming a free trade agreement with developing countries in Latin America is likely to have been dampened by the current financial crisis in Mexico. The potential benefits to Mexico of joining NAFTA are many, including stable and secure access to the United States market, consolidation of the market-oriented reforms initiated since the mid-1980s and deterrence of any special interest groups from undermining the reform movement. However, for other developing countries excluded from NAFTA, particularly the Caribbean countries, there is mounting concern about the risk of trade and investment diversion to Mexico (see box 2), and the possible softening of the United States commitment to the multilateral trading system. The recent surge in investment flows to Mexico from Japan and Asian NICs has also raised the fear of investment diversion among low-income Asian developing countries.

## Policy responses

Non-member countries seeking to reduce or eliminate the effects on their exports of trade discrimination inherent in a customs union or free trade area have the following three principal options: attempting to join the regional integration agreement (become insiders rather than outsiders), joining other non-member countries in creating a new regional integration agreement, or joining in efforts to promote multilateral reductions in trade barriers to reduce the margin of discrimination they face in the regional market.

It seems evident that the dynamic effects of regional integration can be realized only if the openness of regional markets *vis-à-vis* non-member countries is ensured. It is imperative, therefore, that GATT article XXIV on regional integration be tightened further to safeguard and improve the conditions for treatment of non-member countries. More specifically, article XXIV provides an exception clause to the unconditional most-favoured-nation clause of article I (namely, national treatment and non-discriminatory principles), and allows for the formation of free trade agreements and customs unions.

Article XXIV has been criticized for its ambiguities and inadequacy in design and its susceptibility to

**Box 2. Implications of the North American Free Trade Agreement for the Caribbean**

When NAFTA came into effect in January 1994, it created a tariff-free market for 363 million people in the United States, Canada and Mexico. However, an almost equal number of people in the Latin American and Caribbean region, who depend on the United States for export revenues, were omitted from the equation. The most detrimental effects of NAFTA on the Caribbean will come through the inevitable diversion of trade and investment, relocation of production capacity and the contraction of economic activity as products and services that once were supplied by the Caribbean to the United States will in future be exported from Mexico.

The Caribbean region now comprises the tenth largest market of the United States, while for the Caribbean, the United States is by far the largest market. Combined trade (both imports and exports) between the United States and the Caribbean exceeded $20 billion in 1992, supporting 220,000 jobs in the United States and countless jobs throughout the Caribbean region. The structure of trade in the region ensures that the impact of NAFTA will be substantial. This is because 50-70 per cent of exports of individual Caribbean countries go to the three NAFTA countries, and the concern is that NAFTA could result in trade diversion for Mexican products, and not trade creation. The likely effects of NAFTA on the Caribbean region are summed up below.

*Trade diversion.* The phase-out of tariffs on Mexican products could remove or at least reduce the advantage enjoyed by Caribbean exports to the United States. This could cause a diversion of United States demand for suppliers in Caribbean countries to firms in Mexico, thus reducing Caribbean exports, and would aggravate the balance-of-payment difficulties of Caribbean economies. The World Bank has estimated that approximately 36 per cent of Caribbean exports to the United States will be subject to potential NAFTA displacement.

*Investment diversion.* As trade prospects and advantages in the Caribbean diminish, investors will begin to redirect their funds to Mexico. This diversion of investment is already evident from investment patterns throughout the region. The effects have already been documented as investors evaluate the provisions and the implementation process of NAFTA. The United States International Trade Commission, in a recent report, has concluded that "NAFTA will introduce incentives that will tend to favour apparel investment shifts away from the Caribbean countries to Mexico."[25]

*Relocation of production capacity.* Existing productive enterprises, which had originally located in the Caribbean to take advantage of access to the United States market, could transfer or close operations in preference for Mexican locations, which have the advantage of better access to the United States market. NAFTA discriminates in favour of Mexico against the Caribbean region.

*Contraction of economic activity.* The loss of trade and investment opportunities would precipitate a decline in business confidence and economic activity, undermining development prospects throughout the Caribbean. Caribbean Governments would inevitably find it more difficult to sustain their own economic reform and structural adjustment programmes, becoming more reliant upon bilateral aid programmes.

*Job losses.* Ultimately, a large number of jobs in the Caribbean, which depend on healthy trade flows between the United States and the Caribbean, would be lost as commercial opportunities contract.

A framework of complementary production has been established in the trading relationships between the Caribbean and the United States. In many industries, for example, the apparel industry, United States producers now undertake some production in Caribbean countries using United States machinery and inputs and Caribbean labour to produce a final product which is internationally competitive. If economic expansion is to continue in the Caribbean region, a mechanism must be established to enable United States and Caribbean firms to enhance their current trade partnership.

One solution is to expand NAFTA, but an expanded NAFTA raises the concern about how quickly smaller, less developed countries could join. Many of those countries are not ready for immediate accession to NAFTA because they have not yet attained the level of development commensurate with the far-reaching obligations that accession would entail. A suitable transitional arrangement would need to be designed for such countries, and an orderly, transparent accession programme established.

*Source:* Extracted from an article by Richard L Bernal, "From NAFTA to hemispheric free trade", *Columbia Journal of World Business*, vol. XXIX, No. 3 (Fall 1994).

abuse of the exceptions clauses. It seems necessary, therefore, that the criteria for GATT admissibility of a regional trading arrangement should be tightened and revised to ensure that barriers will not be raised to trade with the excluded countries.* One suggestion for improving the admissibility criteria is to set the common external tariffs in accordance with the lowest level of those of the member countries, and not the average level of the pre-existing tariff equivalents in the participating countries, as the current rules stipulate. But lower tariff barriers may not be sufficient to prevent trade diversion because of non-tariff barriers. A better solution is simply to require that the volume of extraregional trade of a regional group not be reduced as a result of forming a trading bloc. However, the practical difficulties of determin-

* For an illuminating economic analysis of GATT article XXIV and a detailed proposal for its revision, see J. McMillan, "Does regional integration foster open trade? Economic theory and GATT's article XXIV", in *Regional Integration and Global Trading System*, K. Anderson and R. Blackhurst, eds. (New York, Harvester Wheatsheaf, 1993).

ing the trade volume of a regional bloc at the pre-integration level would be encountered immediately, although some intuitive guide could be suggested. A more serious limitation is the difficulty of implementing the requirements of *ex post* adjustment of a part of the existing rules and regulation of a regional grouping.

One way to prevent the predatory and discriminatory practices of regional trading blocs is to strengthen the WTO trade policy monitoring and review mechanism to ensure that the formation and operation of regional integration schemes conform to GATT principles and rules, and especially to safeguard the interests of a large number of developing countries excluded from regional integration arrangements. Such a monitoring and review exercise should focus on the protection of the interests of the non-member countries, particularly those of small and weaker developing countries, since regional integration not only offers new market access rights not covered under the GATT framework, but also frequently results in the discriminatory elimination of market access rights guaranteed under the GATT legal framework. Therefore, the WTO monitoring and review exercise should focus on the discriminatory elimination of rights rather than on the preferential creation of rights under a regional arrangement.

In conclusion, it has become evident that given the growing importance of non-tariff barriers and other protectionist policies, such as strategic trade policies pursued in developed countries coupled with the emergence of regional trading blocs centred on developed countries, WTO, despite its many weaknesses and limitations, remains the only hope for developing countries to protect and advance their common interests. In a broader sense, WTO, with its machinery for the settlement of trade-related disputes could become a global institution for the optimal management of global trade in the interest of all countries, rich and poor, small and big alike.

# New concept of industrial competitiveness

The notion of competitiveness can be likened to that of comparative advantage. Every country, however poorly endowed or managed, will enjoy comparative advantage in some activity relative to other countries around the world. However, whether an industrial sector is competitive depends on a multitude of factors, including wage levels, the natural resource base, the level of scientific and technological development, government policy on trade and investment, infrastructure and human capital development.

Many developing countries are today adopting an approach to industrial development based on an export-oriented trade strategy, with the hope of creating the dynamics for overall economic growth and improving income levels. Unfortunately, their industrial enterprises, more often than not, lack the skills and knowledge required to compete in international markets. Moreover, their government policies, institutions and infrastructure are frequently inadequate to provide the necessary support for related trade and production activities.

Success on export markets depends on a complex mixture of price and non-price factors. While competitiveness in pricing is a necessary condition for export success, it is not sufficient. Exporters also need to be up to date about changes in customer preferences; to ensure the quality, timeliness and delivery of the goods produced; and to acquire the necessary marketing and distribution skills. Such requirements would be even more important in the context of a globalized world economy, characterized by growing liberalization and a more open economy in nearly all developing countries.

The time has come to reassess the traditional policies and strategies that have worked for developing countries. In the past, policy makers in developing countries implicitly left out the element of international competition when they adopted protectionist policies for their domestic markets. This element will begin to surface when their markets become more open to the world. Domestic enterprises can still remain competitive, but their competitiveness will probably be restricted to a narrow range of non-traded goods. Hence, the main consequence of liberalization is that the ability to keep up with international patterns of technological change has become more important to the survival of industrial firms than it was in protected economies.

Current developments are clearly making it more difficult for latecomers to follow the path of export orientation. Developing countries find they must now compete in a world where high technology has become an important criterion for industrial competitiveness. Product life cycles have become shorter, sometimes lasting no more than three years; new production techniques are restructuring the international division of labour and reducing the size of the required labour force; and the replacement of raw materials by human-made substitutes will reduce the need for commodity exports from developing countries. As the pace of global technical change quickens, it has become increasingly important for exporters in developing countries, if their export-oriented growth strategy is to succeed, to be able to monitor and adapt to continuing shifts in global industry in order to maintain their competitiveness.

However, the challenges that lie ahead for developing countries will vary in line with their respective levels of economic and industrial development. The problems confronted by NICs and the options open to them will be very different from those of other developing countries, such as those in sub-Saharan Africa. The analysis presented below will focus on some major issues that will have an impact on the relative profitability of manufacturing activities in developing countries.

## Reduced importance of price and cost competitiveness

The traditional approach to competitiveness in the export market centres on "price competitiveness". Firms entering into export markets have to be able to offer lower prices by taking measures to minimize their production costs, while at the same time maintaining a basic quality standard. NICs employed this approach in their export-manufacturing drive, capitalizing on their abundant supply of cheap, unskilled labour which helped to keep their manufacturing costs low and internationally competitive.

Today, the comparative advantage associated with low wage rates is being increasingly eroded because direct labour costs, as a percentage of the total costs of a firm, are declining rapidly. This trend is largely due to the emergence of new technologies, for example, flexible manufacturing systems and advances in communications and information technology, which have reduced the wage component of value-added by creating avenues for flexible automation. Thus, as a result of higher labour productivity arising from continuing advances in automation and other technology, the production process has been restructured in such a way that despite relatively high wage rates, a firm can still remain price competitive. In addition, consumer preferences are becoming more sophisticated and price is no longer the main factor. Other criteria then come into play, such as quality and product innovation, which can be achieved through mastering new manufacturing-related technologies and enhancing technological capabilities.

Industrial competitiveness will increasingly depend on technological capabilities and innovation, and on the ability to apply new technologies in production, organization and marketing, and to establish appropriate linkages with global corporations in the form of subcontracting, production mandates, FDI, licensing, strategic alliances etc. In such a scenario, international competitiveness in a large number of industries will be determined by the ability of firms to apply, at least selectively, new generic technologies in their production and organization. Some of the important new technologies are as follows:[26]

*(a) Automation and computer-aided design (CAD) and manufacturing (CAM).* The application of CAD and CAM systems may allow firms to respond to changing design requirements faster and to give greater flexibility to production. This could be particularly important for engineering firms that cater to original equipment manufacturers and for the garment industry, for example. Considerable productivity improvements are also possible in processing industries through the application of numerically controlled instrumentation;

*(b) Information and communication technologies.* The application of new information and communication technologies in several functional areas of the firm, such as finance and accounting, personnel and marketing, may lead to significant improvements in overall efficiency and productivity. These technologies will influence the access to information of the firm, which may be a key to competitiveness in certain cases;

*(c) New management techniques.* The application of new management techniques such as just-in-time operations, lean production and total quality management, not only bring efficiency improvements, but are sometimes necessary conditions for entering international markets. For instance, the ISO 9000 standards established by the International Standardization Organization are increasingly becoming minimum qualifications for winning contracts from countries of the European Union and other developed countries;

*(d) Biotechnology.* Efficiency improvements in a wide range of industries would be possible with the application of biotechnology in manufacturing processes. In a large number of chemical, pharmaceutical and food-processing industries, for instance, improved strains of microbes may result in savings in energy and raw materials. Such technologies also create possibilities of recycling industrial wastes into value-added products instead of outright disposal;

*(e) New materials.* The technology of new materials may not only help enterprises to cut costs of production by substitution of expensive materials, but may also bring about improvements in product specifications. Their application may be important for an increasing number of engineering and chemical industries.

Technological change in industry is a continuous process, and the range of technologically stagnant branches is narrowing. Innovation affects both the process of production and the nature of products in the industries in which developing countries are seeking to compete. Without advances in technology, the competitiveness of labour-intensive industries would be threatened and increasingly dependent on other forms of cost reduction, notably through lower real wages.

It should be noted, however, that the extent of the influence of quality, product innovation and price on competitiveness varies from industry to industry. The role that prices play in maintaining competitiveness should not be completely ruled out. The production of simple garments or low-quality textiles for the

mass market, for example, is still mainly characterized by price competition. Although generic technological change has increased the importance of innovative competition, the fact that there are still manufacturing markets where conventional price competition prevails is an important consideration for poorer developing countries with limited technological capabilities.

## Building technological capabilities

Technology has been described as one of the most decisive factors for industrial competitiveness in the 1990s. Illustrations can be found both in high-technology industries, such as electronics, telecommunications, and biotechnology, and in traditional industries, such as iron and steel, textiles and foodstuffs. The benefits from new techniques of production normally stem from increased productivity and flexibility, reduced wastage and product defects, improved product performance, optimal inventory levels, economies in management, etc. In short, the use of technology will influence the ability of industry to modernize and compete in world markets.

### Mastering new technology

Mastery of technological change is seen to pose great problems for developing countries which, at the initial stages of industrial development, lack the machinery, skills and institutional support to handle the technologies that are relatively standard in developed countries. Technological progress also means that developing countries must learn new skills and absorb new knowledge even before consolidating a base of industrial competence in the technologies which they are currently applying. They face the dilemma of staying put and excelling in what they are already doing, or choosing to move into new technologies in which they have no expertise, for fear of being left behind.

What then are the options open to developing countries to overcome the above-mentioned problem? First, it has been suggested that developing countries could gain enormous increases in productivity simply by using their current technologies more efficiently.[27] Secondly, studies of developed countries have shown that a substantial, if not dominant, part of productivity increases in their early stages of industrialization were derived from small improvements and adaptions to existing technologies.[28] Every major innovation is subject to a constant process of upgrading following its introduction. Even in developing countries, the more dynamic and competitive firms are those which involve themselves in such activities.

Another issue for developing countries involves gaining access to the steady stream of innovations being produced in developed countries. Not all innovations would be available for transfer, nor would all of them be applicable to industries in developing countries. Only the more mature NICs would stand to gain from the most recent technological advances; other developing countries may well seek to access the more established technologies. Whatever the form of technology sought, its successful transfer and absorption always requires considerable effort on the part of the recipient, especially in skills training and the upgrading of domestic science and technology capabilities.

Policy makers in developing countries should bear in mind that when the mastery of basic technologies is lacking and the capabilities required for more innovative research and development (R and D) work are not fully in place, world competition can erode industrial comparative advantage. At best, firms would be forced to rely more on ready-made foreign technology.

### Increasing indigenous R and D efforts

Technological capabilities can also be acquired through the promotion of indigenous R and D efforts. The other approach, which has so far been adopted by most developing countries, is to import foreign technology. However, advanced R and D for product development is usually an expensive, prolonged and complex task, and is likely to be beyond the capabilities of most developing countries. On the other hand, overdependence on technology imports, particularly those which do not provide any learning inputs, will not benefit a developing economy in the long run.

The level and form of technology that a developing country would seek to import will depend much on its size, level of industrial development and human resources. In general, smaller developing countries with a weaker industrial base would have to rely more on foreign technology, in highly packaged forms with minimal domestic inputs. As size and capabilities increase, the country may employ greater local R and D efforts, with the aim of developing national technological capabilities. Technology imports in this case may be restricted to licensing and capital goods rather than FDI.[29] That was how the Republic of Korea built up its technological capabilities in the petrochemical industry—through active participation and systematic understanding of the technologies involved. At the other end of the scale, sub-Saharan Africa, which generally lacked local investment capabilities, relied heavily on foreign turnkey contractors.

Technology imports can come through both formal and informal channels. Formal channels are those which are subject to contract and are usually paid for, as in the case of licensing agreements, turnkey projects and consultations. Informal channels of technology transfer are flows of knowledge through publications and communications, the migration of skilled people, and observation and imitation. Surveys have shown that one of the most effective means of technology transfer to NICs has been informal, con-

sisting in the export activity itself, which, in certain sectors, gives rise to the flow of a great deal of free technical and design information from the buyers of manufactured goods or suppliers of capital goods to manufacturers in developing countries.

It is therefore not surprising that R and D efforts in developing countries lag far behind those of developed countries. Though increasing over the years, in 1990, R and D expenditure as a percentage of GNP was still below 1 per cent for developing countries as a whole, compared with almost 3 per cent for developed countries (see table 9). The leader in terms of R and D expenditure was the former USSR (where efforts were most likely concentrated in the military sector), followed by North America. However, with regard to R and D, it is not total national expenditure that is relevant, but expenditure that is made for productive commercial purposes.

## Developing human capital resources

All kinds of education are important in building technological capabilities, but their significance depends on the level of industrial development. Basic literacy and numeracy are essential for all modern industry; they may also be sufficient if very simple machine-tool technologies are being employed. However, the need for vocational training and advanced technical education rises with the level of technical sophistication in industry.

Since technologies change rapidly in use, intensive in-house training and retraining activities will be necessary in order to equip unskilled and semi-skilled workers with the new skills that will be required for jobs in the future. Clearly the quality of technical education is as important as its quantity, and the mix of technical skills created must match the specific requirements of industry.[30]

The educational standards of developing countries still lag far behind those of the OECD countries. The average worker in the developed countries has had 11 years of schooling, compared with only 5 in China and Mexico, and in 1990, developed countries had, per 1,000 head of population, an estimated 3.7 scientists and engineers engaged in R and D activities, compared with 0.2 in developing countries (see table 10). Of the developing countries, Asia and Latin

**Table 9.** Estimated world expenditure for R and D by region, major area or country grouping, 1980, 1985 and 1990

| Region, major area or country grouping | 1980 | | 1985 | | 1990 | |
|---|---|---|---|---|---|---|
| | *R and D expenditure (billions of US dollars)* | *Percentage share of GNP* | *R and D expenditure (billions of US dollars)* | *Percentage share of GNP* | *R and D expenditure (billions of US dollars)* | *Percentage share of GNP* |
| Former USSR | 32.3 | 4.7 | 37.1 | 5.0 | 55.7 | 5.7 |
| North America | 66.8 | 2.2 | 115.9 | 2.7 | 193.7 | 3.2 |
| Europe | 70.7 | 1.8 | 65.5 | 2.0 | 105.0 | 2.2 |
| Asia | 31.7 | 1.4 | 47.2 | 1.8 | 91.2 | 2.1 |
| Oceania | 2.1 | 1.3 | 2.1 | 1.2 | 3.0 | 1.4 |
| Latin America and the Caribbean | 3.6 | 0.4 | 3.1 | 0.4 | 2.9 | 0.4 |
| Africa | 1.1 | 0.3 | 0.9 | 0.3 | 1.1 | 0.3 |
| Developed countries | 195.8 | 2.2 | 258.8 | 2.6 | 434.3 | 2.9 |
| Developing countries | 12.6 | 0.5 | 13.0 | 0.5 | 18.3 | 0.6 |
| World | 208.4 | 1.9 | 271.9 | 2.2 | 452.6 | 2.6 |

*Source:* United Nations Educational, Scientific and Cultural Organization, *Statistical Yearbook 1992* (Geneva, 1993).

**Table 10.** Estimated number of scientists and engineers engaged in R and D by region, major area or country grouping, 1980, 1985 and 1990

| Region, major area or country grouping | 1980 | | 1985 | | 1990 | |
|---|---|---|---|---|---|---|
| | *Estimated number (thousands)* | *Per thousand population* | *Estimated number (thousands)* | *Per thousand population* | *Estimated number (thousands)* | *Per thousand population* |
| Former USSR | 1 373.3 | 5.2 | 1 491.1 | 5.4 | 1 694.4 | 5.9 |
| North America | 688.0 | 2.7 | 800.3 | 3.0 | 930.7 | 3.4 |
| Europe | 893.5 | 1.9 | 940.4 | 1.9 | 1 091.0 | 2.2 |
| Oceania | 39.7 | 1.8 | 34.2 | 1.4 | 42.0 | 1.6 |
| Asia | 788.0 | 0.3 | 954.6 | 0.3 | 1 229.5 | 0.4 |
| Latin America and the Caribbean | 86.9 | 0.2 | 125.4 | 0.3 | 162.9 | 0.4 |
| Africa | 51.3 | 0.1 | 56.8 | 0.1 | 73.1 | 0.1 |
| Developed countries | 3 452.1 | 3.0 | 3 834.3 | 3.3 | 4 463.8 | 3.7 |
| Developing countries | 468.6 | 0.1 | 568.6 | 0.2 | 759.8 | 0.2 |
| World | 3 920.8 | 0.9 | 4 402.9 | 0.9 | 5 223.6 | 1.0 |

*Source:* United Nations Educational, Scientific and Cultural Organization, *Statistical Yearbook 1992* (Geneva, 1993).

America show higher levels of R and D personnel than the overall average. This observation is consistent with the relative economic and industrial success achieved by Asian and Latin American NICs, as a result of the competitiveness of their exports. The difficulty of finding suitably skilled workers for industry puts a limit on the transfer of complex technological activities to developing countries to enhance their industrial competitiveness.

The development of human resources will always be a critical factor, and is the foundation-stone of national efforts to increase industrial competitiveness. Institutional and policy support for technological development will thus remain important, with the intensification of competition in new technologies and the growing sophistication and scale of the effort required. If they want to reach their targets for national economic and industrial growth, policy makers in developing countries should plan carefully, and ensure that their policy framework and implementation match their human resource needs.

## Role of Government in raising industrial competitiveness

While the role of the market in the efficient allocation of resources is generally accepted, State intervention is crucial in certain areas where reliance on the market may not produce the desired results. One such area is infrastructure for enterprise development, where the State has a vital contribution to make, especially in developing countries.

Modern methods of flexible production, are subject to stricter requirements for quality and reliability. Since techniques such as just-in-time delivery make the new production methods more vulnerable to bottlenecks, it becomes more important than ever to ensure the availability of basic infrastructure, such as a reliable electricity supply and good transport and communication links. If transport and communication are sporadic and unreliable, it will be very difficult for suppliers to respond to the needs of buyers in a competitive manner. This reduces the attraction of producing, for example, in China (despite its low-cost labour) or in any other developing country, for export back to a developed country such as the United States. Developing countries need to invest approximately $200 billion a year on infrastructure.[31] Funding for such investment cannot come from the public sector alone. The participation of the private sector will have to be solicited in the form of joint ventures with the public sector, or of privatization projects funded and operated solely by private enterprises.

In addition to physical infrastructure, emphasis should also be placed on the institutional infrastructure for entrepreneurship and venture capital development, information flows and networking within industry, facilities for testing, standardization and quality management, etc., in order to meet international norms and ensure continuous technological upgrading. National R and D structures have to be strengthened to foster linkages between public and private R and D institutions, academic research efforts and manufacturing firms. The institutional infrastructure developed should also facilitate diffusion of new technologies among enterprises. The importance of the institutional infrastructure is confirmed by the experience of economies in East and South-East Asia. While it has worked well in Taiwan Province of China and Singapore, the existing institutional infrastructure (including the areas of science and technology) in member countries of the Association of South-East Asian Nations should be restructured to enhance their national technological capabilities. The ongoing attempts of China to restructure its institutions of science and technology and to make them productive enterprises may hold some lessons for other developing countries.

Government intervention has a vital role to play if the policies are carefully designed, well implemented, directed towards strengthening efficiency in competitive markets and, where possible, temporary in nature. Policy measures are required to restrain FDI where it inhibits indigenous investment in technology; to overcome appropriation problems leading to underinvestment in training or technological development; and to remedy other types of market failure, for example, with respect to institutional linkages, cooperative research and technology imports. Institutions must be developed to enable industries to function effectively and to enhance their capabilities; and since industries by themselves may not be able to set up the right institutions, Governments will have to assist in establishing them.

The failure of structural adjustment to produce the desired economic growth of the industrial sector has been observed in many developing countries, usually in cases where human capital endowments are weak. Export orientation certainly yields benefits, but if pursued together with sweeping import liberalization, it may kill off industries that have not yet built up the capability to withstand the onslaught of competition, even in countries reasonably well endowed with human capital. Failure to intervene to build up sufficient technical manpower after liberalization and the lack of an industrial structure and institutions to support technological development can lead to a shallow industrial base with low diversification into high-skill, high-technology exports (see box 3).

## Contribution of transnational corporations to industry

The role of transnational corporations in building manufacturing competitiveness deserves special mention because of their marked presence in the process of industrialization of developing countries. Transnational corporations dominate international markets in most tradeable goods and services. A large propor-

tion of world trade (between 33 and 50 per cent) is conducted between affiliates of transnational corporations on an intrafirm basis. Transnational corporations also tend to rationalize production globally in order to minimize costs, and have indeed relocated certain industries in whole or in part to developing countries. A number of developing countries in East and South-East Asia have expanded the volume of their manufactured exports considerably with the help of transnational corporations, through different tie-up arrangements, such as FDI, subcontracting and licensing agreements.

Transnational corporations can be a source of modern managerial and technological skills, as well as providing the critical foreign (international contracts and marketing networks) and domestic (manufacturing techniques and disciplines) elements needed to enter world markets on an equal footing with foreign competitors. Governments should therefore establish an attractive investment climate to encourage collaborative ventures between local firms and transnational corporations. Such arrangements would bring quicker results than waiting for the slow build-up of local capital and capabilities. However, it is important that local firms should play an equal role to ensure that the benefits derived can be efficiently transmitted, thus contributing to increasing national technological capabilities.

**Box 3. Developing a manufacturing-based competitive strategy: The case of Brazilian industrial enterprises**

*Development of industry in Brazil*

Industrial enterprises in Brazil may be private Brazilian firms, State-owned firms, transnational firms or joint ventures between them. At the start of the period of import substitution, private Brazilian-owned firms were mainly involved in the traditional textiles, footwear and food products industries. Public investments were in intermediate products, such as steel, petroleum and minerals. Transnational corporations came into the picture in the 1960s, when the large-scale production of durable consumer goods was promoted. The aim was for those corporations to transfer their managerial and technological know-how, thereby exerting a technological locomotive effect on Brazilian industry.

Brazilian enterprises faced limited competition for a long time. This was mainly due to an industrial promotion strategy that combined a high level of protectionism, direct and indirect subsidies to producers of goods, tight labour relations legislation to control wages and the presence of an undemanding domestic market. Moreover, the industry and foreign trade policies then implemented did not encourage Brazilian firms to seek manufacturing-based competitive capabilities.

In the 1980s, Brazilian industry underwent a period of turmoil brought about by a change in the political scene, severe economic recession and the emergence of the foreign debt problem. Modernization of industry through automation and robotization became the focus. However, the expected changes did not materialize, and continued macroeconomic instability and policy uncertainty did not help the confused state of affairs.

The 1990s saw the introduction of competition into Brazilian industry. All types of direct subsidies were eliminated, and import tariffs were progressively reduced with the aim of exposing local producers to stronger foreign competition.* At the same time, the Government introduced a programme to promote quality and productivity among Brazilian firms.

* For example, tariffs on toys dropped from 85 per cent in 1991 to 20 per cent in 1994, on cars from 60 to 35 per cent, on computers from 65 to 40 per cent, and on capital goods from 50 to 25 per cent.

Brazilian firms found that the rules of the game had drastically changed, and that the new patterns of competition were difficult to understand and to absorb. The aggregate response of Brazilian industry to manufacturing-based competition was more serious adherence to the traditional quality control approach. Many Brazilian companies introduced quality programmes without having an adequate method for efficient utilization of resources and managing costs. Improvements in product quality were therefore achieved though sacrificing cost and price, which further eroded the competitive position of companies. In short, the combination of a protected market and the lack of concern with the technological dynamics of international markets had inhibited the creation within Brazilian firms of the capabilities needed for manufacturing-based competition.

*What some leading enterprises did to build manufacturing competitiveness*

The competitive strategy of a firm depends on the demands of the market and the customer. In the case of Brazil, the export market was clearly the most important factor in the decision to adopt quality and productivity programmes. It also created a multiplier effect, in that the export-oriented firms in turn demanded better quality from their local suppliers. Some of the actions taken by Brazilian firms to increase their competitiveness were as follows: refocusing the production process; introducing new methods such as total quality control, just-in-time delivery and total productivity maintenance; redefining the labour process; and restructuring the firm as a whole.

*Refocusing the production process.* Brazilian firms used to undertake a very broad range of industrial activities. Cost-management systems were reviewed and revised to identify product lines that were profitable. A process of outsourcing and subcontracting was then adopted, and non-core activities were transferred to external suppliers. However, qualified suppliers were usually not available, and large firms were not seen to have been able to foster supplier capabilities, resulting in the slow formation of local supplier networks.

*Introducing new methods.* Companies with high levels of inventory chose just-in-time delivery, while firms with scrap and rework problems started with total productivity maintenance. However, the adoption of one programme more often than not required the implementation of activities and procedures that fall under the scope of another. Over time, each firm developed a specific structure for its quality and productivity activities, mixing concepts and techniques from both programmes. What is important here is not the title of the programme, but the dynamics of its activities.

*Redefining the labour process.* The new labour process sought to involve and increase worker skills and ensure worker stability. Companies found that the cost of hiring and firing is usually greater than the cost of retraining, and a stable and involved worker can generate more productive work. Training policies were oriented towards preparing workers to use the new techniques and become multiskilled workers.

*Restructuring the firm.* Restructuring mainly involved downsizing, decentralization and reduction of departments to increase worker productivity and ultimately reduce the cost of production.

*Concluding remarks*

The Brazilian case illustrates the challenges faced by industrial firms in developing countries when they are suddenly exposed to new standards of competitiveness. Brazilian firms are still grappling with the concept of quality improvement. While the Government believes that it has created the necessary conditions for Brazilian industry to compete through its industrial and foreign trade policies, it has been argued that the Government has not fulfilled its basic obligations, such as implementing a stable and consistent economic policy, or taking action to promote education, health, transport and housing, which have a direct impact on decisions by firms to adopt quality and productivity programmes. It is clear that the manufacturing strategies of Brazilian firms were strongly influenced by the non-competitive environment which prevailed until 1990, and that the continuing instability and lack of direction is not conducive to the adoption of competitive strategies at the firm and sectoral level.

*Source:* Afonso Fleury, "Quality and productivity in the competitive strategies of Brazilian industrial enterprises", *World Development*, vol. 23, No. 1 (1995), pp. 73-85.

# Industrialization and poverty alleviation

The pervasive problems of poverty and its eradication, particularly in developing countries, have been the focus of international aid agencies and policy makers around the world. Depending on the definition of poverty, estimates of the number of people living in poverty and its geographic distribution in developing countries may vary substantially. According to a World Bank study,[32] using an expenditure-based measure of $350 per capita for the minimum poverty level yields an estimated 1,115 million people living in poverty in developing countries in 1985. This translates into about one third of the total population of developing countries. Of this number, 630 million people, or 18 per cent of the total population of developing countries, fall under the extreme poverty level, with annual per capita consumption of $275. Furthermore, almost half of the poor and the extreme poor in developing countries live in South Asia and another one third in sub-Saharan Africa.

Evidence has shown that one avenue for poverty alleviation is trade; but this works well only for those countries with a substantial industrial base and a competitive export sector for manufactures. Multilateral trade liberalization agreements such as that negotiated in the Uruguay Round are expected to improve access to the markets of developed countries for labour-intensive manufactures and some technologically simple capital goods of developing countries. The trade-induced effects will be greater employment generation in all sectors of the economy, particularly industry, rising income levels and improved standards of living. However, only a handful of developing countries belong to this exclusive club—the more dynamic Asian and Latin American NICs and ASEAN countries. The others, some 100 developing countries, are largely small, open economies with a preponderant share of their total exports in primary commodities, making them quite vulnerable to external shocks. In fact, freer global trade may adversely affect these commodity-exporting countries, at least in the short run, and hence exacerbate their already severe poverty levels. It is paradoxical that trade, which can be an effective instrument for an export-oriented country to reduce its incidence of poverty, could also work against poorer countries with higher levels of poverty.

The glaring gaps in manufactured export capacity among developing countries can be observed in table 11, which compares the manufactured export performance of sub-Saharan countries with that of selected developing countries in the Asia and Pacific region. In 23 of the 30 selected sub-Saharan countries, manufactured exports accounted for less than 20 per cent of their total export revenues in 1990. The seven countries which derived more than one fifth of their total export revenues from manufactured exports were Central African Republic, Comoros, Gambia, Mauritius, Senegal, Sierra Leone and Zimbabwe. In comparison, the share of manufactured exports in Asia-Pacific countries ranged from 36 per cent in Indonesia to 92 per cent in the Republic of Korea in the same year. What is most striking is that

in 1990, the total combined manufactured export earnings of the 30 sub-Saharan countries, about $3 billion, was close to one third of the manufactured export earnings of Indonesia, and only about 5 per cent of that for the Republic of Korea.

Hence, for a large number of developing countries in the early stages of industrialization, policy measures should centre on building the industrial base, for example, through selective industrial targeting and nurturing of infant industries, agricultural development and rural industrialization, informal sector development, strengthening linkages between agriculture and manufacturing, infrastructure development, human resource development and institution building. Above all, poverty alleviation will call for the efficient use of the most abundant asset of poor countries, their labour force, in order to provide a social safety net for the extreme poor.

The World Summit for Social Development, held at Copenhagen from 6 to 12 March 1995, highlighted the link between poverty and employment, which may be summed up as follows: the fundamental solution to poverty in developing and developed countries alike is through the creation of productive employment. In many respects, employment generation, where feasible, is preferable to income redistribution as a policy instrument for alleviating poverty and reducing inequality. It is in this context that the role

**Table 11.** Share of manufactured exports in total exports in selected countries of sub-Saharan Africa and East and South-East Asia, 1975 and 1990

| Country | 1975 | | | 1990 | | |
|---|---|---|---|---|---|---|
| | *Total exports (millions of US dollars)* | *Manufactured exports* | *Percentage share of manufactured exports* | *Total exports (millions of US dollars)* | *Manufactured exports* | *Percentage share of manufactured exports* |
| | | | *A. Sub-Saharan Africa* | | | |
| Angola | 969.3 | 71.7 | 7.4 | 3 910.3 | 3.9 | 0.1 |
| Burkina Faso | 43.5 | 2.8 | 6.5 | 160.3 | 17.6 | 11.0 |
| Burundi | 31.6 | 0.9 | 2.8 | 75.0 | 1.5 | 2.0 |
| Cameroon[a] | 446.3 | 47.3 | 10.6 | 1 281.6 | 194.8 | 15.2 |
| Cape Verde[a] | 2.0 | 0.3 | 15.0 | 6.5 | 0.8 | 12.3 |
| Central African Republic | 47.2 | 11.2 | 23.7 | 139.3 | 67.1 | 48.2 |
| Chad[a] | 40.0 | 3.1 | 7.7 | 132.8 | 12.0 | 9.0 |
| Comoros[a] | 9.5 | 2.6 | 27.8 | 12.4 | 3.3 | 26.6 |
| Côte d'Ivoire | 1 181.6 | 132.3 | 11.2 | 2 940.4 | 494.0 | 16.8 |
| Ethiopia | 215.2 | 3.9 | 1.8 | 294.2 | 15.6 | 5.3 |
| Gabon | 941.9 | 9.4 | 1.0 | 1 692.8 | 57.6 | 3.4 |
| Gambia | 48.1 | — | 0.1 | 40.6 | 10.5 | 25.9 |
| Ghana | 728.2 | 10.2 | 1.4 | 1 072.3 | 143.7 | 13.4 |
| Kenya | 456.0 | 60.2 | 13.2 | 1 054.3 | 182.4 | 17.3 |
| Madagascar | 301.4 | 12.4 | 4.1 | 321.9 | 48.9 | 15.2 |
| Malawi | 121.1 | 5.7 | 4.7 | 417.6 | 20.0 | 4.8 |
| Mali[a] | 36.5 | 4.3 | 11.7 | 270.7 | 18.4 | 6.8 |
| Mauritania | 174.3 | 3.7 | 2.1 | 447.1 | 2.2 | 0.5 |
| Mauritius | 294.6 | 33.9 | 11.5 | 1 180.5 | 803.9 | 68.1 |
| Mozambique[a] | 202.0 | 12.9 | 6.4 | 101.1 | 17.7 | 17.5 |
| Nigeria | 7 983.4 | 16.0 | 0.2 | 13 649.3 | 286.6 | 2.1 |
| Rwanda | 42.0 | 2.0 | 4.8 | 97.6 | 4.6 | 4.7 |
| Senegal | 462.4 | 69.4 | 15.0 | 782.6 | 176.1 | 22.5 |
| Sierra Leone | 140.0 | 75.9 | 54.2 | 142.8 | 37.3 | 26.1 |
| Togo | 124.8 | 7.2 | 5.8 | 267.9 | 24.4 | 9.1 |
| Uganda | 263.0 | — | — | 152.1 | 1.7 | 1.1 |
| United Republic of Tanzania | 343.2 | 41.2 | 12.0 | 250.9 | 29.6 | 11.8 |
| Zaire | 864.8 | 57.1 | 6.6 | 999.3 | 165.9 | 16.6 |
| Zambia[a] | 805.1 | 5.6 | 0.7 | 1 347.5 | 150.9 | 11.2 |
| Zimbabwe[b] | 844.8 | 231.5 | 27.4 | 1 467.6 | 453.5 | 30.9 |
| Total | 18 163.8 | 934.6 | 5.1 | 34 709.3 | 3 446.5 | 9.9 |
| | | | *B. East and South-East Asia* | | | |
| Indonesia | 7 130.2 | 85.6 | 1.2 | 25 553.2 | 9 071.4 | 35.5 |
| Malaysia | 3 846.6 | 665.5 | 17.3 | 29 418.7 | 15 944.9 | 54.2 |
| Republic of Korea | 5 070.6 | 4 127.5 | 81.4 | 71 870.1 | 65 904.9 | 91.7 |
| Singapore | 5 377.1 | 2 231.5 | 41.5 | 52 627.3 | 37 733.8 | 71.7 |
| Thailand | 2 162.2 | 317.8 | 14.7 | 23 002.4 | 14 514.5 | 63.1 |
| Total | 23 586.7 | 7 427.8 | 31.5 | 202 471.7 | 143 169.5 | 70.7 |

*Source: Handbook of International Trade and Development Statistics 1992 and 1993* (United Nations publication, Sales No. E/F.92.II.D.9 and E/F.94.II.D.24), table IV.1.

[a] 1990 figures refer to 1989 data.

[b] 1975 figures refer to 1976 data.

of industrialization in poverty alleviction will be discussed below. It should be noted that the contribution of manufacturing to employment generation stems not only from its direct employment effect, but more importantly from its indirect employment effect through its extensive linkages with other sectors of the economy, particularly agriculture and services.

It would therefore be useful at this point to examine the changes in the employment pattern throughout the cycle of industrial development. These changes reflect the linkage between industry, on the one hand, and agriculture and services, on the other. This linkage will have spillover effects on employment generation in industry. In general, at the initial stage of industrialization, agriculture tends to dominate both output and employment. As agricultural employment begins to decline, employment in the service sector usually grows faster than in the manufacturing sector, mainly as a result of rapid rural-urban migration. At the intermediate stage of industrialization, where a network of interindustry linkages begins to take root and industrial output expands, manufacturing employment starts to increase rapidly, although not as fast as output. Service employment may increase at a slower rate than manufacturing employment. But when the economy attains industrial maturity and moves into the stage of the knowledge-intensive, post-industrial society, the service sector will once again dominate, and the manufacturing share of output and employment in the national total will eventually begin to shrink.

## Rural industrialization and small-scale enterprises

During the early stage of industrial development, agricultural growth stimulates domestic demand for industrial products. Furthermore, the agricultural sector supplies food for industrial workers, raw materials for agro-industries and labour to meet the growing needs of industrial expansion. More importantly, due to its sheer size in terms of output and employment, agriculture, which in most cases is the largest as well as slowest-growing sector in a developing economy, is the main contributor to the net inflow of resources, such as rents, savings, taxes and foreign exchange, to the industrial sector. Without these inputs the development of industry would most likely not be able to take root and grow. In a reciprocal manner, industry provides agriculture with intermediate inputs such as chemical fertilizers and pesticides, and with producer goods such as farm implements, irrigation pumps and transport equipment. However, as the economy grows, industrializes and achieves rising per capita incomes, non-agricultural products will begin to account for an increasing proportion of total consumption. At the later stages of economic development, trade provides a means for securing food and other agricultural products in exchange for industrial goods. Another significant feature would be that many of the essential resource transfer functions performed by agriculture, involving savings, taxes, foreign exchange, etc., will now be provided by the industrial sector.

Industry contributes to the alleviation of rural poverty through the creation of rural small-scale enterprises and the subsequent employment generation resulting from linkages between agriculture and manufacturing described above. Most of the enterprises developed from the linkages between agriculture and manufacturing will be small-scale in nature, mainly household and cottage industries and micro-enterprises. These small-scale enterprises carry many desirable features for the alleviation of rural poverty. Some justifications for the development of rural small-scale enterprises include the following:[33]

*(a)* Rural small-scale enterprises are labour-intensive and relatively unskilled, and hence use the abundant resources which the rural poor possess. They are, thus, equity-enhancing in that they provide employment for the poor;

*(b)* Rural small-scale enterprises require factor proportions appropriate for rural conditions in developing countries. In other words, they maximize the use of abundant unskilled labour and local raw materials, but economize on scarce financial and well-trained human capital;

*(c)* Rural small-scale enterprises provide opportunities for developing entrepreneurship and upgrading entrepreneurial skills;

*(d)* Rural small-scale enterprises are predominantly financed from non-banking and non-financial intermediaries, and mostly from savings of the owner and the household. Therefore, they are viewed as an effective vehicle for tapping rural savings for productive purposes;

*(e)* Rural small-scale enterprises produce basic goods for the rural poor and unsophisticated intermediate goods for the local enterprises;

*(f)* Rural small-scale enterprises are flexible in providing non-farm, income-generating activities for a large group of the poor, particularly households headed by women. Furthermore, year-round non-farm activities will minimize the incidence of seasonal poverty.

Many aspects of agricultural production favours the local processing of agricultural products at the source of raw materials. Agricultural production is characterized by its decentralized activity over a wide area, its crops usually bulky, heavy and often perishable. Local processing by small-scale enterprises would therefore substantially reduce transport costs. However, the production of agricultural inputs may require government support, especially in areas such as technical know-how, access to credit and financing and marketing links. In the long term, it has been recognized that raising agricultural productivity and hence farm incomes would be one key factor in rural industrialization.

The viability of rural industries has been debated in the light of both supply and demand constraints. A study by Tambunan[34] on rural small-scale enterprises in Indonesia showed that the viability of such rural enterprises in that country seemed to depend critically on their marketing links to major urban centres. On the supply side, major constraints facing rural small-scale enterprises are the inadequacy of production and non-production factors, such as repair and maintenance facilities, alternative sources of raw materials, marketing information and access to credit and finance, as well as other specialized services. Hence, the issues facing such enterprises and the modernization of household and cottage industries are very much dependent on the linkages between agriculture and industry and between the rural and urban markets, and would need to be addressed if rural industry is to succeed.

Policy measures to enable the poor to participate in productive activities include assistance programmes such as: skills training and technical assistance; easy access to credit and finance, particularly under the type of financing scheme adopted by the Grameen Bank in Bangladesh; making available basic infrastructure and facilities; provision of information on markets and new technology; and the establishment of a legal institution to protect and promote the interests of the poor.*

## Urban poverty alleviation and the informal sector

In the urban areas, the role of the informal sector in employment generation may warrant special attention from the viewpoint of poverty alleviation. The sector is a residual absorber of the massive number of migrants who are unable to find gainful employment in urban areas, and is a major source of income and employment for a large portion of the labour force in developing countries. A considerable part of its activities are also related to manufacturing.**

A reliable estimate of the size of income and employment in the informal sector is hard to come by, since activities in the informal sector are unregistered and unrecorded in official statistics. According to a recent estimate by the International Labour Organisation (ILO), around 30 million people are employed in the informal sector in Latin America. Employment in the informal sector accounted for about 60 per cent of the urban labour force in Africa in 1985, and between 40 and 66 per cent in Asia during the 1980s. Total employment in the informal sector in developing countries is estimated to be around 300 million, contributing somewhere between 5 and 35 per cent of GDP.[35]

In theory, the importance of the informal sector progressively diminishes and eventually disappears, since workers in the sector are continuously being absorbed into the formal sectors of the economy, which expand as a result of industrialization. This has been observed in most developed countries, and also in a number of NICs such as the Republic of Korea, Singapore and Taiwan Province of China, where there is a shortage of labour. In reality, the informal sector is likely to persist for a long time in most developing countries, mainly because of the inability of manufacturing and other modern sectors to provide gainful employment opportunities to a rapidly increasing labour force. Even during the period of healthy economic growth in the 1970s, employment in the informal sector in the relatively industrialized economies of Latin America was estimated to have increased by 3.7 per cent per year. Employment growth in the informal sector accelerated during the recession of the 1980s, as adjustment policies forced many modern enterprises to downsize their workforce. As a result, employment in the informal sector was estimated to have expanded by 56 per cent, compared with a 30 per cent gain in non-agricultural employment in Latin America between 1980 and 1987. At the same time, average informal sector incomes declined by 8 per cent. In sub-Saharan Africa, informal sector employment grew by 6.9 per cent per annum, absorbing about 75 per cent of new entrants to the labour market between 1980 and 1985.[35]

One approach to facilitating the development of the informal sector is the promotion of micro-enterprises, commonly defined as small enterprises employing less than 10 employees, including self-employed individuals. Micro-enterprises in developing countries are increasingly being viewed as a potential engine of growth and source of employment generation, and hence as an effective instrument for the alleviation of poverty. Various policy measures to stimulate the growth of the micro-enterprise sector have been designed and implemented in various developing countries, mainly in the form of provision of short-term credit and technical assistance to micro-enterprises, as well as strengthening the institutional framework for delivering these resources and services. The supply-side interventions to assist micro-enterprises have not been generally successful for a number of reasons, such as the inadequate under-

* For an elaboration of the policy measures for rural industries, see "Poverty alleviation and rural small-scale industries", UNIDO discussion paper prepared for the Working Group on Industrial Contribution to Rural Development of the Administrative Committee on Coordination Task Force on Rural Development, held in Washington, D.C., 5-7 May 1993.

** Much confusion and ambiguity exists about the term "informal sector". In the present discussion, the ILO version of the definition will be used, according to which the informal sector comprises very small-scale units producing and distributing goods and services, and consisting largely of independent, self-employed producers in urban areas of developing countries, some of whom also employ family labour and/or a few hired workers or apprentices, which operate at a low level of productivity, and which provide very little low and irregular incomes and highly unstable employment to those who work in it. They are informal in the sense that they are for the most part unregistered and unrecorded in official statistics. In this context, the underground economy of certain developed countries should not be treated as the informal sector. The underground economy in developed countries exists mainly to evade taxes and certain bureaucratic controls and regulations, and it is rarely generated by the necessity for survival strategies among the poor as in developing countries.

standing of the nature of micro-enterprises and the informal sector, the choice of inappropriate intermediaries, failure to reach the intended target groups, poor donor coordination and weak implementation.[36]

Despite the appeal of micro-enterprises as a means for the urban poor to participate in productive activities, the viability of the micro-enterprise remains doubtful. The survival rate of micro-enterprises tends to be very low—they often last less than two years. Individual micro-enterprises do not grow in size in most cases, and employment growth in this sector is through the multiplication of micro-enterprises. Many of the problems faced by micro-enterprises are similar to those of rural industries. The fundamental problem here is also due to demand-side constraints. Micro-enterprises produce goods and services which are mainly for the poor and considered inferior in quality, and hence the income elasticity of their output tends to be very low. As the poor move up the income ladder, they shift their consumption pattern to more sophisticated goods produced in the formal sector. Given this demand constraint, it is readily understandable why numerous supply-side interventions to aid micro-enterprises have failed. The general rise in per capita incomes and standards of living may not stimulate the demand for goods and services produced by micro-enterprises. A more feasible approach to the problem may lie in assisting micro-enterprises to improve the quality of their products, and in upgrading the skills of the poor in order to absorb them into the formal sector.

It should be acknowledged that the informal sector in developing countries is not a transitory phenomenon, but a permanent entity; and effective policy measures must be designed to ensure the maximum employment-generating capacity of the sector. Furthermore, regulations and social safeguards have to be provided to protect the interests of workers in the sector.

## Employment generation strategies

Employment generation is a long-lasting and viable solution to poverty alleviation. In this regard, it has been observed that the manufacturing sector has generally a limited capacity for employment generation. It is through the critical production linkages between manufacturing and other sectors, particularly agriculture and services, and the effects of rising incomes on consumption that industrialization takes on added significance in employment generation and hence poverty alleviation.

Apart from agricultural land, the most important asset owned by the poor is its cheap, abundant labour. Policies to upgrade the skills of the poor through industrial training and education are therefore extremely important. Furthermore, macroeconomic and sectoral policies should be structured to promote labour-intensive industrial development to maximize the employment of the poor. Factor market distortions which tend to encourage capital-intensive production such as credit subsidies to large-scale enterprises and preferential tariff treatment of imported capital and intermediate goods should be removed. Well-meaning labour laws and social legislation which are designed to protect the poor, such as minimum wages and labour standards, should be carefully assessed in terms of their employment impact on the poor, and should be deferred if inimical to employment generation, particularly in the initial stages of industrialization. Priority consideration should also be given to the identification, formulation and implementation of policy measures aimed at developing and strengthening intersectoral production linkages which would provide income-earning and employment opportunities for the poor. Finally, proactive industrial and trade policies should be formulated with a view to encouraging the active participation of small-scale enterprises and micro-enterprises in the export market, since foreign trade is one of the effective instruments for economic growth and poverty alleviation.

So far, most policy interventions to aid the poor are supply side oriented. Examples are numerous, and they generally involve innovative credit programmes for the poor,* adapting technologies, training and technical assistance for micro-enterprises, and improving the access of the poor to physical and social infrastructure services. These supply-side interventions have often failed because of demand-side constraints, such as the lack of a readily available market for the goods and services produced by the poor. The emphasis given to schemes to generate and sustain demand for goods produced by the poor must be equal to, if not greater than, that given to supply-side measures. Some of the demand-side measures include better marketing and sales promotion, as well as technical assistance to upgrade the quality of products made by micro-enterprises, and to encourage the use of micro-enterprises as subcontractors or suppliers of inputs for larger enterprises.

While the approach to rural and urban poverty alleviation has been discussed separately, the problems associated with these two aspects of poverty are closely intertwined. A considerable portion of the problems of urban poverty is often transferred from the rural area through massive rural-urban migration fuelled by extreme rural poverty. Rural-urban production and marketing linkages should receive closer attention as effective vehicles for simultaneously attacking the poverty problem in both areas, and for stemming the onslaught of uncontrollable rural-urban migration observed in many developing countries today. However, in many developing countries there exist resource-poor areas marked by very limited growth potential, with the majority of the population living in abject poverty and possessing few skills, with the virtual non-existence of social and physical infrastructure, and with poverty-induced environmen-

* Such credit programmes are characterized by lending with low default rates, group lending, and joint liability as practised by the Grameen Bank in Bangladesh.

tal degradation such as deforestation and desertification. Massive investments to develop these areas may be neither cost-effective nor viable. Migration is a partial solution, but only if areas with high growth potential grow fast enough to absorb migrants from the resource-poor areas. Undoubtedly, a viable solution will require a comprehensive, integrated nationwide planning for balanced regional growth.

In assessing employment strategies based on industrial linkages with other sectors of the economy, the importance of indirect-income-induced final demand linkages should not be overlooked. Final demand linkages for consumer goods and various types of services through increasing incomes is as important as, if not more important than, direct production linkages. For example, farm households spend between 30 and 40 per cent of their income on non-food items such as textiles, clothing, shoes, leather goods, furniture and building materials. In this regard, the income elasticity of demand for services clearly has important implications for employment strategies. If income elasticities for most services are sufficiently high, a development strategy could concentrate on first maximizing economic growth through rapid industrialization, which may necessitate capital-intensive production. Then, apart from the growth of intermediate demand for distributive and producer services, the resulting higher per capita incomes are likely to generate significantly increased demand for personal and social services, thus leading to the rapid expansion of service employment.

For these policy measures to succeed, the correct identification of the target groups is essential. In general, the rural poor are relatively easy to identify, consisting of marginal small farmers, landless tenant farmers, artisans, etc. In contrast, the distinction between the poor and the non-poor is more difficult to make in urban areas. For instance, slum settlements are occupied by both the poor and the non-poor, and the incomes of slum dwellers are extremely difficult to estimate. Most of all, be it in an urban or a rural setting, employment strategies through production linkages should include the functionally most vulnerable population groups, such as smallholders, landless peasants, nomadic tribes, indigenous ethnic groups, artisans, refugees and displaced persons, in order to maximize the impact of such strategies on poverty alleviation.

# UNIDO's role in a changing global context

A survey of the industrialization process in developing countries will reveal that they went through various stages in terms of policy and market orientations, their institutional framework and the key challenges confronting them. Similarly, international cooperation in support of the development process underwent a series of changes. A short review of past patterns of development and cooperation in building up industrial capacities in developing countries may help to illuminate emerging trends as well as the need for adjusting the institutions, structures and programmes of the international system of cooperation. This system covers the United Nations, including the International Monetary Fund (IMF) and the World Bank, the bilateral aid agencies, regional organizations and various private entities. Within this overall framework, the role and function of UNIDO as the lead agency of the United Nations in the field of industrial development deserves special attention.

Most developing countries began to industrialize in the late 1950s and the 1960s, when the former colonies gained their independence. In fact, industrialization efforts formed part of broader endeavours towards economic independence. Through the build-up of domestic industrial capacities, developing countries strived to generate an overall, indigenous base for societal identity and socio-economic development.

The absence of functioning markets and growth stimulants led to the formulation and implementation by Governments of various development planning models. The lack of domestic private risk capital and entrepreneurship necessitated a central role by Governments, a role which they fulfilled by assuming an interventionist and entrepreneurial function, and by initiating a process of industrial development with significant public ownership of large-scale enterprises. An import-substitution policy was largely pursued with light consumer goods or, in some countries, through selected capital-goods industries set up behind trade walls. Development optimism prevailed, and a spirit of national and collective self-reliance, coupled with global negotiations with industrialized countries, seemed to provide the basis for a gradual restructuring of world industry to enable developing countries to increase their share of total world production. The Second General Conference of UNIDO, held at Lima from 12 to 26 March 1975, gave expression to that optimism by the adoption of the Lima Declaration and Plan of Action on Industrial Cooperation and Development, in which Member States set the target for developing countries to attain a 25 per cent share of world MVA by the year 2000.

The creation of UNIDO in 1966 to support the process of industrialization enabled developing countries to obtain advice and assistance on technical and economic issues emanating from the build-up of industrial structures and the required institutional infrastructure. Assistance was provided in accordance with the prevailing policy framework and priorities

of individual countries, and funded primarily through the United Nations Development Programme (UNDP). At the same time, both through its own expertise and by disseminating the experience of developed countries, UNIDO was able to promote increased awareness among policy makers in developing countries of the problems of a growing domestic market and of the need to induce industry to adopt export-oriented production strategies. Product adaptation for export, feasibility studies and structural analyses, as well as assistance in technology transfer, were among the programmes carried out by UNIDO at a time when industrial production policy was generally outward oriented.

## Overview of the industrialization process in developing countries

During the 1960s, MVA in developing countries grew by an average of 7.6 per cent. The growth rate reached 7.2 per cent in the 1970s, but fell to 3.7 per cent in the 1980s, a period which for many countries—especially several Latin American countries—became the "lost" decade.

Towards the end of the 1970s, industrial development in many developing countries had already reached a stage when structural constraints were becoming significant. Structural imbalances, prompted by internal policy and market distortions, domestic market limitations, lack of competitiveness both on the export market and domestically, as well as a series of external shocks, led to deindustrialization, an external debt crisis and sharp falls in incomes and employment in many countries.

Yet, over time, the share of developing countries in total world MVA increased from 8.6 per cent in the 1960s to 14.8 per cent in 1980, and—after a temporary decline—to 20.9 per cent in 1994. This in itself is a major achievement. Developing countries have been able to build up significant industrial production capacities, thereby generating employment, overall income growth and significant export earnings, as well as gaining access to goods and services, know-how and higher standards of living. Modern production technologies have been deployed, and developing countries have become major players in the global industrial production and trading systems.

A review of the industrial development process in past decades, however, also reveals that the pace of development has been very uneven in the various regions. The share of Africa in total world MVA moved very slowly from 0.7 per cent in 1975 to 0.8 per cent in 1994. The MVA share of the least developed countries worldwide remained static over this period, and was 0.8 per cent in 1994. This reflects the continuing lack of resources and opportunities for development and the prevalence of significant constraints in building up viable industrial structures. In contrast the combined share of East and South-East Asia increased from 1.6 per cent in 1975 to 5.6 per cent in 1994.

An obvious accentuation of growth differences has, thus, been noted, with a small number of developing countries accounting for the lion's share of manufactured exports, FDI and technological advancement. In 1992, some 60 per cent of FDI in developing countries went to Asia alone—as opposed to some 2 per cent in Africa. Similarly, manufactured exports are highly concentrated on a small number of countries in East and South-East Asia and in Latin America.

It is becoming quite clear, however, that the unrelenting pursuit of maximum economic growth—successfully applied in recent years in some NICs—is not sustainable. Social, environmental, infrastructural and other constraints are building up, and, unless adequately addressed, could seriously hamper the growth process. Although NICs in Asia are becoming less dependent on external capital and markets, they tend to face mounting constraints to growth in terms of the need for technological upgrading and the development of skills and physical infrastructure.

The beginning of the 1990s was marked by a widespread reassessment of the concept, strategies and policies of industrial development in developing countries in the light of both past experience and the dramatic changes taking place in the global economy. A new orthodoxy has gained ground, the key features of which are greater reliance on market forces, policy deregulation, trade liberalization, privatization and a leading role for the private sector. Many developing countries have thus been forced to alter their policies and launch major adjustment programmes in order to respond to the changing conditions, to take advantage of new opportunities and to build up their resilience and capacity to compete in a globalized industrial production and trading system. The adjustments have proved to be more complex than originally anticipated, and in some cases, have placed a heavy burden on the weakest segments of the economy and society. At the same time, social and environmental concerns are gaining increasing global attention, with a debate on the issues also taking place in many developing countries. Reconciling the promotion of industrial competitiveness with equitable development through industry is a central theme in the formulation of industrial policies and in the creation of an overall enabling environment. The least developed countries, most of which are in Africa, are facing particular problems and resource constraints in striving to meet new challenges.

The countries in transition in central and eastern Europe and in the countries of the former USSR are confronted with special adjustment problems. The transformation of their economies is proceeding at an uneven pace, with some countries facing severe constraints and setbacks in the process of industrial transition. Declining production, rising unemployment and increasing social tensions are noticeable. From 1990 to 1994, industrial output across the entire region declined by over 40 per cent. An environmental crisis of vast dimensions appears imminent, with toxic industrial wastes posing a major threat. While

the challenges facing the countries in transition are formidable, their successful transformation and industrial restructuring offer significant potential for industrial cooperation with both developed and developing countries. There are many opportunities to benefit from the wealth of industrial experience and technological skills of the countries in transition, in particular through the transfer of technology and know-how and increased trade.

## UNIDO's response to the needs of developing countries

In a recent, far-reaching reform process, UNIDO has responded to the need to adjust to the new challenges of economic and industrial development of developing countries, the countries in transition and the global economy. It has duly taken into account the changing conditions of international cooperation in terms of its key actors, the availability of financial resources and the necessity to counteract institutional constraints through more effective organizational structures and procedures.

The recent reform and restructuring of UNIDO was welcomed by the General Assembly in its resolution 49/108 of 19 December 1994. The Assembly also reaffirmed the central coordinating role of UNIDO in the field of industrial development, and stressed the importance of industrialization as a dynamic instrument of growth that is essential to the rapid economic and social development of developing countries.

As part of its reforms, UNIDO has identified the following five development objectives for its programmes:

*(a)* The first objective, industrial and technological growth and competitiveness, covers, *inter alia*, the following areas: creation of an enabling policy environment and enhancing productivity and competitiveness; industrial enterprise restructuring; supportive quality control, standardization and methodologies; enhancing technological capabilities; services to support agro-based industry, chemical industries, engineering and metallurgical industry; and information services for industry;

*(b)* The second objective, development of human resources for industry, focuses on the provision of advisory services relating to human resource development policies for industry; strengthening institutional capabilities for creating the skills required for industrial development; and enhancing the role of women in industrial development;

*(c)* The third objective, equitable development through industrial development, addresses the need for assistance in the promotion and strengthening of small- and medium-scale enterprises and entrepreneurship development, and in the development of rural industries;

*(d)* The fourth objective, environmentally sustainable industrial development, consists in integrating environmental considerations into industrial strategies and programmes, providing advice on cleaner production techniques and technologies, and enhancing energy efficiency and conservation;

*(e)* The fifth objective, international cooperation in industrial investment and technology, covers services relating to investment and technology promotion and cooperation including the use of the UNIDO network of investment promotion service offices. A particular dimension of these services concerns economic and technical cooperation among developing countries.

The five above-mentioned objectives provide a rationale and conceptual framework for UNIDO services and set its development activities in the context of those of other United Nations organizations and aid agencies. Above all, they establish a close link with the development concerns and endeavours of the developing countries in the various regions in the current decade.

The comparative advantage of UNIDO consists in the depth of the industrial know-how at its disposal, the broad scope of its services for the promotion of industrial cooperation, and the wealth of its information on and experience in key aspects of industrial development. UNIDO combines these assets at three main levels of intervention, namely policy, institutions and enterprises, acting as a focal point for industrial technology, an honest broker for industrial cooperation, a centre of excellence in the field of industrial development and a global source of industrial information.

## Scenarios for the future

The achievements of past decades in the industrialization of developing countries and in the globalization of production, international trade and investment flows have resulted in significant and continuing increases in the share of developing countries in world industrial output. On the other hand, major challenges and new constraints have also emerged, such as growing environmental pollution, widespread poverty and the rising pressure of population on resources. The following two contrasting scenarios may be forecast for the global economy in the years to come:

*(a)* A pattern of increasing inequality, poverty and transboundary pollution, generating conflict at both the national and international level;

*(b)* A process of sustainable socio-economic development involving all countries and population segments, including those currently being marginalized.

The recent peace-keeping operations undertaken by the United Nations, the agreements to liberalize international trade, the growing awareness of the need for

environmental protection and the various initiatives to promote it, the recognition of basic human rights and values, and the withering away of ideologies that sustained international tensions provide, at the end of the twentieth century, a unique chance for the international community to jointly face its common problems and set the course for a genuine global partnership. Just as most global problems are human-made, the achievement of a globally sustainable pattern of socio-economic development can only result from the will and commitment of the international community as a whole. The United Nations system has a central role to play in such an endeavour.

The contribution of industry, one of the most dynamic and globalized economic sectors, will be crucial for the achievement of the above-mentioned objective. New international partnerships for promoting industrial development in both the developing countries and the countries in transition need to be initiated. UNIDO is prepared to assume major responsibilities in the fulfilment of that task.

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*Part Two*

# Trends and prospects in the manufacturing sector: regional profiles

The expansion of international trade has linked markets of developed countries to those of developing countries as never before. The signing of the Uruguay Round agreement in April 1994 should give added momentum to the globalization of the world economy. In the context of rapid technological progress, the instant mobility of financial capital and the high mobility of fixed capital, the international division of labour with global sourcing is engendering new patterns of cooperation and competition.

Significant changes in regional shares of world MVA have occurred since the 1970s. By far, the biggest changes are the sharp decline of eastern Europe and the former USSR (–14.2 per cent) and the increase in the shares of Japan (7.6 per cent) and East and South-East Asia (4 per cent). During the same period, North America and western Europe continued to maintain their world shares. Thus, in 1994 North America and western Europe accounted for 58.1 per cent of total world MVA, while Japan and East and South-East Asia together accounted for an additional 22.5 per cent (see table 12).

In 1994, the world witnessed a widespread economic recovery. The growth rate of GDP increased to an estimated 3.1 per cent, a rate more than double that of the period from 1990 to 1993. The performance of the manufacturing sector was one of the best in many years. Improvements in labour productivity were significant. MVA grew from an average annual rate of 0.4 per cent from 1990 to 1993, to an estimated rate of 4.4 per cent in 1994 (see table 13). The fastest-growing industries were professional and scientific goods (7.1 per cent) and plastic products (6.4 per cent). However, machinery (electronic and non-electronic), transport equipment and chemicals are the branches that dominate world manufacturing. In 1994, these industries together accounted for 41.9 per cent of the world total, showing growth rates in the range of 3-5 per cent (see table 14).

The global developments in the manufacturing sector closely mirror the evolution of the industrial sector in the markets of developed countries. As the economy of developed countries recovered, industrial activity accelerated markedly in 1994. In the United States, manufacturing growth was vigorous and broadly based, with general-purpose machinery and information-processing equipment being among the fast-growing industries. Also, in the economies of Japan and western Europe, the last to rejoin the path of positive growth, recovery appeared most evident in the industrial sector. In both regions electrical machinery and transport equipment performed relatively well.

After years of industrial decline, considerable progress has been made in most countries of eastern Europe, with manufacturing activity now playing an important role in the production upturn of most of the economies of the regions. Although generalizations about recent changes in the structure of production are somewhat difficult to formulate, it seems that traditional heavy industries are losing ground, while natural-resource-based industries, such as wood products, building materials, metals, foodstuffs and selected consumer goods industries, are expanding. By contrast, most of the member States of the Commonwealth of Independent States are still in deep recession. The industrial decline has swept across all branches of industry, particularly in transport equipment, machinery and industrial chemicals.

The economic performance of the developing countries raises both enthusiasm and concern, depending on the specific circumstances of the countries concerned. The gap between the least developed countries and those that are fast moving towards the status of NICs is widening significantly. In the developing countries as a whole, low-technology industries still account for about 62 per cent of total manufacturing, compared with a share of around 47 per cent in developed countries. Machinery and transport equipment account for around 15 per cent and 7 per cent, respectively. These aggregate figures, however, conceal remarkable differences at the regional level.

**Table 12.** Regional shares in world MVA by industry, 1994, and change in shares, 1975-1994

| ISIC | Industry | North America | Western Europe | Japan | Eastern Europe and former USSR | Latin America and the Caribbean | Tropical Africa | North Africa and western Asia | Indian Subcontinent | China[a] | East and South-East Asia |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 311 | Food | 23.5 (2.5) | 30.8 (4.8) | 14.6 (7.8) | 6.2 (-21.8) | 7.3 (-1.7) | 0.7 (-0.2) | 3.9 (2.4) | 1.4 (0.3) | 2.3 | 4.1 (2.0) |
| 313 | Beverages | 19.5 (3.1) | 37.1 (4.6) | 8.4 (1.7) | 2.9 (-19.6) | 11.6 (-0.4) | 2.0 (-0.3) | 4.1 (2.5) | 0.7 (0.4) | 6.7 | 6.1 (2.7) |
| 314 | Tobacco manufactures | 27.7 (12.3) | 30.6 (-6.1) | 2.9 (-0.8) | 1.4 (-8.5) | 7.7 (-6.7) | 0.8 (-1.1) | 5.3 (-0.9) | 3.4 (—) | 16.7 | 9.6 (4.5) |
| 321 | Textiles | 17.4 (3.9) | 26.2 (—) | 11.7 (3.3) | 4.7 (-21.9) | 7.1 (-0.3) | 0.7 (-0.3) | 10.0 (6.9) | 5.2 (1.5) | 11.4 | 10.5 (7.3) |
| 322 | Wearing apparel | 22.7 (—) | 27.0 (-1.8) | 11.2 (5.9) | 5.6 (-21.4) | 6.1 (-0.8) | 0.5 (—) | 2.8 (2.0) | 1.7 (1.6) | 5.5 | 13.3 (10.6) |
| 323 | Leather and fur products | 11.9 (-1.6) | 31.7 (-4.3) | 11.0 (5.7) | 6.2 (-17.3) | 9.6 (-1.2) | 0.7 (0.2) | 4.7 (2.5) | 2.6 (1.5) | 16.8 | 10.1 (8.2) |
| 324 | Footwear, excluding rubber or plastic | 9.3 (-5.9) | 36.3 (0.5) | 6.0 (3.4) | 7.8 (-19.4) | 11.1 (-2.1) | 1.0 (-0.2) | 5.2 (3.1) | 1.7 (1.3) | (..) | 17.5 (16.6) |
| 331 | Wood and cork products | 31.2 (6.6) | 33.5 (2.0) | 13.6 (-0.4) | 2.5 (-11.4) | 3.2 (-3.4) | 0.5 (-0.4) | 1.8 (0.8) | 0.4 (0.1) | 1.7 | 5.3 (2.8) |
| 332 | Furniture and fixtures | 24.7 (3.4) | 44.2 (1.0) | 11.6 (4.0) | 3.8 (-12.1) | 3.2 (-2.5) | 0.3 (-0.2) | 1.3 (0.5) | 0.1 (—) | 1.5 | 4.6 (3.8) |
| 341 | Paper and paper products | 34.2 (-3.0) | 31.5 (1.0) | 13.8 (4.0) | 1.2 (-6.7) | 5.1 (-0.5) | 0.2 (-0.2) | 1.7 (0.6) | 0.9 (-0.2) | 3.0 | 4.2 (3.2) |
| 342 | Printing and publishing | 34.5 (-4.2) | 32.2 (-0.4) | 19.6 (6.3) | 0.4 (-2.0) | 2.8 (-2.5) | 0.2 (-0.2) | 0.8 (0.1) | 0.4 (-0.1) | 1.1 | 2.6 (1.7) |
| 351 | Industrial chemicals | 24.5 (-0.7) | 36.4 (-1.0) | 14.3 (6.2) | 2.4 (-12.8) | 4.9 (-0.2) | 0.1 (-0.2) | 3.4 (2.2) | 1.9 (0.5) | 8.2 | 5.0 (3.9) |
| 352 | Other chemical products | 28.5 (-2.1) | 33.0 (2.5) | 16.2 (5.2) | 1.1 (-6.5) | 8.4 (-2.0) | 0.3 (-0.4) | 2.5 (0.8) | 1.7 (-0.5) | 3.0 | 3.6 (1.9) |
| 353 | Petroleum refineries | 12.7 (-3.1) | 39.6 (4.4) | 6.6 (2.8) | 2.8 (-15.7) | 17.4 (3.7) | 0.5 (-0.3) | 7.2 (2.5) | 2.1 (1.4) | 4.6 | 8.3 (5.4) |
| 354 | Miscellaneous petroleum and coal products | 27.4 (8.7) | 23.2 (1.1) | 9.5 (2.2) | 8.6 (-29.6) | 9.9 (4.2) | 0.2 (-0.2) | 7.0 (5.3) | 2.7 (1.0) | 2.5 | 3.9 (2.7) |
| 355 | Rubber products | 20.1 (-3.2) | 35.0 (0.2) | 17.7 (10.1) | 2.4 (-12.7) | 6.1 (-0.6) | 0.3 (-0.4) | 3.3 (2.2) | 2.1 (0.7) | 6.2 | 7.5 (5.0) |
| 356 | Plastic products n.e.c. | 26.2 (—) | 35.9 (-1.2) | 20.4 (4.8) | 0.6 (-3.9) | 3.4 (-4.2) | 0.2 (-0.2) | 1.7 (0.7) | 0.5 (0.2) | 3.3 | 5.7 (2.8) |
| 361 | Pottery, china and earthenware | 8.6 (-1.2) | 47.3 (-5.5) | 15.1 (2.6) | 3.1 (-5.8) | 9.6 (-1.2) | 0.1 (-0.1) | 6.3 (4.5) | 1.1 (0.4) | 8.5 | 6.1 (5.0) |
| 362 | Glass and glass products | 21.4 (-4.8) | 37.1 (2.1) | 17.2 (8.4) | 2.5 (-12.3) | 4.9 (-1.3) | 0.1 (-0.1) | 4.8 (3.7) | 0.8 (0.2) | 4.7 | 5.7 (4.4) |
| 369 | Other non-metallic mineral products | 14.9 (-2.6) | 33.6 (2.1) | 18.1 (7.6) | 3.0 (-18.5) | 4.4 (-2.9) | 0.5 (-0.1) | 9.3 (6.1) | 2.4 (1.3) | 9.8 | 7.9 (6.5) |
| 371 | Iron and steel | 15.5 (-7.0) | 25.9 (-11.1) | 22.6 (11.2) | 3.2 (-10.5) | 7.6 (2.3) | 0.2 (-0.1) | 6.6 (5.3) | 3.3 (1.3) | 10.9 | 8.0 (7.1) |
| 372 | Non-ferrous metals | 22.5 (-3.0) | 28.9 (3.4) | 11.8 (2.4) | 5.1 (-18.4) | 7.6 (1.8) | 0.4 (-0.2) | 5.8 (5.0) | 1.9 (1.0) | 7.0 | 3.2 (2.6) |
| 381 | Metal products, excluding machinery | 21.3 (-9.8) | 39.0 (2.0) | 21.2 (9.7) | 1.1 (-4.3) | 3.5 (-1.8) | 0.3 (-0.3) | 2.3 (1.0) | 0.5 (—) | 2.2 | 6.5 (5.5) |
| 382 | Non-electrical machinery | 24.5 (-0.9) | 37.3 (4.6) | 20.4 (10.5) | 3.4 (-16.5) | 2.1 (-1.5) | — (-0.1) | 2.2 (1.8) | 0.8 (0.1) | 5.0 | 3.1 (2.7) |
| 383 | Electrical machinery | 21.7 (-3.8) | 34.9 (-3.3) | 23.5 (12.5) | 2.8 (-11.6) | 2.5 (-2.0) | 0.1 (—) | 1.1 (0.5) | 0.9 (—) | 4.1 | 7.4 (5.9) |
| 384 | Transport equipment | 30.2 (-0.4) | 32.5 (-2.6) | 18.2 (7.6) | 1.7 (-11.3) | 3.4 (-0.8) | 0.2 (—) | 3.4 (2.6) | 1.1 (0.4) | 3.0 | 3.8 (3.0) |
| 385 | Professional and scientific goods | 52.5 (12.1) | 21.3 (-12.1) | 8.7 (1.0) | 1.7 (-8.2) | 2.2 (-0.1) | — (—) | 0.5 (0.3) | 0.3 (—) | 1.8 | 2.5 (1.8) |
| 390 | Other manufactures | 23.7 (-0.2) | 22.5 (2.9) | 21.4 (12.0) | 6.0 (-25.0) | 5.6 (-0.1) | 0.3 (-0.3) | 1.2 (0.6) | 0.4 (—) | 8.1 | 7.8 (5.4) |
| | All manufacturing | 24.9 (0.2) | 33.2 (0.5) | 16.9 (7.6) | 2.9 (-14.2) | 5.2 (-1.3) | 0.3 (-0.2) | 3.4 (2.1) | 1.4 (0.3) | 4.8 | 5.6 (4.0) |

*Source*: UNIDO database.

*Note:* Figures in parentheses are changes in shares from 1975 to 1994. In computing regional MVA growth rates, sectoral MVA for each country is valued in national currency at 1990 prices and then aggregated to regional totals at 1990 United States dollar exchange rates. Industrial data for China relate to State-owned and collectively owned enterprises only. The data shown are estimates for all enterprises.

[a]Changes in the share of China are not shown because reliable sectoral share estimates for China in 1975 do not exist.

**Table 13.** World: selected indicators, 1970-1995
*(Percentage)*

| *Economic indicators* | *1970-1980* | *1980-1990* | *1990-1993* | *1994[a]* | *1995[b]* |
|---|---|---|---|---|---|
| GDP growth rate | 3.6 | 2.8 | 1.5 | 3.1 | 2.9 |
| MVA growth rate | 3.7 | 2.8 | 0.4 | 4.4 | 3.2 |
| MVA share of GDP | 22.4 | 22.4 | 22.1 | 22.0 | 22.0 |
| Labour productivity growth rate | 1.6 | 1.5 | 0.4 | 2.6 | 0.7 |

*Note:* For sources and other notes, see technical notes.
[a]Estimated.
[b]Projected.

In East and South-East Asia, the share of the machinery industry in total MVA is around 21 per cent, in Latin America it is around 10 per cent, and in Tropical Africa, around 3 per cent. The share of transport equipment in total MVA is around 7 per cent in almost all developing regions.

East and South-East Asia has not relinquished its position as the most dynamic region in the world today. The manufacturing sector continues to dominate the development and pace of economic growth in the region, and structural changes within the region are emerging. While the Asian NICs are shifting

**Table 14.** World growth rates and shares of MVA in individual regions and in 28 industries, 1970-1995
*(Percentage)*

| *Country and ISIC sector* | | *Average annual growth rates* | | | *Annual growth rates* | | *Share in total MVA* |
|---|---|---|---|---|---|---|---|
| | | *1970-1980* | *1980-1990* | *1990-1993* | *1994[a]* | *1995[b]* | *1994* |
| | | *A. Regional breakdown* | | | | | |
| North America | | 2.3 | 2.5 | 1.8 | 6.1 | 1.4 | 24.9 |
| Western Europe | | 2.6 | 1.5 | -1.7 | 4.6 | 2.9 | 32.2 |
| Japan | | 5.2 | 5.8 | -0.3 | 0.8 | 2.9 | 16.9 |
| Eastern Europe and former USSR | | 6.9 | 1.4 | -13.4 | -11.6 | -8.5 | 2.9 |
| Latin America and the Caribbean | | 6.2 | -0.1 | 2.4 | 4.8 | 2.4 | 5.2 |
| Tropical Africa | | 2.1 | 2.6 | 0.2 | 2.9 | 3.8 | 0.3 |
| North Africa | | 6.1 | 5.6 | 1.1 | 2.9 | 2.7 | 0.5 |
| Western Asia | | 8.8 | 5.1 | 7.0 | 2.1 | 3.8 | 2.9 |
| Indian Subcontinent | | 4.3 | 6.9 | 2.4 | 6.4 | 5.4 | 1.4 |
| China | | 10.2 | 8.7 | 16.4 | 15.8 | 14.0 | 4.8 |
| East and South-East Asia | | 11.4 | 8.5 | 6.3 | 8.1 | 9.5 | 5.6 |
| | | *B. Industry breakdown* | | | | | |
| 311 | Food | 3.2 | 1.9 | 1.7 | 4.2 | 2.1 | 10.0 |
| 313 | Beverages | 2.1 | 1.2 | 1.4 | 3.5 | 2.5 | 2.3 |
| 314 | Tobacco manufactures | 1.4 | 3.9 | 2.8 | 4.0 | 3.3 | 1.7 |
| 321 | Textiles | 1.2 | — | -1.9 | 1.6 | 0.9 | 3.8 |
| 322 | Wearing apparel | 2.3 | -0.2 | -0.4 | 3.1 | 2.5 | 2.1 |
| 323 | Leather and fur products | 1.6 | 0.1 | -2.1 | 2.4 | 2.5 | 0.3 |
| 324 | Footwear, excluding rubber or plastic | 1.9 | -1.8 | 0.4 | 1.9 | 1.8 | 0.5 |
| 331 | Wood and cork products | 2.7 | -0.4 | -1.4 | 3.9 | 0.2 | 1.6 |
| 332 | Furniture and fixtures | 3.9 | 0.7 | -0.1 | 3.8 | 1.9 | 1.4 |
| 341 | Paper and paper products | 2.7 | 2.3 | -1.8 | 4.4 | 2.7 | 3.1 |
| 342 | Printing and publishing | 3.2 | 3.6 | -0.6 | 4.6 | 2.5 | 5.0 |
| 351 | Industrial chemicals | 2.5 | 2.9 | -2.2 | 4.9 | 2.9 | 5.2 |
| 352 | Other chemical products | 2.4 | 4.3 | 1.9 | 4.7 | 3.4 | 5.7 |
| 353 | Petroleum refineries | 6.3 | -1.2 | 0.2 | 3.8 | 2.4 | 2.7 |
| 354 | Miscellaneous petroleum and coal products | 5.2 | -0.2 | -1.8 | 2.1 | 0.7 | 0.3 |
| 355 | Rubber products | 1.9 | 1.6 | -1.4 | 3.3 | 2.0 | 1.3 |
| 356 | Plastic products n.e.c. | 6.2 | 5.2 | 1.6 | 6.4 | 4.6 | 3.0 |
| 361 | Pottery, china and earthenware | 3.7 | 0.4 | -0.6 | 3.5 | 2.7 | 0.4 |
| 362 | Glass and glass products | 2.5 | 1.4 | -0.7 | 3.0 | 1.6 | 0.9 |
| 369 | Other non-metallic mineral products | 3.3 | 0.8 | -0.7 | 3.2 | 1.8 | 2.8 |
| 371 | Iron and steel | 1.9 | -0.9 | -2.4 | 1.8 | 1.8 | 3.7 |
| 372 | Non-ferrous metals | 2.7 | 0.7 | -3.5 | 4.2 | 1.2 | 1.5 |
| 381 | Metal products, excluding machinery | 2.4 | 1.3 | -1.0 | 3.2 | 2.1 | 5.7 |
| 382 | Non-electrical machinery | 3.5 | 2.0 | -3.1 | 2.9 | 1.6 | 10.4 |
| 383 | Electrical machinery | 3.6 | 3.2 | -0.3 | 3.9 | 3.2 | 10.4 |
| 384 | Transport equipment | 3.7 | 2.6 | -0.3 | 4.7 | 1.9 | 10.2 |
| 385 | Professional and scientific goods | 4.5 | 3.8 | 0.7 | 7.1 | 4.6 | 2.7 |
| 390 | Other manufactures | 2.8 | 2.0 | -1.1 | 3.1 | 1.3 | 1.4 |

*Notes:* Estimated total MVA for the world in 1994 was US$ 5,258,158 million.
For sources and other notes, see technical notes.
[a]Estimated.
[b]Projected.

production to more capital-intensive sectors because of rising labour costs, the ASEAN countries are entering the market for labour-intensive products. China and India are also moving along the same path pursued by Asian NICs in exploiting its low-wage labour to drive an export-oriented growth strategy. Although low-technology industries still account for the bulk of manufacturing, the share of higher-technology products such as radios, telephones, refrigerators and washing-machines in China and electronic goods, especially minicomputers and microcomputers, in India is expanding at a fast pace.

Although substantial improvements have taken place, countries such as Argentina, Brazil and Mexico continued to remain essentially assemblers of merchandise. Manufacturing sectors that were performing satisfactorily and possessed greater export capacity were those that made intensive use of unskilled labour. The automobile industry has been one of the fast-growing industries, one of the larger employers and exporters, as well as one of the industries which has attracted more foreign investment. Most of the largest companies in the world have established plants and production lines in the above-mentioned countries to take advantage of the low-cost labour.

The prospects for the least developed countries are not encouraging in the short term. The manufacturing sector often contributes less than 15 per cent to the GDP of countries in that group. Their capacity utilization and labour productivity are generally very low. Moreover, although industrialization is commonly regarded as fundamental in the long-term process of sustained development, a growing realization of the problem of scarce economic resources has led African Governments to give more emphasis to macroeconomic policies and agricultural growth strategies.

# North America

The economy of North America is much further into the business cycle than that of most of its trading partners. Initially, the recovery strengthened rather slowly by historical standards, but from mid-1993 it accelerated, entering a mature phase. In Canada, low inflation, declining short-term interest rates and a strong impetus from exports have contributed to the increased activity. In the United States, the recovery has been broadly based, with especially robust support from business fixed investment. Utilization of manufacturing capacity is near the peak levels achieved in the last two business cycles, and unemployment rates are falling. In general, current forecasts suggest that in both countries the pace of economic expansion will slow down, mainly because of the impact of higher interest rates on fixed investment and consumer spending. Moreover, it is not expected that the current economic recovery in North America will lead to full employment.

## Economy

The economic recovery in both Canada and the United States started in 1991, but it entered its mature phase only in 1993, when the delayed effects of the easing of monetary policy finally worked their way through the system. In 1994, the economy continued to recover, recording an annual GDP growth rate of 4.0 per cent for the region as a whole (see table 15 and figure 3). Individually, GDP grew by 4.1 per cent in Canada and by 4.0 per cent in the United States.

The United States expansion has been led by sectors that are sensitive to changes in interest rates, notably housing, consumer spending on durable goods and business investment in capital equipment. Business fixed investment was the strongest component of the cyclical expansion. The cumulative effects of low interest rates eventually combined with the competitive need of business to purchase new capital equipment, and propelled strong purchases of producer durables, notably information processing equipment. Private consumption was buoyant in the first quarter of 1994, but then decelerated as higher inflation curbed the growth in real disposable incomes, and households stepped up their savings. Residential fixed investment grew rapidly, while government expenditures continued to decline, mainly as a result of budgetary cuts in defence spending. (For a brief summary of trends in United States fiscal and monetary policies, see box 4).

Rising domestic demand was partially satisfied by a further acceleration in imports, which registered another double-digit increase. While export growth also increased, exclusively reflecting strengthening foreign markets, the external sector posted its sixth consecutive negative contribution to GDP. In addition, there was also a considerable swing in the balance of investment income. (For a brief summary of trends in United States commercial policy, see box 5).

Inflation trends remained favourable throughout 1994, in spite of rapid expansion of demand which entailed a significant reduction in spare manufacturing capacity.

Strong output growth provided a lagged stimulus to employment growth in 1994. Non-farm payroll employment increased at an average rate of about 285,000 per month during the first half of 1994, compared with the average monthly gain of about 200,000 during 1993. The unemployment rate in the fourth quarter of 1994 was forecast to be from 6 to 6.25 per cent, down half a percentage point from that projected earlier in February 1994. In addition to new hiring, labour input in the United States has been increased by longer working weeks and extensions of average overtime. In April 1994, the working week of production or non-supervisory workers in manufacturing reached a record high for the period since the Second World War. The success of the United States in generating employment has been accompanied by increased wage inequality, as a reflection of the relatively stronger demand for skilled labour compared with unskilled labour, the declining degree of unionization and a fall in the minimum wage relative to average wages.

The economic recovery in Canada started to accelerate in late 1993, stimulated by strong business investment resulting from rising demand for Canadian exports to the United States and overseas markets, mainly outside western Europe. However, more recently there has also been a gradual strengthening of domestic demand. Inflation has remained low, and employment has risen.

**Table 15.** North America: selected indicators, 1970-1995

*(Percentage)*

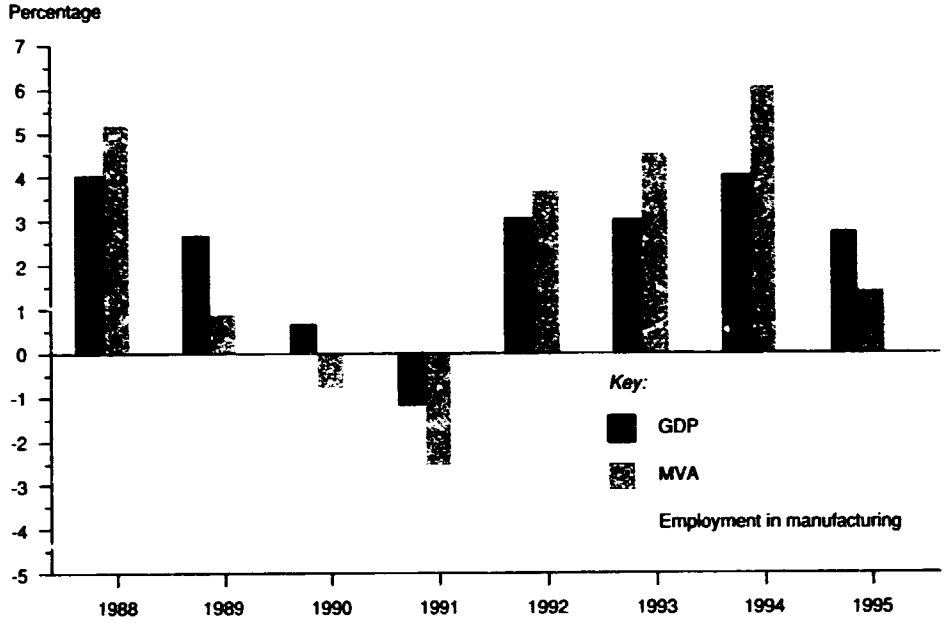
| *Economic indicators* | *1970-1980* | *1980-1990* | *1990-1993* | *1994[a]* | *1995[b]* |
|---|---|---|---|---|---|
| GDP growth rate | 2.9 | 2.7 | 1.6 | 4.0 | 2.7 |
| MVA growth rate | 2.3 | 2.5 | 1.8 | 6.1 | 1.4 |
| MVA share of GDP | 18.9 | 18.5 | 18.5 | 19.0 | 18.8 |
| Labour productivity growth rate | 2.2 | 2.2 | 2.1 | 2.8 | 0.6 |

*Note:* For sources and other notes, see technical notes.

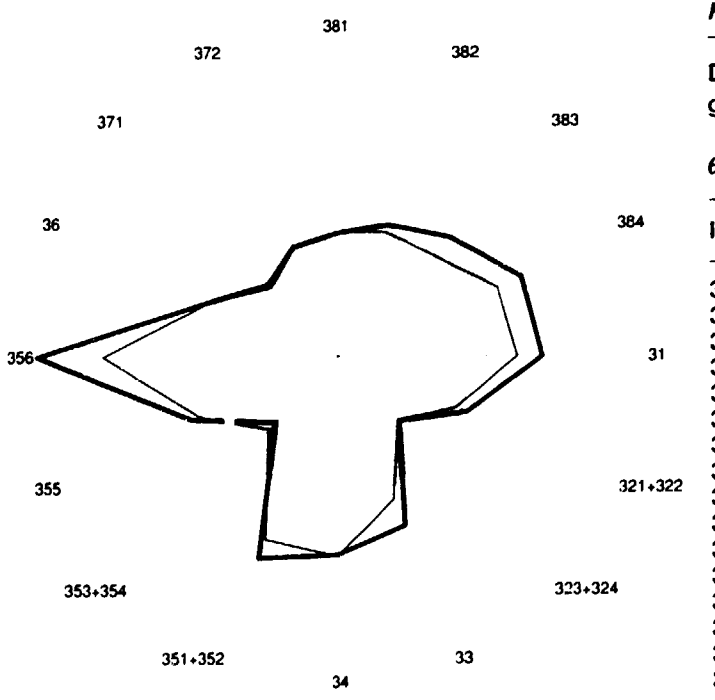
[a] Estimated.

[b] Projected.

**Figure 3.** Growth rates of GDP, MVA and manufacturing employment, 1988–1995, and industrial structural change, 1980–1995: North America




Industrial structural change
(Index of value added 1980 = 100)




$g = 1.41$, $\theta = 11.64$

*Key:*

Deflated prices of 1990
g = Average annual growth rate, 1980–1995 (percentage)
$\theta$ = Index of structural change, 1980–1995

ISIC code (industries):

| | |
|---|---|
| 31 | (Food products) |
| 321, 322 | (Textiles) |
| 323, 324 | (Leather) |
| 33 | (Wood and furniture) |
| 34 | (Paper and printing) |
| 351, 352 | (Chemicals) |
| 353, 354 | (Petroleum and coal) |
| 355 | (Rubber products) |
| 356 | (Plastic products) |
| 36 | (Non-metal mineral products) |
| 371 | (Iron and steel) |
| 372 | (Non-ferrous metals) |
| 381 | (Metal products) |
| 382 | (Non-electrical machinery) |
| 383 | (Electrical machinery) |
| 384 | (Transport equipment) |

1990–1995 forecast
1985–1990
1980–1985

*Source:* UNIDO database; estimates and forecasts by UNIDO/IRD/RES.

**Box 4.** United States fiscal and monetary policies

*Fiscal policy*

The main objective of federal fiscal policy has been to reduce the budget deficit. The 1993 Omnibus Budget Reconciliation Act was designed to reduce the federal budget deficit by approximately $500 billion from 1994 to 1998. It reduced government purchases, mostly in the area of defence, and raised taxes on households significantly. In 1994, revenue growth on a budget basis was running about 10 per cent higher than 1993 levels. Entitlement expenditures were slowing down as a result of unexpectedly modest increases in Medicaid outlays and the end of extended unemployment insurance benefits. The cumulative deficit over the first 11 months of fiscal year 1994 was around $60 billion below that of 1993. The deficit is expected to fall by a further $40 billion in fiscal year 1995.

Under the terms of the 1993 Omnibus Budget Reconciliation Act, there is a so-called hard freeze in discretionary spending, that is, no growth in nominal spending through 1998. The proposed budget for fiscal year 1995, as in the budget for fiscal year 1994, contains a single discretionary spending cap covering all classes of expenditure. Therefore, for the first time since 1969, planned non-defence discretionary spending would actually fall in nominal terms. The deficit is expected to fall sharply to about $176 billion (2.5 per cent of GDP, the lowest since 1979), down by a quarter from the then estimated 1994 outcome. If the health-care proposals of the Administration are adopted, a further $11 billion will be reduced from the budget deficit in 1995 because of the introduction of its tobacco tax component. This would mark the absolute deficit trough for the decade. The structural deficit would, however, still be one of the largest in the years from 1956 to 1982.

*Monetary policy*

By the end of 1993, the main objective of monetary policy in the 1990s, namely, low interest rates to support economic recovery, was largely accomplished. The most crucial factor supporting economic recovery in the early 1990s was low interest rates that enabled businesses and households to restructure their balance sheets. In addition, businesses undertook productivity-enhancing investments, primarily in information technology, and households increased their spending on interest-sensitive durable goods and housing. Despite the lack of any evidence of an upward pressure on inflation, the objective of monetary policy in 1994, as stated by the United States Federal Reserve Board, was to head off a build-up of inflationary pressures that were perceived to be threatening "to jeopardize the continuation of the economic expansion".* The Federal Reserve Board has been setting interest rates in an attempt to maintain the long-term trend towards an inflation rate low enough to ensure that economic agents do not take inflationary pressures into account in their transactions. In February 1994, the Open Market Committee of the Federal Reserve Board began to withdraw the stimulus provided by low real interest rates. Preferring to take a gradualist approach in order to avoid unsettling the financial markets, the first three steps by the Open Market Committee were to raise the fund rate by 0.25 percentage points per month through April 1994. In May 1994, however, a larger 0.5 point increase was decided on, and this was followed up with a similar rise in August 1994, resulting in a cumulative escalation of 1.75 percentage points. The increase in intermediate rates has been similar, with the prime rate reaching 7.75 per cent after the rise in the fund rate in August 1994. However, relative to the adjustment of short-term rates, increases in intermediate and long-term rates have been unusually large, reflecting the market expectation of greater inflationary pressures, as well as actual and expected tightening actions by the Federal Reserve Board to contain those pressures.

Despite the rise in United States interest rates, the trade-weighted foreign exchange value of the dollar against the Group-of-Ten countries fell by about 8 per cent during 1994. Larger depreciations have occurred against both the yen and the deutsche mark because of trade deficits and signs of strengthening recovery, respectively, but they have been offset by appreciations against the Mexican peso and the Canadian dollar. A number of factors, including rising long-term interest rates in other developed countries, trade tensions between the United States and Japan, and market concerns about future inflation in the United States, put downward pressure on the dollar. The United States Treasury and Federal Reserve Board were forced to make substantial dollar purchases on a number of occasions to deal with volatile currency trading conditions that were judged to be inconsistent with economic fundamentals.

In April 1994, the monetary authorities of the United States, Canada and Mexico announced the creation of the North American Financial Group as a consultative body on economic and financial developments in the three countries. A trilateral foreign exchange swap facility was established by the monetary authorities of those countries in connection with the formation of the Financial Group. The United States and Mexico created swap arrangements for up to $6 billion, with the Treasury and the Federal Reserve each participating by up to $3 billion. The Bank of Canada increased its swap line with the Bank of Mexico to 1 billion Canadian dollars. The Federal Reserve and the Bank of Canada already had in place a swap agreement of $2 billion, the maturity of which was extended to December 1995. The purpose of these arrangements was to expand the pool of potential resources available to the monetary authorities of each country, in order to enable them to maintain orderly foreign exchange markets.

* See *Federal Reserve Bulletin*, vol. 80, No. 8 (August 1994), p. 681.

**Box 5. United States commercial policy**

There is a new aggressiveness in United States commercial policy. A national export strategy was announced in September 1993. Most export controls have been eliminated, trade financing facilities have been expanded and export assistance centres (one-stop shopping for all export promotion services ) have been established both at home and abroad. Exports are likely to benefit from the establishment in 1994 of NAFTA, with 370 million consumers and $6,500 billion in output, from further deepening of APEC (by moving towards a common set of investment principles, harmonizing standards and creating a mechanism for resolving trade and investment disputes), and from the adoption of the Uruguay Round agreements. Efforts continued on a multilateral steel agreement until December 1993. In January 1994 a memorandum of understanding was signed by six of the leading aluminium-producing countries, whereby for at most two years production would be reduced from existing levels in order to boost prices. Finally, the Administration has been pressuring Japan to open its markets and undertake structural reform with a view to reducing their external surplus, mostly under the framework talks between the United States and Japan.

## Industry

As for other economic activities, recovery in the industrial sector was initially very weak, and only in 1993 started to accelerate steadily, surpassing growth in the rest of the economy. Since 1992, MVA in the United States has been growing at an increasing pace, reaching an annual growth rate of 6 per cent in 1994. In Canada the recession was more severe than in its neighbour, and only as of 1993 did its industrial growth begin to outpace that of the United States. The MVA growth rate of Canada stood at 6.7 per cent in 1994 (see table 16).

As the recovery strengthened, capacity utilization and employment grew remarkably. In 1994 capacity utilization rates steadily edged upwards to relatively high levels and profits surged. It has been reported that in the third quarter of 1994, the average utilization rate in manufacturing was above 84 per cent, which was higher than the rate recorded in the same period in 1993, and close to the previous monthly peak of 85.1 per cent recorded in 1988 and 1989.[1] Job gains have been spread across most major sectors of the economy. In manufacturing, increases in employment have been concentrated in two industries that have experienced a strong growth in sales, that is, machinery and motor vehicles. Employment in construction, which was down at the beginning of the year because of severe weather conditions, also moved up sharply in March and April 1994, and rose further during the year.

The buoyant recovery was spread across a wide range of industries. The fastest-growing branch in 1994 was wood and cork products, with MVA growth rate of 9.3 per cent. This high growth rate mainly resulted from the rise in residential construction, which grew remarkably in response to the bottoming-out of mortgage interest rates in the United States in 1993.

With United States factories running at 84 per cent of their capacity (their highest rate in five years) and scrambling to use information systems to improve efficiency, corporate spending was not only vigorous, especially in the case of general-purpose machinery and computers, but also broadly based. In 1994 the growth rate of MVA was 7.4 per cent for non-electrical machinery, 7.0 per cent for transport equipment and 8.2 per cent for professional and scientific goods.

After an unsatisfactory performance for much of the year, the chemical industry regained strength. In 1994 the annual growth rate of MVA in industrial chemicals was above average, at 6.9 per cent. In the United States, plants run at about 83 per cent of their capacity and they were increasingly pressed to meet the rising demand as in the case of their rivals in western Europe. Prospects for the industry in 1995 are believed to be good, as the world economy will continue to recover.

Although it will not be as buoyant as in the 1980s, the recovery in the food-processing industry seems well established. In 1994 the growth rate of MVA stood at 5.7 per cent, slightly below average. The United States food industry needed to cope with stagnant domestic markets and consumer resistance to price increases, but the aggressive efforts to cut costs and increase efficiency started to pay off.

In contrast with the general trend in manufacturing, the defence industry, one of the largest in the world, continued to be in deep recession. Large conglomerates and a multitude of subcontractors and small suppliers have been restructuring, putting their defence units on the block, and mergers and lay-offs have swept through the industry. As a result, employment continued to decline in 1994. In a changing environment with a restrictive fiscal policy, the defence industry will continue to shrink.

## Industrial development issues

In 1988, the United States Congress established the Competitiveness Policy Council* whose mandate is "to develop recommendations for national strategies and on specific policies intended to enhance the productivity and international competitiveness of United States industries". The Council has defined compe-

* The Competitiveness Policy Council is a 12-member federal advisory committee composed of representatives from business, labour, government (both state and federal) and the public.

Table 16. North America: MVA growth rates and shares by country and ISIC sector, 1970-1995
*(Percentage)*

| Country and ISIC sector | | Average annual growth rates | | | Annual growth rates | | Share in total MVA |
|---|---|---|---|---|---|---|---|
| | | 1970-1980 | 1980-1990 | 1990-1993 | 1994[a] | 1995[b] | 1994 |
| | | *A. Country breakdown* | | | | | |
| *North America* | | | | | | | |
| Canada | | 3.5 | 1.9 | -0.6 | 6.7 | 2.7 | 7.6 |
| United States | | 2.2 | 2.5 | 2.0 | 6.0 | 1.3 | 92.4 |
| | | *B. Industry breakdown* | | | | | |
| 311 | Food | 2.0 | 2.3 | 1.4 | 5.7 | 1.3 | 9.4 |
| 313 | Beverages | 1.2 | 1.6 | 2.9 | 4.0 | 2.1 | 1.8 |
| 314 | Tobacco manufactures | 2.3 | 8.9 | 4.9 | 5.7 | 3.4 | 1.9 |
| 321 | Textiles | 0.5 | -0.1 | 1.4 | 5.0 | -0.5 | 2.7 |
| 322 | Wearing apparel | 0.5 | -1.4 | 0.4 | 4.6 | 2.3 | 1.9 |
| 323 | Leather and fur products | 0.7 | -2.4 | -0.4 | 4.0 | 2.0 | 0.2 |
| 324 | Footwear, excluding rubber or plastic | -1.8 | -6.0 | -0.8 | 1.2 | -2.3 | 0.2 |
| 331 | Wood and cork products | 3.3 | 0.4 | 4.4 | 9.3 | -0.1 | 2.0 |
| 332 | Furniture and fixtures | 3.0 | 1.5 | 0.5 | 7.1 | 2.4 | 1.3 |
| 341 | Paper and paper products | 3.2 | 2.0 | -2.0 | 5.7 | 2.3 | 4.2 |
| 342 | Printing and publishing | 2.9 | 4.4 | -2.7 | 5.1 | 1.9 | 6.9 |
| 351 | Industrial chemicals | 3.4 | 2.3 | -2.0 | 6.9 | 1.4 | 5.1 |
| 352 | Other chemical products | 1.0 | 4.4 | 3.1 | 4.3 | 3.0 | 6.5 |
| 353 | Petroleum refineries | 9.7 | -3.9 | -6.9 | 5.8 | 0.1 | 1.4 |
| 354 | Miscellaneous petroleum and coal products | 4.6 | 1.1 | 1.4 | 7.9 | 1.6 | 0.3 |
| 355 | Rubber products | -0.7 | 0.9 | 1.1 | 3.7 | -1.4 | 1.0 |
| 356 | Plastic products n.e.c. | 6.5 | 5.6 | 4.9 | 7.1 | 4.1 | 3.2 |
| 361 | Pottery, china and earthenware | 2.7 | 0.1 | 0.4 | 5.8 | 0.1 | 0.1 |
| 362 | Glass and glass products | 1.4 | 0.3 | 0.9 | 4.8 | 1.2 | 0.7 |
| 369 | Other non-metallic mineral products | 2.7 | -0.1 | -2.3 | 5.0 | -0.8 | 1.7 |
| 371 | Iron and steel | 1.2 | -3.6 | -1.2 | 5.6 | 1.0 | 2.3 |
| 372 | Non-ferrous metals | 3.1 | -1.9 | -1.9 | 8.7 | -1.0 | 1.4 |
| 381 | Metal products, excluding machinery | 2.0 | -1.3 | -1.7 | 4.0 | 0.1 | 4.9 |
| 382 | Non-electrical machinery | 4.2 | -0.5 | -1.1 | 7.4 | 1.9 | 10.2 |
| 383 | Electrical machinery | 3.4 | 0.1 | 4.3 | 3.4 | 0.3 | 9.1 |
| 384 | Transport equipment | 3.3 | 2.4 | 2.3 | 7.0 | 0.2 | 12.4 |
| 385 | Professional and scientific goods | 4.9 | 6.0 | 2.1 | 8.2 | 5.0 | 5.7 |
| 390 | Other manufactures | 2.1 | 0.4 | -0.9 | 5.0 | -0.2 | 1.3 |

*Notes:* Estimated total MVA in 1994 was US$ 1,550,690 million.
For sources and other notes, see technical notes.
[a]Estimated.
[b]Projected.

titiveness as the "ability to produce goods and services that meet the test of international markets while our citizens earn a standard of living that is both rising and sustainable over the long run."

In its first report issued in 1992, the Council identified six issues relating to improving United States competitiveness and deserving priority attention. The areas concerned were as follows: saving and investment; education; technology; corporate governance and financial markets; health care costs and trade policy. The Second Report of the Council, issued in 1993, presented detailed recommendations in each of the above-mentioned areas. Many of the recommendations, especially in the areas of technology, trade policy, education and worker training, have already been adopted by the Administration and enacted by the Congress. Its Third Report in 1994 focuses on the implications for United States competitiveness of health care reform, public investment in technology, education, training, and infrastructure and trade policy. The report outlines the recommendations of the Council on investment budgeting and its current work programme in the areas of capital allocation and social issues.

The United States has a commitment to free-market ideology that precludes explicit government direction of the economy. However, the United States Government has played a major role in supporting agriculture and military procurement. The advent of the new Administration in Washington in 1993 marked a shift in United States industrial policy. The traditional, largely hands-off approach (except for defence) was abandoned in favour of active government involvement. Particular attention has been given to measures to promote R and D, innovation and technology diffusion in industry. Technology and the efficient application of R and D results have been increasingly regarded as key factors shaping and, in many cases, determining manufacturing competitiveness. The effective use of the best applicable process technology and the rapid diffusion of product technology are also gaining increasing attention.

## United States technology policy

The main features of the new technology policy recommended by the Competitiveness Policy Council include the following:[2]

*(a)* Moving from $4 billion to $7 billion per year from defense R and D to civilian and dual-use R and D;

*(b)* Significantly increased funding for industry-driven R and D programmes (where industry shares in the cost and sets the direction of the R and D);

*(c)* Focusing federal procurement and R and D projects in areas that would help drive commercial technologies, for example in defence procurement and initiatives to develop a national information infrastructure or intelligent road and highway system;

*(d)* Improved financing for the commercialization of technology;

*(e)* Improving the infrastructure for manufacturing and the commercialization of technology, including programmes to help small manufacturers to modernize;

*(f)* Restructuring the priorities and management of federal R and D, and increasing private sector input to that process.

The United States has the largest share in the world market for military hardware, and the country is spending relatively more on defence than other developed countries. Table 17 shows the composition of R and D expenditure by function. Traditionally, a large share of R and D expenditure was concentrated in the defence industry. In 1994, the share of defence in total federal R and D expenditures was estimated to be 58.6 per cent, which compares with a share of 62.6 per cent in 1990. An international comparison provides a further indication of the importance of defence-related R and D expenditure in the United States. In 1990, national R and D expenditures as a percentage of GDP were 2.7 per cent in the United States, 3.0 per cent in Japan and 2.8 per cent in Germany. However, if defence-related expenditures are excluded, then in the same year the share of non-defence R and D of GDP was 1.9 per cent in the United States, 3.0 per cent in Japan and 2.6 per cent in Germany. Not surprisingly, it has been commonly stated that United States spending on military goods has helped give firms in the United States an advantage in civilian markets as well. Because the production of military goods involves large economies of scale, United States firms producing for the military market have been able to gain an edge in the civilian sector. Moreover, military R and D has sometimes given United States firms a technological knowledge that they could apply elsewhere. That is why some commentators contend that the United States defence budget functions like an industrial policy for the high-technology industries.

With the rapid political changes in the world, and the necessity to reduce the government budget, the share of purely military R and D is being cut back,

**Table 17.** Federal funding for R and D by selected budget functions, 1990-1994

| *Function* | *1990* | *1991* | *1992* | *1993* | *1994* |
|---|---|---|---|---|---|
| | | | *(Percentage)* | | |
| National defence | 62.6 | 59.7 | 58.6 | 59.2 | 58.6 |
| Health | 13.0 | 14.0 | 14.7 | 14.6 | 14.8 |
| Space research and technology | 9.0 | 9.9 | 9.9 | 9.8 | 9.4 |
| Energy | 4.3 | 4.5 | 4.5 | 3.8 | 4.0 |
| General science | 3.8 | 4.0 | 3.9 | 3.9 | 4.2 |
| Natural resources and environment | 2.2 | 2.4 | 2.5 | 2.4 | 2.5 |
| Transportation | 1.6 | 1.9 | 2.2 | 2.5 | 2.7 |
| Agriculture | 1.5 | 1.6 | 1.7 | 1.6 | 1.6 |
| | | | *(Millions of US dollars)* | | |
| Total | 56 594 | 56 420 | 56 951 | 57 053 | 56 863 |
| Total national R and D | 129 504 | 123 691 | 128 017 | 130 070 | .. |

*Source:* United States Department of Commerce, *Statistical Abstract of the United States 1994*, 114th ed. (September 1994).

*Note:* The figures are calculated in 1987 constant United States dollars.

and resources are being switched to civilian and dual-use technologies by reforming existing agencies. These include the 726 national laboratories, which have an annual budget of $22 billion, and which employ about 100,000 researchers, and the former Defense Advanced Research Products Agency, which has been renamed Advanced Research Products Agency (ARPA). Furthermore, these agencies are being directed to boost their R and D cooperation with industry through cooperative research and development agreements, which have already begun during previous Administrations, and which numbered more than 1,500 with a value of $323 million by 1992. In 1993 the Defence Conversion and Reinvestment Initiative was announced. It comprises 29 different programmes worth $19.6 billion over four years. Its cornerstone is the Technology Reinvestment project, managed by ARPA with an annual budget of $472 million to provide matching funds for private sector R and D.

The current Administration has also indicated a desire to move towards greater activism in technology policy by proposing a major budgetary increase, $535 million in 1994, nearly double the allocation of the previous year for the National Institute of Standards and Technology to proceed with its advanced technology programme, to develop high-risk generic technologies. Only $200 million was finally allocated in 1994, but the 1995 budget calls for an increase to $451 million and $744 million in 1997. Such support can be easily justified, if partial funding is provided by the private sector for pre-commercial generic R and D, where social returns most likely exceed purely financial returns. However, it also raises some concern in view of the fact that Governments often do not make sound decisions about what to support, they tend to be inflexible in the conduct of their R and D programmes, and there is always the risk of meddling and political influence. Some observers have already

pointed to a worrisome increase in congressional intervention in the allocation of academic research funding, which, along with the vogue for mega-projects, could undermine the current peer-review system.

Another key component of United States technology policy is the research and experimentation tax credit established in 1981, equivalent to about $1.5 billion annually in government expenditure. Its temporary nature and the frequency of changes in its terms in the intervening years have been criticized for causing a bias away from long-term projects, as has its lack of refundability for diminishing its effectiveness. Others have suggested that it be made available for commercialization expenditure as well. While a credit can be justified on the basis of spillovers engendered by R and D, it is rather a crude device, since such spillovers inevitably differ substantially among different firms, industries and types of R and D outputs. The Administration sought to make the credit permanent, but Congress extended it only through June 1995. Another prominent recent tax change is the reduction in the capital gains tax on investment in small businesses.

The current Administration has also been promoting regional technology alliances and agile manufacturing programmes in order to assist in the exploitation of externalities and technology outreach or extension centres to stimulate technology transfer and ensure diffusion of innovations. Support for R and D consortia is justified in order to help overcome the incentive problems associated with "non-appropriability" of R and D output, to avoid duplication and exploit economies of scale more fully, and to speed diffusion throughout industry, especially in cases where firms suffer from the "not-invented-here" syndrome. But besides the obvious antitrust risks, such institutions inherently lack the advantages of multiple independent research approaches which are often thought to enhance technological progress. There is also a tendency for political decision makers to support large, highly visible consortia at the expense of smaller, possibly more promising projects. The antitrust laws were also amended in June 1993 to allow joint production ventures in order to pool risks.

Other technology policy initiatives include empowerment zones and enterprise communities created in areas of high structural unemployment in order to attract new investment and enhance employment opportunities. The Government is also assuming a coordinating role in establishing a national information infrastructure, the information superhighway. An action plan has been developed, and the Administration has asked for $100 million in its 1995 budget to further the initiative. It is providing funding for pilot projects in the education and health-care spheres, as well as $784 million over four years for related cross-cutting high performance computing. Since September 1993, the automobile industry has been benefiting from targeted assistance with a view to developing technologies to enhance the environmental friendliness of vehicles. Flat-panel displays, semiconductors, textiles (through the American Textile Partnership), biosensors, aerospace alloys, polymer blends and microelectromechanical systems are other areas singled out for direct support through government-industry partnerships. The Administration has also launched the environmental technologies initiative to stimulate innovation to meet environmental objectives and the programme of national industrial competitiveness through energy, environment and economics to improve energy efficiency, reduce waste generation and boost economic competitiveness and productivity.

## Outlook for 1995

In the United States, various indicators show that the pace of economic expansion remained high throughout the past year. However, the growth rate of GDP is expected to slow down to a rate of 2.7 in 1995, mainly because of the impact of higher interest rates on fixed investment and consumer spending. Federal purchases will remain in a downswing. Nevertheless, it is expected that strong growth in export markets and improving export price competitiveness, combined with the gradual moderation of import growth in line with slower increases in domestic demand, should counteract the significant drag that the real foreign balance has had on GDP growth.

Manufacturing is expected to continue to expand, but at a slower pace. The MVA growth rate for the United States is projected to be 1.3 per cent in 1995. Higher interest rates could weaken residential construction and car sales, and in general spending on household durables such as furniture. By contrast, capital spending plans by corporate America will keep orders reasonably strong for industries in information technology. Corporate technology spending is forecast to rise by some 10 per cent in 1995.

With output growth projected to outpace the expansion of capacity until about the middle of 1995, further declines in the unemployment rate can be expected, reaching 5.7 per cent by the second quarter of 1995. The rate of increase in the GDP deflator, held down at 2 per cent in 1994 by moderate food and energy prices, is expected to increase to 3 per cent in 1995.

The outlook for Canada is somewhat different from that of the United States, mainly because there appears to be substantial slack remaining in the Canadian economy. Unemployment is still in the double-digit range, with a very low rate of inflation. The GDP growth rate is projected to be 3.2 per cent in 1995, and expansion is expected to continue to be based on exports and investment. But with productivity growth continuing to be quite strong as a result of recent structural reforms, the improvement in the joblessness figures may be rather modest.

*Notes*

[1]Economic Commission for Europe, *Economic Bulletin for Europe*, vol. 46 (Geneva, 1994).

[2]Competitiveness Policy Council, *Promoting Long-Term Prosperity*, third report to the President and Congress (Washington, D.C., 1994).

# Japan

After successive years of persistent high growth rates, Japan's economy witnessed a slow-down towards the end of 1990 and entered an adjustment phase. This phase was characterized by an adjustment process in consumer durables and fixed investments which had accumulated on a large scale during the previous expansionary phase. However, in early 1994 the economy started to show signs of recovery. Dictated by a series of fiscal and monetary measures, domestic demand and output have been increasing ever since, suggesting that growth might be back to its medium-term trend in the near future.

However, recovery is expected to be relatively weak, and the annual growth of GDP for the 1990s is projected to be a mere 1.8 per cent; well below the annual average of 4.1 per cent growth in the 1980s.

## Economy

As mentioned earlier, after three years of recession, which culminated in 1993, the Japanese economy is now showing signs of recovery. In 1994 the annual GDP growth rate was estimated to be around 0.8 per cent, and is projected to be 1.8 per cent in 1995 (see table 18).

**Table 18.** Japan: selected indicators, 1970-1995
*(Percentage)*

| *Economic indicators* | *1970-1980* | *1980-1990* | *1990-1993* | *1994[a]* | *1995[b]* |
|---|---|---|---|---|---|
| GDP growth rate | 4.5 | 4.1 | 1.8 | 0.8 | 1.8 |
| MVA growth rate | 5.2 | 5.8 | –0.3 | 0.8 | 2.9 |
| MVA share of GDP | 24.8 | 29.1 | 28.7 | 27.4 | 27.7 |
| Labour productivity growth rate | 4.0 | 3.4 | –0.8 | 1.0 | 1.1 |

*Note:* For sources and other notes, see technical notes.

[a]Estimated.
[b]Projected.

The present turnaround of the Japanese economy resulted mainly from an acceleration of domestic demand which, in turn, induced a gradual recovery in corporate production activity. According to OECD statistics,[1] the growth rate of total domestic demand increased from 0.3 per cent in 1993 to 1.7 per cent in 1994. The acceleration of domestic demand was mainly driven by private consumption, fostered by a series of fiscal measures, such as income tax reductions, which were introduced by the Government of Japan in order to ease the economic recovery. The growth in domestic demand was also the result of a less negative evolution of investment plans in 1994. For the first time in several years, fixed investments ceased to decline. This was due to a rapid growth in public and private residential investments which offset private non-residential disinvestment.

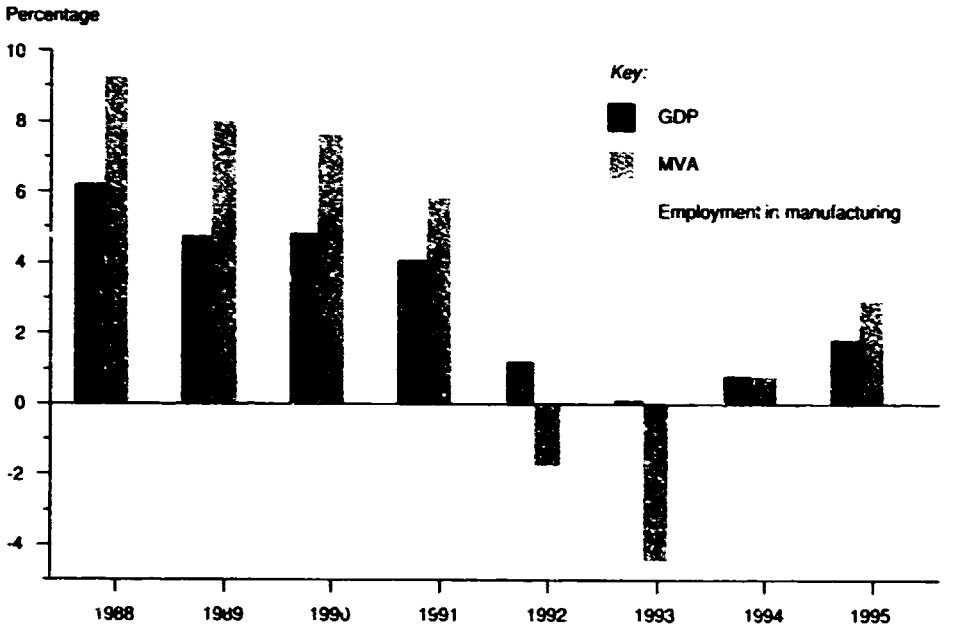
The foreign sector only marginally restrained economic activity. Increased domestic demand was only slightly affected by the significant rise in imports of manufactured products due to the sharp appreciation of the yen. In addition, the strong growth in the United States and East Asia sustained foreign demand for Japanese manufactured products in 1994, despite the high value of the yen.

The present recovery reflects the process of stock as well as balance-sheet adjustment that the Japanese economy is currently undergoing as a reaction to the excessive expansion of the 1980s and consequent after-effects. After reaching unprecedentedly high levels of growth in the late 1980s, the demand for plants, equipment investment, residential construction and consumer durables slowed down significantly during the recession of the early 1990s. Since then, the Government has introduced several large fiscal packages, including reductions in interest rates to support demand. But now the downward pressure on demand seems to be coming to an end, and demand for durable goods, which is already increasing, is likely to strengthen even more. Stock adjustment pressures on fixed business investment are also expected to subside as overcapacity of corporations levels off. However, it must be noted that the scope for expansion of domestic investment in the Japanese manufacturing industry may be limited, since there is a drive for fixed business investment overseas.

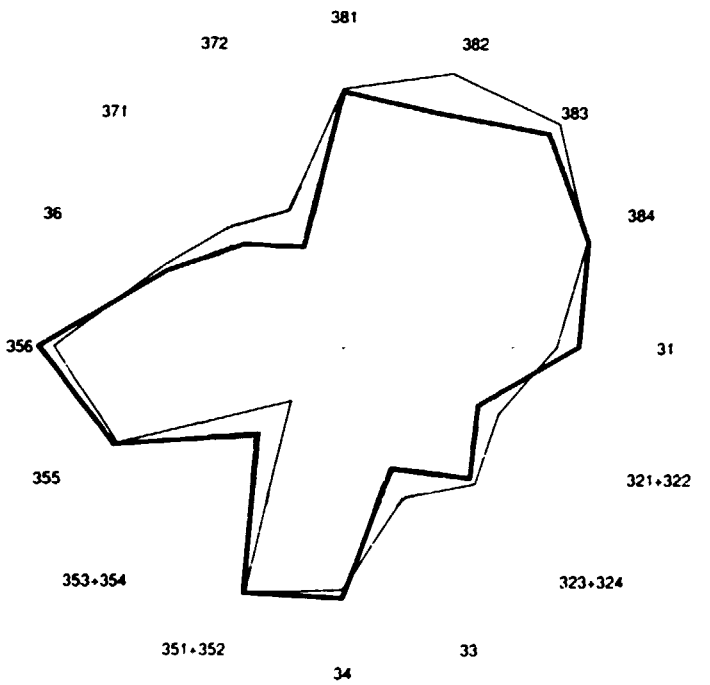
With regard to balance-sheet adjustments, there are indications that the amount of non-performing assets of financial institutions has started to stabilize whereas the process of restructuring in non-financial corporations (such as reducing labour and other fixed costs, substituting lower-cost imported products and balance-sheet adjustment) is progressing steadily. These improvements are expected to lead to a gradual recovery of fixed business investment and employment over the next years.

In addition to the simultaneous stock and balance-sheet adjustments, the economy of Japan is undergoing a process of adjusting to the new global environment. Here two factors seem to be challenging the economy. First, as a result of rapid industrialization and marketization in East Asia, Japanese companies now face stiffer competition in world markets, especially in labour-intensive industries. Secondly, the highly appreciated yen has led to an increase in demand for cheaper imports which will certainly entail

**Figure 4.** Growth rates of GDP, MVA and manufacturing employment, 1988-1995, and industrial structural change, 1980–1995: Japan




Industrial structural change
(Index of value added 1980 = 100)




g = 2.05, $\theta$ = 11.39

*Source.* UNIDO database; estimates and forecasts by UNIDO/IRD/RES.

*Key:*

Deflated prices of 1990
g = Average annual growth rate, 1980–1995 (percentage)
$\theta$ = Index of structural change, 1980–1995

ISIC code (industries):

| | |
|---|---|
| 31 | (Food products) |
| 321, 322 | (Textiles) |
| 323, 324 | (Leather) |
| 33 | (Wood and furniture) |
| 34 | (Paper and printing) |
| 351, 352 | (Chemicals) |
| 353, 354 | (Petroleum and coal) |
| 355 | (Rubber products) |
| 356 | (Plastic products) |
| 36 | (Non-metallic mineral products) |
| 371 | (Iron and steel) |
| 372 | (Non-ferrous metals) |
| 381 | (Metal products) |
| 382 | (Non-electrical machinery) |
| 383 | (Electrical machinery) |
| 384 | (Transport equipment) |

1990–1995 forecast
1985–1990
1980–1985

a change in the industrial structure. Japanese firms are, in fact, likely to respond to these factors in various ways, such as cutting investment, reducing stock building, limiting employment, containing wage costs, relocating some of their production lines abroad and even increasing imports of parts and components. Such a response could create a new, but more convenient, situation in terms of price, in comparison with those domestically produced. However, if adjustment to the new international economic climate progresses in this direction, then such measures are bound to slow down the process of economic recovery.

## Industry

Recovery appears most evident in the industrial sector. From 1990 to 1993, the growth rate of MVA was negative, in the range of an average annual rate of –0.3 per cent, but in 1994 it rose to 0.8 per cent. Growth in labour productivity also improved from an average annual rate of –0.8 per cent between 1990 to 1993 to 1 per cent in 1994 (see table 18).

Industries which experienced the highest growth were plastic products (2.4 per cent), printing and publishing (2.3 per cent) and professional scientific goods (2.3 per cent). However, the increase in the rate of MVA growth was mainly due to the good performance of the electrical machinery industry (1.9 per cent) and transport equipment industry (2.2 per cent), as well as the slow-down in the decline of the non-electrical machinery industry (–0.3 per cent) (see table 19). These three industries, which accounted for 38.3 per cent of total MVA in 1994, had a significant impact on the recovery of industrial production in Japan.

According to estimates by the Wako Research Institute of Economics, the top 600 companies quoted registered a 4.36 per cent rise in current profits in the

**Box 6. Japan's fiscal and monetary policies to stimulate economic recovery**

*Fiscal policy.* In August 1992, in an effort to stimulate economic recovery, the Government introduced four economic packages involving a total of 45,000 billion yen. The focus of the first two packages, introduced in August 1992 and April 1993, was mainly on public works, and an attempt was made to stimulate private investment through the provision of loans on relatively favourable terms. The third package, announced in September 1993, included an increase in the lending programmes, with the objective of improving conditions in the housing market. The largest package, launched in February 1994, aimed at boosting domestic demand mainly through substantial cuts in income tax. It also included measures to aid small- and medium-sized enterprises. Despite the fact that only one third of the total amount of these packages are funded by the central Government—the rest are financed by public corporations and government-financial institutions—they created a significant impact on government finance. The government deficit in fiscal year 1993 is estimated to reach 16,000 billion yen; 3.4 per cent of GDP. The budget deficit for the fiscal year 1994 is officially projected to be around 13,500 billion yen, or 2.8 per cent of GDP. These projections incorporate the tax cuts envisaged in February for the budget in the fiscal year 1994, and will continue beyond 1994 as part of a planned reform of the tax system.

*Monetary policy.* The Bank of Japan adopted a policy of easing monetary conditions throughout 1993 in the hope of stimulating economic recovery. To this end, the official discount rate was cut in September 1993 to 1.75 per cent. Longer-term rates started declining as of the spring of 1993, reaching a low point at the end of the year. In 1994, short-term market rates remained low, but longer-term yields started rising as of the beginning of 1994. In late June 1994, long-term market rates rose to above 4.5 per cent from 3.7 per cent. The rise was a reaction to indicators showing economic recovery. Between the end of July and early-August, long-term rates rose again, after the publication of data showing an increase in personal consumption. The rates eased slightly between the end of August and mid-September, but moved up again at the end of September. As a result, the cumulative increase in long-term market rates since the beginning of 1994 amounted to 1.7 per cent. Money market rates stabilized since the third quarter, reflecting the expectations of markets for economic recovery. On the supply side of credit, a number of financial institutions tried to expand lending by offering lower lending rates. They also tried to promote housing loans by reducing lending rates and introducing new types of loans. However, total lending by city banks, long-term credit banks, trust banks and regional banks decreased by 0.3 per cent in the third quarter of 1994, following a 0.1 per cent increase in the second quarter. New borrowing demand for long-term lending in the corporate sector remained stagnant because of weak fixed business investment. In addition, corporations are trying to decrease liabilities by utilizing improved cash flows. In the household sector, consumer loans continued to decline, while housing loans are above the 1993 level.

Monetary aggregates increased gradually during 1994, despite a decrease in bank lending. The monetary growth reflects an increase in demand for money for transaction purposes as a result of the rise in personal consumption and industrial production. Annual growth rates of monetary aggregates stayed in line with the nominal growth rate in GDP, which was 1.1 per cent during the second quarter of 1994. Unlike past economic recoveries, these rates did not greatly exceed that of nominal GDP. This reflects the ongoing balance-sheet adjustments by corporations as well as stagnant asset transactions.

**Table 19.** Japan: MVA growth rates and shares by ISIC sector, 1970-1995
*(Percentage)*

| ISIC sector | | Average annual growth rates | | | Annual growth rates | | Share in total MVA |
|---|---|---|---|---|---|---|---|
| | | 1970-1980 | 1980-1990 | 1990-1993 | 1994[a] | 1995[b] | 1994 |
| 311 | Food | 5.7 | 3.4 | 2.6 | 2.2 | 1.8 | 8.6 |
| 313 | Beverages | 1.8 | 1.1 | -2.3 | -0.5 | -0.7 | 1.1 |
| 314 | Tobacco manufactures | 6.4 | -5.4 | 6.5 | 0.6 | 1.1 | 0.3 |
| 321 | Textiles | -0.1 | -0.5 | -4.4 | -4.3 | -3.0 | 2.7 |
| 322 | Wearing apparel | 5.4 | 2.3 | -- | 0.3 | 0.3 | 1.4 |
| 323 | Leather and fur products | 3.3 | 1.4 | -0.3 | — | -0.3 | 0.2 |
| 324 | Footwear, excluding rubber or plastic | 4.5 | 1.4 | -2.2 | -0.2 | -0.2 | 0.2 |
| 331 | Wood and cork products | 1.6 | -1.7 | -5.0 | -7.2 | -6.1 | 1.3 |
| 332 | Furniture and fixtures | 5.7 | 2.3 | -2.9 | -0.5 | -0.3 | 0.9 |
| 341 | Paper and paper products | 2.1 | 2.7 | -1.8 | 2.0 | 2.6 | 2.5 |
| 342 | Printing and publishing | 5.5 | 4.3 | 0.3 | 2.3 | 1.9 | 5.8 |
| 351 | Industrial chemicals | -1.3 | 4.1 | -0.5 | -0.2 | 0.1 | 4.4 |
| 352 | Other chemical products | 4.6 | 5.1 | -1.0 | 2.2 | 2.9 | 5.4 |
| 353 | Petroleum refineries | 9.9 | -8.8 | 22.7 | 1.1 | 0.3 | 1.1 |
| 354 | Miscellaneous petroleum and coal products | 6.3 | -2.4 | -0.5 | -2.0 | -3.8 | 0.2 |
| 355 | Rubber products | 3.8 | 4.1 | -0.8 | 2.1 | 2.4 | 1.3 |
| 356 | Plastic products n.e.c. | 6.7 | 5.8 | — | 2.4 | 3.2 | 3.7 |
| 361 | Pottery, china and earthenware | 3.4 | — | -1.3 | 1.5 | 1.2 | 0.3 |
| 362 | Glass and glass products | 1.4 | 4.8 | -4.4 | 1.6 | 1.8 | 0.9 |
| 369 | Other non-metallic mineral products | 4.6 | 1.4 | -1.5 | 1.6 | 1.4 | 3.0 |
| 371 | Iron and steel | 3.9 | — | -2.9 | -4.8 | -1.0 | 5.0 |
| 372 | Non-ferrous metals | 4.7 | -1.4 | -6.9 | -6.4 | -3.3 | 1.1 |
| 381 | Metal products, excluding machinery | 2.8 | 4.3 | -1.0 | 0.5 | 1.6 | 7.2 |
| 382 | Non-electrical machinery | 2.8 | 5.8 | -5.3 | -0.3 | 1.1 | 12.6 |
| 383 | Electrical machinery | 3.1 | 6.5 | -3.1 | 1.9 | 3.0 | 14.6 |
| 384 | Transport equipment | 3.4 | 4.9 | -1.2 | 2.2 | 1.8 | 11.1 |
| 385 | Professional and scientific goods | 6.3 | 2.0 | -3.2 | 2.3 | 2.0 | 1.4 |
| 390 | Other manufactures | 2.8 | 3.7 | 3.0 | 2.1 | 1.6 | 1.8 |

*Notes:* Estimated total MVA in 1994 was $852,307 million.
For sources and other notes, see technical notes.

[a]Estimated.
[b]Projected.

first six months of 1994, thus indicating a general increase in profits. By the year ending in March 1995, an increase of 7 per cent in profits is expected. Although these profit margins are very low, when compared with the average for the previous two decades (even to those experienced after the oil shocks of 1973), they represent a good turnaround from the 16.4 per cent profit decline recorded in 1993. However, the scope for manufacturers to improve margins seems very limited because of continuing surplus capacity in fundamental industries such as steel, automobile and consumer electronics.

This process of slow recovery highlights the weaknesses of the industrial structure of Japan in the new, highly competitive international environment, and thus underlines the need for restructuring. Japan's top companies so far have managed to go through the recession without reducing their excesses in capacity, stocks and workers on the same scale as their European and United States competitors. Some of the leading companies such as Sony and Toyota, which survived the recession by reducing overtime and bonuses instead of the workforce, are now questioning the rationale for maintaining the tradition of lifetime employment.

## Industrial development issues

The following two major factors are currently playing a crucial role in the development of the industrial sector in Japan: the continued appreciation of the yen, and the deregulatory measures which have been introduced recently.

### Appreciation of the yen and Japanese domestic manufacturing industry

In 1985 the exchange rate stood at 250 yen to the dollar. By 1993, the yen had appreciated by as much as 150 per cent, or 100 yen to the dollar. Despite this huge appreciation, over the same period Japan's trade surplus increased by over 160.7 per cent in dollar terms (from $46.1 billion to $120.2 billion), but only by 22.6 per cent in terms of the yen (from ¥10,900 billion to ¥13,400 billion). As a proportion of GNP, however, Japan's trade surplus fell from 3.4 per cent in 1985 to 2.8 per cent in 1993. A closer look at foreign trade in terms of manufactured and non-manufactured products could explain the trade surplus in the context of an appreciating currency.

In 1985, Japan's imports of non-manufactured goods, such as fuel, food and raw materials amounted to $93,125 million, accounting for around 72 per cent of total imports. However, imports of mineral fuels alone represented about 60 per cent of total non-manufactured imports (see tables 20*a* and 20*b* and figures 5*a* and 5*b*). If denominated in yen, total non-manufactured imports amounted to about ¥22,214 billion. Most of these imports included commodities traded on world markets, whose price is traditionally denominated in dollars. Consequently, as the yen appreciated, the cost of these imports decreased, and larger amounts were imported. In 1993, the total value of non-manufactured imports amounted to $115,466 million, equivalent to ¥12,840 billion. From 1985 to 1993, the total deficit on non-manufactured goods decreased by about ¥8,400 billion. The cost of energy imports alone fell by about ¥8,000 billion, while Japan's energy imports increased by 30 per cent in volume terms over the same period. Falling oil prices were responsible for one third of these cost effects, while the appreciation of the yen contributed to the other two thirds.

Again, from 1985 to 1993, Japanese trade in manufactured goods increased. Exports almost doubled in terms of the dollar—$170,673 million in 1985 and $354,858 million in 1993—but decreased slightly in yen terms (¥40,712 billion in 1985 and ¥39,460 billion in 1993). Imports, on the other hand, more than tripled in dollar terms ($36,414 million in 1985 and $125,203 million in 1993), and increased by almost two thirds in yen terms (¥8,686 billion in 1985 and ¥13,923 billion in 1993). Although the growth of imports increased faster than that of exports, it did not trigger the trade surplus because the size of manufactured exports was extremely large.

It was widely believed that a strong appreciation of the yen would correct trade surpluses, but this has not been the case as yet. Trade figures show that the high value of the yen has played an important role in two ways. First, the high yen and low oil prices contributed significantly to decreasing the value of oil imports, in terms both of the dollar and the yen. Therefore, no upward pressure was experienced with regard to imports of mineral fuels, a key variable in the Japanese economy. Secondly, Japan managed to stabilize and retain the value, in yen, of its manufactured exports. It has been argued that the appreciation of the yen has provided a stimulus for Japanese enterprises to step up their efforts to develop new technologies and increase productivity. Competitiveness, therefore, has been maintained through technological progress and domestic cost reductions.[2]

However, the high yen will change the industrial structure of Japan through another channel. As the yen appreciated and trade tensions mounted, Japanese companies reacted by building factories abroad, especially in Asia, Europe and the United States. Currently, overseas production is increasingly replacing Japanese exports and domestic production. Therefore, both import penetration from overseas production and foreign competition are expected to increase. The automobile industry is an example of this phenomenon.

In 1985, Japan exported 6.7 million vehicles, none of which involved Japanese overseas production. By 1993, however, exports decreased to 5 million, and Japanese overseas production exceeded 3 million. It is expected that by the year 2000 Japanese exports will decrease further to around 2.5 million, while overseas production of Japanese vehicles will exceed 6 million. In other words, for every 10 cars exported, Japanese automobile manufacturers will produce at least 24 cars abroad. As far as domestic demand is concerned, there will be increasing import penetration from both Japanese overseas automobile production and United States and European automobile manufacturers that have a competitive edge over their Japanese counterparts. In 1993, domestic supply capacity was estimated to exceed 15 million vehicles, but actual production was only 11.1 million, and Japanese automobile manufacturers are already being pressured to scale down domestic production. This will undoubtedly affect employment.

Japanese foreign direct investment should, therefore, be considered not only in terms of its impact on the demand for Japanese products, but also within the context of Japanese global manufacturing capacity. Originally, Japanese manufacturers saw their overseas investments in the United States, Europe and Asia as part of global expansion rather than a shift from Japan's domestic production. Thus, huge investments were made during the 1980s under the assumption that unlimited demand would create excess supply capacity worldwide. However, as long as the yen remains overvalued, the reduction of this excess capacity will be concentrated in Japan.

## Deregulatory measures and structural reforms

A major feature of the Japanese economy is the dislocation between the domestic market and the rest of the world. While the former is served by the *uchi*, which are among the most inefficient companies, the latter is served by the *shoto*, which are among the most efficient in the world. Traditionally, the *uchi* have been subjected to a plethora of governmental regulations designed to protect them from foreign competition or newcomers at home. Under these very favourable conditions the *uchi* have not been motivated to reduce their fixed costs and improve their competitiveness *vis-à-vis* foreign producers. It has been estimated that between 1984 and 1994 the food and beverage industry alone (*uchi* sector) increased its fixed costs from 1,800 billion to 3,000 billion yen.[3] High costs are, of course, reflected in high prices, and in light of the high yen, this implies that if a product is worth only a dollar (less then 100 yen) overseas, 200 yen would be needed to buy the same product in Japan.

**Table 20a.** Japan's trade by commodity, 1985 and 1993

*(Millions of US dollars)*

| *Item* | *1985* | *1993* |
|---|---|---|
| *Exports* | | |
| Non-manufactured goods | 4 965 | 6 053 |
| Manufactured goods | 170 673 | 354 858 |
| of which | | |
| Chemicals | 7 698 | 20 199 |
| Machinery and equipment | 126 179 | 274 388 |
| Total | 175 638 | 360 911 |
| *Imports* | | |
| Non-manufactured goods | 93 125 | 115 466 |
| of which | | |
| Fuels | 55 790 | 48 840 |
| Manufactured goods | 36 414 | 125 203 |
| of which | | |
| Chemicals | 8 073 | 17 964 |
| Machinery and equipment | 12 372 | 46 634 |
| Total | 129 539 | 240 670 |

**Figure 5a.** Japan's trade by commodity, 1985 and 1993

*(Millions of US dollars)*

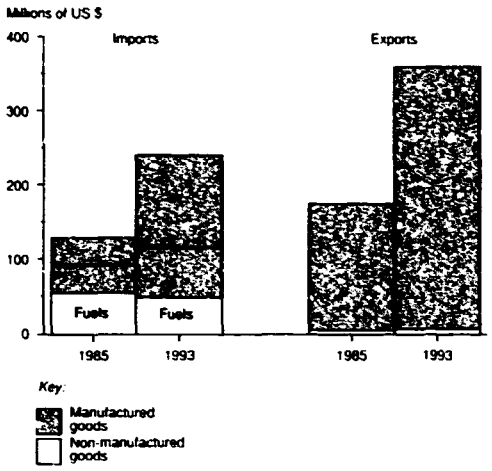


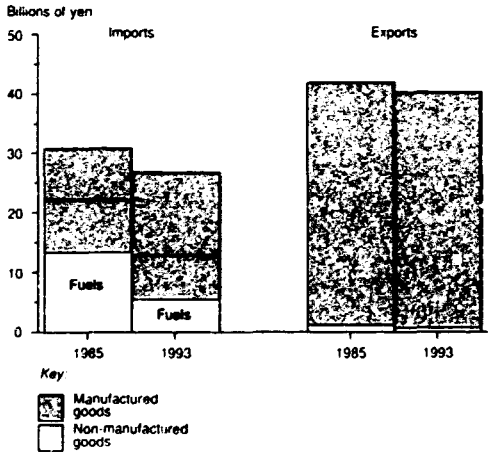

**Table 20b.** Japan's trade by commodity, 1985 and 1993

*(Billions of yen)*

| *Item* | *1985* | *1993* |
|---|---|---|
| *Exports* | | |
| Non-manufactured goods | 1 186 | 673 |
| Manufactured goods | 40 712 | 39 460 |
| of which | | |
| Chemicals | 1 836 | 2 246 |
| Machinery and equipment | 30 099 | 30 512 |
| Total | 41 898 | 40 133 |
| *Imports* | | |
| Non-manufactured goods | 22 214 | 12 840 |
| of which | | |
| Fuels | 13 308 | 5 431 |
| Manufactured goods | 8 686 | 13 923 |
| of which | | |
| Chemicals | 1 926 | 1 998 |
| Machinery and equipment | 2 951 | 5 186 |
| Total | 30 900 | 26 763 |

**Figure 5b.** Japan's trade by commodity, 1985 and 1993

*(Billions of yen)*




*Sources:* Keizai Koho Center, *Japan: An International Comparison* (Tokyo, 1988 and 1995) and estimates by UNIDO/IRD/RES..

*Note:* All the figures are on a customs clearance basis. Manufactured goods refer to SITC sections 5-8, excluding division 68, while the non-manufactured goods refer to SITC sections 0-4. In computing figures in yen, imports and exports are denominated in United States dollars, and are converted at the period concerned for the average market exchange rate. The exchange rate (yen per United States dollar) was 238.54 in 1985 and 111.20 in 1993.

Since the early 1990s, deregulation has been viewed as a means of improving Japanese competitiveness and facilitating foreign access to the domestic market. From 1990 to 1992, structural impediment initiative (SII) discussions were held between Japan and the United States. The main focus was on harmonization of national regulations, and the discussions led to reforms in competition policy and international openness. The most important measures adopted in these areas, since 1989, are listed below.

### Financial services

The liberalization of Japanese financial services commenced in the second half of the 1980s and accelerated in the 1990s. Some of the important measures taken in 1992 included the introduction of new saving accounts with a market rate of interest, adoption of a rating system for issuers of commercial papers, and the relaxation of measures to separate the offshore market of Japan from domestic financial transactions. But in 1993, a complete liberalization of interest rates on time deposits was introduced, and rules on corporate bond issues were eased. In addition, financial system laws were reformed, allowing banks and securities firms to enter each others' primary markets, and commissions on large equity transactions were liberalized.

### Competition policy

In terms of trade restrictions, such as custom duties and quantitative limitations, Japan's trade barriers on manufactured products are currently the lowest in the world. The emphasis, as far as market access is concerned, has shifted from trade policy instruments to competition policy. The following four specific areas were identified in the SII discussions related to this subject: exclusionary business practices; *keiretsu* relationships, such as linkages between firms based on mutual shareholding; the distribution system; and pricing mechanisms. Over the past four years the Government has initiated a number of changes in its competition policy. In 1991, the surcharge rate on firms participating in illegal cartels was increased fourfold, and guidelines concerning business practices related to the distribution systems were introduced. In 1992, the large-scale retail store law was revised to shorten the time needed to open a large store, to abolish the Council for Coordinating Commercial activities, and to minimize additional regulations by local authorities.

### International openness

Japan has taken a number of initiatives to lower barriers to imports and inward foreign direct investment in order to improve foreign access to the Japanese market. From 1989 to 1992, the number of agricultural and fishery products subject to quotas were reduced from 20 to 12. In 1990, tax incentives and low-interest loans to boost imports of manufactured goods were introduced, and agreements were reached with the United States on goods such as paper, glass and wood products. In 1992, additional measures were taken to increase foreign access to government procurement including an increase in the number of entities that follow procedures consistent with the GATT agreement on government procurement, a reduction of the threshold from SDR 130,000 to SDR 100,000, and an extension of the period for the receipt of tenders from 40 to 50 days. Again, in 1992, tax incentives and low-interest loans were introduced to promote inward foreign direct investment.

Currently, there are a number of reform proposals under consideration, with emphasis on deregulation. At the end of 1993, the Advisory Group for Economic Structural Reform published a report known as the "Hiraiwa report". Basic principles for economic reform are outlined in this report, the objective of which is to create a socio-economic structure that is open, transparent and harmonious with the rest of the world. However, the report does not offer any policy actions. In March 1994, the outline of external economic reform measures was announced. It included proposals related to regulatory reforms and to specific sectoral issues, and called for a deregulation programme with emphasis on the following four priority areas: housing and land; information and telecommunications; improvement of market access and distribution system; and financial, securities and insurance industries. In June 1994, yet another package, "Regarding the policy for promoting deregulation hereafter", was introduced. It contained 279 deregulation proposals in the priority areas already identified in the March package. This package envisaged that 193 of the proposals would be implemented by the end of fiscal year 1994, with an additional 36 by the end of fiscal year 1995.

### Japan-United States framework talks

A framework for a new economic partnership was signed by Japan and the United States in July 1993, replacing the 1990-1992 SII discussions. This framework determined a number of goals for both countries. The medium-term objectives stipulated in the framework for Japan are to promote domestic demand-led growth, and increase market access for competitive goods and services, so as to significantly reduce the current account surplus. The objectives for the United States, as stated in the framework, are to reduce its budget deficit, promote domestic savings and strengthen United States international competitiveness. In addition, the framework stipulates that Japan and the United States "will engage in negotiations or consultations to remove sectoral and structural impediments to international trade and investment flows, promote economic harmonization and ensure the implementation of existing arrangements and measures". To this end, Japan and the United States reached agreements, in September 1994, to further

improve market access in two priority areas. In telecommunications, two pacts covering the sale of equipment and services were signed. Both of these agreements, together with one covering medical technology, have the objective of providing more open and transparent procurement procedures. Japan undertook to improve access to its insurance market by introducing specific liberalization measures and a broker system to promote competition; it further undertook to make its regulatory system more transparent. These agreements do not include specific targets, and the liberalization measures are not limited to United States corporations. However, as far as automobiles and car parts are concerned, the two countries failed to reach an agreement, and currently the Japanese market for the replacement of car parts is the subject of investigation under section 301 of United States trade law.

These measures, however, are viewed as initial, and it is clear that further efforts must be made in this direction. The Government does seem willing to continue deregulating the domestic market. In principle, strong efforts at deregulation and market opening would encourage the *uchi* sector to restructure and become more efficient, as well as help to raise living standards. In addition to domestic benefits, such reforms could also contribute to easing trade tensions. However, the manner in which these positive expected effects will emerge and at what cost to the *uchi* sector is an open question.

Looking at the present state of the Japanese economy, the introduction of deregulatory measures would imply deflation, and considering the current exchange rate, it might be more convenient to import certain products than purchase those domestically produced. Consequently, if deregulation of the internal market is pursued further, then the *uchi* enterprises, which are already facing fierce foreign competition, will be forced to reduce prices. This in turn will inevitably lead to destruction of employment. Undoubtedly, Japanese consumers will benefit from lower prices of domestic and imported products, but salary and employment cuts will have their impacts.

It can therefore be concluded that Japanese policy makers are facing a dilemma. While, on the one hand, the problem could worsen if they do not proceed with deregulating the domestic market, on the other hand, if they do, the country will most likely enter another recessionary phase. Statistical indicators reveal significant decreases in consumer prices since 1994. How severe the cost of realigning the Japanese economy with the rest of the world will be depends on how policy makers design and implement the deregulatory measures and structural reforms.

## Outlook for 1995

In 1995 the economy of Japan is expected to continue to grow, though at a slower pace than anticipated. Recovery is based on the strength of domestic demand, with private consumption assuming the role taken in the past two years by residential construction and public works. Recovery in private consumption will be boosted by tax rebates that were paid during 1994, and further tax cuts, equivalent to around 2 per cent of annual consumer spending, which are to be implemented in 1995 and 1996.

In the first quarter of 1995 production is expected to increase in a number of industries. Strong demand both in Japan and overseas is expected to induce expansion in the production of electrical machinery. As domestic demand recovers, production of automobiles, pulp and paper products and chemicals is also expected to rise.

Aggregate business investment of major firms for fiscal year 1995 is projected at nearly the same level as fiscal year 1994 for both the manufacturing and non-manufacturing sectors. However, the aggregated planned investment by small firms seems likely to decline in 1995. The excess of capacity apparent in several key sectors and the intention of some Japanese manufacturers to continue to shift production facilities overseas will prevent plant and equipment investment from rising. The profits of manufacturing firms are expected to increase by 20 per cent during 1995 as a result of increased domestic demand. The profits of non-manufacturing firms are also expected to increase in 1995, for the first time in five years.

Imports will continue to outpace exports. Figures suggest that the strength of the yen has affected the growth of export volume only marginally, but it has clearly stimulated import growth. It is expected that imports will surge as a result of the continued shifting of Japan's production facilities overseas and a tie-up between Japanese retailers and overseas manufacturers. As the current account surplus declines, outflows of capital increase and the interest rate differential widens between Japan and the United States, the appreciation of the yen is likely to cease by the end of 1995. However, by mid-1996 when Japan is likely to enjoy high growth and low inflation, the yen is expected to appreciate again *vis-à-vis* the dollar by mid-1996.

***Notes***

[1]Organisation for Economic Co-operation and Development, *Economic Outlook*, December 1994, p. 57.

[2]United Nations Industrial Development Organization, *Industry and Development: Global Report 1993/94* (Sales No. E.93.III.E.4), pp. 34-35.

[3]*The Economist*, 8 April 1995, p. 67.

# Western Europe

Recession in western Europe started later than in other OECD countries. The crisis, however, culminated in 1993. While recovery was initially rather weak, the full effects of the recession were felt only later. In 1994 economic recovery spread throughout the region, and growth was higher than expected. In the same year inflation was low, and even though the rate of unemployment was high, it started declining in many countries. Exports provided a driving force to this cyclical recovery, and foreign demand boosted industrial production, which accelerated markedly in the second quarter of 1994. While there was sustained activity in intermediate and investment goods, the consumer goods sector remained rather sluggish.

Several uncertainties exist with regard to the future pattern of growth, including structural changes in the labour market, the persistence of the current low rates of inflation and developments in the Economic and Monetary Union. However, short-term prospects seem to be fairly optimistic.

## Economy

After experiencing one of the most severe post-war recessions, many countries in western Europe only recently entered a period of sustained economic recovery, achieving a pace that was stronger than forecast. In 1994 the GDP growth rate for the region was estimated at 2.8 per cent, and the same growth rate is expected for 1995 (see table 21). Inflationary pressures were low in many countries, and are expected to remain low in 1995.

Although sustained recovery coupled with limited inflationary pressures is a feature common to many countries in western Europe, the growth rates of the individual countries vary substantially. In 1994 among the largest countries, the United Kingdom performed well, with a growth rate of 3.9 per cent, followed by the western part of Germany* with 2.5 per cent and by Italy and France with 2.2 and 2.1 per cent, respectively. For the smaller countries, the aggregate GDP growth rate was estimated at about 3.2 per cent. However, this average conceals very high growth rates for Denmark and Norway.

Economic recovery in western Europe was stimulated largely by exports, and only recently by strong domestic demand. In 1994 exports of goods and services grew at buoyant rates, especially in countries which had devalued their currencies in late 1992. The devaluations not only stimulated exports, especially to Canada, United States, Latin America and South-East Asia, but also spurred trade within western Europe. Given the high degree of economic interdependence in western Europe and the high import content of its exports, the increase in exports fostered intraregional trade within the European Union, and, as in a recursive process, domestic demand and foreign trade have been mutually reinforcing. Investment picked up quite strongly, especially in the United Kingdom and in some of the smaller countries in the region, and is expected to remain relatively buoyant in 1995. On the other hand, private consumption continues to grow at a slow pace.

Although recent output growth in western Europe has been similar to the average for OECD countries, employment growth has been very weak, with employment rates falling over the past 30 years. The recent economic recovery certainly contributed to improving the general situation, but structural reforms are essential to ensure that the employment level rises. According to OECD estimates, unemployment rates in the largest countries in western Europe were still very high, above 9 per cent in 1994.

**Table 21.** Western Europe: selected indicators, 1970-1995
*(Percentage)*

| *Economic indicators* | *1970-1980* | *1980-1990* | *1990-1993* | *1994[a]* | *1995[b]* |
|---|---|---|---|---|---|
| GDP growth rate | 3.0 | 2.3 | 0.4 | 2.8 | 2.8 |
| MVA growth rate | 2.6 | 1.5 | -1.7 | 4.6 | 2.9 |
| MVA share of GDP | 25.5 | 23.7 | 23.0 | 22.6 | 22.7 |
| Labour productivity growth rate | 2.6 | 2.8 | 0.2 | 3.7 | 2.6 |

*Note:* For sources and other notes, see technical notes.
[a] Estimated.
[b] Projected.

## Industry

A major driving force in the cyclical recovery of western Europe has been the upturn in industrial production, which started to accelerate in the second quarter of 1994. The region's MVA growth is estimated to have risen by 4.6 per cent in 1994, which compares with a GDP growth rate of 2.8 per cent for the same year.

The aggregate figure conceals differences at the country level (see table 22 and figure 6). MVA in the

* It should be noted that the eastern part of Germany recorded an impressive growth—GDP growth rate of 9 per cent.

largest countries in the region grew at sustained rates, in the range of 4 per cent in the United Kingdom and western part of Germany, but growth was more limited in France and Italy with 3.2 and 2.3 per cent, respectively. For the smaller economies, such as Denmark, Finland, Ireland and Sweden, buoyant rates of above 10 per cent were registered.

The initial impulse of the upturn in industrial output stemmed from a strong export demand. Later, in order to meet increased domestic demand, production for intermediate and investment goods was stepped up. In contrast, the demand for consumer goods remained sluggish. A breakdown by industrial sector shows that the fastest-growing industries in 1994

**Table 22.** Western Europe: MVA growth rates and shares by country and ISIC sector, 1970-1995
*(Percentage)*

| Country and ISIC sector | Average annual growth rates | | | Annual growth rates | | Share in total MVA |
|---|---|---|---|---|---|---|
| | 1970-1980 | 1980-1990 | 1990-1993 | 1994[a] | 1995[b] | 1994 |
| | *A. Country breakdown* | | | | | |
| *Western Europe* | | | | | | |
| Austria | 3.6 | 2.4 | -0.1 | 2.4 | 0.8 | 2.5 |
| Belgium | 3.5 | 3.1 | -3.4 | 2.7 | 3.6 | 2.4 |
| Denmark | 3.0 | 1.2 | -1.0 | 10.2 | 3.3 | 1.3 |
| Finland | 4.1 | 2.9 | -1.2 | 11.4 | 7.0 | 1.8 |
| France | 3.5 | 1.0 | -2.0 | 3.2 | 2.6 | 14.7 |
| Germany, eastern part | 5.8 | 0.8 | -6.7 | 10.5 | 10.7 | 4.2 |
| Germany, western part | 1.9 | 1.3 | -2.3 | 3.7 | 2.3 | 26.4 |
| Greece | 6.1 | 0.2 | -2.0 | 3.5 | — | 0.6 |
| Ireland | 6.3 | 4.5 | 4.0 | 10.4 | 5.9 | 0.9 |
| Israel | 5.0 | 2.9 | 7.5 | 7.9 | 4.4 | 0.7 |
| Italy | 5.7 | 2.5 | -1.1 | 2.3 | 3.5 | 14.5 |
| Netherlands | 3.2 | 1.8 | -0.2 | 3.8 | 1.5 | 3.3 |
| Norway | 1.4 | 0.3 | 0.5 | 6.7 | 2.3 | 0.9 |
| Portugal | 5.2 | 2.3 | -2.2 | -0.5 | -0.3 | 0.9 |
| Spain | 2.5 | 3.0 | -2.3 | 8.2 | 2.4 | 6.6 |
| Sweden | 1.2 | 1.8 | -1.2 | 11.1 | 2.8 | 2.9 |
| Switzerland | 0.5 | 1.2 | -0.1 | 8.0 | 3.2 | 3.6 |
| United Kingdom | -0.2 | 0.6 | -0.8 | 4.2 | 1.6 | 11.6 |
| | *B. Industry breakdown* | | | | | |
| 311 Food | 2.8 | 0.4 | 0.8 | 4.2 | 2.2 | 9.2 |
| 313 Beverages | 0.5 | 0.6 | 0.4 | 4.0 | 2.2 | 2.5 |
| 314 Tobacco manufactures | -0.6 | 1.6 | 0.4 | 1.6 | 0.9 | 1.5 |
| 321 Textiles | -0.6 | -1.4 | -4.9 | 1.8 | 1.5 | 3.0 |
| 322 Wearing apparel | 0.5 | -2.1 | -2.5 | 1.7 | 1.0 | 1.7 |
| 323 Leather and fur products | -0.1 | -2.1 | -4.3 | 0.8 | 1.2 | 0.3 |
| 324 Footwear, excluding rubber or plastic | 2.4 | -3.7 | -1.7 | 1.4 | 0.3 | 0.5 |
| 331 Wood and cork products | 2.0 | -0.7 | -4.2 | 3.9 | 2.0 | 1.6 |
| 332 Furniture and fixtures | 3.7 | -0.4 | -0.1 | 3.0 | 1.7 | 1.8 |
| 341 Paper and paper products | 1.3 | 2.1 | -3.4 | 3.8 | 2.4 | 2.9 |
| 342 Printing and publishing | 2.2 | 2.3 | 0.7 | 4.8 | 3.2 | 4.8 |
| 351 Industrial chemicals | 1.8 | 2.3 | -5.4 | 6.2 | 3.8 | 5.7 |
| 352 Other chemical products | 1.4 | 3.8 | 2.1 | 5.9 | 3.5 | 5.6 |
| 353 Petroleum refineries | 3.1 | -0.8 | 0.3 | 3.3 | 2.4 | 3.2 |
| 354 Miscellaneous petroleum and coal products | 1.8 | -2.9 | -0.8 | 2.1 | 1.8 | 0.2 |
| 355 Rubber products | 1.7 | 0.2 | -3.2 | 4.2 | 3.1 | 1.3 |
| 356 Plastic products n.e.c. | 4.8 | 4.9 | — | 8.1 | 5.2 | 3.3 |
| 361 Pottery, china and earthenware | 3.7 | -1.2 | -3.2 | 3.1 | 2.2 | 0.5 |
| 362 Glass and glass products | 2.3 | 0.4 | -2.5 | 3.1 | 1.9 | 1.0 |
| 369 Other non-metallic mineral products | 1.7 | -0.2 | -3.0 | 2.9 | 1.7 | 2.9 |
| 371 Iron and steel | -0.2 | -2.9 | -9.3 | 1.6 | -0.1 | 2.9 |
| 372 Non-ferrous metals | -0.2 | 1.5 | -6.3 | 5.3 | 2.0 | 1.3 |
| 381 Metal products, excluding machinery | 1.7 | 1.8 | -2.7 | 3.1 | 2.4 | 6.7 |
| 382 Non-electrical machinery | 2.0 | 2.3 | -4.4 | 2.6 | 2.1 | 11.7 |
| 383 Electrical machinery | 3.2 | 2.6 | -2.6 | 4.2 | 3.6 | 11.0 |
| 384 Transport equipment | 3.2 | 1.6 | -3.9 | 3.6 | 2.7 | 10.0 |
| 385 Professional and scientific goods | 2.7 | -0.1 | -2.4 | 6.1 | 3.8 | 1.7 |
| 390 Other manufactures | 1.7 | 0.3 | -1.5 | 4.8 | 2.8 | 1.0 |

*Notes:* Estimated total MVA in 1994 was $1,639,351 million.

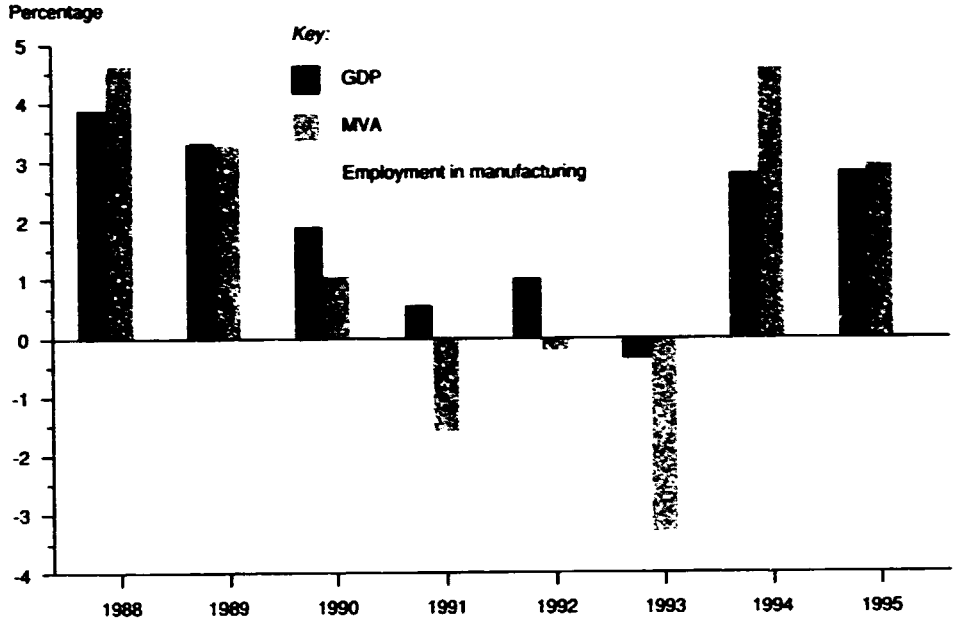
Since the projected share in total MVA for 1994 in Iceland, Luxembourg and Malta is below 0.5 per cent, they have not been included.

For sources and other notes, see technical notes.

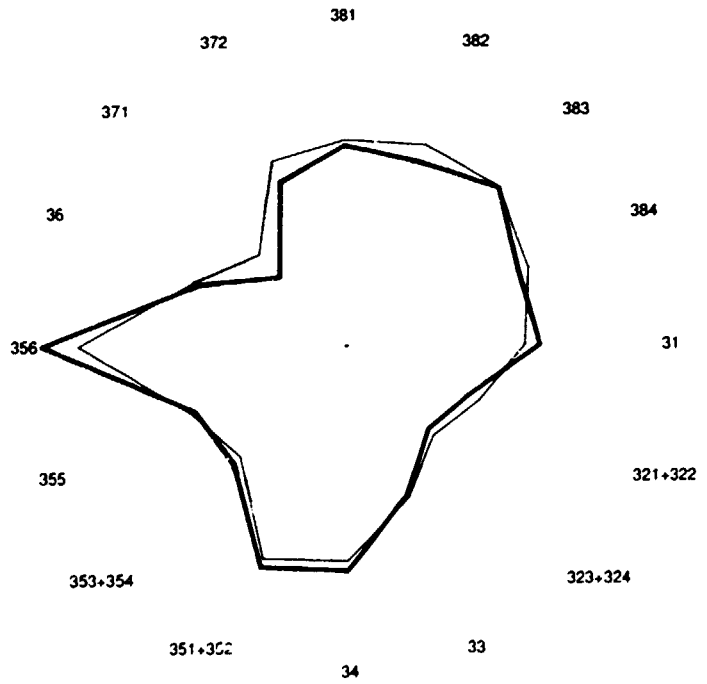
[a] Estimated.

[b] Projected.

**Figure 6.** Growth rates of GDP, MVA and manufacturing employment, 1988–1995, and industrial structural change, 1980–1995: western Europe




Industrial structural change
(Index of value added 1980 = 100)




g = 0.64, $\theta$ = 9.60

*Key:*

Deflated prices of 1990
g = Average annual growth rate, 1980–1995 (percentage)
$\theta$ = Index of structural change, 1980–1995

ISIC code (industries):

| | |
|---|---|
| 31 | (Food products) |
| 321, 322 | (Textiles) |
| 323, 324 | (Leather) |
| 33 | (Wood and furniture) |
| 34 | (Paper and printing) |
| 351, 352 | (Chemicals) |
| 353, 354 | (Petroleum and coal) |
| 355 | (Rubber products) |
| 356 | (Plastic products) |
| 36 | (Non-metal mineral products) |
| 371 | (Iron and steel) |
| 372 | (Non-ferrous metals) |
| 381 | (Metal products) |
| 382 | (Non-electrical machinery) |
| 383 | (Electrical machinery) |
| 384 | (Transport equipment) |

1990–1995 forecast
1985–1990
1980–1985

*Source:* UNIDO database; estimates and forecasts by UNIDO/IRD/RES.

were chemicals and plastic products. For the first two quarters of 1994, these industries suffered from stagnating prices, low capacity utilization and heavy restructuring to shed overcapacity and improve productivity. But since August 1994, due to temporary plant closures in the United States and Asia as well as a build-up in inventories by chemical-buying manufacturers as they recovered from the recession, demand for chemical products started growing at sustained rates, exceeding even supply. Price rises and shortages boosted production and exports spectacularly. In 1995 chemical producers in Europe are likely to enjoy further gains.

However, sustained activity in machinery and equipment contributed substantially to growth. Because of increased demand for investment goods, in 1994 the electrical machinery industry grew by 4.2 per cent, transport equipment by 3.6 per cent and professional and scientific goods by 6.1 per cent. Stimulated by a sharp rise in exports, production in the textiles industry also expanded, and its MVA growth rate was estimated at 1.8 per cent. According to the research body funded by the European Commission to collect data on the textiles industry, in 1995 exports of textiles increased by 16 per cent, in volume terms, while that of clothing increased by 13 per cent.[1] However, the future of the textiles and clothing industry may not be as bright as the figures reveal for 1994. Producers in Europe are facing increasingly strong competition from those in Asia and other developing countries, and only continuing productivity gains will allow western Europe to maintain its market share.

Considerable improvements were made in capacity utilization. The Economic Commission for Europe estimated that the average utilization rate in the manufacturing sector in western Europe was about 81.5 per cent in the summer of 1994, an increase of some 3.5 per cent compared with 1993.

## Industrial development issues

As mentioned earlier, the current recovery in western Europe has been led by exports, the estimated growth of which stood at about 8 per cent in 1994.[2] Given the high import content of exports of the region, imports also increased by some 6 per cent. Within the context of this economic recovery, an important question is whether the factors behind this export growth will lead to structural changes in western Europe.

Because of problems in the implementation of the new system of reporting on trade between member States of the European Union (Intrastat), there is a lack of reliable, up-to-date data on trade flows in the region, which hinders any quantitative analysis of the current composition and direction of trade. However, limited data suggests that exports to developed countries outside the region and intraregional trade have been increasing at significant rates. Moreover, imports from eastern to western Europe, especially to Germany, have also been expanding.

The generally strong export performance of western Europe in 1994 seems to have stemmed from a combination of favourable factors, ranging from a substantial increase in import demand from abroad to improvements in overall competitiveness. Probably the most important factor was the economic recovery in developed countries followed by improved labour productivity, reduced real wages and a depreciation of domestic currencies which occurred in many countries in western Europe.

All these factors point to Germany as the industrial centre of gravity of western Europe. The ongoing discussions about the Economic and Monetary Union system are focused on the role of the deutsche mark within the European Union, while in discussions on the integration process between western and eastern Europe, Germany is seen as the fulcrum of this process.

### The appreciation of the deutsche mark and the European Monetary Union

Unpredictable exchange rate fluctuations have been threatening the European Union since the onset of the crisis in the exchange rate system in the third quarter of 1992. The French franc, the lira, the peseta and the pound sterling have been depreciating steadily against the deutsche mark, reaching record lows. In addition, the dollar has also been losing against the deutsche mark. As a result of the continuing appreciation of the deutsche mark, the prices of German goods have become less competitive as compared with those produced in countries whose currencies have either fluctuated considerably or been devalued. Consequently, domestic manufacturers and retailers have been left with limited room for price manoeuvres.

The Deutsche Bank Research has estimated that if the deutsche mark continues to be traded at close to its current rate of 1.4 deutsche mark to the dollar in 1995, the export growth rate would be 5 per cent in 1995 rather than the 8 per cent that was forecast. It has further been reported that at the beginning of 1995, close to 50 per cent of the companies in Germany were already anticipating negative effects from the fall in the dollar rate in mid-October 1994, which was the lowest rate registered *vis-à-vis* the deutsche mark in two years.[3] Although accurate trade figures are still not available, an examination of the trade structure in Germany may provide some insight into the significance of the potential threat of a strong deutsche mark. About 60 per cent of Germany's visible exports are directed to other countries in Europe, and of these about half are directed to countries that have devalued their currencies. Exports to the United States account for about 7 per cent.

The effects of a strong deutsche mark on industry will, to a large extent, depend on how long the value of the appreciated deutsche mark remains so high. If its current strength is due mainly to temporary uncertainties linked, for example, to the recent financial

crisis in Mexico or to political developments in Europe, then as soon as the international situation becomes clearer, confidence can be restored and the upward pressure on the mark will subside. In that case, a strong deutsche mark *per se* need not trigger a shift of activities abroad to offset losses generated by the appreciation. Western European countries that have devalued their currencies will experience faster export growth rates than Germany, probably prompting internal reorganization of their industrial activities. However, it seems unlikely that a strong deutsche mark will be an independent factor leading to substantial structural change in the industries of western Europe.

If the underlying causes of a strong deutsche mark are more deeply rooted, then its continuing strength could lead to a restructuring of the industrial sector in Germany. Domestic firms will be forced to transfer some or all of their manufacturing activities abroad, as has been done by Japanese enterprises since the mid-1980s. It has in fact been reported that some of the top companies in Germany have already considered transferring part of their manufacturing activities to countries with weaker currencies, including the United States and Asian countries with currencies linked to the dollar.

## Trade liberalization between western and eastern Europe

In 1994 the performance of eastern Europe in foreign trade was marked by a significant expansion of exports and a further weakening of imports with the OECD countries. Among the OECD countries in western Europe, Germany has emerged as the centre of gravity, attracting nearly all economies in transition.

Provisional statistics show that the export growth of the Central European Free Trade Association tends to concentrate on raw materials, selected industrial consumer goods (largely textiles, clothing and footwear), miscellaneous manufactures and, in the case of Hungary and Poland, agricultural and food products. Although, because of the lack of reliable data, it is difficult to generalize about recent changes in the structure of commodity trade between eastern and western Europe, it seems that natural-resource-based industries and selected consumer-goods industries are gaining ground, while traditional heavy industries are declining.

The opening up of markets in eastern Europe is at its nascent stage, hence no clear trade pattern can be drawn. Nevertheless, the economic transformation currently under way in eastern Europe is likely to have a significant impact on the industry of western Europe. Lower labour costs and the relative abundance of unskilled and semi-skilled workers in eastern Europe are indicative of the type of comparative advantage enjoyed by countries of that region *vis-à-vis* western Europe.

A number of studies have been carried out to identify areas of future comparative advantage for economies in transition. The results have been inconclusive, however, mainly because of the distorted relative prices and production structures inherited from the central planning era, thus making the identification of any "revealed" advantage difficult. Nevertheless, more recent empirical studies comparing factor endowments among countries suggest that the economies in transition may well have a comparative advantage *vis-à-vis* the economies of western Europe, especially in industries where unskilled and semi-skilled labour is used more intensively. Such results are consistent with current trade figures.

On the basis of the reasonable assumption that eastern Europe is relatively well endowed with unskilled and semi-skilled labour as compared with western Europe, according to economic theory, western Europe is likely to be affected in three ways. First, liberalization of trade between eastern and western Europe will probably put growing pressure on those industries in western Europe that make intensive use of factors of production that are cheaper and more abundantly available in eastern Europe. Hence, the industries most likely to be affected in western Europe are the labour- and resource-intensive industries. The cost of the adjustment to meet increased competition from eastern Europe will be borne by the factors of production to the extent that they are immobile across industries.

Secondly, the elimination of trade barriers between the two regions will lead to factor price equalization. As such, a decrease in the real wages of blue-collar workers is to be expected. So far, there is no conclusive empirical evidence confirming or denying this conclusion. However, in reality, a wide disparity in resources, barriers to trade and international differences in technology prevent the emergence of factor price equalization.

Thirdly, the abatement of trade barriers will encourage enterprises in western Europe to take full advantage of the gains from so-called outward processing trade (OPT). OPT consists primarily in subcontracting to foreign producers the manufacture of selected goods using local materials and design for re-export to domestic markets. The advantages of subcontracting arise from the fact that manufacturing a product involves several stages of processing which, in turn, include various factors of production in different amounts.* OPT becomes attractive to the extent that firms are able to take advantage of factor price differentials by choosing different locations for the various stages of processing, based on existing comparative advantage. Geographical proximity between eastern and western Europe plays a key role because it facilitates OPT. To date, exports of textiles, clothing and footwear from eastern to western Europe has primarily taken the form of OPT.[1] How-

* One obvious example is provided by the clothing industry, where sewing operations are more labour intensive and less easily mechanized than most other stages of the production process.

ever, in industries such as the chemicals, office machinery, data-processing and electrical products industries, which are considered labour intensive, the benefits from subcontracting abroad could be higher.

The pace at which the restructuring of German industry is taking place may not be as fast as it seems. The strength of the German manufacturing industry (see box 7) is based on producing medium-technology products in a high-technology manner. It has been documented that high nominal wages in Germany have always been associated with high labour productivity, thus making real wages in that country comparable with those of its western competitors. Some resistance can therefore be expected to the relocation of industrial activities as extensively and rapidly as comparative advantage demands.

## Outlook for 1995

Recent forecasts point to a modest acceleration of economic recovery in western Europe, mainly as a result of favourable export growth and minor improvements in domestic demand. But the situation in the labour market will remain sluggish, and only marginal reductions in unemployment rates can be expected in the near future.

The projected growth rates of GDP and MVA in western Europe in 1995 are 2.8 per cent and 2.9 per cent, respectively. Chemicals, plastic products and, in general, machinery and equipment will continue to grow at above-average rates, reflecting the expected positive trend in fixed business investments and exports.

In general, economic policies will leave little room for manoeuvre. Given the sizeable structural fiscal imbalances, Governments will need to be primarily concerned with plans for fiscal consolidation. No major stimulus to growth is likely to be provided through public spending. Moreover, it has been forecast that monetary policy in western Europe will continue to be relaxed. However, this assumption could be incorrect if the current economic recovery in Germany is a strong one. To prevent inflationary pressure, the Government of Germany will be forced to increase short-term interest rates. This will, in turn, force other countries in western Europe to raise their interest rates. However, if contractionary fiscal policies coupled with increasing interest rates are adopted, then the hopes for buoyant economic growth rates could be undermined.

*Notes*

[1]*Financial Times*, 4 May 1995, p. 6.

[2]Economic Commission for Europe, *Economic Bulletin for Europe*, vol. 46.

[3]*Financial Times*, Germany Supplement, 21 November 1994, p. IV.

**Box 7.** Technological versus product specialization

It has been stated that in order for a country, particularly if it is a developed country, to maintain its competitiveness, it must specialize in high-technology industries. Where specialization in high-technology products such as computer chips is lacking, for instance, in Germany, the fault lies with the national system of innovation, and the remedies proposed basically amount to increased subsidies in high-technology sectors. In the past, policies on science and technology, however, produced few quantifiable and positive results.

Industry in Germany has often been described as lacking technological innovation. Germany specializes in industries classified as medium-technology industries on the basis of the shares of their R&D expenditures in total sales. Some 45 per cent of German exports consists of cars, machinery and chemicals, products which are very sensitive to economic developments in the rest of the world. Surprisingly, however, the share of Germany in OECD industrial exports did not decline during the 1980s, despite specialization in the assumed "slow-growth" industries. By contrast, the corresponding share of the United States fell sharply, in spite of the large role played by exports in electronic products.

A more detailed analysis has revealed, first, that the available data on R&D expenditures represent only about one fourth of actual spending on innovation. Other important areas are construction and product design, production organization and process innovation. These areas are especially important in medium-technology industries and in small- to medium-sized firms, both of which contribute significantly to the competitiveness of German exports. Secondly, the patent performance of German industry, as reflected in the number of patents per employee, presents a much more favourable picture of industrial innovation in Germany. Thirdly, a disaggregated analysis of German exports of non-electrical machinery points to the important role played by subsectors in which standardization is difficult to achieve, and where substantial inputs of human capital are required. Hence, on closer examination, German industry is more innovative than it may appear at first sight.

In summary, a pronounced pattern of specialization in technology-intensive activities may be obscured by data on product specialization. What matters is the type of activity actually undertaken, that is, technology specialization as opposed to product specialization. A bigger implication of this finding is that the superficial diagnosis of inadequate industrial innovation in Europe should be viewed with a great deal of skepticism, especially with respect to calls for increased political intervention and subsidies.

*Source:* H. Klodt and R. Mauer, "Determinants of the capacity to innovate: Is Germany losing competitiveness in high-tech industries?", working paper presented at the 1994 Kiel Week Conference, Institut für Weltwirtschaft, Kiel, Germany.

# Eastern Europe and the former USSR

With the upturn in the economic activity of western Europe, an increasing number of eastern European economies* have begun to show signs of recovery. Economic recovery has been clearly taking place in Czech Republic, Hungary, Poland, Slovakia and Slovenia, while in the other eastern European countries, a bottoming out of the recession can be observed. By contrast, most of the member States of the Commonwealth of Independent States (CIS) continue to suffer from a severe contraction of their economic activity. Although the published statistics raise more than one concern about their reliability, there is no doubt that significant differences in performance can be observed between the economies of eastern Europe and those of the CIS. While economic recovery in the more developed countries of central and eastern Europe enabled them to regain from 80 to 90 per cent of their pre-1989 gross domestic product levels in 1994, in most of the CIS economies GDP currently fluctuates between 50 and 60 per cent, or even lower, of pre-1989 levels.

Economic reforms and stabilization policies have been undertaken by Governments with differing degrees of urgency and commitment. Initial results have been mixed. It should be clear that the transition process involves much more than a mere restructuring of the economy. It implies a political and social transformation in which the creation of a democratic society and a market economy are linked together. It will therefore take some time before the region as a whole can successfully reach a phase of sustainable economic development.

## Economy

The macroeconomic performance in the region as a whole has been rather poor, and the immediate prospects are uncertain. In 1994, GDP was estimated to be contracting at an annual rate of –9.3 per cent, which was only a minor improvement as compared with the average annual rate of –10.8 per cent registered from 1990 to 1993 (see table 23 and figure 7). However, economic conditions in the countries in transition in eastern Europe and in the CIS differ widely.

Although the pace and degree of the progress achieved have been uneven, the macroeconomic performance of eastern European countries has markedly improved in terms of growth, inflation and trade balances. In 1994 the five strongest economies of eastern Europe, namely those of Czech Republic, Hungary, Poland, Slovakia and Slovenia, grew by an average 3-5 per cent, compared with a 2-3 per cent average growth rate for western Europe. The short-term prospects for these five economies are also positive. Apart from the war-torn territory of the former Yugoslavia and the former Yugoslav Republic of Macedonia, which is suffering from an economic embargo, signs of a bottoming-out of the recession have been observed in Bulgaria, Croatia and Romania.

In most of the economies in transition in eastern Europe, a strong expansion in exports to developed countries and falling imports have resulted in substantial improvements in trade balances. It has been estimated[1] that for eastern Europe as a whole (excluding Bosnia and Herzegovina and former Yugoslavia, for which trade figures are not available) the value of exports in current dollar terms increased by 4 per cent in the first half of 1994, as compared with the same period in 1993. This surprisingly good export performance resulted mainly from a combination of factors, in particular the recovery of aggregate demand in developed market economies, the fall of unit production costs through better use of production capacities and depreciation of domestic currencies.

Many official and unofficial forecasts correctly anticipated that the economies of eastern Europe would show signs of recovery in 1994 as a reflection of the emerging upswing in aggregate demand in developed countries. However, the recovery was stronger than expected, suggesting that domestic factors may also have played an important role. An acceleration in the growth of personal consumption and a strong expansion of the private sector (in both registered and unregistered activities) seem to have contributed significantly to growth.

Although improvements have undoubtedly been achieved, growing output, lower inflation and better external balance must be seen in perspective. The overall level of output in eastern Europe is still some 20 per cent below pre-transition levels, current

**Table 23.** Eastern Europe and former USSR: selected indicators, 1970-1995

*(Percentage)*

| *Economic indicators* | *1970-1980* | *1980-1990* | *1990-1993* | *1994[a]* | *1995[b]* |
|---|---|---|---|---|---|
| GDP growth rate | 5.4 | 1.7 | –10.8 | –9.3 | –3.3 |
| MVA growth rate | 6.9 | 1.4 | –13.4 | –11.6 | –8.5 |
| MVA share of GDP | 37.7 | 36.8 | 34.9 | 32.7 | 31.0 |
| Labour productivity growth rate | 3.7 | 1.7 | –2.8 | –1.9 | –1.1 |

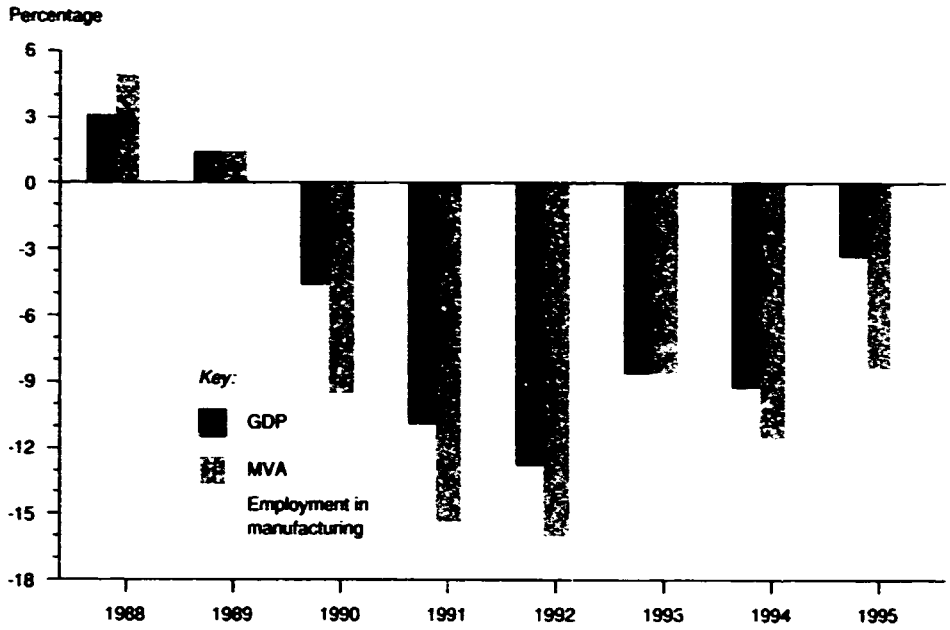
*Note:* For sources and other notes, see technical notes.

[a] Estimated.

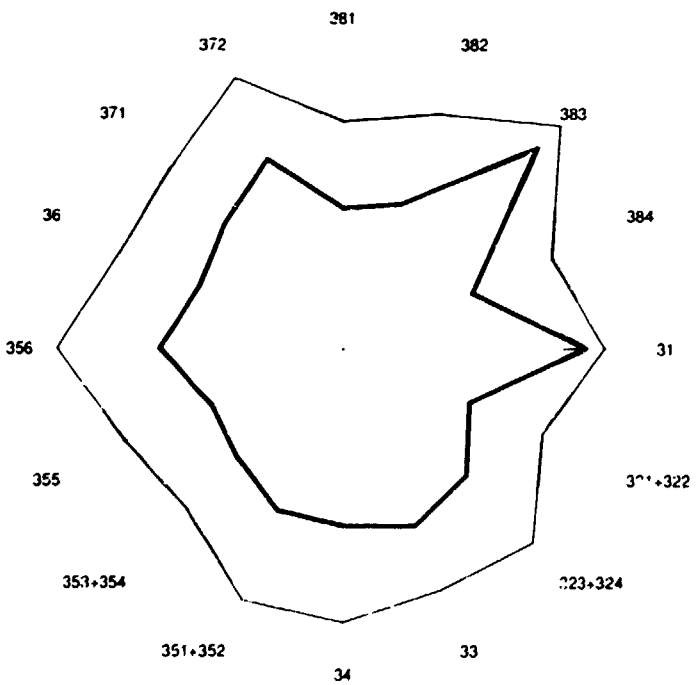
[b] Projected.

* References to the economies of eastern Europe exclude the former USSR.

**Figure 7.** Growth rates of GDP, MVA and manufacturing employment, 1988–1995, and industrial structural change, 1980–1995: eastern Europe and former USSR




Industrial structural change
(Index of value added 1980 = 100)




$g = 1.15$, $\theta = 14.69$

*Source:* UNIDO database; estimates and forecasts by UNIDO/IRD/RES.

*Key:*

Deflated prices of 1990
g = Average annual growth rate, 1980–1995 (percentage)
$\theta$ = Index of structural change, 1980–1995

ISIC code (industries):

| | |
|---|---|
| 31 | (Food products) |
| 321, 322 | (Textiles) |
| 323, 324 | (Leather) |
| 33 | (Wood and furniture) |
| 34 | (Paper and printing) |
| 351, 352 | (Chemicals) |
| 353, 354 | (Petroleum and coal) |
| 355 | (Rubber products) |
| 356 | (Plastic products) |
| 36 | (Non-metal mineral products) |
| 371 | (Iron and steel) |
| 372 | (Non-ferrous metals) |
| 381 | (Metal products) |
| 382 | (Non-electrical machinery) |
| 383 | (Electrical machinery) |
| 384 | (Transport equipment) |

1990–1995 forecast
1985–1990
1980–1985

inflation rates are far above those of developed market economies, and unemployment has reached high levels, in both absolute and relative terms. Moreover, after an initial period of strong expansion, foreign investment inflows have started to flatten, suggesting a more cautious attitude among investors.

By contrast, most of the member States of the CIS are still in deep recession and economic stabilization is far from being secured. The current situation is rather critical. Double-digit reductions in GDP growth were recorded in almost all CIS economies. In 1994 in the Russian Federation, economic activity contracted sharply, with GDP falling by 17 per cent[1] as a result of a combination of factors, including substantial cuts in government subsidies to former priority industries, financial instability, a policy of very high interest rates and wide fluctuations of the exchange rate of the rouble. In the other CIS economies, GDP declined by on average 23 per cent, a reflection of the dramatic collapse of output by between 25 and 30 per cent in the relatively larger economies of Belarus, Kazakhstan and Ukraine.[1] However, the reported figures on output growth primarily reflect the very poor performance of the formal economy. If the thriving "informal" economy were included, the overall decline in GDP would be smaller. It is reckoned that the unrecorded economy is blooming and has reached a considerable size, allowing an increasing number of people to make their living.

In almost all of the countries of the region, social security and welfare have declined. The number of people living below the official poverty line amounted to about 20 per cent of the population (in the best case) in 1994. Income inequality has also risen sharply to levels comparable with those of the United States. However, this is not only the result of a more entrepreneurial spirit in the informal sector, but also relates to the increasing involvement in high-yielding activities at the fringes of legality.

In 1994, exports of the Russian Federation increased much faster than imports, raising its trade surplus to about $8 billion. The expansion of exports was mainly driven by natural-resource-based products. Surprisingly, the CIS economies are also experiencing relatively low one-digit unemployment rates, far below those recorded in western Europe. This can hardly be regarded as a positive factor. It is believed that low unemployment rates mainly reflect the lower level of restructuring that has taken place in the region and very low labour costs which allow companies to keep excess staff.

The economic situation in the CIS economies seems to be rather unstable. Political instability, distorted economic structures and a lack of market traditions have led to a rapid deterioration in the CIS economies, with intra-trade in near collapse and output from the formal economy falling strongly. So far, financial stabilization efforts have not been successful, although as of mid-1995 some modest signs of improvement could be seen. Nevertheless, three-digit annual inflation rates may still persist for some time. The short-term growth prospects for the Baltic economies are significantly better than those of the CIS economies. With single-digit inflation rates, economic decline rapidly losing momentum and economic integration with western Europe (particularly the Nordic countries and Germany) gaining strength, the Baltic economies are expected soon to begin showing signs of a bottoming-out of the recession.

## Industry

Overall industrial output in eastern Europe and the former USSR has continued to fall as a result of a contraction of manufacturing activities in the Russian Federation and other CIS economies. The overall decline is, however, flattening out. Annual MVA growth in the region averaged –13.4 per cent from 1990 to 1993, stood at –11.6 per cent in 1994, and is projected to be –8.5 per cent in 1995.

The wave of industrial decline has swept across almost all branches of industry. In 1994 the decline in industrial output continued to be dramatic in transport equipment, non-electrical machinery and industrial chemicals, industries that represented the backbone of the manufacturing sector under the system of central planning. Among light manufacturing industries, recession affected primarily textiles and leather and fur products (see table 24). However, given the economic predominance of the CIS in the region, these aggregate figures reflect mainly the evolution of the manufacturing sector in the Russian Federation, obscuring the improved performance of the industrial sector in eastern Europe.

The Wiener Institut für Internationale Wirtschaftsvergleiche has estimated that the downward trend in industrial production has already been reversed in several economies of eastern Europe, and the recovery is likely to continue if foreign investment flows, particularly in labour-intensive lines of production, increase. According to estimates by the Institut, after years of negative growth (–16 per cent in 1991 and –3 per cent in 1992), in the five most developed economies of eastern Europe (Czech Republic, Hungary, Poland, Slovakia and Slovenia) industrial production increased by 1.6 per cent in 1993 and by some 8 per cent in 1994. For 1995 and 1996, growth rates of industrial production are expected to average around 5 per cent.

The growth rates of the industrial sector in Poland are estimated to be well above the average. Over the first nine months of 1994, sales of industrial goods increased by 13 per cent (the annual growth rate having been estimated at 12 per cent) with an impressive performance in export-oriented manufacturing. In Hungary, industrial output has been increasing since 1993, reaching a growth rate of about 9 per cent over the first nine months of 1994. In Slovenia, recovery began in the second half of 1993, and strengthened in 1994, with industrial output growing by 7 per cent. In Slovakia, despite political uncertainties and the negative effects of separation from the Czech Republic, there was an upswing in 1994, with

Table 24. Eastern Europe and former USSR: MVA growth rates and shares by country and ISIC sector, 1970-1995
*(Percentage)*

| Country and ISIC sector | | Average annual growth rates | | | Annual growth rates | | Share in total MVA |
|---|---|---|---|---|---|---|---|
| | | 1970-1980 | 1980-1990 | 1990-1993 | 1994[a] | 1995[b] | 1994 |
| | | *A. Country breakdown* | | | | | |
| *Eastern Europe and former USSR* | | | | | | | |
| Bulgaria | | 8.2 | 3.6 | -12.5 | 4.0 | -6.0 | 3.9 |
| Czechoslovakia* | | 5.2 | 1.3 | -13.3 | 2.1 | 3.3 | 8.4 |
| Hungary | | 4.7 | 1.0 | -8.6 | 8.6 | 3.1 | 3.9 |
| Poland | | 7.0 | -2.4 | -0.7 | 6.6 | 6.6 | 18.0 |
| Romania | | 9.8 | -0.4 | -14.8 | -1.5 | -2.9 | 7.6 |
| USSR, former | | 6.9 | 2.6 | -16.6 | -23.0 | -19.5 | 48.9 |
| Yugoslavia** | | 6.3 | 0.3 | -8.4 | -1.8 | -1.0 | 9.2 |
| | | *B. Industry breakdown* | | | | | |
| 311 | Food | 3.2 | 2.9 | -1.6 | 0.4 | 1.4 | 21.5 |
| 313 | Beverages | 5.9 | -3.8 | -8.2 | -2.9 | -2.5 | 2.2 |
| 314 | Tobacco manufactures | 4.2 | 1.4 | -10.2 | -5.1 | -4.6 | 0.8 |
| 321 | Textiles | 4.0 | -0.1 | -12.4 | -9.2 | -7.6 | 6.3 |
| 322 | Wearing apparel | 5.9 | -0.3 | -6.6 | -4.1 | -2.1 | 4.1 |
| 323 | Leather and fur products | 4.1 | 2.5 | -9.9 | -7.8 | -5.2 | 0.7 |
| 324 | Footwear, excluding rubber or plastic | 5.1 | 1.7 | -10.6 | -5.4 | -2.6 | 1.2 |
| 331 | Wood and cork products | 4.5 | 0.6 | -10.7 | -6.8 | -3.9 | 1.4 |
| 332 | Furniture and fixtures | 4.6 | 2.4 | -5.3 | -1.9 | -0.9 | 1.8 |
| 341 | Paper and paper products | 4.2 | 1.9 | -9.9 | -7.2 | -6.0 | 1.3 |
| 342 | Printing and publishing | 3.7 | 2.0 | -10.2 | -3.8 | -3.5 | 0.7 |
| 351 | Industrial chemicals | 6.0 | 1.5 | -10.0 | -8.3 | -6.3 | 4.3 |
| 352 | Other chemical products | 5.7 | 2.7 | -9.0 | -4.6 | -3.9 | 2.2 |
| 353 | Petroleum refineries | 6.6 | -0.7 | -7.8 | -6.3 | -4.3 | 2.7 |
| 354 | Miscellaneous petroleum and coal products | 5.7 | 2.4 | -10.0 | -8.8 | -6.7 | 0.9 |
| 355 | Rubber products | 4.4 | 0.7 | -10.7 | -8.5 | -6.8 | 1.1 |
| 356 | Plastic products n.e.c. | 8.9 | 2.7 | -11.7 | -3.9 | -2.8 | 0.6 |
| 361 | Pottery, china and earthenware | 4.6 | 5.5 | -9.5 | -1.9 | -1.8 | 0.4 |
| 362 | Glass and glass products | 6.1 | 0.2 | -10.3 | -5.4 | -4.9 | 0.7 |
| 369 | Other non-metallic mineral products | 3.5 | 0.8 | -10.2 | -8.6 | -4.0 | 2.9 |
| 371 | Iron and steel | 4.3 | 1.2 | -9.2 | -5.1 | -2.8 | 4.1 |
| 372 | Non-ferrous metals | 4.6 | 2.6 | -8.4 | -6.3 | -3.1 | 2.7 |
| 381 | Metal products, excluding machinery | 8.6 | — | -11.8 | -5.1 | -4.2 | 2.1 |
| 382 | Non-electrical machinery | 7.3 | 1.2 | -10.9 | -7.3 | -5.8 | 12.4 |
| 383 | Electrical machinery | 6.6 | 3.4 | -4.6 | 1.0 | 2.0 | 10.3 |
| 384 | Transport equipment | 6.8 | 0.3 | -10.9 | -7.7 | -5.9 | 6.1 |
| 385 | Professional and scientific goods | 4.9 | 2.8 | -4.0 | 2.2 | 3.0 | 1.6 |
| 390 | Other manufactures | 4.8 | 4.0 | -12.3 | -9.6 | -8.8 | 3.0 |

*Notes:* Estimated total MVA in 1994 was $238,677 million.
Since the projected share in total MVA for 1994 in Albania is below 0.5 per cent, it has not been included.
For sources and other notes, see technical notes.

* Estimates for 1994 and 1995 are combined estimates for the Czech Republic and Slovakia.

** Data for Yugoslavia cover all countries in the territory of the former Yugoslavia.

[a] Estimated.

[b] Projected.

the growth rate in the industrial sector reaching 6 per cent in 1994. Only in the Czech Republic was the growth rate of industrial production, at approximately 2 per cent in 1994, lower than that of GDP.

Positive, although modest, trends in industrial output have been reported for 1994 in the remaining economies of eastern Europe. The State-owned and cooperative enterprises in Bulgaria reported an increase in industrial sales of 2.2 per cent in the first half of 1994, with an estimated 4 per cent rise expected for the year as a whole. Industrial output in Romania grew by approximately 3 per cent in 1994. Prospects for ongoing recovery are, however, uncertain as companies report decreasing orders. In both countries, the restructuring and privatization of enterprises have been delayed because of political stalemate and a weakening of general support for reform policies. The situation in Croatia has obviously been more difficult, with industrial production contracting by more than 6 per cent in the first half of 1994. For the year as a whole, contraction is expected to have amounted to some 3 per cent.

Given the current severe recession, industrial production was estimated to have declined by around 21 per cent in the Russian Federation, and by 25 per cent in Ukraine, with many enterprises idle because of the attempted credit squeeze and a lack of orders.

Data show a significant difference in industrial performance between the economies of eastern Europe and those of the CIS. After an initial phase in which they experienced a remarkable contraction in their industrial activity, in 1994 many economies of

eastern Europe experienced a revival of their manufacturing output, with increases approaching pre-1989 levels. By contrast, in the economies of the CIS, the decline in industrial activity was initially less pronounced in the early 1990s, and subsequently accelerated. These opposing trends can be partially explained in terms of the timing and pace of the reform process. The reform packages were introduced at different times in the economies of the region. While restructuring took place in the early 1990s in most of the economies of central and eastern Europe, laying the basis for the current recovery, in the Russian Federation and other CIS economies the implementation of the reform process was cautiously begun only in 1993.

Although the impact of the ongoing economic reforms on the structure of the manufacturing sector in eastern Europe and the CIS is difficult to assess so soon after their introduction, it is apparent that the scope for private initiative and entrepreneurship has greatly expanded. The private sector, which was virtually non-existent under the old regime, now accounts for a significant part of economic activity, already comparable to that of several economies of western Europe. In the Czech Republic, private firms produce more than 50 per cent of GDP. Even more surprising, some 70 per cent of retail trade and services have been privatized in the Russian Federation, where the private sector produces 58 per cent of official GDP.

## Issues of industrial development

Since the end of the cold war, most of the countries of eastern Europe and the CIS have adopted a range of macroeconomic policies to convert centrally planned economies to market economies. Their experience is generally described as a "shock therapy" or a "big bang", in contrast to the so-called gradualism that is commonly associated with the approach followed in China. Although no country has adhered to one strategy in all its purity, the best representatives of the big-bang strategy are Czech Republic, Estonia, Latvia, Poland and Slovenia. Other countries such as Hungary, Romania and Ukraine have embraced some form of gradualism, while the Russian Federation has adopted a perplexing combination of big-bang rhetoric and gradualism as a result of the unending struggle between its reformers and conservatives.[2]

### The impact of reforms on industrial production and employment

The adoption of a big-bang strategy is commonly believed to have a direct impact on industrial production and employment. Under the system of central planning, the structure of the economies of eastern Europe and the CIS was not market driven, and the importance of certain manufacturing activities was overemphasized. The predominance of the industrial sector over the service sector was also apparent. The transition from a command economy to a market economy would therefore inevitably induce a shift of resources within the manufacturing sector and from the manufacturing to the service sector. A decline in industrial output as well as a rise in unemployment would thus be expected to occur as major consequences of the shock therapy.

#### Marketization and the fall in production

As the reform programmes have begun to take effect, in virtually all the countries of eastern Europe and the CIS industrial production has declined sharply. According to UNIDO estimates, the total MVA of the region contracted by 13.4 per cent per year from 1990 to 1993, compared with an overall contraction of GDP of 10.8 per cent per year during the same period. Consequently, the share of MVA in total GDP declined from 36.8 per cent during the 1980s to 32.7 per cent in 1994.

Although the decline in industrial production is clear, it is difficult to regard it as purely a result of the economic restructuring process. First, the fall in industrial production has to be attributed partly to existing adverse trends within the economy. Secondly, there are major problems of measurement that exaggerate the fall in industrial output. Managers of State-owned enterprises were inclined to overreport production levels before the reforms were introduced and to underreport afterwards. Moreover, the output surveys of statistical offices tend not to register output in the fast-growing non-State sector of the economy, especially in the new service industries which are not recognized as components of national output in the accounting system of centrally planned economies.

The share of industry in GDP is still large in most of the economies of eastern Europe. It has been reported that in Czech Republic, Slovakia and Ukraine the share of industry (including energy) is above 50 per cent; in Belarus, Bulgaria, Romania and Russian Federation it is above 40 per cent. Thus, the economies of eastern Europe and particularly those of the CIS are certainly not "underdeveloped" in the traditional sense, but might be described as overindustrialized in certain areas, such as heavy industry, which was built to nurture the military-industrial complex of the former USSR.

In contrast, industry-related services are still in short supply in most of the region. Services such as marketing, advertising, market research, product design, quality control, inventory control, data processing and legal services, which often determine the success or failure of a company, still play a marginal role. A pilot case-study undertaken by UNIDO between 1991 and 1994 to assist 15 Polish industrial enterprises in restructuring clearly points out the need for such services. The companies investigated were found to lack the necessary skills in risk assessment and project analysis. Outdated methods of overhead cost allocation, inadequate market research and the inability to choose an adequate product mix were some of the major problems identified.

### The rise in unemployment

The direct impact of privatization on industrial employment is expected to be negative. Consistent with this hypothesis, unemployment rates have risen in eastern Europe. At the end of June 1994, about 6 million people were unemployed in eastern Europe, raising the average unemployment rate to 12.6 per cent, which was slightly higher than the rate recorded in the European Union. Unemployment is expected to continue to increase, especially in Hungary, Poland and, to some extent, in Slovenia. However, the official figures do not provide an accurate picture of reality. It is believed that employment in the industrial sector has been steadily declining, while increasing in the informal sector. Hundreds of thousands of people who were no longer needed in firms are now working in shops, in distribution, in retailing, in catering and in financial services.

The hypothesis of a sharp rise in industrial unemployment has not yet been confirmed by empirical evidence in the member States of the CIS. Overall unemployment is lower than expected. According to some statistics and studies, between the end of 1993 and the end of 1994, the number of people unemployed in the Russian Federation increased from approximately 0.8 million to about 1.6 million, which is regarded as a relatively small change. There are, however, signs that unemployment might rise further in the near future. One well-known example pointing in that direction is provided by the case of Uralmach, a major heavy engineering plant. As part of the restructuring programme, unprofitable parts of the factory have been sold, and the workforce have been reduced from 55,000 to 19,000 employees.[3]

Various arguments have been advanced to explain the relatively low unemployment rates recorded in the Russian Federation. Apart from possible measurement errors and unreported data relating to short working hours or unpaid leave, it has been noted that the labour market of the country is very flexible. Unemployment benefits in the Russian Federation are currently low, and social services are often attached to the factory. Hence, employees tend to accept much lower real wages rather than lose their jobs. Other reasons for the low unemployment rates in the economies of the CIS relate to specific economic policies. First, the majority of Russian enterprises have not yet faced hard budget constraints or enforced bankruptcy regulations. Secondly, the relatively high severance payments and the existing "excess wage tax" which become effective if the total salary bill of a firm rises above a set level induce employers to cut labour costs by reclassifying redundant staff as minimum-wage earners rather than dismissing them.

## Enterprise restructuring

One of the biggest challenges facing all countries in the region is to restructure the State-owned enterprises. Although there was no single approach, a common element may be observed. All Governments have recognized the need to enforce financial discipline and a more transparent legal framework. Policy changes have been enacted in several areas, ranging from wage controls, direction of credit, supervision of firms and bankruptcies and liquidation.

With regard the performance of enterprises, some improvements have been achieved in areas such as accounting systems and bankruptcy laws, but the restructuring of State-owned enterprises is still in its initial stages. Enterprises both in eastern Europe as well as in the CIS still face several problems, including those relating to product quality, labour productivity and indebtedness.

One of the biggest problems confronting both eastern Europe and the CIS is enterprise indebtedness. Data on the financial out-turn of enterprises suggest that fixed investment has been financed mostly from retained profits and newly issued equity of enterprises, while the role of bank credit or corporate bond markets has been marginal. This situation is a reflection of the inefficiency of the present system of financial intermediation. On the one hand, few enterprises can finance their new investments by relying solely on their own resources. In principle, small- and medium-scale firms have to rely primarily on bank credits in order to expand, but in practice, high real interest rates (from 8 to 12 per cent in many countries) and continued changes of commercial legislation prevent firms from seeking long-term bank loans. On the other hand, banks are also reluctant to lend money to private firms with an insufficient credit record, and prefer to invest in risk-free government securities or finance large State-owned enterprises that can provide collateral. As a result, most enterprises have been forced to reduce investment in fixed capital. Aggravated by a monetary squeeze and the absence of effective bankruptcy legislation, the situation in the CIS is even more alarming. Payment delays and arrears among enterprises have grown considerably.

Improvements in product quality have been achieved, but they are randomly distributed, and, even when apparent, they are not readily detected by the market. One strategy that could be successfully pursued by a number of transition economies is that of attracting foreign investors with a strong reputation for producing top-quality products. Apart from establishing a "quality culture" among local producers, foreign investors could significantly contribute to improving the image of an economy abroad, speeding up the process of convincing international markets that the existing impression of products of low quality is no longer justified.

Significant improvements in labour productivity have been recorded only in the economies of eastern Europe. They have been obtained primarily through a more efficient utilization of existing capacities, and only secondarily from a reduction in the labour force. In 1994, the average unweighted growth rate in productivity was close to 12 per cent. In Hungary, Poland and Slovenia, the gains in productivity obtained

since 1993 have already more than compensated for the losses incurred between 1989 and 1991. However, improvements in productivity resulting from technology transfer are not expected to materialize in the immediate future, though the prospects are encouraging. The ability to absorb and imitate advanced technologies and to improve existing ones requires time and substantial investment.

## Outlook for 1995

The economic developments recorded in the economies of eastern Europe in 1994, especially those of Czech Republic, Hungary, Poland, Slovenia and Slovakia, give grounds for optimism. In those countries, further consolidation of growth is expected in 1995 and 1996, largely based on growth in the industrial sector. However, there is some fear that the expected recovery in the economy may not be strong enough to reduce unemployment. Unemployment rates are likely to rise further, especially in Bulgaria and Poland. Inflation is not likely to decrease below 10 per cent anywhere, not even in the five strongest economies of the region. In Bulgaria, Croatia and Romania it is expected to remain at double-digit annual rates.

While the five strongest economies are clearly on the right track towards sustainable development, the same cannot be said about most economies of the CIS. In the Russian Federation and Ukraine, economic decline is expected to continue in the foreseeable future, although the rate of decline is likely to flatten out. Inflation is expected to remain high, and investment will continue to stay at the current low levels so long as political stability is not restored. Prospects for most other economies of the CIS are not better than for the Russian Federation. Many of those economies face even greater difficulties than the Russian Federation. In view of its growing economic plight, Belarus has already opted for economic reunification with the Russian Federation. Other member States of the CIS might also follow suit. In general, the political situation in almost all States of the CIS is expected to remain unstable. Prospects for the Baltic States are slightly better.

***Notes***

[1]Economic Commission for Europe, *Economic Bulletin for Europe*, vol. 46 (Geneva, 1994).

[2]Chung H. Lee and Helmut Reisen, eds., *From Reform to Growth: China and other countries in transition in Asia and Central and Eastern Europe* (Organisation for Economic Co-operation and Development, Paris, 1994).

[3]*Financial Times* "Survey of Russia", 10 April 1995, p. ix.

# Latin America and the Caribbean

With the region's history of reforms and relapses, the doldrums of the 1980s have in the 1990s been transformed to sustained economic recovery. The most obvious reason for this achievement has been the implementation of macroeconomic stabilization programmes, which resulted in lower inflation rates and smaller fiscal deficits. The currency reforms introduced in Argentina and Brazil are notable examples of this process. While efforts to promote regional economic integration continue, as seen in the North American Free Trade Agreement (NAFTA) and the Mercado Común del Sur* (Southern Cone Common Market) (Mercosur), and to implement domestic institutional reform, it is questionable as to whether the recovery of the past few years can continue, what factors are likely to influence its course, and how they will affect individual countries in the region.

## Economy

Following a decade of economic adjustment and reforms, since the early 1990s many countries in Latin America and the Caribbean have been experiencing sustained recovery. In 1994, the region achieved a 4.3 per cent GDP growth rate, which compares with the 3.1 per cent average annual growth rate registered from 1990 to 1993. Growth in 1994 largely reflected the significant increase in investments. The continued process of internalization, the advancement of economic reforms and the need to expand and modernize privatized firms created an increasing demand for investment, financed primarily through external resources but, in some cases, through domestic resources. According to the Inter-American Development Bank, preliminary estimates indicate that the growth rate of gross domestic investment in real terms in 1994 was around 5.5 per cent for the region as a whole (see table 25 and figure 8).

The increase in aggregate demand, which spurred a rise in imports, led to the current account deficit in the balance of payments for the third consecutive year. Although improved commodity prices led to increased exports, they were not high enough to offset the rise in imports. However, huge capital inflows not only covered the deficit in the current account, but also allowed for some accumulation of international reserves. Inflation rates continued to decline as a result of strict fiscal and monetary policies and trade liberalization measures.

From the 26 countries in Latin America and the Caribbean, 5 experienced rates of inflation below 5 per cent per annum, among them Argentina, which only four years ago had an annual inflation rate of over 2,000 per cent. Four countries experienced inflation rates of between 5 and 10 per cent and five countries, below 15 per cent. Brazil managed to halve its average annual rate of inflation from 2,000 per cent, but the annual rate of inflation in Ecuador, Peru, Suriname, Uruguay and Venezuela is still above 30 per cent.

Economic recovery seems to be progressing in many countries in the region, with few exceptions, such as Haiti, Suriname and Venezuela, where because of serious political and institutional problems the macroeconomic environment is deteriorating considerably.

With regard to the subregions, Mercosur registered the highest growth rate. Because of the growth in internal consumption and investment, GDP growth rate in Brazil averaged 5.3 per cent in 1994. Favourable prospects for economic recovery coupled with restrictive monetary policies stimulated large inflows of foreign capital and exchange rate appreciation. Moreover, with the introduction in July 1994 of a new Brazilian currency, inflation declined. Argentina continued to grow at a sustained rate of about 6.5 per cent, and although prospects seem encouraging, there is some concern about the low propensity to save. The saving-to-GDP ratio in Argentina is still less than 20 per cent, and hence not large enough to cover domestic fixed investments.

In the Andean subregion* the average growth rate was estimated to be around 2.5 per cent, lower than the regional average. However, large differences exist among countries in the western cone of the region. On the one hand, while countries such as Venezuela have performed poorly due to decreasing

**Table 25.** Latin America and the Caribbean: selected indicators, 1970-1995

*(Percentage)*

| *Economic indicators* | *1970-1980* | *1980-1990* | *1990-1993* | *1994[a]* | *1995[b]* |
|---|---|---|---|---|---|
| GDP growth rate | 5.6 | 1.3 | 3.1 | 4.3 | 2.1 |
| MVA growth rate | 6.2 | -0.1 | 2.4 | 4.8 | 2.4 |
| MVA share of GDP | 26.6 | 23.1 | 22.9 | 22.7 | 22.8 |
| Labour productivity growth rate | 1.1 | -0.4 | 1.7 | 3.1 | 1.8 |

*Note:* For sources and other notes, see technical notes.

[a] Estimated.

[b] Projected.

* Member countries include Argentina, Brazil, Paraguay and Uruguay.

* The Andean subregion consists of Bolivia, Chile, Colombia, Ecuador, Peru and Venezuela.

oil prices and restrictive fiscal policies, on the other hand, countries such as Colombia and Peru have enjoyed above-average growth stimulated by private investment and consumption.

While the Central American economies generally lagged behind the rest of the countries in the region, with the average growth in the region estimated at a mere 1 per cent, the economy of Mexico performed satisfactorily. In 1994 Mexico's GDP growth rate was 3.1 per cent. Private consumption rose moderately due to a recovery in employment levels, but public and private investment increased at around 10 per cent, stimulated mainly by the potential trade gains that NAFTA is expected to bring about. However, one major concern is Mexico's trade deficit, which continues to be financed by foreign capital inflows, thus making the country extremely vulnerable to international factors and fluctuations in interest rates.

The Caribbean economies continued to suffer from low growth (below 1 per cent), high unemployment and decreasing per capita incomes. This could be due to incomplete austerity programmes, uncertainty on access to the markets of Europe and the United States as well as depressed investment levels. Jamaica and Trinidad and Tobago showed a modest growth. The Bahamas and Barbados were both favourably affected by the revival of tourism and associated services.

## Industry

The rise in aggregate demand stimulated the manufacturing activities in larger countries of the region. In 1994 the overall MVA growth rate averaged 4.8 per cent. Much of the growth in manufacturing was achieved through gains in productivity. Because of the appreciation in exchange rates, firms were forced to adopt programmes to improve product quality and reduce costs.

With a few exceptions, the region continued to remain essentially a merchandise assembler and producer of raw materials. The manufacturing sectors that were performing satisfactorily and possessed greater export resonance were those that made intensive use of unskilled labour. The most outstanding example is the transport equipment industry, which, as to date, has been one of the fastest-growing industries. It is also one of the larger employers and exporters in the region. In 1994 MVA growth rate in the transport equipment industry averaged more than 6 per cent (see table 26 and figure 8).

The overall performance of the manufacturing sector in Latin America is determined by the performance of the three largest economies of the region, namely Argentina, Brazil and Mexico. In 1994 these three countries together accounted for more than 70 per cent of Latin America's total MVA, a share that has remained almost unchanged during the past few decades.

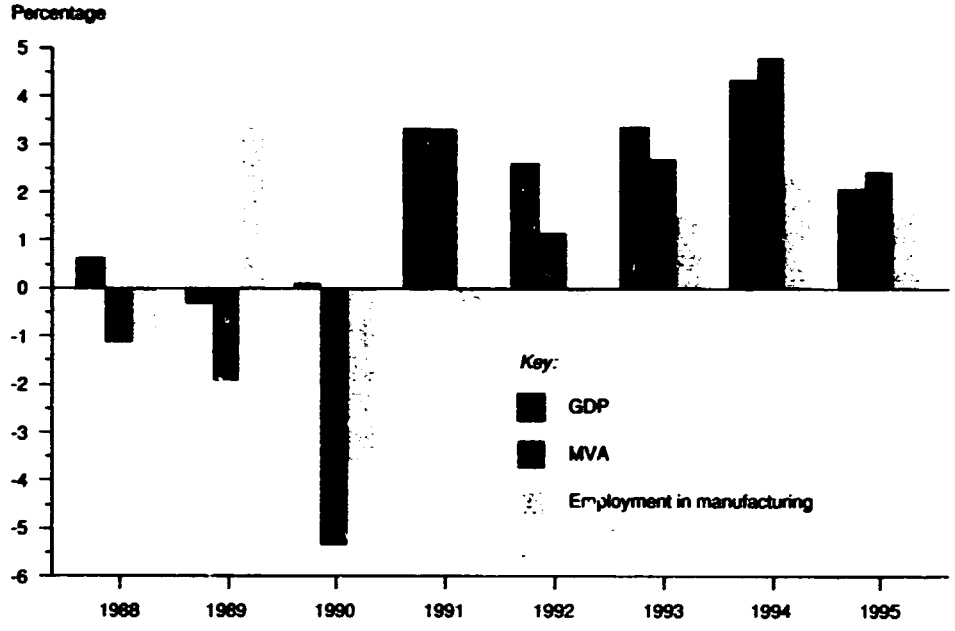
In Mercosur, Brazil's industrial production is growing at a sustained pace. The capital goods sector has overtaken consumer durables as the fastest-growing industry, whereas the semi- and non-durables goods sector is expanding slowly. Apart from transport equipment, the electronics industry is emerging as one of the fast-growing industries in the country. It was estimated that in 1994 computer industry sales, especially personal computers, workstations and software, increased by around 5 per cent compared with 1993. Much of the industrial growth during this period was in the form of enhanced productivity spurred by exchange rate appreciation and rising real wages. For example, the biggest Brazilian steelmaker (CSN), which made a third of its workforce redundant in 1993, recorded profits of $70 million. In 1990, it had suffered losses of $729 million. However, according to a study by the Mckinsey Global Institute, the productivity of Brazil's steel industry is still half that of United States steel producers, who are second only to those of Japan. Another example is provided by Monark, one of the world's biggest bicycle makers. It halved staff numbers and factory space, and started subcontracting when import protection was slashed from 85 per cent to 2 per cent. It also spent $15 million on modernization, thereby increasing production by 45 per cent and reducing the price of its standard bike from $320 dollars to an internationally competitive price of $120 dollars. The potential for progress still exists.

In Argentina, industrial production rose for the fourth successive year in 1994, albeit at a decreasing rate. The MVA growth rate was 7.9 per cent in 1994, compared to the average annual rate of 8.6 per cent from 1990 to 1993. Industrial activity in consumer durable goods slowed down steadily, while that in intermediate goods (aluminium, paper and cellulose, mineral chemicals and textiles) increased in response to favourable world prices and ad hoc trade liberalization measures. The buoyant growth in manufacturing resulted in high capacity utilization, leading to an increase in productivity. Productivity gains are estimated to have grown by 56 per cent since 1989, even though they are still below international levels.

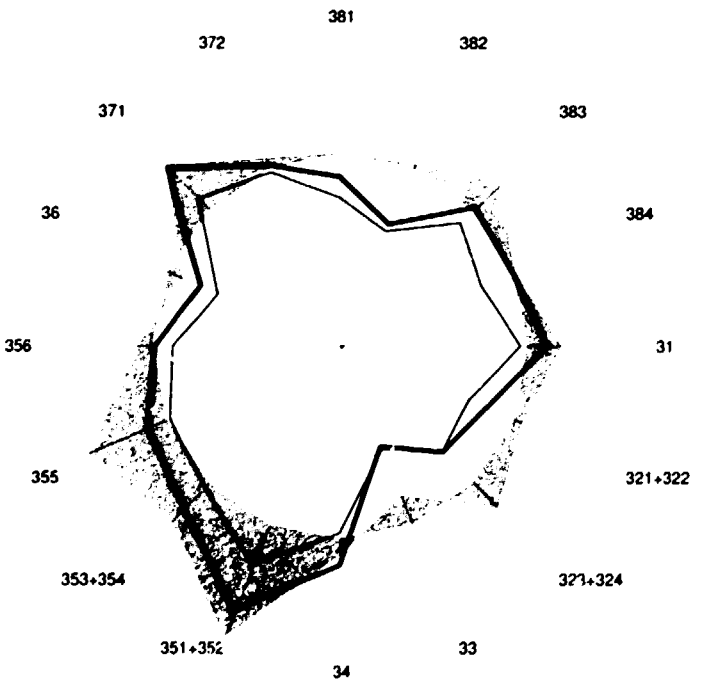
After two years of slow growth, the Mexican manufacturing industry regained momentum in 1994. MVA grew at an estimated rate of 4.1 per cent, but is projected to contract substantially, at –2.6 per cent in 1995. The expected decline in construction is likely to have an adverse effect on other manufacturing branches such as basic metals and non-metallic industries, both of which benefited from the boom in the building trade in 1994. However, the sharp devaluation of the peso could stimulate production in industries such as textiles, clothing and footwear, alcoholic beverages and many paper products which were negatively affected by tariff reductions in 1994.

Despite stagnating local sales, industrial production in Chile expanded, recording an MVA growth rate of 2.4 per cent. Growth in manufacturing was led by exports, which increased by around 14 per cent. The best performer was the food processing industry followed by the machinery and equipment industry.

**Figure 8.** Growth rates of GDP, MVA and manufacturing employment, 1988–1995, and industrial structural change, 1980–1995: Latin America and the Caribbean




Industrial structural change
(Index of value added 1980 = 100)




$g = 0.28$, $\theta = 10.48$

*Source:* UNIDO database; estimates and forecasts by UNIDO/IRD/RES.

*Key:*

Deflated prices of 1990
g = Average annual growth rate, 1980–1995 (percentage)
$\theta$ = Index of structural change, 1980–1995

ISIC code (industries):

| | |
|---|---|
| 31 | (Food products) |
| 321, 322 | (Textiles) |
| 323, 324 | (Leather) |
| 33 | (Wood and furniture) |
| 34 | (Paper and printing) |
| 351, 352 | (Chemicals) |
| 353, 354 | (Petroleum and coal) |
| 355 | (Rubber products) |
| 356 | (Plastic products) |
| 36 | (Non-metal mineral products) |
| 371 | (Iron and steel) |
| 372 | (Non-ferrous metals) |
| 381 | (Metal products) |
| 382 | (Non-electrical machinery) |
| 383 | (Electrical machinery) |
| 384 | (Transport equipment) |

1990–1995 forecast
1985–1990
1980–1985

**Table 26.** Latin America and the Caribbean: MVA growth rates and shares by country and ISIC sector, 1970-1995
*(Percentage)*

| Country and ISIC sector | | Average annual growth rates | | | Annual growth rates | | Share in total MVA |
|---|---|---|---|---|---|---|---|
| | | 1970-1980 | 1980-1990 | 1990-1993 | 1994[a] | 1995[b] | 1994 |
| | | *A. Country breakdown* | | | | | |
| *Latin America and the Caribbean* | | | | | | | |
| Argentina | | 1.6 | -1.4 | 8.6 | 7.9 | 3.9 | 20.0 |
| Brazil | | 10.8 | -1.9 | -0.4 | 3.9 | 4.0 | 29.2 |
| Chile | | 1.1 | 2.4 | 7.0 | 2.4 | 5.5 | 2.6 |
| Colombia | | 6.0 | 2.9 | 3.4 | 5.2 | 4.9 | 3.6 |
| Costa Rica | | 7.4 | 2.2 | 6.4 | 5.2 | 4.8 | 0.5 |
| Cuba | | 2.7 | 4.8 | -10.0 | -7.9 | 1.4 | 1.5 |
| Ecuador | | 9.5 | 0.3 | 3.1 | 1.9 | 1.3 | 0.9 |
| El Salvador | | 3.0 | 0.1 | 6.1 | 7.4 | 6.0 | 0.5 |
| Mexico | | 7.1 | 2.0 | 1.6 | 4.1 | -2.6 | 23.2 |
| Peru | | 3.3 | -2.0 | 2.7 | 17.0 | 5.9 | 5.0 |
| Puerto Rico | | 7.7 | 2.9 | 2.6 | 5.1 | 4.9 | 5.3 |
| Uruguay | | 3.3 | -1.0 | -2.7 | -0.4 | 0.3 | 0.8 |
| Venezuela | | 5.2 | 1.9 | 4.5 | -2.9 | 0.9 | 4.2 |
| | | *B. Industry breakdown* | | | | | |
| 311 | Food | 5.1 | -0.6 | 2.3 | 5.0 | 2.7 | 14.1 |
| 313 | Beverages | 5.5 | -0.1 | 3.3 | 3.8 | 2.6 | 5.0 |
| 314 | Tobacco manufactures | 2.7 | 0.5 | 0.7 | 1.7 | 2.7 | 2.5 |
| 321 | Textiles | 3.8 | -2.9 | 0.6 | 6.2 | 3.6 | 5.3 |
| 322 | Wearing apparel | 5.3 | -3.1 | 1.7 | 5.6 | 4.7 | 2.5 |
| 323 | Leather and fur products | 2.9 | -2.5 | 0.9 | 6.0 | 2.8 | 0.6 |
| 324 | Footwear, excluding rubber or plastic | 3.4 | -2.6 | -2.0 | 0.2 | -0.4 | 1.0 |
| 331 | Wood and cork products | 7.0 | -5.9 | -3.6 | 2.0 | -0.5 | 1.0 |
| 332 | Furniture and fixtures | 6.8 | -4.5 | 0.2 | 3.7 | 0.8 | 0.8 |
| 341 | Paper and paper products | 7.4 | -0.2 | 2.2 | 5.6 | 3.8 | 3.0 |
| 342 | Printing and publishing | 4.9 | -0.3 | 2.1 | 5.6 | 3.5 | 2.7 |
| 351 | Industrial chemicals | 8.5 | 0.8 | 1.5 | 6.6 | 3.7 | 4.9 |
| 352 | Other chemical products | 6.9 | 2.9 | 3.7 | 6.0 | 3.9 | 9.2 |
| 353 | Petroleum refineries | 7.3 | 0.8 | 1.3 | 7.1 | 3.5 | 9.2 |
| 354 | Miscellaneous petroleum and coal products | 14.4 | -4.6 | 1.1 | 6.2 | 2.4 | 0.6 |
| 355 | Rubber products | 4.7 | -0.1 | 1.0 | 6.3 | 2.3 | 1.5 |
| 356 | Plastic products n.e.c. | 10.0 | -1.1 | 0.9 | 4.8 | 2.6 | 2.0 |
| 361 | Pottery, china and earthenware | 1.5 | 2.0 | 3.6 | 6.9 | 4.3 | 0.7 |
| 362 | Glass and glass products | 6.6 | -1.3 | 1.1 | 4.9 | 1.8 | 0.8 |
| 369 | Other non-metallic mineral products | 7.1 | -5.0 | 2.5 | 3.9 | 1.4 | 2.4 |
| 371 | Iron and steel | 8.3 | 0.8 | 2.8 | 7.5 | 3.9 | 5.5 |
| 372 | Non-ferrous metals | 4.2 | -0.3 | -2.4 | 6.9 | 4.5 | 2.3 |
| 381 | Metal products, excluding machinery | 6.7 | -2.5 | 1.6 | 5.2 | 3.0 | 3.8 |
| 382 | Non-electrical machinery | 11.1 | -4.3 | -1.7 | 6.4 | 5.2 | 4.1 |
| 383 | Electrical machinery | 5.4 | -1.0 | 0.6 | 6.3 | 3.2 | 5.0 |
| 384 | Transport equipment | 7.0 | -2.0 | 4.1 | 6.3 | 2.0 | 6.7 |
| 385 | Professional and scientific goods | 11.2 | 2.9 | 4.2 | 8.2 | 7.1 | 1.2 |
| 390 | Other manufactures | 3.0 | 0.7 | 1.0 | 6.3 | 2.6 | 1.5 |

*Notes:* Estimated total MVA in 1994 was US$ 259,153 million.

Since the projected share in total MVA for 1994 in the Dominican Republic, Guatemala and Honduras is below 0.5 per cent, they have not been included.

For sources and other notes, see technical notes.

[a]Estimated.

[b]Projected.

## Industrial development issues

### Economic and financial reforms

As mentioned earlier, since the late 1980s the region has been swept by economic reforms and structural changes, which led to lower inflation rates, greater control over budget deficits and less volatile exchange rates. The first such pillar of Latin American reforms has been the strengthening of public finances on both the expenditure and income sides. Many Governments initiated fiscal reforms to improve their tax-collection systems and change the tax structure, shifting from levying import tariffs to taxing domestic transactions. Governments also proceeded with rationalizing subsidies and social outlays and reducing public employment. Moreover, domestic price controls were either reduced or lifted in most countries,

and business activities were deregulated in a number of sectors. While attempts have been made to create a more flexible labour market, wage indexation, high payroll taxes and high severance entitlements remain a problem in many countries.

The second pillar of the reforms has been the liberalization of markets. Tariff rates, which averaged over 50 per cent in the mid-1980s, were reduced sharply, and licences and other restrictions lifted. As a result of the new provisions set by GATT, a more liberalized world trading system is expected. This will inevitably allow better access by the region to markets of developed countries, especially if the number of internationally traded goods is reduced, as expected. In the 1990s, the region witnessed a renewed interest in regional economic integration. Existing arrangements such as the Andean Pact, the Caribbean Community (CARICOM), and the Central American Common Market have adopted a more outward-looking approach by reducing tariff rates, thus making them more comparable with the rest of the world. This has become especially apparent since the new arrangements, such as NAFTA and within Mercosur (see box 8), have come into force.

The third positive pillar has been the introduction of privatization programmes. A large number of public enterprises and financial institutions have been privatized with the sole intention of improving efficiency and increasing public revenues. In Chile and Mexico almost all the State-owned enterprises have already been sold, and in Mexico, privatization programmes are expected to raise as much as $14.5 billion in 1995. In Argentina, while privatization took place at a very rapid pace, the ability of the regulatory bodies to manage the transition has been poor. Brazil also initiated privatization programmes, but at a slower pace than other countries in the region. Recently, the Government permitted the privatization of the electricity sector, and in the first half of 1995, 10 petrochemical firms are expected to be sold. The total proceeds from Brazil's privatization programmes, between 1991 and 1994, amounted to $9 billion.

It is clear that these reforms are just a first step towards sustainable growth in the region. In order to reduce inequality, the reform agenda in Latin American countries focuses primarily on fiscal decentralization and efficiency in social spending. Varied studies undertaken show that if Latin America is to achieve higher rates of growth comparable with those experienced by East Asian countries, then it would have to initiate a reform package which aims at a more equal distribution of income.[1] A large percentage of the population still live in poverty throughout the region, and Governments need to target their programmes towards social spending and improving the system of education and health care. These would, in turn, increase labour productivity and bring about a change in consumer behaviour, both of which are believed to be conducive to achieving higher growth rates.

## The surge of foreign direct investment

Despite the fact that many reforms are yet to be implemented, together with the steadily improving economic situation, the amount of private capital flows has been increasing at a sustained pace. Between 1990 and 1993 more than $170 billion of net capital flows entered the region. About a third was in the form of foreign direct investment (FDI), while over half was through the issuance of public and private sector bonds. Commercial loans made up a modest 5 per cent. Some of these inflows were in the form of repatriated flight capital going mainly to Mexico and Argentina. This increase in capital flows has been fundamental in stimulating the expansion of domestic demand, and has contributed in a significant way to financing fixed gross investment and the privatization of public companies.

According to the Inter-American Development Bank, foreign capital accumulation from 1978 to 1981 was 57 per cent higher (in constant dollar terms) than that from 1990 to 1993. However, the composition of those foreign funds was substantially different. During the former period, FDI and portfolio investment accounted for only 20 per cent of total foreign capital inflows, but in the latter they constituted close to 80 per cent.

Since the early 1990s Latin America as a whole has emerged as one of the most attractive markets in the world. Facilitated by liberalized legislation relating to authorization and registration procedures, easing of sectoral restrictions, relaxing limits on profit remittances, capital repatriation and technology payments and protection of intellectual property, FDI inflows into Latin America have increased every year since 1988.

Developed countries are still a dominant source of FDI in the region, despite the fact that it is highly concentrated in a few countries. Argentina, Brazil and Mexico have attracted nearly 70 per cent of the region's total inflows over the past few years. In 1990 developed countries accounted for over 90 per cent of the inward FDI stock in six countries, namely Argentina, Brazil, Colombia, Honduras, Mexico and Panama, and over 80 per cent in three others—Bolivia, Dominican Republic and Venezuela. Although the United States is still the largest source of FDI in many countries in Latin America, Western Europe and developing countries, especially those in the region, are gaining in importance. FDI flows from Japan are still meagre, and limited to a few countries such as Brazil and El Salvador.

The liberalization of FDI policies has been a crucial factor in changing the sectoral composition of FDI flows, allowing market forces to operate more freely in accordance with changes in the economic structures of the host countries and to globally integrated strategies of transnational corporations in the region. According to the 1994 UNCTAD *World Investment Directory* for Latin America, a sectoral breakdown shows that since the 1980s the share of

**Box 8. Mercosur**

In March 1991, regional integration in Latin America took an unprecedented step forward with the formation of Mercosur, whose member States comprise Argentina, Brazil, Paraguay and Uruguay.* The common external tariff (CET), levied on all imports into the area from non-Mercosur countries, came into effect in January 1995. Chile and Bolivia are eager to become members, and a tie-up with Peru will provide the link to other Andean pact countries, thereby realizing the possibility of a continent-wide market by the year 2005.

*Objectives.* Mercosur aims at the free movement of goods, capital and labour, and hopes to coordinate macroeconomic policies of member countries.

*Institutions.* Mercosur was established by the Treaty of Asunción in 1991 and was updated by the Protocol of Ouro Preto in December 1995, giving Mercosur legal status and allowing it to negotiate with other countries and regional bodies such as the European Union. The highest decision-making body is the Mercosur Council, comprising the ministers of foreign affairs and of finance of the four member countries. Each country holds the Presidency of the Council for six months, and meets at least once during that period.

Below the Council is the executive, the Mercosur Group, composed of officials of the four member countries and a trade commission to review policy and complaints. There is a parliamentary commission for national legislation. Business and trade unions also have their own forums. There is also a Mercosur secretariat, and an official archive based at Montevideo.

*Specific agreements.* Tariffs in the free trade area have been eliminated altogether for about 90 per cent of trade. The remaining tariffs on all products are scheduled for gradual elimination, starting on 1 January 1999, by Argentina and Brazil, and in the year 2000, by Paraguay and Uruguay. Currently, 221 Argentine, 29 Brazilian, 427 Paraguayan and 950 Uruguayan products are still subject to tariffs. No agreement was possible on sugar (Argentina) and passenger cars (Brazil), which are therefore excluded from Mercosur tariff reductions until year 2000.

The CET at present excludes 15 per cent of Mercosur's 9,000 product categories, because each country wishes to retain their initial higher level of protection for some national products. A further 300 products have been excluded temporarily from the CET. The CET level now ranges from 0 to 20 per cent, with an average tariff of 13 per cent.*

*Issues.* A number of policy and administrative questions are under examination. Chile and, possibly, Bolivia, are likely to join as associate free trade partners during 1995.** A shared energy policy to rationalize existing and potential energy production is also being considered. The linking of electricity grids to transfer surplus capacity is already under way. The potential mutual gains of a regional energy policy are regarded as substantial.

Issues such as poor transport links, a duplication of customs procedures and associated high costs are also being addressed. For example, 60 per cent of the products traded between Argentina and Brazil are transported daily on 700 lorries across a single bridge; customs procedures and documentation costs amount to $200 per vehicle. However, an integrated system is being introduced to replace separate national inspectors. The cost of loading at Brazil's main port of Santos is high—between $25 and $30 a tonne, although the sea journey itself is cheap. The railway gauges between Argentina and Brazil are also incompatible.

Since 1990 trade between the four partners has almost tripled, from $3.6 billion to an estimated $10 billion in 1994. Despite tensions arising from problems of competition and adjustment between Mercosur partners, the rising share of intra-Mercosur trade is an index of long-run mutual economic compatibility and the success of the southern common market.

**Table 27.** Trade patterns for 10 South American countries and Mexico, 1989 and 1993

| | *Exports* | | *Imports* | |
|---|---|---|---|---|
| *Trading area* | *1989* | *1993* | *1989* | *1993* |
| Total, in billion dollars | 101.9 | 123.2 | 71.9 | 136.6 |
| of which | | | | |
| intraregional, per cent | 11.0 | 19.2 | 15.5 | 16.9 |
| intra-Andean, per cent | 4.1 | 9.7 | 5.3 | 9.2 |
| intra-Mercosur, per cent | 8.2 | 18.5 | 15.1 | 19.7 |

*Source:* United Nations (Economic Commission for Latin America and the Caribbean).

* See survey of Mercosur, *Financial Times*, 25 January 1995.

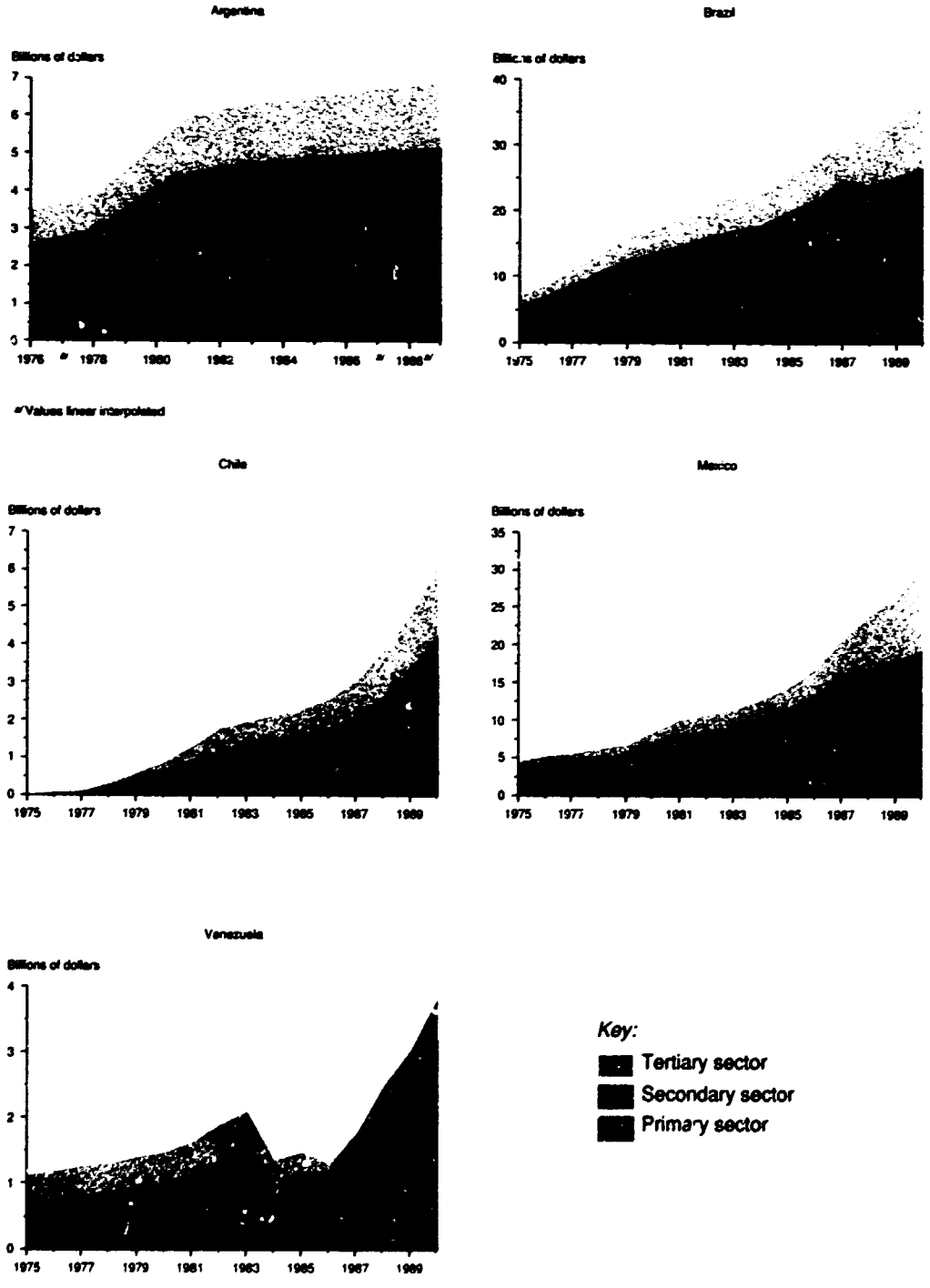
* Products granted exemption are mainly capital goods and telecommunications equipment. Brazil, for example, has a 35 per cent tariff on capital goods, while Argentina has no tariff. A common tariff of 14 per cent will be set in 2001.

** They would not be bound by the CET and Chile would be eligible to join NAFTA.

the industrial sector in inward FDI stock has fallen in all the largest economies of the region, with the sole exception of Venezuela, where an increasing amount of inflows were directed to the petroleum industry during the 1980s (see figure 9). Although decreasing, the share of the industrial sector still represents the bulk of FDI stocks in the largest economies.

As is the case with other regions, the host country's resource endowments, market size and industrial structure has determined the pattern of inward FDI to the industrial sector in Latin America as well (see table 28). In the most industrialized countries in the region, generally the more advanced manufacturing industries, such as motor vehicles, chemicals and mechanical equipment, attracted FDI. This was because of their relatively large domestic markets and availability of skilled labour. In the less industrialized and smaller countries, endowed with abundant natu-

**Figure 9.** Sectoral composition of inward foreign direct investment stocks in selected countries, 1975-1990




*Source:* UNIDO database; estimates and forecasts by UNIDO/IRD/RES.

ral resources and low-cost labour, the labour-intensive and low-technology industries attracted FDI.

The surge of FDI into Latin American countries is generally regarded as a positive and desirable event. Statistical indicators suggest that the foreign affiliates in the industrial sector have had a significant impact on sales, employment and trade, especially in sectors such as motor vehicles, chemicals, mechanical and electrical equipment in Argentina, Brazil and Mexico. However, concern has recently been expressed about the possible negative consequences of accumulating capital account surpluses. The consequences of huge inflows are either an appreciation of the exchange rate, or rising inflation in the case of fixed rates. Either way, the export competitiveness in Latin American countries would be undermined.

More importantly, the upsurge of FDI inflows has an important impact on the economics of borrowing of Latin America. The capital inflows that finance the deficits of developing countries can take several forms which can be clustered in two major groups, namely traditional financing (public and publicly guaranteed obligations) and alternative financing (all forms of finance that are not guaranteed by or mediated through the public sector such as FDI and portfolio investment). Because different types of inflows give rise to different obligations to foreign lenders, the various forms of financing are not interchangeable, and they are believed to have different impacts on industrialization.[2]

First, traditional financing involves mainly the transfer of capital, while alternative financing involves not only the transfer of capital, but also that of technology, know-how and goods. Therefore, alternative financing is viewed as a crucial means of accelerating economic development because of the spillover effects on growth generated by the associated transfers of technology.

An approximate measure of the importance of transnational corporations in this respect is the contribution of direct investments to gross domestic capital formation. Data suggest that, although it is still small, FDI is a growing component of gross domestic capital formation in some countries. According to the World Investment Directory for Latin America, in the ALADI countries* the annual average share of FDI inflows in gross domestic capital formation increased from 3.7 per cent between 1975 and 1979 to 6.7 per cent from 1990 to 1991.

Secondly, the rate of return from projects funded through traditional financing bears almost no relation to the interest or financing used, whereas the reverse is true in the case of alternative financing. Therefore, traditional financing seems to be particularly better suited for financing projects with high economic rates of return, despite the low financial rates of return, as in the case of infrastructural, environmental and educational projects. On the other hand, alternative financing could be more desirable for funding projects that bear high financial rates of return irrespective of their economic rate. Due to the high level of inequality in Latin America, it is evident that FDI inflows are a fundamental, but not sufficient, means of promoting economic development in the region.

Thirdly, in the case of alternative financing, borrowers are able to create different classes of claimholders. This distinction influences the amount that can be borrowed because lenders may not be willing to invest if the yield is not high enough to secure all outstanding claims. It must be noted here that even though the absence of a sharing clause may reduce the direct cost of debt defaulting to the host country,

* The ALADI countries include Argentina, Bolivia, Brazil, Chile, Colombia, Ecuador, Mexico, Paraguay, Peru, Uruguay and Venezuela.

**Table 28.** Composition of inward foreign direct investment stock within selected industrial sectors
*(Percentage)*

| *Country* | *Largest recipient manufacturing industries of FDI stock* | | |
|---|---|---|---|
| Argentina | Motor vehicles | Chemicals | Food, beverages, tobacco |
| 1989 | 20.5 | 17.9 | 13.1 |
| 1976 | 13.2 | 14.6 | 10.6 |
| Brazil | Chemicals | Electrical equipment | Mechanical equipment |
| 1990 | 20.2 | 12.2 | 11.8 |
| 1975 | 20.3 | 11.1 | 9.2 |
| Chile | Chemicals | Food, beverages, tobacco | Mechanical equipment |
| 1990 | 30.2 | 25.1 | 15.4 |
| 1975 | 76.3 | 2.7 | 7.5 |
| Venezuela | Mechanical equipment | Chemicals | Food, beverages, tobacco |
| 1990 | 40.6 | 25.8 | 20.4 |
| 1975 | 25.6 | 27.0 | 25.9 |

*Source:* United Nations Conference on Trade and Development, *World Investment Directory*, vol. IV (Geneva, 1994).

the consequences could be as serious as those generated by the threat to stop traditional lending. In fact, alternative financing claim holders could react by withholding technology and other inputs as well as restricting access to know-how.

Very limited empirical and theoretical work has been conducted on the impact of such financing on industrialization. Therefore, the following questions should be answered: what would be the most appropriate incentive structures and institutional restrictions for the host country; and what are the best financing modes for international firms investing in developing countries.

## Outlook for 1995

There is a general optimism about the future of the economies of Latin America and the Caribbean, especially the larger countries. While the process of reform, macroeconomic stabilization, privatization, trade and financial liberalization is evidently progressing, there is scope for greater action in this direction. According to most observers, the positive outcome of the reforms has been reflected in the 1990s through higher rates of GDP growth, falling inflation and the restoration of inward capital flows. In 1995 the GDP and MVA growth rates in Latin America and the Caribbean are predicted to rise to 2.1 and 2.4 per cent, respectively, in 1995. However, among the larger countries, Argentina and Brazil are expected to grow at a relatively buoyant rate (GDP growth rate of 3.5 per cent). The prospects for Mexico are somehow uncertain in face of the crisis of the Mexican peso, and the GDP growth rate for 1995 is projected at –2.5 per cent.

The outcome of the reform programmes and the widely held claims about the long-term future of Latin American economies deserves greater scrutiny. Although there is agreement about some aspects of the reform package, the consensus is not as strong with regard to the overall package. It should be noted that there are glaring differences between the experience of economic development in the first group of Asian NICs, "the tigers", and the current situation in Latin America. The latter, unlike the Asian NICs, have overvalued exchange rates, and the crisis of the Mexican peso dramatically illustrates the vulnerability of a number of emerging economies in Latin America and elsewhere. The Latin American situation is also characterized by high debt-servicing ratios and increasing levels of foreign investment, much of which is speculative and volatile.

*Notes*

[1]Intra-American Development Bank, *1994 Report*, New York.

[2]S. Claessens, *Alternative forms of external finance: a survey*, World Bank Research Observer, vol. 8, No. 1, 1993, pp. 91-117.

# Tropical Africa

After an initial period of growth which followed independence, most economies of Tropical Africa faltered and then rapidly declined. There are some exceptions, but in general Tropical Africa has witnessed a decade of falling per capita incomes, increasing hunger and rapid ecological degradation. The labour force in sub-Saharan Africa is growing at an annual rate of about 3 per cent. With the current rate of output growth, economies within the region are unable to absorb the growing labour force.

The severe economic crisis imposes the need to reconsider a strategy for the development of Tropical Africa. Many countries are now undertaking structural adjustment programmes whose results are modest in most cases and whose costs are felt to be too high. There is now an increasing recognition among the international community of donors and policy makers that future efforts must be aimed at strengthening cross-sectoral links and synergies between population, agriculture and the environment.

## Economy

Combined GDP growth for Tropical Africa rose from an average annual rate of 1.2 per cent from 1990 to 1993 to a rate of 1.8 per cent in 1994. This partial recovery of GDP growth was mainly due to an improvement in Africa's terms of trade and good agricultural production (see table 29 and figure 10). Nevertheless, the economies of sub-Saharan Africa continue to be characterized by poor production and supply capacities, a high debt-servicing burden, limited human capital formation and technological capabilities, as well as high dependence on primary commodities.

In 1994, the member States of the Economic Community of West African States (ECOWAS) performed better than the other States in the region, owing to improved terms of trade for beverages and minerals. In contrast, the slow-down in economic growth in the Economic Community of Central African States (–0.8 per cent in 1994, according to estimates of the African Development Bank) was mainly due to negative growth rates in Rwanda and Zaire. Economic activity in those two countries was disrupted by political instability.

Even though the combined growth rate of GDP of member States of the Preferential Trade Area for Eastern and Southern African States (PTA) remained positive in 1994, it stood at only 2.4 per cent, as compared with the 3.8 per cent achieved in 1993. There were improvements in both agricultural production and the level of investment. The positive growth rate of GDP for the PTA countries as a whole mainly reflects the development of the economies of Mauritius and Zimbabwe, which are among the most advanced in Tropical Africa. The GDP of Zimbabwe grew by 5.6 per cent in 1994. Inflation over the year surged, however, with consumer prices increasing at an annual rate of 25 per cent, compared with 14 per cent in 1993. The Government has continued its policy reforms, reducing budget deficits in order to curb inflation, and seeking to attract foreign investors. The GDP of Mauritius grew by 7.5 per cent in 1994, primarily as a result of growth in tourism, finance, construction and manufacturing. In contrast, agriculture recorded a decline in output because of bad weather.

**Table 29.** Tropical Africa: selected indicators, 1970-1995

*(Percentage)*

| *Economic indicators* | *1970-1980* | *1980-1990* | *1990-1993* | *1994[a]* | *1995[b]* |
|---|---|---|---|---|---|
| GDP growth rate | 3.0 | 2.3 | 1.2 | 1.8 | 1.9 |
| MVA growth rate | 2.1 | 2.6 | 0.2 | 2.9 | 3.8 |
| MVA share of GDP | 9.6 | 9.9 | 9.8 | 9.7 | 9.9 |
| Labour productivity growth rate | -0.2 | 1.1 | -2.2 | 0.9 | 0.1 |

*Note:* For sources and other notes, see technical notes.

[a]Estimated.

[b]Projected.

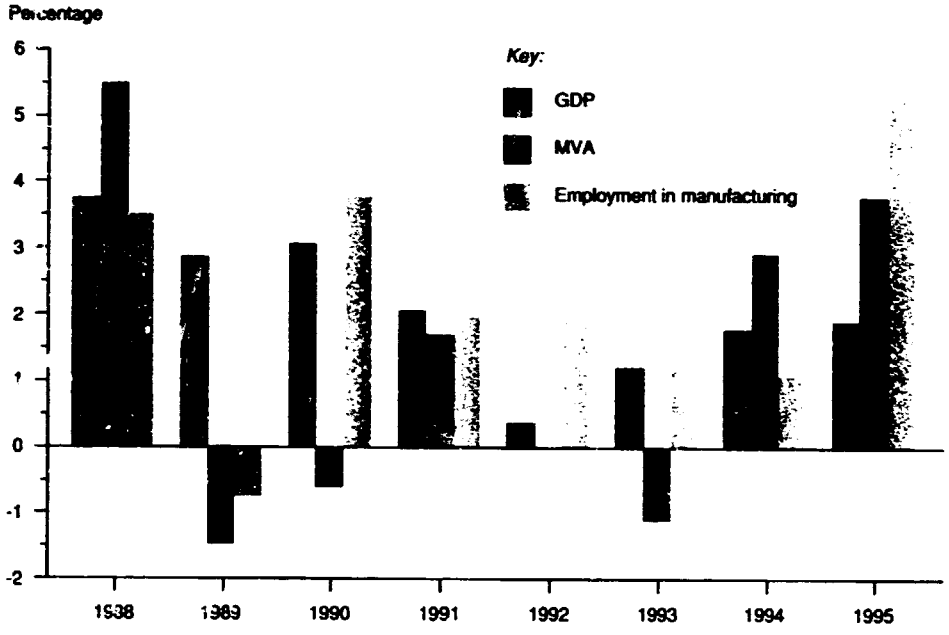
## Industry

The process of industrialization in Tropical Africa is at a standstill. Indicators of manufacturing performance show a lack of meaningful progress in industrial growth and no significant structural change. In the 1980s MVA grew at an average annual rate of 2.6 per cent, and contributed to total GDP by 9.9 per cent. In 1994, the MVA growth rate was 2.9 per cent, and its share of GDP was 9.7 per cent.

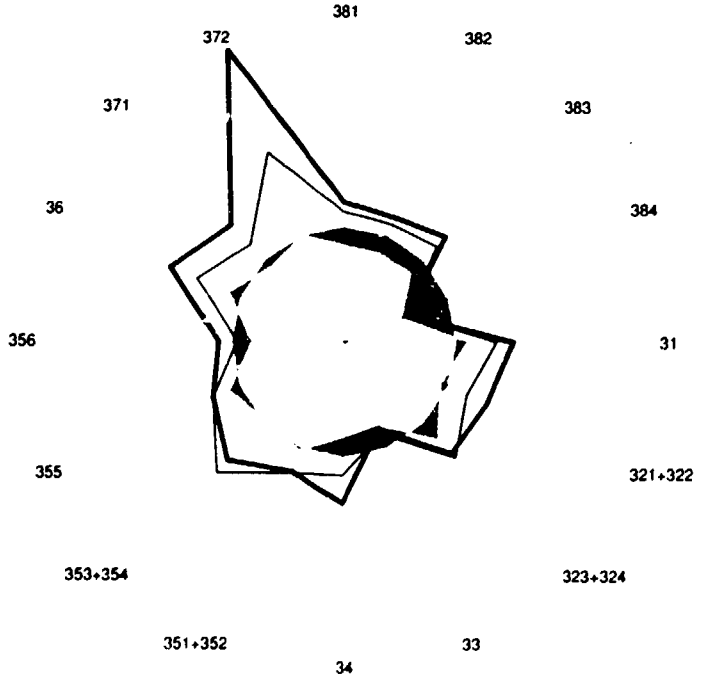
A few countries possess a relatively more diversified manufacturing base, including heavy industries. Elsewhere in the region, agro-industries dominate the manufacturing sector. In 1994, the MVA share of food processing, beverages and tobacco manufactures together accounted for 38.6 per cent of the total for the region. In the same year, textiles accounted for 8.8 per cent, and none of the other branches showed shares above 6 per cent (see table 30).

Manufacturing production in the region continued to suffer from low capacity utilization and insignificant capital investment. MVA growth rates are

**Figure 10.** Growth rates of GDP, MVA and manufacturing employment, 1988–1995, and industrial structural change, 1980–1995: Tropical Africa




Industrial structural change
(Index of value added 1980 = 100)




g = 1.77, $\theta$ = 9.25

*Source:* UNIDO database; estimates and forecasts by UNIDO/IRD/RES.

*Key:*

Deflated prices of 1990
g = Average annual growth rate, 1980–1995 (percentage)
$\theta$ = Index of structural change, 1980–1995

ISIC code (industries):

| | |
|---|---|
| 31 | (Food products) |
| 321, 322 | (Textiles) |
| 323, 324 | (Leather) |
| 33 | (Wood and furniture) |
| 34 | (Paper and printing) |
| 351, 352 | (Chemicals) |
| 353, 354 | (Petroleum and coal) |
| 355 | (Rubber products) |
| 356 | (Plastic products) |
| 36 | (Non-metal mineral products) |
| 371 | (Iron and steel) |
| 372 | (Non-ferrous metals) |
| 381 | (Metal products) |
| 382 | (Non-electrical machinery) |
| 383 | (Electrical machinery) |
| 384 | (Transport equipment) |

1990–1995 forecast
1985–1990
1980–1985

**Table 30.** Tropical Africa: MVA growth rates and shares by country and ISIC sector, 1970-1995

*(Percentage)*

| Country and ISIC sector | Average annual growth rates | | | Annual growth rates | | Share in total MVA |
|---|---|---|---|---|---|---|
| | 1970-1980 | 1980-1990 | 1990-1993 | 1994[a] | 1995[b] | 1994 |
| | *A. Country breakdown* | | | | | |
| *Tropical Africa* | | | | | | |
| Benin | 0.4 | 1.3 | 3.5 | 3.3 | 3.1 | 1.1 |
| Botswana | 9.6 | 8.8 | 6.0 | 11.0 | 18.8 | 1.2 |
| Burkina Faso | 4.0 | 1.1 | 3.1 | 1.7 | 2.3 | 1.8 |
| Burundi | 6.5 | 9.7 | 1.5 | 9.6 | 6.7 | 1.3 |
| Cameroon | 4.5 | 10.0 | -3.3 | -3.7 | -1.9 | 9.4 |
| Central African Republic | -1.9 | 2.8 | 1.7 | 3.1 | 2.7 | 0.6 |
| Congo | 2.2 | 5.0 | -2.3 | -3.1 | -0.7 | 1.2 |
| Côte d'Ivoire | 6.3 | -1.1 | 1.7 | 2.5 | -1.1 | 7.3 |
| Ethiopia and Eritrea | 3.9 | 3.7 | 2.0 | 3.6 | 4.1 | 2.5 |
| Gabon | 10.0 | -1.6 | 0.7 | 11.9 | 5.3 | 4.4 |
| Ghana | -1.8 | 0.7 | -0.5 | 9.6 | 9.6 | 3.8 |
| Kenya | 10.0 | 4.8 | 2.3 | 4.0 | 4.9 | 5.8 |
| Lesotho | 9.7 | 12.2 | 10.3 | 9.8 | 9.7 | 0.6 |
| Madagascar | 1.9 | -1.6 | -2.3 | -2.3 | -0.5 | 1.6 |
| Malawi | 9.4 | 3.7 | -2.6 | 11.1 | 7.3 | 2.0 |
| Mali | 4.0 | 8.6 | 5.4 | 9.2 | 7.5 | 1.6 |
| Mauritius | 6.6 | 9.6 | 7.3 | 9.4 | 7.4 | 4.1 |
| Niger | -2.2 | 6.5 | 2.7 | 3.8 | 3.7 | 1.1 |
| Nigeria | 12.9 | 1.5 | -0.7 | -6.0 | -1.0 | 9.9 |
| Rwanda | 6.1 | 1.4 | 1.6 | -15.0 | 1.8 | 2.0 |
| Senegal | 2.8 | 4.6 | -1.4 | 4.4 | 3.8 | 4.7 |
| Swaziland | 11.4 | 6.2 | 4.6 | 7.0 | 7.6 | 2.0 |
| Uganda | -9.9 | 5.3 | 7.0 | 3.9 | 3.4 | 1.3 |
| United Republic of Tanzania | 3.5 | -1.4 | 4.5 | 5.3 | 6.1 | 0.7 |
| Zambia | 1.5 | 4.1 | 1.1 | 3.4 | 3.9 | 5.7 |
| Zimbabwe | 4.6 | 3.4 | -4.8 | 6.6 | 6.0 | 9.4 |
| | *B. Industry breakdown* | | | | | |
| 311 Food | 4.7 | 3.9 | 0.4 | 2.2 | 2.8 | 20.5 |
| 313 Beverages | 5.4 | 3.5 | 0.4 | 1.1 | 2.8 | 14.0 |
| 314 Tobacco manufactures | 2.5 | 1.1 | 1.1 | 2.7 | 3.2 | 4.1 |
| 321 Textiles | 4.1 | 1.5 | -2.5 | 0.8 | 4.9 | 8.8 |
| 322 Wearing apparel | 2.5 | 5.0 | 3.5 | 7.7 | 8.7 | 3.3 |
| 323 Leather and fur products | 9.5 | 4.1 | -0.8 | -2.4 | 2.4 | 0.7 |
| 324 Footwear, excluding rubber or plastic | 4.7 | 4.3 | -2.3 | 2.5 | 3.2 | 1.4 |
| 331 Wood and cork products | 7.0 | -1.3 | -3.2 | — | 0.8 | 2.5 |
| 332 Furniture and fixtures | 8.7 | -0.2 | -1.0 | 1.1 | 3.2 | 1.4 |
| 341 Paper and paper products | 8.0 | 3.1 | 0.6 | 3.7 | 3.7 | 2.2 |
| 342 Printing and publishing | 6.4 | 1.0 | 0.5 | 4.8 | 4.3 | 2.6 |
| 351 Industrial chemicals | 4.8 | 2.7 | -6.4 | 2.1 | 3.3 | 1.9 |
| 352 Other chemical products | 10.5 | 2.9 | -1.6 | -0.3 | 2.3 | 6.0 |
| 353 Petroleum refineries | 1.0 | 5.0 | -4.9 | 4.3 | 4.5 | 4.5 |
| 354 Miscellaneous petroleum and coal products | 6.9 | 3.2 | -18.7 | 5.9 | 7.2 | 0.2 |
| 355 Rubber products | 2.1 | 3.3 | -1.7 | 3.3 | 3.2 | 1.3 |
| 356 Plastic products n.e.c. | 18.3 | 0.2 | 0.2 | -1.2 | 2.7 | 1.6 |
| 361 Pottery, china and earthenware | 6.5 | 0.4 | 3.4 | 3.0 | 3.7 | 0.1 |
| 362 Glass and glass products | 10.0 | -1.9 | 2.8 | 2.6 | 4.5 | 0.4 |
| 369 Other non-metallic mineral products | 3.9 | 5.4 | 1.3 | 1.5 | 4.0 | 4.2 |
| 371 Iron and steel | 9.8 | 1.7 | -0.3 | 5.6 | 6.5 | 2.2 |
| 372 Non-ferrous metals | 1.6 | 6.5 | 4.3 | 4.3 | 6.3 | 1.9 |
| 381 Metal products, excluding machinery | 6.4 | 1.7 | -0.8 | 3.0 | 4.9 | 5.1 |
| 382 Non-electrical machinery | 8.5 | 1.5 | -4.1 | -1.0 | 1.7 | 1.0 |
| 383 Electrical machinery | 10.2 | 2.0 | -0.8 | 2.5 | 4.0 | 2.1 |
| 384 Transport equipment | 18.8 | -3.6 | -0.2 | -2.4 | 1.4 | 4.9 |
| 385 Professional and scientific goods | 15.5 | 12.1 | -4.9 | 8.1 | 8.9 | 0.1 |
| 390 Other manufactures | 3.9 | 3.2 | -1.8 | 1.9 | 4.6 | 1.2 |

*Notes:* Estimated total MVA in 1994 was US$ 15,453 million.

Since the projected share in totoal MVA for 1994 in Cape Verde, Gambia, Seychelles, Somalia, Togo and Zaire is below 0.5 per cent, data for those countries have not been included.

For sources and other notes, see technical notes.

[a]Estimated.

[b]Projected.

generally below 5 per cent in almost all manufacturing branches. Given the limited size of the industrial sector in absolute terms, such rates are almost negligible.

The policy environment in which manufacturing enterprises operate has substantially improved in recent years with the advent of structural and other reform policies. Public enterprises, which account for most of the manufacturing production in many countries of the region, have been forced to function as commercial businesses, and are now expected to make profits. Many of the regulations which hampered private business have been removed, or are in the process of being removed. Nevertheless, the expected positive effects of the reforms have not so far been perceived.

## Industrial development issues

### Policy reforms

Although there is a general consensus about the pivotal role of industrialization in the long-term process of sustainable development, emphasis in the region has been placed on structural adjustment reforms and agriculture as the engines of growth. The industrial performance and development of Tropical Africa will, however, depend not only on the overall progress of the reforms, but also on the macroeconomic stability of the region.

A significant number of African countries have adopted far-reaching policy reforms. Some 30 countries drew up adjustment programmes during the 1980s, and most of them undertook fundamental policy changes. In a study carried out by the World Bank, it was found that 23 out of 26 countries had adopted adequate monetary policies, 14 countries had done reasonably well in reducing their fiscal deficit, and 19 had made significant adjustments to their exchange rates. By 1990 to 1991, over a half of the countries concerned had introduced fairly good or adequate macroeconomic policies.

There is little doubt that policy reforms have improved the macroeconomic environment in many countries, especially in Ghana, Uganda and Zambia. Inflation had been brought down, though not as easily nor so rapidly as originally expected. External viability, however, is still a distant goal for countries that have undertaken major structural adjustment programmes. Those countries continue to be heavily dependent on foreign assistance. Manufacturing output has been low, and non-traditional exports have grown only marginally. Although the extent of trade liberalization has been impressive, overall growth of non-traditional exports has been insignificant. The lack of success in export diversification may be explained by the fact that many African countries have small industrial production and export bases. African economies suffer from structural rigidity, inadequate human resource development and poor infrastructure. In many African countries manufacturing output did not expand, and in some there are reports of deindustrialization, for example, in Côte d'Ivoire and Zambia.

In addition to trade liberalization, impressive results have also been achieved in the adjustment of foreign exchange rates.* Flexibility in foreign exchange regimes has been introduced in an increasing number of countries, including Sao Tome and Principe, which has a managed floating system, as well as in Kenya, Malawi, Mozambique, Sierra Leone and South Africa, which have adopted an independently floating system. In this connection, the experience of the 14 African member countries of the franc zone should be mentioned. On 12 January 1994, the CFA franc was devaluated by 50 per cent to give fresh impetus to their production activities and to strengthen their industrial competitiveness. Although it is still too early to evaluate the results, the reverberations of the devaluation have been felt differently from country to country and sector to sector.

### Integration of South Africa with Tropical Africa

African organizations and Governments have been placing strong emphasis on regional integration as an important means of accelerating industrialization in the region. The charter of the African Development Bank specifies integration as a prime objective of its activities. The Organization of African Unity and the Economic Commission for Africa focus their activities mainly on promoting economic cooperation and integration among African countries.

There are currently several African integration schemes. These include the Economic Community of West African States, the Preferential Trade Area for Eastern and Southern African States, the Southern African Development Community and the West African Economic Community. The evidence shows that the integration schemes have so far failed to foster intraregional trade, casting doubt on the adequacy of such a strategy for building up the industrial supply capabilities of the region. There are several factors that militate against economic integration in Tropical Africa. Shortage of foreign exchange, inconvertibility and instability of domestic currencies, deficient transport facilities, the absence of harmonized commercial laws, underdeveloped financial systems and a lack of information services are among the major obstacles to intraregional trade.

A new element, however, has recently emerged in discussions of the future of cooperation and integra-

* Many African countries continued to have their exchange rate pegged to one currency. The long-lived franc zone arrangements have survived strong pressures. Fourteen countries continued to peg the CFA franc to the French franc. Lesotho, Namibia and Swaziland also continue to peg their currencies to the South African rand under their common monetary arrangement. Some oil exporters, in particular Angola, Liberia and Nigeria, maintained currencies pegged to the dollar, while the rest are pegged to a composite of currencies.

tion in Africa, namely the impact of the political change in South Africa on economic development in the region. After decades of apartheid, the establishment of a new political regime in South Africa has eliminated the crucial reason for keeping the country isolated from the rest of the world. New opportunities for cooperation between South Africa and other African countries are now emerging.

Traditionally, trade relations between South Africa and Tropical Africa have been rather modest. According to IMF statistics, in 1992 the exports of South Africa to Tropical Africa represented about 5.1 per cent of its total exports, whereas imports from Tropical Africa stood at about 2.4 per cent. Although the lack of reliable data hinders any accurate analysis of the pattern of trade between South Africa and Tropical Africa, some general conclusions can be drawn. Table 31 shows the structure of trade between members of the Southern African Countries Union (SACU) (Botswana, Lesotho, Namibia and Swaziland) and other African countries.

With regard to the composition of trade, South Africa mainly exports intermediate and capital goods to Africa and imports agro-industrial products from the region. In fact, there is a remarkable similarity in the composition of Tropical African import flows from South Africa and the rest of the world, suggesting the possibility for South Africa to replace other developed countries as sources of imports. In 1992, more than a half of South African (including the other SACU countries) exports to other countries in Africa consisted of base metals (17.7 per cent), machinery (15.4 per cent), chemicals (13.7 per cent) and vehicles (9.2 per cent). In the same year, imports from Africa accounted for 23 per cent of prepared food, 17.4 per cent of textiles, 12.1 per cent of mineral products and 9.2 per cent of base metals.

**Table 31.** Trade between SACU and other African countries by category, 1992
*(Percentage)*

| *Item* | *Exports* | *Imports* |
|---|---|---|
| Live animals and products | 3.1 | 2.3 |
| Vegetable products | 6.3 | 9.0 |
| Animal/vegetable oils and fats | 1.4 | 1.6 |
| Prepared food and tobacco | 8.2 | 23.0 |
| Mineral products | 5.5 | 12.1 |
| Chemicals and allied products | 13.7 | 1.8 |
| Resins, plastic and rubber | 5.7 | 3.1 |
| Leather and fur products | 0.1 | 1.5 |
| Wood, cork and plaiting | 0.9 | 6.0 |
| Paper and paperboard | 4.2 | 0.8 |
| Textiles | 3.9 | 17.4 |
| Footgear and headwear | 0.3 | 2.2 |
| Stone, plaster, cement, asbestos, ceramics and glass | 1.8 | 0.5 |
| Precious and semi-precious stones | — | 0.3 |
| Base metals | 17.7 | 9.2 |
| Machinery, appliances | 15.4 | 4.1 |
| Vehicles, transport equipment | 9.2 | 3.0 |
| Professional and scientific equipment | 0.8 | 0.2 |
| Miscellaneous manufactures | 1.7 | 1.3 |
| Works of art | — | — |
| Other unclassified | 0.2 | 0.7 |
| Total | 100.0 | 100.0 |

*Source:* Statistical table presented in Davis, "Emerging South African Perspectives on Regional Cooperation and Integration After Apartheid", Transformation 20 (1992), pp. 75-87.

With regard to the direction of trade, the data reveal that South Africa trades with almost all countries in Africa, but only a few are important by virtue of their proximity or specific commercial agreements, both bilateral or multilateral. Zimbabwe is by far the most important counterpart of South Africa, accounting for about 25 per cent of its total exports to the region and 60 per cent of its total imports from the region. The pattern of trade between the two countries is a typical example of inter-industry trade. South African trade with Zimbabwe mainly consists of exports of chemicals, base metals, machinery and vehicles, whereas it imports mostly prepared food, textiles and base metals. Nevertheless, it is believed that areas of complementarity exist. Riddell[1] reports that trade flows in both directions can be observed in the case of iron and steel, chemicals, pharmaceuticals, electronic products and paper and paper products. However, these complementarities seem to be rather weak.

Mauritius, Mozambique and Zambia are relevant to South Africa only as export markets. In 1992 they accounted for, respectively, 6.5 per cent, 11.3 per cent and 18.5 per cent of total South African exports to Africa. In contrast, the total combined exports from those three countries to South Africa did not exceed 10 per cent. It should be noted that trade data for Mauritius may be misleading. The African Development Bank points out that in some cases, notably that of Mauritius, published export values disguise the fact that a significant proportion of South African imports are re-exported to other countries in the region. Trade between South Africa and Kenya is marginal, not exceeding 3 per cent of total South African trade with Africa.

South Africa has a strong manufacturing sector. Its capacity in technology, finance, infrastructure and managerial skills outweigh that of other countries in Tropical Africa. It is apparent therefore that the current political changes in South Africa pose a number of questions about the future of Tropical Africa, especially for the countries in its southern cone.

## Low FDI flows

Private flows of capital to developing countries, which have been recently growing, are bypassing sub-Saharan Africa, thereby increasing the dependence of the region on official development assistance.

In 1993, global FDI inflows totalled $194 billion, up from $158 billion in 1992, with the proportion to developing countries reaching 41 per cent. However, FDI inflows to North Africa and sub-Saharan Africa declined. The share of Africa in total inflows into

**Box 9.** The manufacturing sector in South Africa

The development of the manufacturing sector in South Africa has long been characterized by a strategy of import substitution, with local manufacturers being sheltered from international competition by high tariffs.

Manufacturing activity occurs across a range of industries. The three largest manufacturing branches are food products, iron and steel and transport equipment, accounting together for almost a third of total gross manufacturing output. Other important activities include the manufacture of industrial and other chemicals, petroleum refining, paper and paper products, fabricated metal products and electrical and non-electrical machinery.

The degree of concentration in both the public and private sectors of the South African economy and its industry is relatively high. A rather small number of firms control production chains in many industries, and they have interests in a wide range of other economic activities as well. Factors accounting for high levels of concentration include, among others, the relatively small size of the South African market, import substitution policies, the large capital investments required in some strategic industries, such as deep mining, previous barriers on investment abroad, access to some key imports which was limited to a few of the larger firms on account of a relatively weak currency, and the existence of government monopolies for regional development. Additional reasons can be found in the progressive disinvestment of international companies during the period of sanctions, and the existence of exchange controls which encouraged surpluses to be invested in acquisitions within the country.

The adoption of an import-substitution strategy, coupled with the establishment of sanctions by the international community, is believed to have exerted a major constraint on innovation. Around 3 per cent of turnover in industry is spent on R and D. Not only is the level low, but it is also unevenly distributed. However, the smaller companies are said to be more open to new technologies, less bureaucratic and more inclined to innovate.

The abolition of apartheid in South Africa has brought great challenges, opportunities and new economic options. At the macroeconomic level, the economy has been in recession. It has experienced persistent inflationary pressures, a balance-of-payments constraint and high unemployment, which has been officially estimated at about 15 per cent in 1990. Initially, recovery will most likely be reflected in increased utilization of idle productive and infrastructural capacity, and only subsequently in factor accumulation. Capacity expansion will mainly depend on physical capital formation, and to a lesser extent on the supply of (skilled) labour.

Economic growth in South Africa is likely to be initially led by both increased domestic demand and exports. Some economists and trade unionists proposed the adoption of a kick-start growth strategy based on mass provision of infrastructure and public works programmes. Such programmes would be derived from the needs of the community and would include housing, community centres, clinics, hospitals, schools, training facilities, roads and electrification. In addition to their growth-stimulating effects, such policies would also have an important redistributive impact. Critics point, however, to the macroeconomic implications of those policies and to supply bottlenecks. Nevertheless, a major stimulus for growth is expected to come from export-oriented production.

*Source:* United Nations Industrial Development Organization, *Industry in Southern Africa: the Impact of Change* (Vienna, 1994).

developing countries declined from 12 per cent during the second half of the 1980s to 6 per cent in the early 1990s. In 1992, FDI flows to Africa amounted to $2.9 billion, a slight increase over the $2.5 billion recorded in 1991, but far below the peak levels of the 1980s. This was despite far-reaching investment liberalization measures undertaken by most African countries. Flows into Africa were concentrated in the oil exporting countries, in particular Angola and Nigeria.

The small size of the domestic market, low rates of economic growth, poor infrastructural facilities, a high level of indebtedness and insufficient technological capabilities continue to hinder the growth of FDI in sub-Saharan Africa. However, the significant variations in the experience of several countries make it wrong to assume that Africa as a whole is an inhospitable location for FDI. There is a need to undertake detailed analyses to determine the specific locational advantages of individual countries in the region that are more attractive for FDI (see table 32).

## Outlook for 1995

In general, the future performance of Tropical African countries in the short term will depend on the dynamics of commodity prices and foreign investment inflows. The reversal of the downward trend in

**Table 32.** Net resource flows into Africa by type, 1986-1992

*(Billions of US dollars)*

| *Type of flow* | *Annual average 1986-1990* | *1991* | *1992* |
|---|---|---|---|
| FDI | 2.6 | 2.5 | 2.9 |
| Portfolio investment | -0.5 | -0.5 | 0.1 |
| Private flows | 1.7 | -2.5 | -2.8 |
| Official loans and grants | 16.8 | 23.3 | 23.0 |
| Total | 20.5 | 22.9 | 23.2 |

*Source:* United Nations Conference on Trade and Development, *World Investment Report, 1994* (United Nations publication, Sales No. E.94.II.A.14).

the prices of primary commodities augurs well for African economic recovery. Mineral producers such as Botswana, Ghana, Zaire and Zambia are bound to experience improvements in their terms of trade. This will help their balance of payments and promote growth. Similarly, coffee and cocoa producers are likely to achieve significant gains. The net impact of the Uruguay Round on Africa is likely to be mixed. There will be gains arising from the expected growth in world trade and losses as a result of increased competition.

While rising commodity prices and a more liberalized world trade system are expected to have a positive impact on the region, recovery will be hampered by structural weaknesses of the African countries, debt overhang, stagnation in external resource flows and continuing civil strife. On the basis of a modified projection for the leading African economies, an optimistic prediction is that the economies of sub-Saharan Africa are likely to grow at an average annual rate of 3.5-5 per cent between 1995 and 2000.

The outlook is most promising in southern Africa, where renewed interest in investment and improved mineral prices are expected to generate significant growth. In West Africa, while the economies of the franc zone are expected to achieve higher growth rates fuelled by rising exports and increased investment, the average growth rate for the subregion as a whole will be influenced by political developments in Nigeria. Although that country has managed to reduce its debt burden slightly, its oil production has been affected by strikes and political unrest. Expected improvements in the prices of beverages will also improve the prospects for coffee and cocoa producers in East Africa (Ethiopia and Uganda) and West Africa (Côte d'Ivoire, Ghana).

***Notes***

[1]R. C. Riddell, *Study of Economic Integration in Southern Africa: the Manufacturing Sector* (London, Overseas Development Institute, 1992).

# North Africa and western Asia

The Arab countries in North Africa and western Asia are going through a period of transition, the outcome of which will have a significant impact on their growth prospects over the next few years. The introduction and implementation of policy reforms, the institutional transformation from State to privately led economies and attempts by the Gulf Cooperation Council (GCC) countries to reduce their dependence on oil resources are expected to reshape the industrial structure of many countries in the region. In addition, the progress of the peace process in the Middle East and responses of both national Governments and the international community to the Islamic movements will play an important role in the economic development of the region, especially since they will contribute to defining the political climate under which policy makers will operate.

## Economy

The economic performance of North Africa and western Asia has been rather modest. In 1994 the growth rate of GDP in western Asia was estimated to be 1.3 per cent, almost one half of the annual average growth rate recorded by the region from 1990 to 1993. However, the GDP growth rate of North Africa in 1994 stabilized at around an estimated annual rate of 2.1 per cent (see table 33 and figures 11 and 12).

For Turkey, which is the second biggest economy in western Asia, 1994 seemed to be a rather difficult year. In response to the decreasing ability to service its international debt and to the rapid devaluation of the Turkish lira, the Government launched a major stabilization programme which included measures such as price increases on Government-controlled commodities, an investment freeze, and longer-term structural measures. As a result, the economy entered a recessionary phase. By the end of the year, debt-service obligations had been met, foreign reserves rebuilt and the annual inflation rate reduced, but output and employment had decreased sharply. In 1994 the GDP growth rate decreased to –5 per cent, compared with growth rates of 5-8 per cent registered in the early 1990s. Nevertheless, full recovery is projected for 1995.

**Table 33.** North Africa and western Asia: selected indicators, 1970-1995

*(Percentage)*

| *Economic indicators* | *1970-1980* | *1980-1990* | *1990-1993* | *1994[a]* | *1995[b]* |
|---|---|---|---|---|---|
| *North Africa* | | | | | |
| GDP growth rate | 6.0 | 2.6 | 2.1 | 2.1 | 1.8 |
| MVA growth rate | 6.1 | 5.6 | 1.1 | 2.9 | 2.7 |
| MVA share of GDP | 9.3 | 12.3 | 12.2 | 12.1 | 12.2 |
| Labour productivity growth rate | 0.5 | 1.6 | -0.3 | -4.6 | -0.6 |
| *Western Asia* | | | | | |
| GDP growth rate | 4.8 | 1.2 | 2.5 | 1.3 | 2.2 |
| MVA growth rate | 8.8 | 5.1 | 7.0 | 2.1 | 3.8 |
| MVA share of GDP | 8.6 | 12.6 | 13.6 | 14.4 | 14.6 |
| Labour productivity growth rate | 0.3 | 2.8 | 6.3 | 1.1 | 0.7 |

*Note:* For sources and other notes, see technical notes.
[a]Estimated.
[b]Projected

The GCC countries, especially Saudi Arabia, have also registered a significant slow-down in their economies over the past few years. This was mainly due to the adoption of contractionary fiscal and monetary policies in Saudi Arabia. Declining oil prices and the reduced purchasing power of the dollar depressed oil revenues significantly, constrained public expenditure, and resulted in the current mounting budget deficits. The economies of Bahrain and Kuwait, however, seem to have been less affected by diminishing oil revenues, and registered growth rates significantly above average. In Bahrain, oil contributes less than one quarter of total GDP, and oil revenues constitute 60 per cent of total government revenues, lower than in the other Persian Gulf countries. In Kuwait, growth was sustained by the repaired refinery and petrochemicals industry.

Although the aggregate GDP figure for North Africa shows a limited but stable economic development in the region as a whole, many differences exist at the country level. The Algerian economy has been afflicted since 1993. Egypt has also been experiencing a slow-down in its economy, which is, in part, due to the slow pace at which economic reforms are progressing. The creation of an investment environment capable of absorbing the annual flood of new labour market entrants in Egypt has proven a complex task of no easy solution. In contrast, Tunisia has been developing at a sustained pace. Reform programmes progressing in the right direction and three seasons of abundant rain and the consequent bountiful harvests helped raise GDP in Tunisia by an average of 5.1 per cent from 1990 to 1993 and by 4.4 per cent in 1994.

## Industry

In 1994 the manufacturing sector in western Asia recorded a poor performance. MVA grew at an annual rate of just 2.7 per cent, far below the average annual rate of 7 per cent experienced from 1990 to

1993. This sharp deceleration of industrial activity in the region was mainly due to the significant decline in manufacturing production in Turkey, and to a general slow-down in oil-related activities in most Arab countries of western Asia (see table 34).

In fact, the harsh stabilization measures adopted by Turkey in early 1994 led to a considerable contraction of manufacturing production, which averaged around –3.7 per cent that year. Industries such as food processing, textiles and transport equipment were close to a standstill. In particular, the automobile industry, which was Turkey's most dynamic industry in the early 1990s, suffered from the recession. Large increases in petrol prices, as part of the stabilization package, the sharp rise in interest rates and the devaluation of the Turkish lira, all contributed to a reduction in sales of automobiles in domestic markets, leaving manufacturers with mounting stocks.

In general, the GCC countries experienced a slowdown in their manufacturing activities. Growth in MVA averaged about 2 per cent in 1994, compared with 2.5 per cent in 1993. These relatively low growth rates mainly reflect the low growth rates in oil-related industries, which account for around 70 per cent of total MVA. In contrast, non-oil private sector activities such as food processing and beverages production were performing relatively well, and are expected to continue to grow. But the construction and related industries, more dependent on public sector spending, are expected to decline.

**Table 34.** Western Asia: MVA growth rates and shares by country and ISIC sector, 1970-1995
*(Percentage)*

| *Country and ISIC sector* | *Average annual growth rates* | | | *Annual growth rates* | | *Share in total MVA* |
|---|---|---|---|---|---|---|
| | *1970-1980* | *1980-1990* | *1990-1993* | *1994[a]* | *1995[b]* | *1994* |
| | *A. Country breakdown* | | | | | |
| *Western Asia* | | | | | | |
| Cyprus | 6.0 | 4.5 | 3.8 | 4.4 | 4.1 | 0.6 |
| Iran (Islamic Republic of) | 11.0 | 5.5 | 9.3 | 4.5 | 3.5 | 59.2 |
| Iraq | 13.4 | -1.9 | -26.1 | -24.2 | -2.3 | 1.2 |
| Kuwait | 8.3 | 3.0 | 23.2 | 12.0 | 12.0 | 3.0 |
| Qatar | 6.5 | 7.5 | 2.6 | 5.1 | 3.6 | 0.7 |
| Saudi Arabia | 6.8 | 5.1 | 4.6 | 2.8 | 5.1 | 5.3 |
| Syrian Arab Republic | 5.9 | 0.7 | 6.7 | 6.3 | 4.6 | 1.2 |
| Turkey | 5.5 | 7.3 | 6.1 | -3.7 | 3.1 | 24.9 |
| United Arab Emirates | 45.9 | 7.8 | 3.3 | 5.2 | 5.0 | 2.0 |
| | *B. Industry breakdown* | | | | | |
| 311 Food | 2.6 | 2.7 | 9.8 | -0.4 | 0.8 | 10.2 |
| 313 Beverages | 4.9 | 5.0 | 2.9 | 2.3 | 3.8 | 2.4 |
| 314 Tobacco manufactures | -5.8 | 1.3 | 5.1 | -2.5 | — | 2.3 |
| 321 Textiles | 5.4 | 3.7 | 2.0 | -1.0 | 0.6 | 11.8 |
| 322 Wearing apparel | 8.5 | 9.9 | -0.3 | -0.9 | 3.0 | 1.6 |
| 323 Leather and fur products | 4.3 | 6.3 | -4.4 | 3.4 | 3.6 | 0.5 |
| 324 Footwear, excluding rubber and plastic | -2.1 | 2.2 | -2.1 | -1.2 | -0.3 | 0.6 |
| 331 Wood and cork products | 5.4 | 4.2 | -2.9 | 2.3 | 3.2 | 0.8 |
| 332 Furniture and fixtures | 7.8 | 0.9 | 4.0 | 0.6 | 2.5 | 0.5 |
| 341 Paper and paper products | 7.3 | 4.7 | 1.5 | -0.5 | 1.2 | 1.5 |
| 342 Printing and publishing | 2.3 | 6.8 | 0.9 | -0.9 | 2.4 | 1.3 |
| 351 Industrial chemicals | 8.8 | 9.3 | 2.5 | 3.0 | 7.1 | 5.4 |
| 352 Other chemical products | 5.7 | 8.3 | -1.8 | 2.2 | 3.0 | 4.2 |
| 353 Petroleum refineries | 16.1 | -2.4 | -7.9 | -2.6 | 2.8 | 6.1 |
| 354 Miscellaneous petroleum and coal products | 24.0 | 9.0 | -4.0 | -3.1 | 3.8 | 0.7 |
| 355 Rubber products | 7.6 | 5.6 | 6.0 | 0.6 | 3.0 | 1.3 |
| 356 Plastic products n.e.c. | 15.4 | 3.4 | 1.0 | 1.5 | 1.8 | 1.6 |
| 361 Pottery, china and earthenware | 8.0 | 8.1 | 3.8 | -5.0 | 3.4 | 0.8 |
| 362 Glass and glass products | 5.5 | 4.3 | 12.4 | -0.2 | 2.5 | 1.4 |
| 369 Other non-metallic mineral products | 6.9 | 2.7 | 4.1 | 2.2 | 3.0 | 7.6 |
| 371 Iron and steel | 7.0 | 10.8 | 3.8 | 1.5 | 2.8 | 7.6 |
| 372 Non-ferrous metals | 12.5 | 18.1 | -3.8 | 2.5 | 3.2 | 2.7 |
| 381 Metal products, excluding machinery | 3.1 | 4.1 | 3.3 | 1.5 | 2.4 | 3.8 |
| 382 Non-electrical machinery | 12.6 | 12.8 | 10.1 | 3.8 | 5.4 | 7.7 |
| 383 Electrical machinery | 5.3 | 4.2 | 1.7 | 1.2 | 4.9 | 3.8 |
| 384 Transport equipment | -0.1 | 7.0 | 33.3 | 6.5 | 7.0 | 11.4 |
| 385 Professional and scientific goods | 10.9 | 6.8 | 16.4 | 1.0 | 2.9 | 0.3 |
| 390 Other manufactures | 8.3 | 7.3 | 6.6 | 4.9 | 5.9 | 0.4 |

*Notes:* Estimated total MVA in 1994 was US$ 109,499 million.

Since the projected share in total MVA for 1994 in Jordan, Yemen, northern part, and Yemen, southern part, is below 0.5 per cent, they have not been included.

For sources and other notes, see technical notes.

[a]Estimated.

[b]Projected.

The most important economy in the subregion, that of Saudi Arabia, registered an MVA growth of only 2.8 per cent in 1994, almost half of that recorded between 1990 to 1993. The manufacturing sector was strongly constrained by the continued reduction in government spending, which led to the cancellation or posponement of projects, as well as a delay in payments to private contractors. Therefore, unlike in the past, when public spending was a major driving force of the economy, the low growth registered by the manufacturing sector resulted mainly from a slight improvement in petrochemical exports (driven by the gradual recovery of the global market) and from an expansion of non-oil private manufacturing activities.

In other Arab countries of western Asia, the manufacturing sector continued to grow at a notable rate, especially in Lebanon and the Syrian Arab Republic. Recovering from a very low level of growth, manufacturing activities in the Syrian Arab Republic showed an impressive growth in both 1993 and 1994. This could be attributed to confidence in the progressing economic reforms and continued high amounts of public investment.

In the Syrian Arab Republic, the textiles and phosphates industries were the two industries that contributed most to the acceleration of manufacturing production. In the case of the textiles industry, the expansion of the sector was fostered by the dynamism of the private sector, while in that of the phosphates industry, expansion was driven by a recovery in exports. New exports markets were discovered in South-East Asia and eastern Europe and new ones are expected to be established in the future. The Govern-

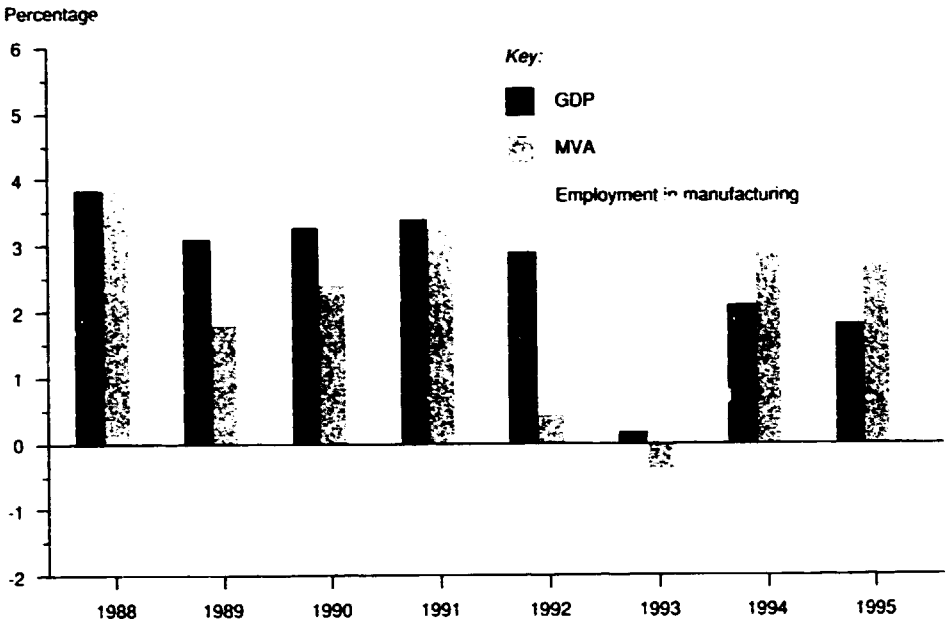
**Table 35.** North Africa: MVA growth rates and shares by country and ISIC sector, 1970-1995
*(Percentage)*

| Country and ISIC sector | | Average annual growth rates | | | Annual growth rates | | Share in total MVA |
|---|---|---|---|---|---|---|---|
| | | 1970-1980 | 1980-1990 | 1990-1993 | 1994[a] | 1995[b] | 1994 |
| | | *A. Country breakdown* | | | | | |
| *North Africa* | | | | | | | |
| Algeria | | 9.1 | 5.7 | -2.7 | 0.5 | -4.2 | 22.5 |
| Egypt | | 4.2 | 10.4 | 0.7 | 1.9 | 3.9 | 24.0 |
| Libyan Arab Jamahiriya | | 13.5 | 9.8 | 7.9 | 9.7 | 9.6 | 12.6 |
| Mauritania | | 3.3 | 6.7 | 8.1 | 6.5 | 6.4 | 0.7 |
| Morocco | | 5.6 | 4.3 | 0.8 | 1.5 | 4.2 | 21.3 |
| Sudan | | 2.4 | -1.7 | 0.9 | 1.6 | -0.6 | 9.2 |
| Tunisia | | 12.3 | 5.9 | 5.3 | 6.9 | 6.3 | 9.7 |
| | | *B. Industry breakdown* | | | | | |
| 311 | Food | 5.4 | 4.2 | 9.4 | -5.7 | -0.8 | 20.3 |
| 313 | Beverages | 1.0 | 7.2 | 9.1 | -4.4 | 1.6 | 5.5 |
| 314 | Tobacco manufactures | 0.7 | 5.4 | 10.7 | -6.3 | -1.3 | 5.1 |
| 321 | Textiles | 3.3 | 1.1 | -4.3 | 1.6 | 2.3 | 9.3 |
| 322 | Wearing apparel | 6.1 | 3.8 | -3.3 | 8.1 | 9.7 | 3.3 |
| 323 | Leather and fur products | 3.0 | 0.9 | -9.2 | 5.5 | 7.5 | 0.5 |
| 324 | Footwear, excluding rubber or plastic | 2.8 | -0.9 | -7.0 | 4.8 | 7.0 | 1.1 |
| 331 | Wood and cork products | 3.9 | 2.0 | -3.1 | -1.6 | 0.2 | 1.1 |
| 332 | Furniture and fixtures | 1.0 | 2.9 | 0.2 | -0.7 | 3.3 | 0.9 |
| 341 | Paper and paper products | 6.6 | 2.5 | -2.5 | 1.4 | 1.5 | 2.1 |
| 342 | Printing and publishing | 5.5 | 0.9 | -0.7 | 1.6 | 2.4 | 1.1 |
| 351 | Industrial chemicals | 10.5 | 6.5 | 5.8 | 2.5 | 4.6 | 4.8 |
| 352 | Other chemical products | 6.2 | 3.1 | -2.8 | 4.1 | 4.6 | 4.6 |
| 353 | Petroleum refineries | 7.2 | 4.0 | 4.5 | 3.7 | 6.7 | 4.8 |
| 354 | Miscellaneous petroleum and coal products | 13.2 | -4.9 | 3.4 | 0.5 | 3.9 | 0.4 |
| 355 | Rubber products | 3.6 | 3.4 | -1.2 | 3.3 | 3.2 | 0.9 |
| 356 | Plastic products n.e.c. | 11.9 | 3.4 | -2.4 | 4.7 | 5.6 | 1.4 |
| 361 | Pottery, china and earthenware | 9.4 | 7.0 | -0.1 | 0.6 | 3.7 | 0.5 |
| 362 | Glass and glass products | 9.4 | 1.2 | -0.2 | -5.2 | 0.7 | 0.5 |
| 369 | Other non-metallic mineral products | 12.1 | 5.2 | 2.7 | 0.9 | 4.9 | 9.5 |
| 371 | Iron and steel | 8.9 | 6.1 | -2.1 | -3.8 | 0.4 | 5.1 |
| 372 | Non-ferrous metals | 19.2 | 11.9 | -4.0 | 1.2 | 3.0 | 2.6 |
| 381 | Metal products, excluding machinery | 3.5 | 5.4 | — | -2.2 | 1.2 | 5.3 |
| 382 | Non-electrical machinery | 7.6 | 4.9 | 2.4 | 0.6 | 0.5 | 1.7 |
| 383 | Electrical machinery | 8.0 | 3.2 | -4.3 | 0.8 | 1.8 | 2.5 |
| 384 | Transport equipment | 5.7 | 4.3 | 2.2 | -2.4 | 4.1 | 3.6 |
| 385 | Professional and scientific goods | 7.2 | 7.6 | -1.4 | -4.4 | -1.6 | 0.5 |
| 390 | Other manufactures | 13.3 | 6.6 | -1.3 | -3.8 | 7.1 | 1.1 |

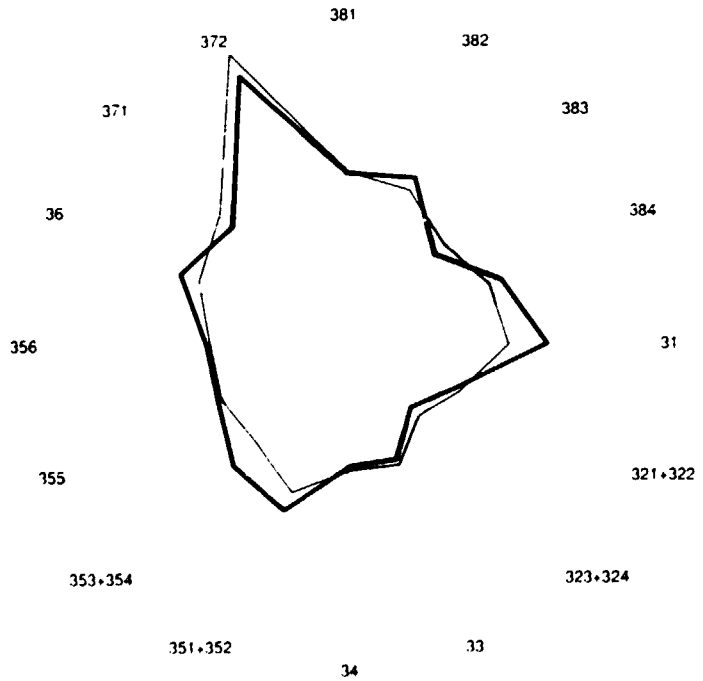
*Notes:* Estimated total MVA in 1994 was US$ 17,293 million.
For sources and other notes, see technical notes.

[a]Estimated.
[b]Projected.

**Figure 11.** Growth rates of GDP, MVA and manufacturing employment, 1988–1995, and industrial structural change, 1980–1995: North Africa




Industrial structural change
(Index of value added 1980 = 100)




g = 3.01, $\theta$ = 12.79

*Key:*

Deflated prices of 1990

g = Average annual growth rate, 1980–1995 (percentage)

$\theta$ = Index of structural change, 1980–1995

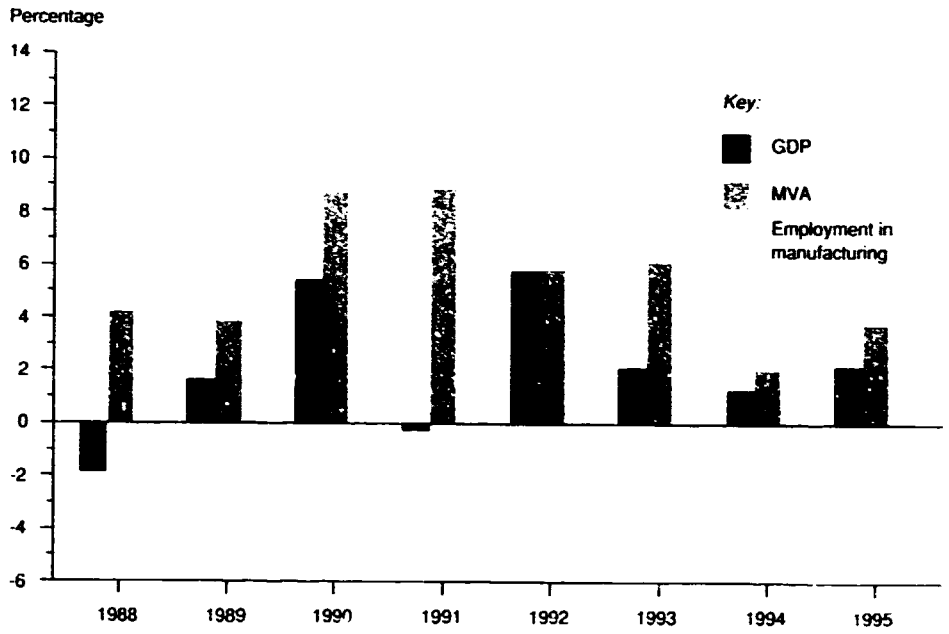
ISIC code (industries):

| | |
|---|---|
| 31 | (Food products) |
| 321, 322 | (Textiles) |
| 323, 324 | (Leather) |
| 33 | (Wood and furniture) |
| 34 | (Paper and printing) |
| 351, 352 | (Chemicals) |
| 353, 354 | (Petroleum and coal) |
| 355 | (Rubber products) |
| 356 | (Plastic products) |
| 36 | (Non-metal mineral products) |
| 371 | (Iron and steel) |
| 372 | (Non-ferrous metals) |
| 381 | (Metal products) |
| 382 | (Non-electrical machinery) |
| 383 | (Electrical machinery) |
| 384 | (Transport equipment) |

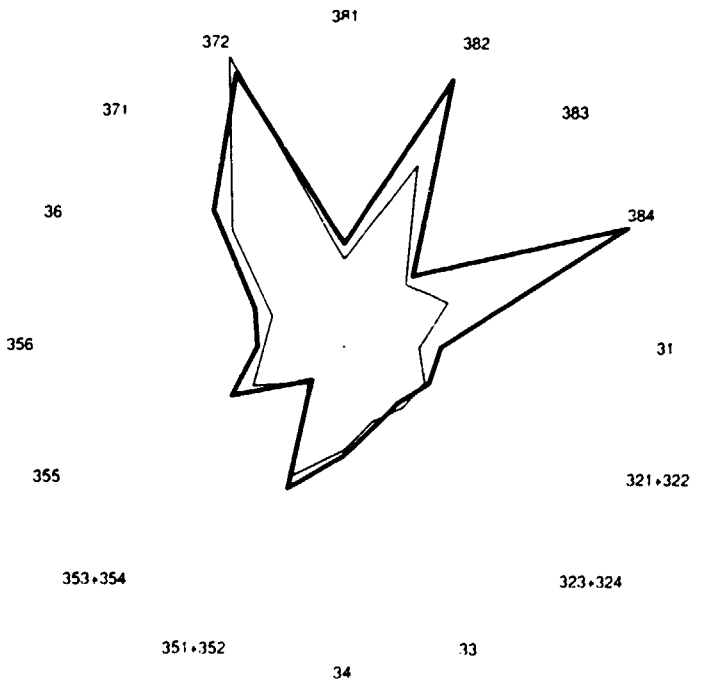
1990–1995 forecast
1985–1990
1980–1985

*Source* UNIDO database, estimates and forecasts by UPI/DO/IRD/RES.

**Figure 12.** Growth rates of GDP, MVA and manufacturing employment, 1988–1995, and industrial structural change, 1980–1995: western Asia




Industrial structural change
(Index of value added 1980 = 100)




$g = 4.17$, $\theta = 26.77$

*Source:* UNIDO database; estimates and forecasts by UNIDO/IRD/RES.

*Key:*

Deflated prices of 1990
g = Average annual growth rate, 1980–1995 (percentage)
$\theta$ = Index of structural change, 1980–1995

ISIC code (industries):

| | |
|---|---|
| 31 | (Food products) |
| 321, 322 | (Textiles) |
| 323, 324 | (Leather) |
| 33 | (Wood and furniture) |
| 34 | (Paper and printing) |
| 351, 352 | (Chemicals) |
| 353, 354 | (Petroleum and coal) |
| 355 | (Rubber products) |
| 356 | (Plastic products) |
| 36 | (Non-metal mineral products) |
| 371 | (Iron and steel) |
| 372 | (Non-ferrous metals) |
| 381 | (Metal products) |
| 382 | (Non-electrical machinery) |
| 383 | (Electrical machinery) |
| 384 | (Transport equipment) |

1990–1995 forecast
1985–1990
1980–1985

ments of the Syrian Arab Republic and India concluded an agreement in mid-1994 for the establishment of a joint venture to produce phosphates in India.

In North Africa, the manufacturing sector showed a slow growth; however, productivity continued to decline at an alarming rate. In 1994 the MVA growth rate in North Africa was estimated at 2.9 per cent, compared with an average annual rate of 1.1 per cent from 1990 to 1993. Food processing, tobacco manufactures and glass and glass products were the sectors in which the highest concentration was registered (see table 35).

The slow pace at which economic reforms are progressing and the deterioration of oil prices have hindered the recovery of the manufacturing sector in Egypt substantially. MVA growth rate was estimated at a mere 1.9 per cent in 1994, still far below the level needed to accommodate the new labour force entering the domestic market each year. The private sector continued to be the main source of growth in manufacturing, despite low levels of capacity utilization.

The textiles industry continued to be Egypt's leading industry, and is now among the most dynamic ones in the manufacturing sector. It has been reported[1] that there are currently between 500 and 600 medium-sized, mainly State-owned textiles factories and over 1,000 cottage-industry operations in Egypt. About 90 per cent of the ready-made garments sector is privately owned, ranging from traditional tailors to sophisticated manufacturers producing garments under franchise. In 1993 the total output of finished garments and fabrics in the private sector was approximately 85,000 tonnes, compared with the output of approximately 130,000 tonnes in the public sector. Future prospects for the country are thus encouraging. The phasing-out of the Multi-Fibre Agreement and the liberalization in the price of Egyptian cotton announced in 1994 are seen to foster the textile industry.

## Industrial development issues

### Economic reforms and structural adjustment programmes

Many countries in North Africa and Western Asia are currently implementing policy reform programmes. In fact, in Egypt, Jordan, Lebanon, Morocco and Tunisia, IMF reform programmes are currently being formally carried out, and have already started achieving important fiscal targets. In the Syrian Arab Republic, Yemen and, to a lesser extent, a number of GCC countries, independent reform programmes are also under way, and occasionally advice is provided by IMF and the World Bank.

Within this framework of policy reforms, serious policies have been designed to foster industrial growth and address some of the structural weaknesses hindering economic diversification. These include privatization, the development of private enterprises and the promotion of foreign investments.

#### Privatization

In Egypt, Kuwait and Morocco, privatization policies have already been formulated and are currently being implemented. In countries such as Bahrain, Saudi Arabia and Syrian Arab Republic, Governments are still exploring various options. Kuwait was perhaps the first among the GCC countries to take an outright policy decision in this area. The Government is currently studying recommendations made by the World Bank for the privatization of some 76 enterprises, including local petroleum distribution and utilities such as telecommunications. In the development plan of Saudi Arabia for the period from 1995 to 2000 the objective of involving the private sector in the management of basic industries as well as public utilities is stated. In May 1994, the Government declared its intention to privatize its public enterprises, retaining only a limited share in these companies.

In Morocco, the Government formulated a privatization programme in 1991 which was to be completed by 1995. It covers 113 enterprises out of a total of 688 State enterprises. The programme commenced in 1992, and can be intepreted as a success, with revenues in 1993 estimated at $250 million and expected to reach $365 million in 1994. Strategic industries such as oil refining, utilities and telecommunications are no longer excluded from the privatization programme. In Tunisia, the privatization programme undertaken in 1987 has been progressing slowly; by the end of 1993, of a total of 300 entities employing some 12,000 workers, over 40 had been sold.

In Egypt, with the issuance in 1991 of law number 203, for companies in the public sector, a policy framework for privatization was formulated. This law saw the creation of the Public Enterprise Organization (PEO), a government body responsible for carrying out the privatization of the public sector. The "negative list" that confined a range of industrial activities to the public sector has already been abolished. However, actual privatization of major manufacturing enterprises is not proceeding according to the schedule agreed with the World Bank. An important factor delaying sales is related to difficulties encountered in deciding upon the methods to be used in the evaluation of the assets of these companies.

#### Finance for industry

A lack of access to financing is a key constraint in the development of the industrial sector in the region, particularly in the case of small- and medium-scale industries. The main reasons for this are as follows: the relatively high costs incurred by financial institutions in the administration of loan financing, a cost usually transmitted to enterprises; the conditions imposed on credit by commercial banks, as well as by

most industrial and development banks, such as the provision of collateral, which in most cases exceeds the amount of the requested loan; banks consider industrial enterprises, especially the small ones, as risky clients; and the inexperience of small entrepreneurs in dealing with the complex procedures of banks.

In view of the above difficulties, several initiatives have been taken by some institutions in the region, particularly in Egypt, to assist small industrial enterprises in meeting their financial needs. In Egypt, the Social Fund for Development has a special programme for financing start-up and existing small- and medium-scale enterprises, where the lowest possible collateral requirement is imposed. The credit scheme of the Alexandria Businessmen's Association provides loans to small enterprises without collateral requirements, and the Credit Guarantee Corporation for Small-Scale Enterprises guarantees up to 50 per cent of the total loan provided by commercial banks. Other financial schemes for small industrial enterprises have been established in several countries including the Development Employment Fund in Jordan, the Small Enterprise Development Unit in Yemen, informal credit institutions in the Palestinian Territories and various international and local non-governmental organizations.

### Investment promotion

In countries such as Egypt, Syrian Arab Republic and Tunisia, where the public sector still represents an important part of manufacturing activities, new investment promotion laws were introduced. In Tunisia, a unified investment law was introduced in 1993 to reduce controls, simplify procedures and provide additional incentives to stimulate projects in less developed and remote areas in the field of export promotion.

In Egypt and, to a lesser extent, the Syrian Arab Republic, new investment laws emphasize provisions for the repatriation of capital and profits. In this context, the private sector in the Syrian Arab Republic is expected to benefit particularly from the introduction in 1991 of law number 10 for the encouragement of production investment. The latest available data on investments indicate that by the end of June 1994, the cost of approved investment projects had totalled around 155 billion Syrian pounds (around $3.7 billion), a large part of which were financed by repatriated capital and foreign investors. Projects in manufacturing accounted for more than 62 per cent of total approved projects.* Major projects included two textiles and garment joint ventures with a Saudi Arabian investor ($238 million) and projects for the production of pharmaceuticals, aluminium profiles, iron bars and a joint foreign project with Nestlé ($15 million).

* The investment projects in manufacturing covered all the main industrial sectors: 39.2 per cent were concentrated in the food industries, 22.4 per cent in the textiles and garment industry, 11.6 per cent in the metal industry, 9.8 per cent in the chemical industry, 7.1 per cent in the basic industries and 4.7 per cent in the health and medicinal industry.

Saudi Arabia and Kuwait are both reviewing the effectiveness of their policies on inward foreign investment. In Bahrain, Qatar, Saudi Arabia and United Arab Emirates, important steps have been taken (or are under consideration) to allow the establishment of 100 per cent foreign-owned companies. In Saudi Arabia, additional incentives have been introduced, including exemptions from income and corporate taxes on foreign capital used for financing the expansion of any existing industrial project.

The political and economic consequences of peace between Israel and the Arab countries will depend on the nature and terms of the peace treaties concluded, and could leave a deep imprint on the future of industrial development in the region. The peace dividends reaped could be in the form of enhanced rates of development because of increased local and international investment. A reduction in military expenditures would also have a very favourable socio-economic impact. However, the effects of the peace dividend may very well be reduced or even dissipated in the absence of economic reform and failure to achieve political stability.

Policy reforms ranging from privatization to investment promotion and development of the private sector are expected to foster industrialization and economic growth in western Asia and North Africa. Although for many countries it is too early to assess how successful the results will be, substantial improvements are already apparent. The private sector has by far been the most dynamic driving force in many countries in the region.

However, some caution is needed in many countries, for "tacit non-market practices" are determining, if not distorting, the pace of the entire restructuring process of the economy. The lack of political commitment to change and the insufficient organizational capability of the public bureaucracy are becoming more and more evident, and could lead to major problems. The thresher industry in Egypt provides an interesting example of economic responses to trade liberalization (see box 10).

As frequently mentioned, instituting policy reforms causes both political and organizational obstacles to the extent that the new institutional setting erodes privileges previously enjoyed by some political and economic lobbies in a country, and in so far as the bureaucracy is called on to perform tasks which it is unable to accomplish due to lack of competence. In order to implement economic policy reforms successfully, many economists believe that a serious restructuring of the bureaucratic system should be undertaken simultaneously.

## The oil sector and economic development in the GCC countries

The GCC countries derive a major part of their domestic income from the extraction and processing of oil and natural gas. The contribution of the mining

**Box 10.** Institutional constraints to policy reform: The case of the agricultural machinery industry in Egypt

Prior to the introduction of trade liberalization policies, Egypt's agricultural machinery industry was dominated by public sector firms that maintained minimal contact with farmers. Market entry was extremely limited and void of technological innovations. With the opening-up of the domestic market in the mid-1970s, private dealers gained increased access to international markets, thereby introducing an element of innovation into Egypt's thresher industry. However, the turning-point occurred in 1982 when a private dealer imported the first Turkish thresher, after having scanned international suppliers for a machine suitable for Egypt. The domestic market potential for threshers was recognized immediately by other dealers, and a few years later, private workshops began manufacturing the Turkish thresher locally.

At present, the market includes both well-established companies as well as smaller workshops located in villages, some of which are unlikely to survive too long. Larger manufacturers claim to have made substantial improvements to the Turkish thresher, even though the various models seem to be basically the same. The local workshops have created a niche for themselves by supplying a local market, especially since the price of all Egyptian threshers is far below that of the Turkish one. In many cases, however, the cost difference is outweighed by the large disparity in terms of reliability of those locally manufactured. Many small firms are under-equipped, and are therefore forced to contract the production of some components to larger firms.

Theory states that once the potential economic convenience of producing such machines locally has been assessed, then the opening-up of the domestic market could lead to the development of an efficient local industrial capacity supply. In practice, the local thresher industry has developed differently from what was earlier expected. The causes relate mainly to institutional barriers. For example, Kerr states that "Agricultural machinery manufacturers in Egypt faced constraints in access to materials and marketing facilities, and in negotiating bureaucratic procedures such as tax payment and product registration. They had sufficient access to credit, not because of the strength of the banking system, but due to a special IFAD-sponsored line of credit."

Many workshops were not registered as licensed firms with the Ministry of Industry. As a result, they were deprived of access to institutional credit, and were thus unable to obtain an industrial electricity allotment. Furthermore, they were limited in their choice and number of machines. However, the advantages of being unregistered overweighed the disadvantages. Many workshops claimed that while the lack of electricity or credit was perceived as a limitation, being unregistered saved them from the many problems of licensing and unfair tax collection procedures.

The most important constraint faced by both large and small workshops was, by far, marketing. The unique source of institutional loans for agricultural machines was the public sector Principal Bank for Development and Agricultural Credit (PBDAC). Only firms registered with the PBDAC were allowed to sell threshers on institutional credit. Although the registration procedure was simple, it favoured only the large firms, thus restricting competition. Again, the testing requirement posed serious difficulties to small workshops, whose owners had to accompany the machine to the testing station, which under the best circumstances involved several working days. In some cases, the registration procedure took so long that the price quoted on the application became obsolete when the process was finally completed. More importantly, the successful registration with PBDAC did not guarantee access to bank financing. Often village banks acted as a single agent for all machines, including competing machines from different suppliers. The ultimate result was that firms continued to supply only locally, on the basis of personal contacts.

*Source*: John M. Kerr "Institutional barriers to policy reform in Egypt: the case of the agricultural machinery industry", *World Development*, vol. 22, No. 6 (1994), pp. 877-888.

sector to GDP ranges between 40 and 54 per cent, with the sole exception of Bahrain, where it averages about 26 per cent. More importantly, in almost all GCC countries, oil revenues account for about 80 per cent of both total export earnings and government revenues.

This dependence on petroleum as a crucial source of gross domestic income imposes a particular interpretation of the economic development. In an economy based on depletable resources, the base capital asset diminishes as the extraction of natural resources progresses, thereby reducing future flows of income and consumption. In order to ensure future income levels after oil reserves are exhausted, it is essential that the reduction in oil assets are appropriately compensated for. This implies that an adequately large share of national income must be saved and invested in non-oil assets so that an alternative source of income will be generated.

As pointed out by Farzin,[3] the required savings and investment ratio depends on a number of factors, including the following: the expected life-span of oil reserves; the real long-term rate of oil price change; and the real long-term rate of return on non-oil investments. With regard to the first point, it is estimated that Arab countries possess approximately 60 per cent of the world's oil reserves and around 20 per cent of the world's natural gas reserves. Among the Arab countries, the GCC countries are among the biggest producers. Given this scenario, it is apparent that the interplay between oil revenues and investment plans is important when discussing the historic

evolution and future perspective of the savings and investments ratio.

Turning to savings, oil prices have been declining since the end of the 1980s, reflecting the interest of major world producers in maintaining market share rather than supporting a specific price level. The oil price which averaged $16.33 per barrel in 1993, dropped to $15.53 per barrel in 1994. As a major consequence, oil revenues declined. According to *Arab Oil and Gas*,[4] oil revenues of GCC countries were around $77,013 million in 1992 and decreased to $74,216 million in 1993. Although no precise estimates are provided, provisional figures indicate an even further decline in 1994.

However, in the medium and long term the prospects of the oil and gas sector seem encouraging. All available projections indicate that the Arab countries, especially the Persian Gulf countries, will expand their production to meet increased world demand for primary energy. In its *1994 World Energy Outlook*, the International Energy Agency forecast that "In the OECD, energy consumption could increase by 28 per cent between 1991 and 2010, and oil demand could increase to some 45 million barrels per day. With the long-term gradual decline in OECD oil production expected to continue, imported oil, which met 58 per cent of OECD oil requirements in 1991, could account for close to 70 per cent of OECD oil demand by 2010. This represents a rise in oil imports of some 9 million barrels per day, an increase which most probably will have to be met primarily by the major Middle East producers and Venezuela. Production in these countries would have to double over the next 16 to 17 years to meet expected world oil demand." Moreover, increasing demand is expected to come from the newly industrialized countries in South-East Asia and potentially fast developing countries such as China.

With regard to investment plans, GCC countries have, over the past 15 years, invested heavily in large projects in areas such as domestic infrastructure and the development of upstream and downstream petroleum industries. While the real economic rates of return on projects in the petrochemical industries have generally been rather high, those in infrastructure can be questioned. Projects in infrastructure have certainly improved the living standards of the population and increased productivity. However, the use of the facilities provided by such infrastructure has been free of charge or subsidized; subsidies have taken the form of the provision of cheap energy or water, or of tax exemptions. Consequently, it is doubtful whether the real return on these projects has been high or, in some cases, even positive.

Moreover, an additional concern stems from the composition and performance of the portfolio of foreign assets of GCC countries. According to the Gulf International Bank,[5] private as well as institutional investors tend to be quite conservative and risk-averse in their portfolio decisions. In mid-1989 about 75 per cent of the total foreign assets of GCC countries were held in the form of liquid assets, of which two thirds were placed in cash and about a third in government securities or corporate bonds. Therefore, the real rate of return on this type of portfolio has been relatively negligible.

The evolution of oil prices in the 1990s have determined diminishing oil revenues which have, in turn, created the unwelcome novelty of mounting budget deficits. Under this new scenario, to pursue a policy of infrastructure development becomes increasingly unsustainable. Therefore, the aim now of most Governments in the GCC countries would be to diversify the economy, by shifting the focus from oil-related to other activities, and to increase the involvement of the private sector in manufacturing. Allocation of capital expenditure is generally exercised with caution to ensure that projects are clearly profitable. Major public manufacturing projects such as the petrochemical expansion projects of Saudi Arabia, the North Field Gas Project of Qatar and the aluminium projects in Bahrain and Dubai continue to be implemented as planned. Consumer industries, particularly food, textiles and apparel, are growing in importance. Private sector activities are expanding.

Although in theory this strategy appears very sensible, in practice it does not seem to be perfectly viable. The economies of GCC countries present some structural bottlenecks which have to be taken into consideration when designing policy measures. The major constraints to diversification occur in the following areas. The first constraint consists in the vulnerability to petroleum market fluctuations. In fact, fluctuations in oil prices affect the success of domestic large-scale projects causing disruption to the flow of revenue needed to finance them and shortage of local skilled labour. The second arises from the fact that a large share of the labour force in the manufacturing sector consists of foreigners. The local labour force is willing to work for the public sector, since salaries and fringe benefits are higher. Unfortunately, productivity of the public sector is very low, and the unit labour cost of production in skilled labour-intensive sectors is rather high. The third consists in the limited size of the domestic market. The size of the domestic market is often very limited in the GCC countries, and its limitation is worsened by the fact that only a small fraction of the income of expatriates is spent domestically, with a large part of the income, produced internally, remitted abroad. However, the size of the domestic market alone does not permit the exploitation of economies of scale. Therefore the profitability of investments in the domestic market must hinge upon the capability of the domestic enterprises to export successfully.

Diversification of manufacturing activities and the promotion of private sector activities are necessary, but may not be enough to assure sustained high levels of income and consumption in the future. A portfolio management of foreign assets, more in line with what modern theory of investment prescribes, is considered vital.[1] A positive sign in this direction is the recent increasing interest shown by some countries such as Kuwait in investing in manufacturing indus-

tries outside their domestic market. Foreign investment opportunities in developing countries, particularly in East Asia, seem to be particularly advantageous, not only because of the economic potential of the economies concerned, but also because the correlation between the rate of return on investment in these economies and the oil price is likely to be weak.

## Outlook for 1995

Economic activities in the ESCWA region are expected to rebound; a growth rate of 2.5 per cent is forecast for 1995. This could be because of an expected improvement in oil prices and the anticipated, significant recovery of economic activity in Iraq, if sanctions are partially lifted during the second half of 1995. Excluding Iraq, GDP growth in the region is forecast to reach 2.7 per cent in 1995. The GCC countries are expected to recover in 1995, with GDP growth averaging more than 2.5 per cent. The diverse economies of the ESCWA region are all dependent, in varying degrees, on oil prices, the progress of the economic reforms outlined above and political stability. The latter is crucially predicated on the progressive normalization of relations between Israel and its Arab neighbours and on overcoming the current political difficulties in Algeria and threats elsewhere in the region.

Economic recovery could also be ensured by improvements in the investment climate, and also, as in the case of Egypt, through an acceleration of the privatization process, and the more liberal regulatory environment expected to emerge in 1995. This could, in turn, promote small- and medium-investment activities. Progress made in the peace process and the business confidence it promotes will also contribute positively to the diversified economies, particularly that of Jordan, in the immediate future, despite the slow-down in the construction-led boom. However, the continued tight fiscal policy to contain fiscal deficits in both Egypt and Jordan and the high unemployment rate—about 20 per cent in both countries—will continue to have a negative impact on domestic demand, at least in the immediate future.

In contrast, in a number of countries, including the Syrian Arab Republic, growth will be stimulated by increased government expenditure on infrastructure and industry (oil and gas and power generation) because of financial aid from the Persian Gulf States, and the knock-on effects it will have on private sector activities such as construction, agriculture, light industry and services.

*Notes*

[1]*Financial Times*, 22 April 1994.

[2]"Law No. 203/1991 Promulgating Public Business Sector Law", *Official Gazette* (Cairo), No. 24 (BIS), 19 June 1991.

[3]Y. H. Farzin, "Importance of foreign investment for the long-run economic development of the United Arab Emirates", *World Development*, vol. 21, No. 4 (1993), pp. 509-521.

[4]*Arab Oil and Gas*, vol. XXIV, No. 562, 16 February 1995.

[5]Gulf International Bank, "The Gulf investor in the international markets", *Economic and Financial Report*, vol. V, No. 2 (February 1990).

# Indian Subcontinent

The Indian Subcontinent experienced a series of fundamental policy changes in the first half of the 1990s. Pakistan embarked upon a programme of reforms in order to ease foreign investment. India is undergoing a quiet economic revolution. In the wake of a balance-of-payments crisis, in 1991 the Government of India launched a programme of economic reforms, aimed at establishing an environment that would strengthen and sustain growth in the long run. While fiscal and exchange rate reforms were conceived to bring about macroeconomic stabilization, reforms in industrial, trade and financial policies were primarily designed to promote the development of the industrial sector and enhance the international competitiveness of India. Future prospects seem encouraging. Given the immense domestic market potential of the country, its vast natural resources, a long history of private enterprise and its relative abundance of skilled manpower, there is increasing confidence that the current restructuring of its economy could further increase the pace of economic development in the coming years.

## Economy

The macroeconomic performance of the Indian Subcontinent was relatively sound during 1994. The GDP growth of the region increased slightly from an average annual rate of 3.6 per cent between 1990 and 1993 to a rate of 3.8 per cent in 1994 (see table 36 and figure 13).

Moderate growth was registered in all countries in the Indian Subcontinent. According to the Governor of the Central Bank of Bangladesh, the economy of that country is improving steadily, despite political disturbances. GDP grew by 4.9 per cent in 1994, and inflationary pressure was kept under control at between 3 and 4 per cent.[1] Pakistan still lags behind its growth target of 6.5 per cent for fiscal year 1994/95, mainly because of the failure of the cotton crop for the third year in succession. However, in 1994 it recorded a GDP growth rate of 4 per cent. Sri Lanka continued to perform well, although at a slower pace. In 1994, the GDP growth rate was 3.3 per cent, stimulated by strong domestic demand and foreign investment. As a result of the implementation of significant economic reforms in the 1990s, Nepal registered a growth rate of 7.8 per cent in 1994, which is the highest in the region. The economy of Myanmar, however, seems to have stagnated, registering a GDP growth rate of only 0.8 per cent.

Because of its size, the performance of the economy of India determines the pace of growth in the Subcontinent as a whole. The structural reforms undertaken after the balance-of-payments crisis of 1991 are finally opening up a new phase of sustained growth. GDP growth rose from an average annual rate of about 3 per cent from 1990 to 1993 to a rate of 4 per cent in 1994, and is projected to reach 5 per cent in 1995.

In fiscal year 1993/94, a further reduction in the fiscal deficit of 0.5 per cent of GDP was targeted. However, the fiscal deficit largely exceeded the target by about 58 per cent, and stood at 7.3 per cent of GDP at the end of 1994. On the one hand, revenue receipts, which were expected to increase by 13.6 per cent, increased by only 2.8 per cent, mainly because of shortfalls in tax revenues from custom and excise duties; on the other hand, the increase in expenditure (17.3 per cent) was much higher than expected (7.1 per cent). As a result, substantial steps have been taken to reduce the fiscal deficit, as reflected in the 1994/95 budget.

The rate of inflation (wholesale prices), which peaked at 16 per cent in August 1991, fell to 7 per cent in March 1993, but rose again to about 9 per cent in November 1994, has not yet stabilized. The official explanation for the upward trend in prices in 1993/94 is the increase in the money base caused by the monetized deficit and the rapid build-up in foreign exchange reserves during the latter part of 1994. But increases in administered prices also had an impact. The inflationary effects of increases in the price of petroleum products (0.4 per cent), coal and electricity and in the minimum support prices for grain and a number of other products were significant.

After the crisis of 1991, the balance of payments has been improving steadily, thus generating some pressure for an appreciation of the rupee. According to national statistics, in fiscal year 1993/94 exports rose by 20 per cent in dollar terms, as compared with a 6.8 per cent increase in imports. The trade deficit

**Table 36.** Indian Subcontinent: selected indicators, 1970-1995

*(Percentage)*

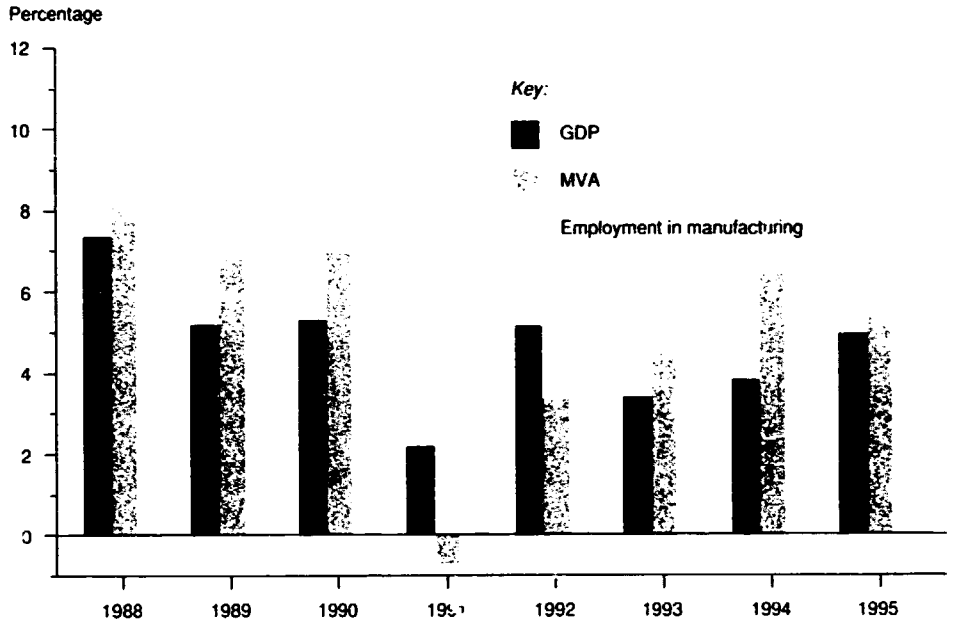
| *Economic indicators* | *1970-1980* | *1980-1990* | *1990-1993* | *1994[a]* | *1995[b]* |
|---|---|---|---|---|---|
| GDP growth rate | 3.3 | 5.3 | 3.6 | 3.8 | 5.0 |
| MVA growth rate | 4.3 | 6.9 | 2.4 | 6.4 | 5.4 |
| MVA share of GDP | 13.2 | 15.4 | 14.9 | 15.2 | 15.3 |
| Labour productivity growth rate | -0.5 | 5.5 | 0.7 | 2.7 | 2.2 |

*Note:* For sources and other notes, see technical notes.

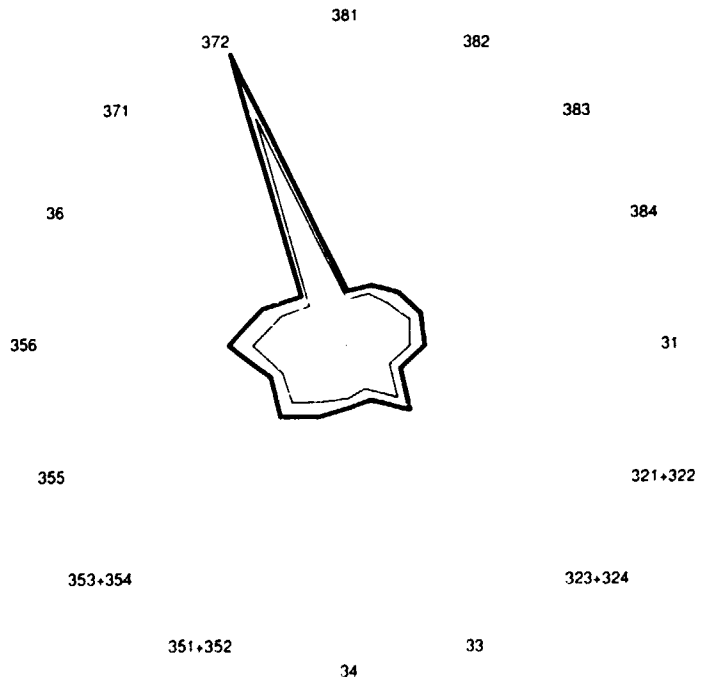
[a]Estimated.

[b]Projected.

**Figure 13.** Growth rates of GDP, MVA and manufacturing employment, 1988–1995, and industrial structural change, 1980–1995: Indian Subcontinent




Industrial structural change
(Index of value added 1980 = 100)




$g = 5.79$, $\theta = 9.33$

*Source:* UNIDO database; estimates and forecasts by UNIDO/IRD/RES.

*Key:*

Deflated prices of 1990
g = Average annual growth rate, 1980–1995 (percentage)
$\theta$ = Index of structural change, 1980–1995

ISIC code (industries):

| | |
|---|---|
| 31 | (Food products) |
| 321, 322 | (Textiles) |
| 323, 324 | (Leather) |
| 33 | (Wood and furniture) |
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| 351, 352 | (Chemicals) |
| 353, 354 | (Petroleum and coal) |
| 355 | (Rubber products) |
| 356 | (Plastic products) |
| 36 | (Non-metal mineral products) |
| 371 | (Iron and steel) |
| 372 | (Non-ferrous metals) |
| 381 | (Metal products) |
| 382 | (Non-electrical machinery) |
| 383 | (Electrical machinery) |
| 384 | (Transport equipment) |

1990–1995 forecast
1985–1990
1980–1985

decreased from $3.3 billion to around $1 billion, and there was a modest surplus in the invisible account. Consequently, the trade deficit decreased to 0.5 per cent of GDP. However, the situation reversed sharply between April and August 1994, when imports rose by 16.4 per cent, and exports by 10.6 per cent. Industry imports are expected to continue to rise as the performance of the industrial sector continues to improve.

## Industry

A remarkable rebound of industrial activity in the Indian Subcontinent occurred in 1994, a year in which MVA in the region grew by 6.4 per cent, almost twice that of GDP growth for the same year. All countries in the Subcontinent recorded relatively high MVA growth rates, in the range of 5-7 per cent (see table 37).

Given the size and level of modernization of the Indian economy, which outweighs all other countries in the region, the aggregate figures mainly reflect developments in the industrial sector. As the figures show, recovery of the industrial sector in India was broadly based.

The performance of food processing has been impressive. MVA growth in the region increased from an average annual rate of 3.4 per cent from 1990 to 1993 to an estimated rate of 7.5 per cent in 1994. Future prospects are also encouraging, with a projected MVA growth rate of 5.4 per cent (above average) in 1995. Changing lifestyles and spending patterns in the Indian middle class, coupled with increasing urbanization and the entry of women into the labour force, have resulted in a rapid expansion of domestic demand for processed food.

The capital goods industries have also performed well. In 1994 the MVA growth rate was 8.4 per cent

**Table 37.** Indian Subcontinent: MVA growth rates and shares by country and ISIC sector, 1970-1995
*(Percentage)*

| Country and ISIC sector | | Average annual growth rates | | | Annual growth rates | | Share in total MVA |
|---|---|---|---|---|---|---|---|
| | | 1970-1980 | 1980-1990 | 1990-1993 | 1994[a] | 1995[b] | 1994 |
| | | *A. Country breakdown* | | | | | |
| *Indian Subcontinent* | | | | | | | |
| Bangladesh | | 6.9 | 3.1 | 7.5 | 5.4 | 4.4 | 3.5 |
| India | | 4.0 | 7.4 | 1.2 | 6.7 | 5.2 | 79.3 |
| Pakistan | | 5.8 | 7.8 | 7.0 | 6.2 | 6.8 | 11.3 |
| Sri Lanka | | 4.5 | 4.7 | 8.2 | 7.2 | 4.4 | 2.7 |
| | | *B. Industry breakdown* | | | | | |
| 311 | Food | 1.8 | 8.1 | 3.4 | 7.5 | 5.4 | 10.3 |
| 313 | Beverages | 4.9 | 9.8 | 1.7 | 6.6 | 4.8 | 1.2 |
| 314 | Tobacco manufactures | 4.1 | 6.3 | 4.8 | 5.6 | 5.5 | 4.1 |
| 321 | Textiles | 2.2 | 3.2 | 4.0 | 5.2 | 3.4 | 14.5 |
| 322 | Wearing apparel | 9.1 | 24.6 | 6.5 | 9.6 | 8.6 | 2.6 |
| 323 | Leather and fur products | 4.5 | 6.2 | 3.5 | 7.5 | 5.4 | 0.6 |
| 324 | Footwear, excluding rubber or plastic | 11.1 | 14.1 | 3.1 | 6.1 | 6.0 | 0.5 |
| 331 | Wood and cork products | 4.3 | 5.2 | 5.0 | 4.5 | 3.4 | 0.5 |
| 332 | Furniture and fixtures | 0.9 | 1.7 | 9.3 | 3.0 | 2.3 | 0.1 |
| 341 | Paper and paper products | 1.5 | 7.2 | 2.4 | 5.2 | 4.6 | 2.1 |
| 342 | Printing and publishing | 1.3 | 3.9 | 2.6 | 6.1 | 4.0 | 1.3 |
| 351 | Industrial chemicals | 2.6 | 9.7 | 4.1 | 7.0 | 6.2 | 7.2 |
| 352 | Other chemical products | 5.2 | 5.4 | 4.4 | 6.5 | 5.8 | 6.9 |
| 353 | Petroleum refineries | 4.1 | 12.6 | 2.3 | 6.7 | 6.5 | 4.1 |
| 354 | Miscellaneous petroleum and coal products | 16.5 | 1.6 | 5.1 | 9.1 | 6.2 | 0.6 |
| 355 | Rubber products | 0.1 | 9.4 | 1.1 | 8.1 | 5.3 | 1.9 |
| 356 | Plastic products n.e.c. | 4.0 | 12.5 | 3.1 | 9.6 | 5.6 | 1.1 |
| 361 | Pottery, china and earthenware | 7.1 | 4.9 | 5.1 | 6.9 | 5.7 | 0.3 |
| 362 | Glass and glass products | 2.2 | 6.4 | 3.5 | 6.1 | 5.6 | 0.5 |
| 369 | Other non-metallic mineral products | 4.5 | 10.3 | 3.8 | 7.4 | 7.0 | 4.9 |
| 371 | Iron and steel | 4.8 | 6.4 | 3.3 | 5.7 | 5.2 | 8.9 |
| 372 | Non-ferrous metals | -8.8 | 23.3 | 4.4 | 7.2 | 5.5 | 2.1 |
| 381 | Metal products, excluding machinery | 2.2 | 4.4 | 1.6 | 6.8 | 4.2 | 2.1 |
| 382 | Non-electrical machinery | 5.4 | 6.5 | 0.2 | 8.4 | 6.1 | 6.0 |
| 383 | Electrical machinery | 5.7 | 7.1 | 3.8 | 6.5 | 6.0 | 7.0 |
| 384 | Transport equipment | 5.2 | 8.6 | 2.2 | 6.0 | 5.4 | 7.8 |
| 385 | Professional and scientific goods | 3.6 | 6.4 | 3.6 | 8.5 | 5.4 | 0.6 |
| 390 | Other manufactures | -0.6 | 3.2 | 3.8 | 5.3 | 4.5 | 0.4 |

*Notes:* Estimated total MVA in 1994 was US$ 38,051 million.
Since the projected share in total MVA for 1994 in Afghanistan, Myanmar and Nepal is below 0.5 per cent, they have not been included.
For sources and other notes, see technical notes.

[a]Estimated.
[b]Projected.

for non-electrical machinery, 6.5 per cent for electrical machinery and 6 per cent for transport equipment. Projections for 1995 show above-average growth rates in those industries. In India, there has been a rapid growth in the supply of electronic goods, especially computers. It has been reported[2] that between 1985 and 1992 the estimated number of minicomputers and microcomputers increased from 7,500 to 200,000. Computer manufacture is being developed under collaborative arrangements, but for the most advanced models, India relies on access to foreign technology. Vehicle production is also expanding, although it is still small.

In India, production of capital goods in general has been boosted through a series of government policy measures, ranging from liberalization of technology to tax reforms. A countervailing duty on capital goods, equivalent to the excise duty, has been imposed to assist domestic producers. The moderated value-added tax (Modvat) has been extended to capital goods so that full credit could be taken off the excise duty paid on domestic capital goods and the countervailing duty paid on imported capital goods. The duty on imported steel and non-ferrous metals has also been reduced, a step which benefits domestic capital goods producers. The liberalization in government policy with respect to industrial licensing and foreign investment has generated great potential in the capital goods sector.

The textiles industry, which is one of the most important in the region, registered positive, but relatively modest growth. In 1994, the MVA growth rate stood at 5.2 per cent, well below the average. In contrast, wearing apparel was one of the fast-growing branches with a growth rate of 9.6 per cent. In India, the industry was clearly still suffering from problems such as inefficiency and poor product quality. However, a new textile policy has been adopted, aimed at freeing the mills from controls and encouraging their modernization and rationalization. In Pakistan, the failure of the cotton crop depressed production for the third consecutive year.

Recovery in industry is also reflected in significant improvements in the performance of Indian exports. From 1992 to 1993 the percentage increase in manufactured exports was higher than that for agricultural exports (including processed products). This trend was reversed from 1993 to 1994, with manufacturing exports growing by 19 per cent, compared with 38 per cent for agricultural exports. The growth in exports is attributed to the favourable exchange rate and the exemption in income tax on all export earnings.

## Industrial development issues

### Industrial policy reforms

A number of macroeconomic factors and broader policy changes are crucial for the future industrial development of the Indian Subcontinent. The new industrial policy initiated in India in 1991 marks a radical change in attitudes about the development of the industrial sector. There has been a clear shift from an inward-looking to an outward-looking model of development. Action has been taken to reduce the cost of credit and improve its availability. A number of tax incentives have been directed at reviving the capital goods sector (see box 11). Import licensing

**Box 11.** Fiscal and trade policies in India

Reform of the tax structure was a key component in the new economic programme of the Government. The Tax Reforms Committee recommended comprehensive restructuring of both direct and indirect taxes. Between 1991 and 1992 the corporate tax structure was simplified. Tax rates for widely held and closely held domestic companies were reduced from around 50 per cent to 40 per cent, whereas the tax rate on foreign companies was reduced from 65 per cent to 55 per cent without any surcharge.

Investment in backward (deprived) areas, electricity generation and software exports were given a five-year tax holiday. Substantial liberalization has been achieved in the area of tradables. Intermediate goods, capital goods and other inputs for production can be freely imported, subject to the payment of customs duties, except for a short list of items. Even these are importable against special import licences granted to exporters as an incentive. Imports of finished consumer goods, however, remain restricted. In general, customs duties were simplified and reduced between 1993 and 1994. The maximum protective duty was reduced from 110 to 85 per cent. The duty on capital goods—projects and machinery—was reduced from 55 to 35 per cent, with an even larger reduction in specific areas, such as power (to 20 per cent). The import duty on other capital goods was rationalized at three different rates, namely 40, 60 and 80 per cent, with a 10 per cent reduction for components. The structure of duties on chemicals was also rationalized.

The Government recognized that the higher tariff on imports of intermediate goods, such as chemicals and metals, created a disincentive for the domestic capital goods industry. The maximum protective duty was thus further lowered to 65 per cent in the 1993/94 budget, and reduced even more to 50 per cent in the 1994/95 budget. The duty on capital goods was reduced again to 25 per cent during fiscal year 1994/95. The duty on components and machine tools was also lowered in the 1994/95 budget.

*Source:* Economist Intelligence Unit and United Nations Industrial Development Organization, *India Industrial Development Review* (London, 1995).

was abolished for all goods with the exception of consumer goods; the negative list for exports was shortened significantly, and customs duties were reduced.*

Within the context of its new industrial policy, the Government of India introduced several wide-ranging measures to facilitate market entry. The licensing requirement for industrial investment has been abolished in all industries, except for 15, where the Government either retains a strategic or balance-of-payments interest, or has an environmental concern. Location restrictions have also been lifted, except for the 25-kilometre zone around large cities with a population of greater than 1 million. Even in this case, if an industrial unit is located within a predesigned industrial area, no licence is required. Delicensing has been primarily motivated by the willingness to reduce the influence of bureaucratic discretion, which is believed to alter the relative production incentives among industries.

Most of the restrictions on growth, diversification, mergers and acquisitions by domestic companies have been removed. Under the Monopoly and Restrictive Trade Practices Act, large industrial firms do not require authorization to expand their capacity or diversify production.

The Government has also made substantial efforts to dismantle the policy of "reservation", which has generated protective enclaves within the domestic industrial sector, thus adversely affecting the competitiveness of industry in India. Support to small-scale industries had traditionally taken the form of restricting the production of a wide range of products exclusively to small-scale enterprises and simultaneously precluding large-scale units from entering the market. In recent years, the reservation policy has been partly relaxed on a case-by-case basis when exports represent the bulk of production in large- and medium-sized firms.

With the poor performance of the public sector and the inability to continue to subsidize State enterprises, the Government introduced reforms in the area of private industrial activity. The number of industries managed by the public sector has been reduced to only six, encompassing defence, atomic energy, minerals for atomic energy, coal, mineral oils and railway transport. In addition, since 1991 the central Government has introduced a programme of disinvestment of government shareholding in a wide range of public enterprises, bringing its share in a number of such enterprises to close to 60 per cent. However, privatization of existing public enterprises with an actual change of management control has not been explicitly adopted as a strategy by the central Government. Some steps in this direction have been taken only at state level. States such as Andhra Pradesh, Gujarat and Haryana have in fact permitted the privatization of some sick public enterprises.

* For a detailed survey of the main characteristics of the macroeconomic policies undertaken by the Government of India since the early 1970s, *see* box 11 source.

Deregulation on market entry logically entails deregulation on market exit. Unfortunately, on market exit the central Government has not been as active as on market entry. Much work is still needed on devising a market exit policy for non-viable, non-revivable sick units, as well as an adequate programme for retrenched workers. In the late 1980s the Government established the Board of Industrial and Financial Reconstruction to deal with the problem. The Board was given legal powers to order closure of units found terminally sick, but its performance was recognized to have been less than satisfactory. Amendments are widely recommended in order to facilitate mergers of sick enterprises with healthy ones, to expedite the process of liquidating firms, and to enable sick firms to sell their assets to settle the claims due to creditors.

A National Renewal Fund was recently established to ensure that the cost of industrial restructuring is not borne entirely by workers. The Fund is expected to provide a safety net for retrenched workers and to assist in covering some of the costs of retraining. However, the level of funding is limited, and operations are restricted to those undertaken by the central Government, which exclude public sector enterprises at the state level and privately owned units. Meanwhile, resistance to change by the trade unions in labour legislation seems to be weakening.

The above-mentioned reforms were introduced by the central Government and implemented under its jurisdictional domain. However, a few states have taken some positive steps along the lines set by the central Government. Industry is territorially located in a state, and is subject to rules and controls applied by the state in authorizing the installation of a plant and in ensuring that it operates within the framework of existing laws and rules. Whereas the central Government has been busy dismantling controls and changing rules in its own domain, the states have done comparatively little. The regulatory mechanisms of the states thus continue to be a hurdle and a disincentive to investment.

## Foreign investment policy

In the early 1990s, India adopted a different approach to foreign investment. Prior to the economic reforms of the 1990s, government policy was highly restrictive. The Foreign Exchange Regulation Act of 1973 imposed a ceiling of 40 per cent on the equity shareholding of foreign companies, required dilution to 40 per cent on all the existing companies which were not operating in high-technology and strategic areas, and imposed limitations on royalty payments.

In July 1991, a new liberalized regime was introduced, permitting FDI in virtually every sector of the economy. Now, up to 51 per cent of the equity in 35 specific industries is permitted. For investments outside those industries, and in the case where foreign investors seek an equity share exceeding 51 per cent, investors are invited to apply to the Foreign Invest-

ment Promotion Board, which has established an excellent track record of speedy clearances. Royalty payments have been considerably liberalized and technology imports are now automatically approved for royalty payments of up to 5 per cent of domestic sales and up to 8 per cent of export sales. In industries reserved for small-scale enterprises, foreign equity of up to 24 per cent is permitted. Foreign equity of up to 100 per cent is encouraged in export-oriented units, power production, electronics and software technology parks.

In order to improve the infrastructure facilities in areas such as energy, telecommunications and hydrocarbons, the Government has introduced a more liberalized legal framework in an effort to promote foreign investment. In power production a foreign investor is not only allowed to hold a 100-per-cent equity in a venture, but also enjoys tax exemptions for five years for new projects. The telecommunications industry has also been opened to private investors.

As a response to the improved economic performance of the economy and the more liberalized legal framework, foreign investment has been flowing steadily into India. The total for India in fiscal year 1993/94 was estimated at $1,974.7 million, although the proportion of approvals is larger than the actual flows (see table 38). The actual flows climbed to 46 per cent of approvals in 1994, compared with 20 per cent and 17 per cent in 1993 and 1992, respectively. The flow of euroequities has now slowed, though it was significant initially. It was observed that investments secured through euroequities and global depository receipts by Indian industrialists were temporarily redirected to the buoyant stock market and the higher interest rates for quick profits. The Government is now taking steps to curb this practice.

The Government of Pakistan has also decided to introduce more liberalized laws for attracting foreign investment. In early 1995 the Government announced radical new measures to encourage foreign investment in the country. The incentives include a 10-year tax holiday in 12 industrial zones which are to be set up in underdeveloped areas in the provinces of Baluchistan, Punjab, the North-West Frontier and Sind, as well as in Azad Kashmir and in the north of Kashmir bordering China. No duty will be charged on the import of machinery, equipment or plant unavailable in Pakistan, and a 29-per-cent exemption on duties was granted on imports of raw materials. A five-year holiday will also be granted on capital gains, and expatriate employees will be allowed to import duty-free goods such as vehicles and food intended for personal consumption. New industries will be entitled to further privileges, including exemption from customs duty for 10 years and from sales tax and central excise duty for 8 years.

**Table 38.** Foreign investment inflows into India, 1991-1994

*(Millions of US dollars)*

| *Type of flow* | *1991-1992* | *1992-1993* | *1993-1994* |
|---|---|---|---|
| FDI | 148.0 | 343.5 | 614.7 |
| Portfolio investment, of which | — | 241.5 | 1 360.0[a] |
| Foreign investment incomes | — | 1.0 | 1 002.0[b] |
| Euroequities and global depository receipts | — | 240.5 | 358.0 |
| Total | 148.0 | 585.0 | 1 974.7 |

[a]April to December 1993.
[b]Up to 13 January 1994.

## Reform of basic infrastructure facilities

Much of the region is still plagued with severe infrastructure constraints which are fast becoming a major obstacle to industrialization efforts in the region. India, for example, has a telephone penetration rate of approximately 1 per 100 persons and one of the lowest levels of per capita consumption of electricity in the world. Compared with other developing countries in East and South-East Asia, the efforts of India to upgrade its highways, seaports and industrial zones are still in an embryonic stage.

The public sector has traditionally been responsible for the infrastructure development of the region. Considerable resources have been invested in telecommunications, power and transport, with mixed results. While the manufacturing sector in the region has been growing rapidly, additions and improvements to infrastructure have been insufficient to keep up with demand. The quality of service is, more often than not, poor. The demand for basic infrastructure has also been fuelled by the increasing number of foreign investors setting up factories in the region to produce manufactured goods. Infrastructure constraints have also been compounded by poor management and the inefficient pricing of resources (see box 12).

Most of the public enterprises involved in infrastructure development do not possess the management capacity nor financial resources required to oversee the much-needed expansion of infrastructure in the region. The issue of inadequate infrastructure facilities must be resolved if the region is to achieve its high growth targets in the future. Some reforms have been introduced. For example, the Government of India has opened up its public utilities industries to private enterprises, both domestic and foreign. In the telecommunications industry, the Government has not only allowed foreign companies to build and operate the telecommunications network; the companies may even be given the option of renewing their licences after 15 years, effectively owning the networks in the interim.[1]

The need to overcome infrastructural bottlenecks is becoming a critical issue for almost all fast-growing developing countries confronted with the demand for infrastructure in their towns and industrial areas. Any delays in the planned infrastructure projects will make countries in the region less competitive, and might even stunt their economic growth.

**Box 12.** Unresolved questions

Despite the spectacular changes that have taken place in India in recent years, the country continues to face serious problems. In particular, the weakness of the economic infrastructure highlights the need for a long-term view in assessing the effectiveness of current policies.

India consumes 382 kilowatt-hours of electricity per person per year, compared with 11,000 kilowatt-hours in the United States. During peak hours the shortfall is already 20 per cent. The eighth five-year plan aims at installing 43,000 megawatts between 1992 and 1997. In fact, only 12,000 megawatts is likely to be installed. It is estimated that a 6-per-cent growth in GDP requires an extra 9 per cent of power capacity per year. This translates into an investment in electricity of $200 billion over the next 15 years.

According to the official mid-term review of the eighth five-year plan, infrastructure investment in power, irrigation and transport is in need of substantial increases. Investment in power in the third year of the plan is about 35 per cent instead of the projected target of 60 per cent. According to the Planning Commission, the 10,000 megawatts expected to be generated will not be achieved.

The electric power industry, which is run by state electricity boards (SEBs), suffers from inefficiency and mismanagement, as exemplified by the erratic levels of capacity utilization (the average plant load factor is currently 61 per cent) and gross overmanning. For example, the Andhra Pradesh SEB has 5,000 megawatts of installed capacity and 80,000 employees—150 times the number generating a similar amount of power in the United States. Some 22 per cent of the power is lost in the course of transmission and distribution, as a result of both poor equipment and outright theft by employees and users. The unofficial figure for losses is nearer 50 per cent.

SEBs are also important sources of political patronage for incumbent political parties (hence the overmanning), and the below-cost prices charged to users represent electoral bribes. The average cost of producing electricity is 1.61 rupees per unit, and the price charged is 1.31 rupees. In Tamil Nadu farmers are supplied with free electricity; elsewhere the charge is nominal. SEBs owe the National Thermal Power Corporation, which produces some electricity, 50 billion rupees. Understandably, foreign investors in electric power generation want counter-guarantees from the central Government, should SEBs default on bills for the electricity supplied to them. Such guarantees have now been provided.

The performance of the economy under the eighth five-year plan in terms of investment in transport, ports and the railways is also inadequate. Similarly, low investment in agricultural irrigation is also causing concern. Yet the Commerce Department of India has nevertheless declared that "no critical supply bottlenecks exist".

*Source: The Economist*, "A Survey of India", 21-27 January 1995; *Economic Times*, "PSUs to invest more in infrastructure", 8 November 1994; High Commission of India, "Commercial news clippings from Indian newspapers" (London, 2 December 1994), p. 2.

## Outlook for 1995

The fundamental changes that have taken place in the Indian economy are regarded as irreversible. There is little doubt among political or social groupings that the processes set in motion will strengthen the economy and lead to higher growth. Despite changes, however, India continues to face serious problems, the most urgent being the lack of adequate infrastructure, which requires a long-term solution in order to ensure the effectiveness of current policies.

GDP growth in India is projected to reach 5 per cent in 1995. Agricultural output in fiscal year 1994/95 is expected to rise by 3.2 per cent, or perhaps somewhat higher as a result of recent increases in rainfall. Industrial output is expected to grow by 6.4 per cent, more than double the rate for 1993/94. Inflation is forecast to reach 9.6 per cent.

In Pakistan, the Government lowered its growth forecasts substantially (from 7.5 per cent to 4 per cent) in anticipation of an austerity budget. The lowered growth forecast may turn out to be too pessimistic, since it is based on the short-term impact of higher taxes and reduced Government expenditure. However, while higher taxes are desirable, especially on agriculture, new taxes are likely to provoke severe political resistance, thus weakening the process of implementation. On the positive side, the privatization programme is generating significant income, a result achieved by few countries undergoing similar changes.

### *Notes*

[1]Economist Intelligence Unit, *Bangladesh*, Country report (London, second quarter 1995), p. 11.

[2]Economist Intelligence Unit, *India*, Country profile 1994/95 (London, 1995), p. 41.

[3]"Focus: Asian infrastructure", *Far East Economic Review*, 6 April 1995, pp. 38-55.

# China

Since economic reforms were first introduced in 1978, China's dramatic growth has been based on open trade and export-led policies. However, any fast-growing economy, such as that of China, would not be without its growing pains. The country has witnessed a series of stop-start actions taken by the Government to control runaway inflation since 1989. In 1994, the consumer-price inflation is expected to be in the region of 19 per cent, up from 13 per cent in 1993. Another problem is that of rural-urban migration which, though previously tightly controlled, can no longer be kept in check. In a time of political uncertainty and transition, the country faces the difficult task of ensuring a soft landing for an overheated economy and healthy growth rates in the future.

Close and strong commercial ties are developing between China and Taiwan Province of China, and a Chinese economic area could emerge after 1997 with the integration of the territory of Hong Kong. As such, China's place in the world as a major economic force seems secure.

## Economy

China continues to maintain its growth momentum. The growth rate of GDP, which was 13.8 per cent in 1993, is estimated at 11.4 per cent for 1994 and is projected to fall to around 9 per cent in 1995 (see table 39). However, the growth rate, which fell to as low as 4 per cent in 1990, has kept up a hectic pace since then. Over the 10-year period from 1984 to 1994, the economy of China grew by 9.6 per cent on average. However, it must be mentioned here that these figures should be viewed with caution, especially because of the considerable concern about the accuracy of Chinese statistics. For 1990, estimates of China's GDP on the basis of purchasing power parity vary from $1,200 billion[1] to $2,040 billion (World Bank estimate) and $2,900 billion.[2] Frequent revisions of values of the macroeconomic variables in the recent past have raised doubts about the estimated growth rates.

**Table 39.** China: selected indicators, 1970-1995
*(Percentage)*

| *Economic indicators* | *1970-1980* | *1980-1990* | *1990-1993* | *1994[a]* | *1995[b]* |
|---|---|---|---|---|---|
| GDP growth rate | 6.2 | 8.9 | 11.1 | 11.4 | 9.0 |
| MVA growth rate | 10.2 | 8.7 | 16.4 | 15.8 | 14.0 |
| MVA share of GDP | 26.7 | 26.1 | 28.2 | 31.2 | 32.6 |
| Labour productivity growth rate | . . | . . | . . | . . | . . |

*Note:* For sources and other notes, see technical notes.

[a] Estimated
[b] Projected.

It is clear however that the Chinese economy is growing at a rapid pace. Foreign trade and investment in fixed assets have been the main contributors to this rapid economic growth. According to official statistics, between 1990 and 1993 China's exports increased from around $61.1 billion to around $91.8 billion, and they are expected to reach around $121.9 billion in 1994. Imports also kept pace with exports, rising from around $53.4 billion in 1990 to an estimated $118.2 billion in 1994.

Total investment in fixed assets also increased at buoyant rates. It grew from around 445,000 billion yuan renminbi in 1990 to around 1,246,000 billion yuan renminbi in 1993. During the 1990s, the composition of fixed investment changed slightly. First, according to Chinese official statistics, between 1985 and 1993 the share of State-owned enterprises decreased from some 66 per cent of total investment in fixed assets to 61 per cent, while the share of collectively owned enterprises increased by almost the same amount, from around 13 to 18 per cent. Secondly, the amount of investments directed to basic industries and infrastructure such as energy, raw materials, transport and communications increased to around 57 per cent in 1994. Thirdly, although self-raised funds constitute the main source of finance (about half of the total investment), foreign investments are growing in importance. In 1994 there was a 49 per cent growth above the level in 1993, accounting for more than 7 per cent of the total investment in fixed assets.

A major problem that China continues to face is its high rate of inflation, whose course has remained highly erratic. In 1994 the retail price inflation rate, which understates the inflationary pressure considerably, was estimated at close to 22 per cent, compared with 13 per cent in 1993. High inflation is blamed on a loose monetary and credit policy, due to the weak control that the central bank exercises on credit disbursements, the government budget deficit and the monetization process that the Chinese economy is undergoing. First, State banks, under the direct control of the People's Bank, manage around 80 per cent of China's official assets and support around 100,000 State-owned firms, the backbone of the Socialist economy.[1] Although control in lending to State-owned firms would be recommended because of the generally low levels in the rates of return, the Government usually would not risk allowing it to last for very long because of the possibly dramatic effects on bankruptcies and unemployment. Secondly, the consolidated budget deficits averaged around 4 to 5 per

cent of GDP in recent years because the tax-collection powers of the Government have been lost. These deficits were financed primarily through the creation of money. Thirdly, because of a large influx of foreign exchange, official reserves increased from around $5 billion in 1990 to $39.8 billion in September 1994. Even in relation to 1993, this increase of 87 per cent was difficult to sterilize. As a consequence the ratio of money supply to GDP has been rising steadily.

China's inflation should be seen as part of the transition process from a planned, but highly decentralized economy to a market economy which paradoxically requires strong central control over credit. Provincial and local governments as well as State-owned enterprises have always enjoyed a fair amount of autonomy, and depending on their political clout escaped central control in the past. As the economy moves from a system of fixed prices to one of flexible prices, some of the adjustments required will be effected through nominal price rises. However, some commentators think that as long as inflation accompanies output growth, there is much less to worry about than if there was stagflation. China does not suffer from hyper-inflation, as in some countries of Latin America and eastern Europe. The budget deficit is limited. There has been a broad-based growth in consumption and productive investment, both of which are not normally compatible with rampant inflation. Furthermore, there has been no capital flight, and the confidence of foreign investors remains high. While a lower inflation may no doubt be desirable, and reforms would have to be instituted, there is no cause for alarm in the immediate future.

## Industry

The manufacturing sector has always taken the lead in China's economic growth. In 1994 MVA share was 31.2 per cent of total GDP, and its annual growth rate was estimated at 15.8 per cent. This growth was spread across branches, and MVA growth rates of about 10 per cent were recorded in almost all industries. The major exceptions to this trend were non-electrical machinery (–3.1 per cent), glass and glass products (–2.3 per cent) and metal products (–0.2 per cent) (see table 40). Official statistics show annual increases in production which are often above 20 per cent in specific cases. Between 1992 and 1993, the production of watches, knitwear, cameras, numerically controlled machine tools, motorcycles, internal combustion engines and water meters increased to levels above 60 per cent, and sometimes over 100 per cent. Since many of these products still do not account for a large market share, their outstanding growth rates hardly emerge at the aggregate level.

**Table 40.** China: MVA growth rates and shares by ISIC sector, 1970-1995

*(Percentage)*

| ISIC sector | | Average annual growth rates | | | Annual growth rates | | Share in total MVA |
|---|---|---|---|---|---|---|---|
| | | 1970-1980 | 1980-1990 | 1990-1993 | 1994[a] | 1995[b] | 1994 |
| 311 | Food | 3.8 | 6.5 | 9.9 | 10.0 | 8.3 | 4.8 |
| 313 | Beverages | 7.9 | 9.1 | 17.4 | 10.2 | 10.1 | 3.2 |
| 314 | Tobacco manufactures | 6.2 | 10.7 | 5.2 | 10.1 | 10.0 | 5.8 |
| 321 | Textiles | 1.0 | 1.9 | 4.3 | 6.6 | 4.0 | 9.1 |
| 322 | Wearing apparel | 6.4 | 5.9 | 13.9 | 7.9 | 0.9 | 2.5 |
| 323 | Leather and fur products | 7.5 | 5.0 | 15.0 | 10.1 | 0.3 | 1.2 |
| 324 | Footwear, excluding rubber or plastic | .. | .. | .. | .. | .. | .. |
| 331 | Wood and cork products | –0.9 | 0.5 | 14.0 | 7.3 | 2.9 | 0.6 |
| 332 | Furniture and fixtures | 0.5 | 0.9 | 7.7 | 2.6 | 4.9 | 0.4 |
| 341 | Paper and paper products | 2.8 | 4.7 | 6.7 | 10.1 | 10.3 | 1.9 |
| 342 | Printing and publishing | 2.7 | 4.6 | 12.3 | 8.0 | 10.2 | 1.2 |
| 351 | Industrial chemicals | 4.1 | 6.4 | 9.2 | 10.2 | 8.2 | 8.9 |
| 352 | Other chemical products | 3.4 | 6.1 | 9.2 | 9.7 | 7.7 | 3.5 |
| 353 | Petroleum refineries | 0.2 | 0.1 | 9.1 | 1.0 | 3.4 | 2.6 |
| 354 | Miscellaneous petroleum and coal products | 2.5 | 7.9 | -1.2 | 10.1 | 10.4 | 0.2 |
| 355 | Rubber products | 1.2 | 1.5 | 10.2 | 4.7 | 7.4 | 1.6 |
| 356 | Plastic products n.e.c. | 6.3 | 8.1 | 15.1 | 10.2 | 9.3 | 2.1 |
| 361 | Pottery, china and earthenware | 5.4 | 6.1 | 18.7 | 10.2 | 10.4 | 0.7 |
| 362 | Glass and glass products | 4.1 | 2.8 | 18.7 | –2.3 | 10.1 | 0.8 |
| 369 | Other non-metallic mineral products | 5.9 | 4.9 | 18.7 | 5.1 | 10.4 | 5.8 |
| 371 | Iron and steel | 4.2 | 4.7 | 17.0 | 10.1 | 10.3 | 8.5 |
| 372 | Non-ferrous metals | 6.7 | 5.6 | 10.7 | 10.2 | 8.4 | 2.2 |
| 381 | Metal products, excluding machinery | 1.3 | –0.5 | 7.6 | –0.2 | 3.9 | 2.7 |
| 382 | Non-electrical machinery | 3.1 | 1.7 | 14.6 | –3.1 | 10.2 | 10.8 |
| 383 | Electrical machinery | 3.1 | 13.8 | 13.8 | 10.6 | 10.6 | 8.9 |
| 384 | Transport equipment | 8.8 | 7.4 | 26.9 | 10.2 | 10.4 | 6.5 |
| 385 | Professional and scientific goods | 0.4 | 5.0 | 15.5 | 10.3 | 9.7 | 1.1 |
| 390 | Other manufactures | 4.2 | 6.2 | 11.8 | 10.1 | 10.3 | 2.4 |

*Notes:* Estimated total MVA in 1994 was US$ 136,526 million. MVA figures refer to State-owned and collectively owned enterprises with independent accounts. For sources and other notes, see technical notes.

[a] Estimated.
[b] Projected.

In view of the strength of the manufacturing sector, the composition of China's exports shifted dramatically since the mid-1980s. On one hand, China moved along the same path pursued by Asian NICs in exploiting its low-wage labour to drive an export-oriented growth strategy. On the other hand, cheap Chinese labour motivated private enterprises from neighbouring Hong Kong and Taiwan Province of China to move their labour-intensive production to China. Between 1985 and 1990, manufactures accounted for only around 50 per cent of China's exports. Currently, more than 80 per cent of China's exports are manufactures, particularly labour-intensive products.

A brief look at the sector breakdown reveals that the share of clothing, footwear, toys and sporting goods rose from 16 per cent of China's total exports in 1985 to 35 per cent in 1990. The same trend can be seen for electrical and telecommunication equipment, which in China is still produced by labour-intensive assembly lines. The share for higher-technology products such as radios, telephones, refrigerators and washing machines jumped from 1.6 per cent in 1985 to 14.7 per cent in 1990. This increase was partly due to tax exemptions and other incentives given to high-technology exports.

Distribution of industrial production by type of ownership also changed significantly during the past few years. Between 1985 and 1993, the last year for which data are available, official statistics confirmed that the share of total gross industrial output of State-owned enterprises decreased from about 64 to 43 per cent. During the same period, collectively owned enterprises increased their share from around 32 to 38 per cent, individually owned firms from less than 2 per cent to some 8 per cent, and enterprises of other ownership from just above 1 per cent to around 10 per cent (see table 41 and figure 14).

Although the private sector registered the highest growth rates, the percentage of output is still limited. Socially owned enterprises (that is, State and collective) form the backbone of China's industrial sector. However, substantial changes have taken place within the public sector, State-owned enterprises and collectively owned local public firms. In fact, the increase in rural collective industries in townships and villages has been a remarkable feature of the reform period. As Bowles and Dong[4] state, "The growth of the collective sector has been evident in both the urban and rural areas and is not linked exclusively to the rise of rural industries. The dynamism of this sector is reflected in the fact that the collective sector now produces over 25 per cent of China's total exports and has performed best in the most dynamic coastal part of the country." It was the local government that took the initiative to sponsor enterprises. It also took advantage of the financial resources created by fiscal decentralization and increased extra budgetary funds. This is the obverse side of the lack of central control over credit, which has been a major factor in developing local industries.

**Table 41.** Gross industrial output value by form of ownership, 1985 and 1993

*(Percentage)*

| *Enterprises* | *1985* | *1993* |
|---|---|---|
| State-owned enterprises | 64.86 | 43.13 |
| Collectively owned enterprises | 32.08 | 38.36 |
| Township enterprises | 7.83 | 14.23 |
| Village enterprises | 6.82 | 12.25 |
| Joint urban enterprises | ... | 0.30 |
| Joint rural enterprises | 1.56 | 2.21 |
| Individually owned enterprises | 1.85 | 8.35 |
| Other | 1.21 | 10.16 |
| Total[a] | 971 647 | 5 269 199 |

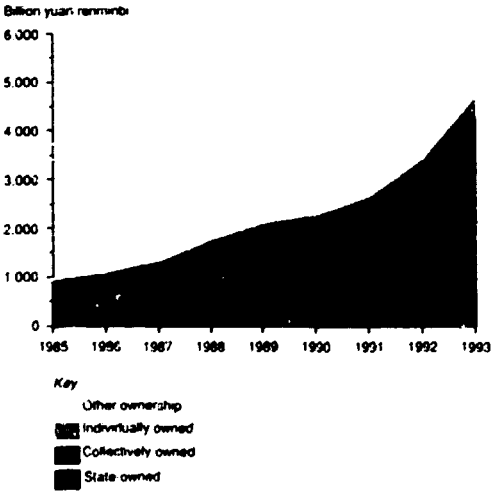
*Source*: Calculated from *Statistical Yearbook of China* (Beijing, 1994), p. 351.

[a] In millions of yuan renminbi and gross output value at current prices.

## Industrial development issues

The industrial sector has been playing a leading role in fostering China's economic development since the 1970s. Real MVA grew at a faster pace than GDP, and currently accounts for around 45 per cent of total GDP. The importance of industrial development as conducive to economic growth has once again been confirmed in the industrial programme being formulated by the Government. This programme delineates China's industrial policies for the next 20 years, and focuses on the four major areas of agricultural development, infrastructure, key industries and foreign trade. Generally, agricultural development is not embodied in any traditional industrial policies programme. However, the specific economic conditions of the country justify its introduction. The main aim of the Government is to stabilize and increase agricultural production by improving yield levels, quality

**Figure 14.** Gross output of industry in China, 1985-1993 *(Current prices)*



and efficiency. This particular industrial programme is only at its drafting stage, and a considerable amount of time will be required to complete the industrial policy package.

## Infrastructure

The Government of China has recognized the necessity to strengthen the development of physical infrastructure, viewed as a means of sustaining growth. Infrastructure is essential for economic growth because, through extensive linkages, it provides the environment for production activities, facilitates the integration of the economy, encourages investment in less developed areas and helps commercialize and diversify the economy.

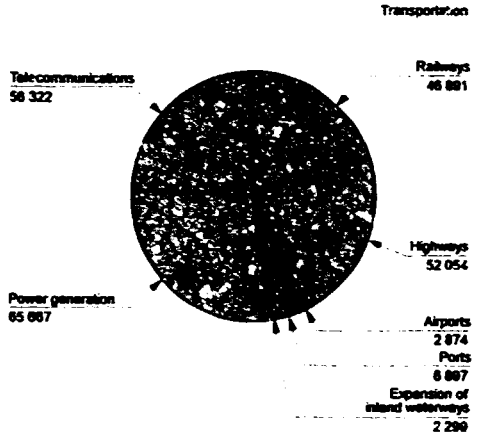
Currently, China's rapid economic growth is fast outpacing the country's provision of physical infrastructure in electric power, telecommunications and water supply. The lack of adequate infrastructure is however more evident in transport. China's transport network has the highest freight utilization rate in the world. Freight intensity, measured in tonnes per unit of GNP, is 10 times the level of Brazil and India, while the tonne kilometre of traffic per unit of GNP is three times higher than in those two countries. In 1992, delays in the delivery of coal supplies from northern mines to southern power plants cost China an estimated $70 billion. Given the expanse of Chinese territory and the disparity in culture of its population, the upgrading and expansion of the domestic transport and distribution system would have to be given top priority if the potential of its immense domestic market is to be exploited. Foreign investors are already beginning to realize that producing goods in one of the world's largest markets will not generate sufficient profits if the distribution system is inefficient.

A 1994 study by a Hong Kong brokerage firm estimated that China would need to invest $52 billion in highways, $47 billion in railways, $7 billion in ports, $3 billion in airports and $2 billion in internal waterways by the year 2000. In addition, China would also need to spend $121 billion on power generation and telecommunications over this period (see figure 15). The report further states that out of the total funds needed to improve Chinese infrastructure, around 20 per cent would be borne by foreign investors, especially in sectors such as electric power, transport and telecommunications, thus providing a markedly improved investment climate to attract such funds.

## Key industries

The Government of China has identified the machinery, electronics, automobile, petrochemicals and construction industries as the five pillars of industrial development. Currently, these industries are in their infancy, and besides accounting for a relatively small share of total GDP, they employ less advanced technologies in comparison with those applied in the same industries in developed countries.

**Figure 15.** Estimated expenditure on infrastructure for China, 1994-2000
*(Millions of US dollars)*




*Source:* Peregrine, Hong Kong, 1994.

The Government of China recently formulated and issued an industrial policy specifically for the development of the automobile industry, the potential of which is enormous. According to the Xinhua News Agency, China could become the world's largest market for passenger cars by the year 2000. It noted that the average number of passenger cars (1.2 per 1,000 persons) was far below the global average of 90.9. Moreover, of the 1.2 million passenger cars in China, only some 5 per cent are privately owned. Based on this information, the Agency estimates that there could be as many as 300 million potential car owners in China.

The main aims of this policy are to expand the economies of scale by establishing a production system with fewer plants and higher outputs to adopt internationally advanced technologies, and to enhance the international competitiveness of China's automobile industry. To meet these targets, the Government identified a series of areas where action has to be taken. First, the Government recognized for the first time the need to encourage Chinese families and individuals to purchase private cars in order to expand domestic demand. Secondly, it proposed the institution of a third-party quality certification system, in accordance with international standards, to act as an arbitrator between producers and consumers to assess the quality of automobiles and certify whether or not the cars can be sold. Thirdly, the Government is in favour of granting a series of preferential measures to the automobile industry such as zero-rate taxes and preferential loans, thus allowing automobile enterprises to set up internal financial companies, and will provide guarantees for the automobile industry to conduct overseas financing. Although some of these preferential policies do not seem to be consistent with the current reform meas-

ures, they are seen as necessary to support and encourage the development of the automobile industry as one of China's strategic industries.

The commitment by the Government to promote the automobile industry was reflected during a visit of the Deputy Prime Minister to the United States. Efforts were made to attract the interest of large United States automobile manufacturers to participate in a "people's car" project. The Government's announcement of its intention to produce domestically 90 per cent of the estimated 2 million passenger cars up to the year 2000 led to a flood of foreign car component manufacturers seeking to establish joint ventures in China. However, in April 1994, a two-year ban was introduced on new foreign joint-ventures in automotive plants, and in September 1994, the Government announced that it would invest $250 million for the expansion of five plants of the Tianjin Automotive Industry in order to produce a combined annual output of 150,000 vehicles a year without any foreign participation. Such developments have not deterred automotive manufacturers from venturing to be first in line when the market opens.

With regard to other key industries, industrial policies are still at the drafting stage. In the specific case of electronics, the Government of China faces the problem of choosing between two different modes of development: the Japanese mode versus the South-East Asian mode. The former is based on the introduction of imported advanced electronic technologies and the intensification of domestic investment to develop new products, but with high customs tariffs to protect the rapid formation of the domestic industry. The latter stresses the importance of making great efforts to take a lead in linking the electronics industry with other manufacturing industries and then to expand gradually.

## Trade policies

Since the introduction of economic reforms, China's trade performance has been astonishing. Its share in world trade doubled in the 1980s, and currently China is the eleventh biggest exporter, accounting for 2.5 per cent of world trade. One of the reform policies implemented included the dismantling of restrictive trade regulations, which resulted in a substantial depreciation of the exchange rate, and together with the availability of cheap labour, encouraged foreign investment and the subsequent growth of the non-State sector. Results are apparent in the changed composition of exports. The share of labour-intensive manufactures in total exports rose from 36 per cent in 1975 to 74 per cent in 1990, while the share of capital-intensive manufactures dropped from 50 to 19 per cent over the same period.

The most recent decision which affected China's foreign trade situation was its failure to rejoin GATT, and its subsequent inability to win a place as a founder-member of the World Trade Organization. The main stumbling-block was China's disagreement with the United States over whether it should be treated as a developing country, granting it exemptions to protect its local industry, or as a developed country, which would require it to adopt the full GATT regime.

China's gains in the future could have been enormous, had it opted to rejoin GATT. The World Bank estimates that if protection levels in the European Union, Japan and the United States were reduced by 50 per cent, China's exports could increase by an estimated 38 per cent. However, had China succeeded in its bid to rejoin the GATT, it might have been drawn into a discussion regarding its stand on its acceptance of common international standards in sensitive areas such as labour and environmental law. In fact, in early 1995, China and the United States were engaged in an intellectual-property misunderstanding which has since been resolved.

## Outlook for 1995

As efforts to cool the economy begin to take effect, growth is expected to decrease from the still overheated level of 11.4 per cent in 1994 to 9.0 per cent in 1995. MVA is forecast to increase to around 14 per cent, while the Government is expected to hold the inflation rate within the range of 11-12 per cent.

Growth on the demand side will continue to be driven by the huge investment appetite of China's industries, and the all-important spending on infrastructure is likely to continue for many years to come. It is anticipated that infrastructure funding will most likely be borne by the non-State sector. Investment demand will continue to remain the driving force behind the desired growth of at least 9 per cent per annum.

As before, the impetus for growth in industrial output will stem from the buoyant private sector in which output is expected to soar. It is here that the dynamism and employment-generating potential of China's economy is concentrated, and it is such enterprises, especially those domestically owned, that will become most vulnerable should the Government deem it necessary to implement sharp curbs on lending to slow down the economy.

Considering the pace of its development, the size of its requirement for imported technology and plant, coupled with the rise in disposable incomes of its citizens, China's foreign trade is likely to run into a deficit. The outlook is for a widening in the trade deficit, with import volume growth outpacing export volume growth in each year, and with both well into double digits.

*Notes*

[1]N. Lardy, *China in the World Economy* (Washington, D.C., Institute for International Economics, 1994).

[2]*Asian Wall Street Journal*, 31 May 1993.

[3]"A survey of China", *The Economist*, 18 March 1995, p. 9.

[4]P.Bowles and Xiao-yuan Dong, "Current successes and future challenges in China's economic reforms", *New Left Review*, November/December 1994.

# East and South-East Asia

The economies of East and South-East Asia continue to expand at an impressive pace, especially the leaders of the ASEAN subregion, namely Malaysia and Thailand, whose GDP growth rates have already surpassed those of the Asian NICs. The upturn in the economy of the Philippines has also been impressive, and it is likely that Viet Nam will soon show remarkable economic growth.

Structural changes within the region are taking place. The relocation of manufacturing activity to the region from developed countries, especially Japan, as well as between countries within the region has already been occurring. While the Republic of Korea and Taiwan Province of China are shifting production to more capital-intensive sectors, the ASEAN economies are entering the market for labour-intensive products. The current economic recovery of the major OECD countries and the widening of trade opportunities after the successful conclusion of the Uruguay Round suggest that the remarkable performance of the region will persist and possibly improve, and that the emerging patterns of international specialization in East and South-East Asia are likely to strengthen. Moreover, recent attempts to advance the process of regional economic integration in the Asia and the Pacific region are expected to reinforce investor confidence.

## Economy

The outstanding performance of East and South-East Asia is well documented. In 1994 the GDP growth rate of the region was 7.2 per cent, which compares with the average annual rate of 6.3 per cent recorded from 1990 to 1993 and of 7.1 per cent in the 1980s. The 1990s have witnessed an important change in the region. High growth rates are no longer confined to the Asian NICs (Hong Kong, Republic of Korea, Singapore and Taiwan Province of China), but they also characterize the ASEAN economies (see table 42 and figure 16).

Economic growth in the Asian NICs has been and will continue to be export led. In 1994 the combined growth rate for the Asian NICs was estimated to be approximately 7 per cent, driven by a surge in exports to Japan as a result of the appreciating yen. At the country level, in 1994 the fastest-growing economy was that of Singapore, with a GDP growth rate of 10.2 per cent, its first double-digit growth rate in six years. The performance of Singapore was sustained by its buoyant external trade and expansion in the manufacturing and financial sectors. The economy of the Republic of Korea also grew by a strong

**Table 42.** East and South-East Asia: selected indicators, 1970-1995
*(Percentage)*

| *Economic indicators* | *1970-1980* | *1980-1990* | *1990-1993* | *1994[a]* | *1995[b]* |
|---|---|---|---|---|---|
| GDP growth rate | 8.1 | 7.1 | 6.3 | 7.2 | 7.1 |
| MVA growth rate | 11.4 | 8.5 | 6.3 | 8.1 | 9.5 |
| MVA share of GDP | 23.3 | 26.4 | 26.5 | 26.7 | 27.3 |
| Labour productivity growth rate | 3.1 | 5.9 | 3.9 | 3.8 | 4.1 |

*Note:* For sources and other notes, see technical notes.
[a]Estimated.
[b]Projected.

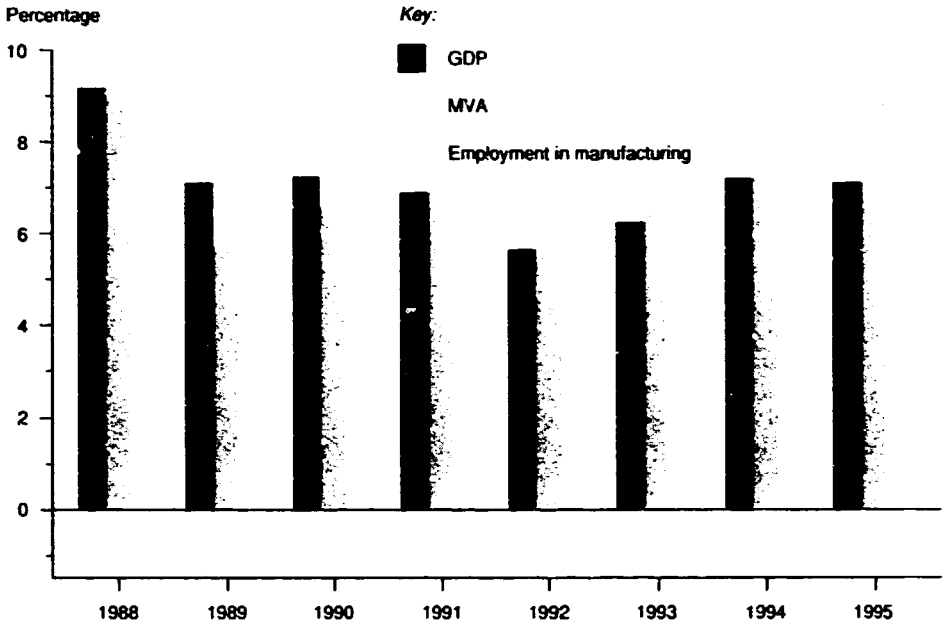
7.9 per cent, stimulated by sound export growth and renewed investment in machinery and equipment. The growth rate of Taiwan Province of China was maintained at 6.3 per cent, its slow-down in exports being offset by increased investments. The GDP of Hong Kong grew at a rate of 5.4 per cent as a result of a rise in domestic demand, despite a decrease in exports.

The most significant changes taking place within the region are, however, occurring in the economies of Indonesia, Malaysia, Philippines and Thailand. Stimulated by increasing FDI during the 1990s, which helped the process of industrialization, the combined economic growth rate for those four countries reached an estimated 7 per cent in 1994. Malaysia and Thailand recorded rapid GDP growth in excess of 8 per cent in 1994, while the Indonesian economy has been growing steadily since 1992, with a more modest growth rate of 6.5 per cent in 1994. But the most dramatic change has been observed in the Philippines, which is beginning to show signs of recovery. Economic growth improved from 0.1 per cent in 1992 to 2 per cent in 1993 and 4.4 per cent in 1994. The Government of the Philippines has been able to resolve its power shortage problem, thus contributing to the general rise in investor confidence.

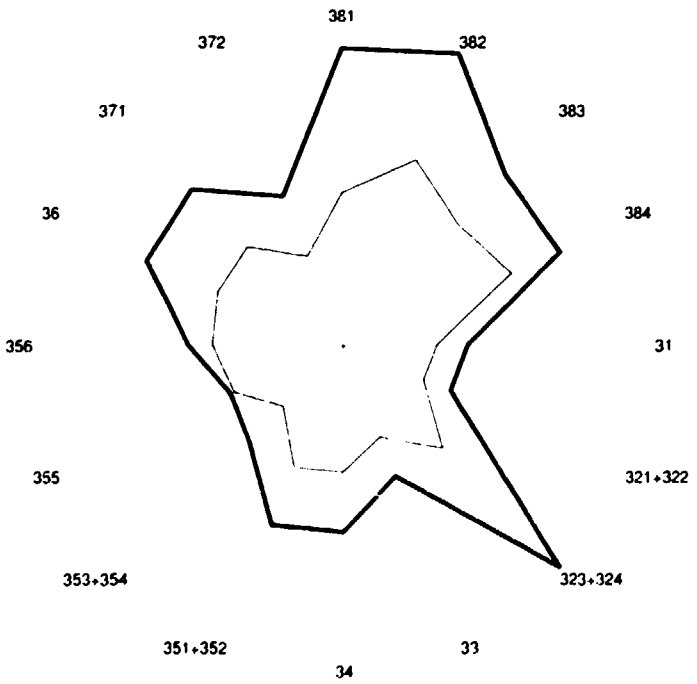
## Industry

The manufacturing sector continues to dominate the development and pace of economic growth in East and South-East Asia. In 1994 the MVA of the region grew at an estimated rate of 8.1 per cent, the highest in the world. Strong growth was registered in almost all countries and territories, the only exceptions being those of Hong Kong, Philippines and Taiwan Province of China, which recorded MVA growth rates in the range of 3-5 per cent.

**Figure 16.** Growth rates of GDP, MVA and manufacturing employment, 1988–1995, and industrial structural change, 1980–1995: East and South-East Asia




Industrial structural change
(Index of value added 1980 = 100)




$g = 7.95$, $\theta = 18.03$

*Source*: UNIDO database; estimates and forecasts by UNIDO/IRD/RES.

*Key:*

Deflated prices of 1990
g = Average annual growth rate, 1980–1995 (percentage)
$\theta$ = Index of structural change, 1980–1995

ISIC code (industries):

| | |
|---|---|
| 31 | (Food products) |
| 321, 322 | (Textiles) |
| 323, 324 | (Leather) |
| 33 | (Wood and furniture) |
| 34 | (Paper and printing) |
| 351, 352 | (Chemicals) |
| 353, 354 | (Petroleum and coal) |
| 355 | (Rubber products) |
| 356 | (Plastic products) |
| 36 | (Non-metal mineral products) |
| 371 | (Iron and steel) |
| 372 | (Non-ferrous metals) |
| 381 | (Metal products) |
| 382 | (Non-electrical machinery) |
| 383 | (Electrical machinery) |
| 384 | (Transport equipment) |

1990–1995 forecast
1985–1990
1980–1985

Few manufacturing branches registered growth rates much below the average of 8.5 per cent in 1994. The fastest-growing branches were footwear (11.1 per cent) and metal products (10.4 per cent). Non-electrical machinery, electrical machinery and other non-metallic mineral products recorded an MVA growth rate of 10.2 per cent. In contrast, miscellaneous petroleum products showed a contraction in production (see table 43).

A comparison of growth rates across countries reveals a growing convergence among the economies of the region. In the 1990s, Indonesia, Malaysia, Philippines and Thailand have been steadily expanding their manufacturing sector at a faster pace than the Asian NICs. As a result, in a few years their share in the MVA of the region has almost doubled (about 22 per cent in 1990 and over 33 per cent in 1994), and the contribution of the industrial sector to GDP has been steadily increasing. In the 1970s the share of MVA in GDP was 23.3 per cent; in 1994 it was 26.7 per cent.

A shift in production towards heavy manufacturing industries is occurring in all four Asian NICs. Due to rising labour costs, those economies have found it more convenient to move to higher-value-added production, leaving the production of more labour-intensive goods to the emerging ASEAN countries. In the Republic of Korea, MVA growth in the heavy and light manufacturing industries was estimated at 13.4 per cent and 2.1 per cent, respectively, in 1994, compared with an overall MVA growth rate of 9.7 per cent. In Taiwan Province of China, the share of

**Table 43.** East and South-East Asia: MVA growth rates and shares by country, territory and ISIC sector, 1970-1995
*(Percentage)*

| Country, territory and ISIC sector | Average annual growth rates | | | Annual growth rates | | Share in total MVA |
|---|---|---|---|---|---|---|
| | 1970-1980 | 1980-1990 | 1990-1993 | 1994[a] | 1995[b] | 1994 |
| | *A. Country breakdown* | | | | | |
| *East and South-East Asia* | | | | | | |
| Hong Kong | 6.9 | 3.5 | -1.5 | 3.7 | 2.5 | 4.2 |
| Indonesia | 15.0 | 11.8 | 9.6 | 8.4 | 10.5 | 10.7 |
| Malaysia | 12.3 | 9.3 | 12.5 | 11.1 | 9.5 | 6.5 |
| Philippines | 6.2 | 0.9 | -0.5 | 4.4 | 5.0 | 4.0 |
| Republic of Korea | 15.5 | 11.9 | 6.2 | 9.7 | 11.4 | 32.9 |
| Singapore | 10.9 | 6.9 | 5.9 | 13.1 | 10.8 | 4.9 |
| Taiwan Province of China | 12.8 | 7.4 | 4.6 | 4.7 | 7.3 | 23.6 |
| Thailand | 10.1 | 9.9 | 11.4 | 9.8 | 11.3 | 12.6 |
| | *B. Industry breakdown* | | | | | |
| 311 Food | 6.6 | 6.1 | 6.2 | 7.2 | 7.2 | 7.4 |
| 313 Beverages | 5.6 | 8.3 | 3.4 | 5.3 | 6.4 | 2.5 |
| 314 Tobacco manufactures | 8.3 | 5.7 | 4.5 | 8.4 | 8.0 | 2.9 |
| 321 Textiles | 9.8 | 4.6 | 6.3 | 5.0 | 6.8 | 7.3 |
| 322 Wearing apparel | 13.5 | 7.1 | 3.9 | 8.2 | 8.3 | 5.1 |
| 323 Leather and fur products | 13.3 | 10.3 | -0.5 | 8.6 | 9.8 | 0.6 |
| 324 Footwear, excluding rubber or plastic | 15.3 | 11.6 | 38.2 | 11.1 | 11.6 | 1.4 |
| 331 Wood and cork products | 7.2 | 5.2 | 3.0 | 7.2 | 7.8 | 1.5 |
| 332 Furniture and fixtures | 12.0 | 10.1 | 13.2 | 9.6 | 10.0 | 1.1 |
| 341 Paper and paper products | 10.0 | 9.1 | 8.4 | 9.2 | 9.5 | 2.3 |
| 342 Printing and publishing | 9.9 | 9.5 | 6.4 | 9.2 | 8.8 | 2.4 |
| 351 Industrial chemicals | 10.9 | 9.9 | 9.7 | 6.1 | 9.7 | 4.6 |
| 352 Other chemical products | 7.4 | 9.8 | 5.2 | 9.0 | 9.1 | 3.7 |
| 353 Petroleum refineries | 9.0 | 5.4 | 10.8 | 8.2 | 8.9 | 4.1 |
| 354 Miscellaneous petroleum and coal products | 10.5 | 4.3 | 1.6 | -0.2 | 8.0 | 0.2 |
| 355 Rubber products | 11.6 | 8.9 | -3.1 | 4.2 | 9.0 | 1.7 |
| 356 Plastic products n.e.c. | 9.6 | 9.9 | 0.5 | 7.9 | 9.1 | 3.1 |
| 361 Pottery, china and earthenware | 13.8 | 7.6 | 12.4 | 8.1 | 8.7 | 0.4 |
| 362 Glass and glass products | 10.6 | 9.7 | 11.4 | 7.6 | 8.6 | 0.9 |
| 369 Other non-metallic mineral products | 12.2 | 10.9 | 8.2 | 10.2 | 10.0 | 4.0 |
| 371 Iron and steel | 13.3 | 10.3 | 10.6 | 6.3 | 10.1 | 5.3 |
| 372 Non-ferrous metals | 13.1 | 6.3 | 12.2 | 8.4 | 9.0 | 0.9 |
| 381 Metal products, excluding machinery | 11.9 | 11.3 | 16.9 | 10.4 | 10.5 | 6.7 |
| 382 Non-electrical machinery | 13.2 | 14.4 | 9.1 | 10.2 | 10.3 | 5.9 |
| 383 Electrical machinery | 13.3 | 12.5 | 5.1 | 10.2 | 10.1 | 13.8 |
| 384 Transport equipment | 13.2 | 13.7 | 2.2 | 9.8 | 10.1 | 7.0 |
| 385 Professional and scientific goods | 25.4 | 7.0 | 5.1 | 9.0 | 8.9 | 1.2 |
| 390 Other manufactures | 8.3 | 6.2 | 1.6 | 5.7 | 7.0 | 2.0 |

*Notes:* Estimated total MVA in 1994 was US$ 397,258 million.
Since the projected share in total MVA for 1994 in Fiji and Papua New Guinea is below 0.5 per cent, they have not been included.
For sources and other notes, see technical notes.

[a]Estimated.
[b]Projected.

heavy industrial exports has increased, and currently exceeds 50 per cent of total exports. In Singapore, some of the more labour-intensive assembly has been shifted to Malaysia, where the labour cost is about 50 per cent less. Singapore has maintained its 40 per cent world market share of computer hard drives. Two of the world's largest manufacturers of sound cards, Creative Technologies and Aztech, are currently based in Singapore.

In such a landscape, Hong Kong stands out as a special case. It is fast becoming a service and information processing centre for China, which can in turn be described as a manufacturing or processing zone for Hong Kong. Goods are mass-produced in low-waged China and exported through Hong Kong, which is far better equipped with infrastructure and marketing facilities. It is therefore not surprising that MVA growth remains low, at 3.7 per cent for 1994.

In Indonesia, Malaysia, Philippines and Thailand, the strengthening of the manufacturing sector is more recent. The industrialization process in Malaysia in the past decade was promoted primarily through the establishment of large enterprises with fiscal incentives, tariff protection policies, and free trade zones at specific locations throughout the country. National development plans have earmarked the manufacturing sector as the driving force behind an average annual growth rate of 7 per cent to the year 2020. The main manufactured exports are electronic goods and components, textile products, wood products and processed rubber.

Similarly, the manufacturing sector is also the driving force of the economy in Thailand. It is the main contributor to GDP, showing a growth rate higher than that of the economy as a whole. Within the manufacturing sector, the leading branches are food processing, textiles, garments, beverages and transport equipment. The past few years have seen, however, a slow-down in the export of Thai textiles. The reasons may be found in changes in the pattern of regional economic specialization, which is characterized by increasing competition from lower-waged labour in China and Indonesia. In order to sustain growth in industry, Thailand has set out to promote its more technology-intensive industries such as electronics, which have expanded rapidly.

In Indonesia, the oil and gas industry is still the most important manufacturing branch. Other industries of relative importance are tobacco (Indonesia produces large amounts of clove cigarettes), textiles and wood products. It has been observed that while the manufacturing sector contributed more than 20 per cent to Indonesian GDP, it employs a much smaller proportion of the total labour force compared with its ASEAN neighbours. The bulk of the workers are employed in small cottage enterprises, which is estimated to account for close to two thirds of the industrial labour force.

The economic upturn in the Philippines was marked by a surge in the MVA growth rate from 0.7 per cent in 1993 to 4.4 per cent in 1994. Manufacturing production has recovered in the chemicals, petroleum and machinery (both electrical and non-electrical) industries. Exports of semiconductors and electronics increased during the year, although the previous trend in the growth of textile exports has declined, and the buoyant foreign demand for wood products has ended. The Government of the Philippines has also deregulated the telecommunications sector, resulting in a sharp reduction in the backlog of connections by over 20 per cent in one year.

## Industrial development issues

### Developments in trade

East and South-East Asia face three interconnected issues which also apply in varying degrees to other emerging markets. The first issue involves regional economic integration, which may or may not be taking place at the formal institutional level, but is apparent nevertheless in the form of higher levels of regional trade and investment flows. The second issue concerns structural changes in domestic markets because of the emergence of new patterns of comparative advantage. The third issue relates to the possible impact that high rates of growth in the region may have on the economies of developed countries.

With regard to the first issue, intraregional trade has been increasing steadily over the past 10 years. The share of exports from the Asian NICs to other Asian developing countries in the region rose from 25.2 per cent to 32.3 per cent between 1985 and 1992, and the share from ASEAN increased from 27.4 per cent to 28.5 per cent during the same period. As the region develops, the demand for manufactured goods produced in the region will increase. Any regional trade arrangements through APEC and within ASEAN will spur a further growth in the share of intraregional trade (see table 44).

At the APEC summit held at Bogor, Indonesia, in 1994, it was proposed that trade barriers among the APEC countries should be reduced, starting from the year 2000. The schedule for liberalization is as follows: by 2010 developed countries are to lift all their restrictions on intra-APEC trade and investment; by 2015 the Asian NICs are to do the same; and by 2020 all APEC members, even the poorest, are to have eliminated all barriers. Also, the ASEAN Free Trade Area is committed to reducing tariffs within the subregion over the next 10-15 years. Tariff reduction will occur in stages, and by the end of the time period, all tariffs will be reduced to the level of zero to 5 per cent.

Concerning the second issue, the progress of economic integration in the region is rather complex because it involves the inclusion of China and Japan in the identification of the comparative advantages among countries in the region. However, the recent composition of industrial production and trade in the countries of East and South-East Asia suggests that structural changes are already occurring. In general,

Table 44. Direction of exports of East and South-East Asian countries, regions or territories, 1985 and 1992
*(Percentage share)*

| Country, region or territory of origin | Developing countries in Asia | | Japan | | United States | | European Union | | Other | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 1985 | 1992 | 1985 | 1992 | 1985 | 1992 | 1985 | 1992 | 1985 | 1992 |
| Asian NICs | 25.2 | 32.3 | 9.2 | 8.9 | 25.8 | 23.9 | 9.4 | 12.7 | 28.4 | 20.1 |
| Hong Kong | 35.6 | 38.7 | 4.2 | 5.2 | 30.8 | 23.1 | 11.8 | 15.0 | 17.6 | 18.0 |
| Republic of Korea | 12.9 | 25.4 | 15.0 | 15.5 | 35.6 | 24.3 | 10.4 | 11.7 | 26.1 | 23.1 |
| Singapore | 36.6 | 37.7 | 9.4 | 5.7 | 21.2 | 21.2 | 10.1 | 14.0 | 22.7 | 21.4 |
| Taiwan Province of China | 15.6 | 28.4 | 11.3 | 10.9 | 15.5 | 28.9 | 5.5 | 10.7 | 52.1 | 21.1 |
| ASEAN | 27.4 | 28.5 | 27.2 | 21.1 | 19.3 | 20.3 | 12.5 | 15.1 | 13.5 | 14.9 |
| Indonesia | 17.2 | 24.4 | 46.2 | 34.3 | 21.7 | 13.7 | 6.0 | 12.9 | 8.9 | 14.7 |
| Malaysia | 38.1 | 41.1 | 24.6 | 13.3 | 12.8 | 18.7 | 13.6 | 13.7 | 10.9 | 13.2 |
| Philippines | 19.5 | 12.9 | 19.0 | 20.6 | 35.9 | 41.8 | 13.8 | 18.2 | 11.8 | 6.5 |
| Thailand | 27.1 | 21.9 | 13.4 | 17.5 | 19.7 | 22.5 | 17.6 | 18.2 | 22.2 | 19.9 |

*Source:* Asian Development Bank, *Asian Development Outlook* (Hong Kong, Oxford University Press, 1994).
*Note:* Figures for NICs and ASEAN are weighted averages with 1992 as the base year.

the ASEAN countries (excluding Singapore) are moving at different speeds to occupy sectors previously dominated by the Asian NICs. The changing structure of production in the Asian NICs is visible in the diminishing share of national output in more labour-intensive products, while output in heavy and capital-intensive goods grows faster (as seen in the Republic of Korea). This shift in the production structure has been further intensified by the current appreciation of the yen. Stimulated by increasing demand for higher-stage processed products from Japan, high-technology industries in Asian NICs have been expanding even further.

As regards the third issue, the impact of rapid growth in East and South-East Asia on potential world gains from trade liberalization is likely to be positive. In a recent report by the World Bank,[1] it was noted that an across-the-board tariff cut by 50 per cent in all East Asian countries would raise world GDP by 0.4 per cent, of which about 90 per cent of the gains would go to countries in the APEC region. China would see its national income rise by 3.9 per cent. The GDP of the six ASEAN economies would climb by an aggregate 5 per cent, and the four NICs could each expect average increases of about 1.4 per cent. If, however, the countries of the region were to liberalize trade and investment only among themselves and to the same extent, then their gains would be roughly halved. Preferential treatment for intra-regional trade and investment would deter imports of goods produced more cheaply elsewhere, as well as diverting investment from more profitable business opportunities outside the region.

Competition for capital, however, is regarded by some observers as a potential area of tension between the East and South-East Asian countries and the rest of the world. Power shortages, transport problems and the demand for telecommunications highlight the need for substantial investment. A Hong Kong securities firm has estimated that the region will need $750 billion of new investment up to 1999.[2] The World Bank has estimated that infrastructure spending will rise from 4 per cent of GDP in the 1980s to 7 per cent in the 1990s. It can be assumed that despite the high rates of domestic saving, capital inflows will be necessary. It is important, however, to put Asia's growing need for capital into context. The current account deficit of the United States in 1994 exceeds the predicted inflows of capital into all Asian countries, excluding Japan, during the next five years. Much of this capital will take the form of FDI and portfolio investment. Financial reform in Asia as well as the development of efficient capital markets in the economies of China and India should also result in more efficient allocation of savings.

## Developing small- and medium-scale enterprises

Governments within the region are increasingly recognizing the potential of small- and medium-scale enterprises in industrial development, and many programmes have been initiated to enhance the linkage between such enterprises and large industries.[3] Such programmes include the following:

*(a) Tax incentives.* Both Malaysia and Singapore have instituted tax incentives to promote subcontracting between transnational enterprises and small- and medium-scale enterprises;

*(b) Specific institutional arrangements.* Under such arrangements, a large "umbrella" company helps to coordinate production and marketing for small- and medium-scale enterprises. Examples are found in Indonesia ("foster-father" programme), Malaysia, Singapore (local industry upgrading programme) and Taiwan Province of China (centre-satellite factory system);

*(c) Vendor development schemes.* Under such schemes, large enterprises give focused assistance to local small- and medium-scale enterprises, as in the case of Hyundai in the Republic of Korea;

*(d) Local content requirements.* Such requirements are applied to transnational enterprises in order to promote interfirm linkages;

*(e) Information provision and exchange.* This is designed to enhance the flow of information to small- and medium-scale enterprises that are too small to effectively obtain it themselves;

*(f) Cluster creation.* Clustering complementary enterprises has allowed more effective implementation of promotional programmes for small- and medium-scale enterprises. In Indonesia, the Small-scale Industries Development Programme clusters related small- and medium-scale enterprises to enhance technical assistance to them.

It has been observed that successful programmes are those which move towards increasing the absorptive capabilities of small- and medium-scale enterprises to make them more attractive to large enterprises, and which open new markets for them to export their goods. Where schemes have failed, the cause is usually the ineffective implementation of policies. In the Republic of Korea, Singapore and Taiwan Province of China, where the schemes have been particularly successful, strong coordinating agencies were in place: the Investment Development Bureau in Taiwan Province of China; the Ministry of International Trade and Industry in the Republic of Korea; and the Economic Development Board in Singapore. On the other hand, in Indonesia, Malaysia and Thailand, where the schemes have met with less success, the institutions have been plagued with communication problems. There are various reasons for the failure to achieve the desired results. Commonly cited reasons are the lack of private sector involvement, inconsistencies in implementation, lack of communication between agencies, unfair regulatory burdens placed on small- and medium-scale enterprises and lack of managerial accountability.

## Outlook for 1995

In 1995, growth in the region is projected to continue at a healthy pace, with the highest growth rates in the world. In 1995 the GDP and MVA growth rates of the region are projected to be 7.1 per cent and 9.5 per cent, respectively. Growth in the near future is likely to be influenced by factors such as additional infrastructure investment in the ASEAN countries and the availability of international credit for investment to cover the shortage of national savings.

For the Asian NICs, the economic recovery in the OECD countries is expected to sustain the stimulus and demand for exports. The resulting GDP growth rate is projected to be approximately 7.5 per cent in 1995. The appreciation of the yen will also lead to more low-technology exports to Japan and stimulate the growth of domestic capital and technology-intensive industries in the region. The completion of the Uruguay Round will, however, bring reductions in import barriers in Asian countries, giving rise to pressures for industrial adjustment.

The ASEAN countries that are in the process of catching up with the NICs are expected to continue enjoying the high rates of growth of the past few years. The GDP growth rate of Indonesia, Malaysia, Philippines and Thailand in 1995 has been estimated at above 7 per cent. Their dependence on foreign capital to finance growth is a potential source of vulnerability, but recent experience suggests that somewhat higher interest rates are apparently sufficient to confirm the region's reputation for financial probity.

*Notes*

[1]World Bank, *East Asia's Trade and Investment: Regional and Global Gains from Liberalization* (Washington, D.C., 1994)

[2]"A survey of Asian finance", *The Economist* 12-18 November 1994.

[3]Saha Dhevan Meyanathan, ed., *Industrial Structures and the Development of Small and Medium Enterprise Linkages: Examples from East Asia*, Economic Development Institute Seminar Series (Washington, D.C., World Bank, 1994).

# *Part Three*

# World industry development indicators: statistical annex

## Technical notes

1. Sources for the following country tables are:

*(a)* The UNIDO consolidated database of Industrial Statistics;

*(b)* National Accounts Statistics from United Nations Statistical Office (UNSO) (all entries followed by "/na") supplemented by other sources (listed below under item 7);

*(c)* Population figures from United Nations demographic statistics and United Nations *Monthly Bulletin of Statistics*;

*(d)* Estimates and forecasts of GDP and MVA (manufacturing value added from National Accounts Statistics for 28 industrial branches) by UNIDO/IRD/RES (Studies and Research Branch).

2. All values are in millions of United States dollars at current prices, except where otherwise indicated. Official exchange rates have been applied in general to generate dollar values. For selected countries and selected periods a correction factor was calculated to compensate for temporary overvaluation of the national currency (Afghanistan, Argentina, Brazil, Chile, Dominican Republic, El Salvador, Egypt, Ghana, Guatemala, Honduras, Nicaragua, Nigeria, Paraguay, Peru, Sierra Leone, Syrian Arab Republic, Trinidad and Tobago, Uganda and Uruguay). The correction was done by adapting exchange rates to the reported inflation rates.

Exchange rates for Hungary, Poland and Romania are average market (principal) rates as reported by IMF in *International Financial Statistics*.

3. Figures followed by "/c" are in 1990 constant prices.

4. For the centrally planned economies UNSO provides an estimate of GDP based on country reports of net material product (NMP). NMP figures are no longer reported. MVA is estimated from industrial activities by applying a reduction factor derived from industrial statistics.

5. There are two parts to the annex. The first part consists of full-page reports on 109 countries for which more complete data are available. This is a subset of the sample of 127 countries used to derive the sectoral forecasts of MVA for 28 industrial branches. Each of these pages contains a diagram of industrial structural change, graphs of GDP and MVA growth rates, described in items 6 and 7 below, and tabular data as described in items 8 to 13 below.

The second part of the annex consists of short tables for each of the remaining countries.

6. The diagram of industrial structural change is based on the value added in 1990 deflated prices. In general, the GDP-deflator is used for the conversion. If no GDP deflator was available, the consumer price deflator has been used. For each branch an index number for the years 1985, 1990 and 1995 is calculated relative to 1980. The index number determines the distance from the origin of the star diagram. For each year the index numbers are connected by a line which reflects the typical "shape" of expansion for the specific country. Since the size of expansion (absolute values of the index numbers) is different in each country, a different scale is used in each diagram. The largest index number of all branches is therefore given below the right end of the horizontal axis. The two numbers in the box on the upper right-hand side are $g$ (the average annual growth rate for the period 1980 to 1995); and $\theta$ (the index of structural change (defined below) for the same period).

7. GDP and MVA growth rates are mainly based on data supplied by UNSO. However when no UNSO figure was reported, a figure was taken from one of the following sources:

*(a)* National statistical institute of the country concerned;

*(b)* United Nations regional economic commission for the country concerned;

*(c)* *International Financial Statistics* (Washington, D.C., International Monetary Fund);

*(d)* *National Accounts, Detailed Tables* (Paris, Organisation for Economic Co-operation and Development) vol. II;

*(e)* *World Outlook* and *Quaterly Economic Review* (London, Economist Intelligence Unit);

*(f)* *World Tables* (Washington, D.C., World Bank);

*(g)* *Economic Forecast* (Amsterdam, North-Holland);

*(h)* Asian Development Bank;

*(i)* African Development Bank.

Otherwise, the figure is estimated on the basis of statistical analysis and other ad hoc information, including various periodicals and newspapers.

Forecast growth rates for 1994 to 1997 for each country were projected using:

*(a)* The long-term trend in GDP;

*(b)* The cyclical deviations from that trend;

*(c)* When it proved significant, GDP in another country or a group of other countries.

Growth rates of aggregate MVA (from National Accounts) were forecast on the basis of regression techniques establishing a relationship between MVA and GDP. Five different types of regression are tested for this purpose. The relationship producing the best *ex-post* forecasting figures was finally selected.

Estimates of sectoral MVA for the period 1993-1995 for each country were based on regression equations which contain GDP, aggregate MVA, lagged own-sector MVA and production indices as independent variables. Regressions are performed using deflated sectoral MVA values. Results are then reconverted into current dollar figures. Again various sources and UNIDO estimates were used to improve the coverage of the data. The forecasts are based on estimates of the contribution of two components: *(a)* the dependence of the sector on the overall economic situation in the country concerned, expressed in terms of GDP or MVA; and *(b)* the sector-specific time behaviour expressed in terms of a lag structure of the value added of the sector.

8. Two figures are reported for MVA. One is based on the national income accounts definition and the other on the industrial census definition. The main differences are as follows:

*(a)* Included in the national income accounts figure but not in the industrial census figure is the activity of establishments with less than some specified number of employees, typically 5 or 10, but the number is not fixed across countries;

*(b)* In the industrial census, each establishment is considered to be either industrial or non-industrial, and all activities for the establishment are similarly classified, whereas in the national income acounting framework, output is classified as industrial depending on the nature of the product.

The industrial census data include the receipts for, and exclude the costs of, non-industrial activities.

For further information, see *International Recommendations for Industrial Statistics*, Statistical Papers, Series M, No. 48, Rev.1 (United Nations publication, Sales No. E.83.XVII.8).

9. The figures under the item "profitability" are defined as follows:

Intermediate input = 100.(gross output–value added)/gross output

Wages and salaries = 100.(wages and salaries)/gross output

Operating surplus = 100.(value added–wages and salaries)/gross output

10. The items "profitability" and "productivity" are averages across all branches, except that only those branches were included for which all the required data (gross output, value added, wages and salaries, and employment) were available. Whenever available the number of persons engaged was used for the calculation, otherwise the number of employees was used.

11. For the calculation of the structural indices and the value of $\theta$ in the diagram of industrial structural change, value added figures in 1990 deflated prices were used.

The measure for structural change, $\theta$, is defined by:

$$\cos\theta = \frac{\sum_i s_i(t).s_i(t-1)}{\sqrt{\sum_i s_i(t)^2.\sum_i s_i(t-1)^2}}$$

where $s_i(t)$ is the share of the i-th branch in total manufacturing value added in the year $t$.

The value $\theta$ can be interpreted as the angle between the two vectors $s_i(t-1)$ and $s_i(t)$ measured in degrees. The theoretical maximum value of $\theta$ is 90 degrees.

12. The item "MVA growth rate /$\theta$" is the growth rate of real value added per degree of structural change between the periods $t-1$ and $t$.

13. The degree of specialization is defined as follows:

$$h = 100.\left(1 + \frac{\sum_i s_i.\ln s_i}{h_{max}}\right)$$

where $s_i$ is defined as above, $h_{max} = \ln$ (number of branches) and $\ln$ is the natural logarithm.

If the shares of all branches are equal, the degree of specialization equals 0. If only one branch exists, the value is 100.

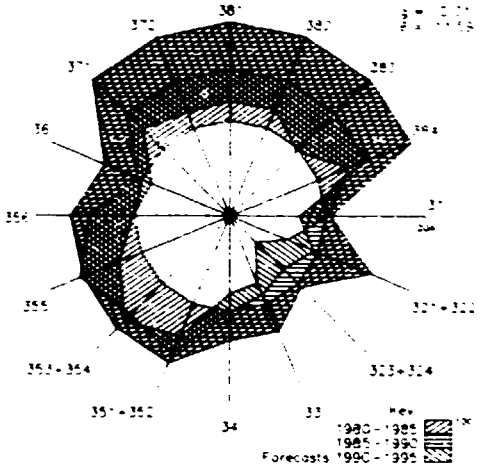
*Summary of indicators*

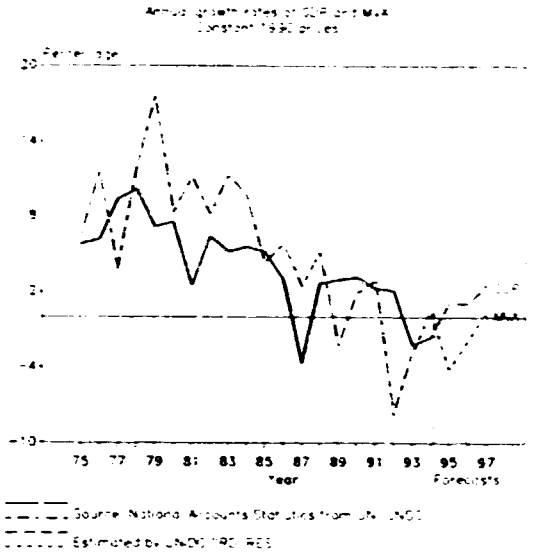
| | |
|---|---|
| /na | value originating from national accounts statistics |
| /c | in 1990 constant prices |
| *italic* | estimated by UNIDO/IRD/RES |
| .. | no value available |
| — | value is less than half a unit |

Questions concerning the preparation of data can be directed via E-mail to ugg@unido1.iaea.or.at (Internet) or ugg@unido1.bitnet.

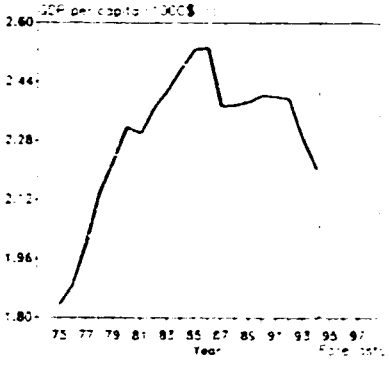
## Regional classification of countries and territories

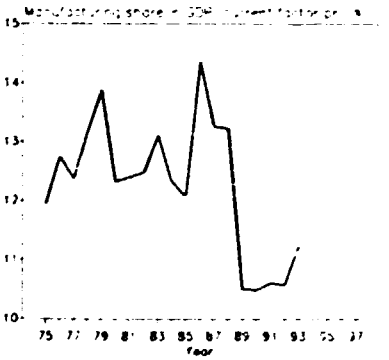
| *Country or territory* | *Region* | | *Page* |
|---|---|---|---|
| AFGHANISTAN | Indian Subcontinent | (IN) | 230 |
| ALBANIA | Eastern Europe excl. former USSR | (EE) | 230 |
| ALGERIA | North Africa | (AN) | 121 |
| ARGENTINA | Latin America and the Caribbean | (LA) | 122 |
| ARMENIA | Asian part of former USSR | (UA) | 230 |
| AUSTRALIA | Other developed countries | (OD) | 123 |
| AUSTRIA | Western Europe (industrialized) | (EN) | 124 |
| AZERBAIJAN | Asian part of former USSR | (UA) | 230 |
| BAHAMAS | Latin America and the Caribbean | (LA) | 230 |
| BAHRAIN | Western Asia | (WA) | 230 |
| BANGLADESH | Indian Subcontinent | (IN) | 125 |
| BARBADOS | Latin America and the Caribbean | (LA) | 126 |
| BELARUS | Former USSR | (SU) | 231 |
| BELGIUM | Western Europe (industrialized) | (EN) | 127 |
| BELIZE | Latin America and the Caribbean | (LA) | 231 |
| BENIN | Tropical Africa (Sub-Sahara) | (TA) | 231 |
| BERMUDA | North America | (NA) | 231 |
| BHUTAN | Indian Subcontinent | (IN) | 231 |
| BOLIVIA | Latin America and the Caribbean | (LA) | 128 |
| BOSNIA AND HERZEGOVINA | Eastern Europe excl. former USSR | (EE) | 231 |
| BOTSWANA | Tropical Africa (Sub-Sahara) | (TA) | 129 |
| BRAZIL | Latin America and the Caribbean | (LA) | 130 |
| BRUNEI DARUSSALAM | East and South-East Asia, Oceania | (AS) | 232 |
| BULGARIA | Eastern Europe excl. former USSR | (EE) | 131 |
| BURKINA FASO | Tropical Africa (Sub-Sahara) | (TA) | 132 |
| BURUNDI | Tropical Africa (Sub-Sahara) | (TA) | 133 |
| CAMEROON | Tropical Africa (Sub-Sahara) | (TA) | 134 |
| CANADA | North America | (NA) | 135 |
| CAPE VERDE | Tropical Africa (Sub-Sahara) | (TA) | 232 |
| CENTRAL AFRICAN REPUBLIC | Tropical Africa (Sub-Sahara) | (TA) | 136 |
| CHAD | Tropical Africa (Sub-Sahara) | (TA) | 232 |
| CHILE | Latin America and the Caribbean | (LA) | 137 |
| CHINA | Centrally planned Asia | (OA) | 138 |
| COLOMBIA | Latin America and the Caribbean | (LA) | 139 |
| CONGO | Tropical Africa (Sub-Sahara) | (TA) | 140 |
| COSTA RICA | Latin America and the Caribbean | (LA) | 141 |
| CÔTE D'IVOIRE | Tropical Africa (Sub-Sahara) | (TA) | 142 |
| CROATIA | Eastern Europe excl. former USSR | (EE) | 143 |
| CUBA | Latin America and the Caribbean | (LA) | 144 |
| CYPRUS | Western Asia | (WA) | 145 |
| CZECH REPUBLIC | Eastern Europe excl. former USSR | (EE) | 232 |
| CZECHOSLOVAKIA, FORMER | Eastern Europe excl. former USSR | (EE) | 146 |
| DENMARK | Western Europe (industrialized) | (EN) | 147 |
| DJIBOUTI | Tropical Africa (Sub-Sahara) | (TA) | 232 |
| DOMINICAN REPUBLIC | Latin America and the Caribbean | (LA) | 148 |
| ECUADOR | Latin America and the Caribbean | (LA) | 149 |
| EGYPT | North Africa | (AN) | 150 |
| EL SALVADOR | Latin America and the Caribbean | (LA) | 151 |
| EQUATORIAL GUINEA | Tropical Africa (Sub-Sahara) | (TA) | 232 |
| ESTONIA | Former USSR | (SU) | 233 |
| ETHIOPIA AND ERITREA | Tropical Africa (Sub-Sahara) | (TA) | 152 |
| FIJI | East and South-East Asia, Oceania | (AS) | 153 |
| FINLAND | Western Europe (industrialized) | (EN) | 154 |
| FRANCE | Western Europe (industrialized) | (EN) | 155 |
| FRENCH GUIANA | Latin America and the Caribbean | (LA) | 233 |
| FRENCH POLYNESIA | East and South-East Asia, Oceania | (AS) | 233 |
| GABON | Tropical Africa (Sub-Sahara) | (TA) | 156 |
| GAMBIA | Tropical Africa (Sub-Sahara) | (TA) | 157 |
| GEORGIA | Asian part of former USSR | (UA) | 233 |
| GERMANY, EASTERN PART | Western Europe (industrialized) | (EN) | 158 |
| GERMANY, WESTERN PART | Western Europe (industrialized) | (EN) | 159 |
| GHANA | Tropical Africa (Sub-Sahara) | (TA) | 233 |
| GREECE | Western Europe (south) | (ES) | 160 |
| GUADELOUPE | Latin America and the Caribbean | (LA) | 233 |

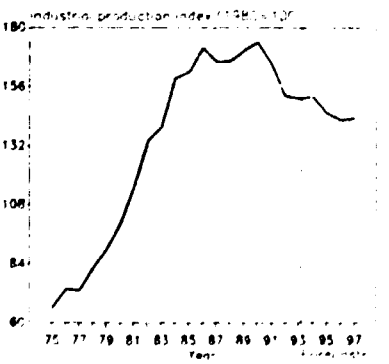




| | 1980 | 1985 | 1990 | 1993 |
|---|---|---|---|---|
| **GDP:[a] (millions of 1990-dollars)** | 43 416 | 55 328 | 59 902 | 61 137 |
| Per capita[a] (1990-dollars) | 2 317 | 2 528 | 2 402 | 2 288 |
| Manufacturing share[a] (%) (current factor prices) | 12.3 | 12.1 | 10.5 | 11.2 |
| **MANUFACTURING:** | | | | |
| Value added[a] (millions of 1990-dollars) | 3 333 | 5 101 | 5 783 | 5 326 |
| Industrial production index (1980=100) | 100 | 162 | 174 | 151 |
| Value added (millions of dollars) | *3 644* | *6 499* | *4 390* | *3 652* |
| Gross output (millions of dollars) | 9 023 | 14 579 | *11 951* | *9 849* |
| Employment (thousands) | 312 | 514 | 578 | *620* |
| **-PROFITABILITY:(in percent of gross output)** | | | | |
| Intermediate input (%) | 60 | 55 | *63* | *63* |
| Wages and salaries including supplements (%) | 22 | 24 | *27* | *24* |
| Gross operating surplus and net taxes (%) | 18 | 21 | *9* | *13* |
| **-PRODUCTIVITY:(dollars)** | | | | |
| Gross output per worker | 28 928 | 28 353 | *20 647* | *15 784* |
| Value added per worker | 11 682 | 12 639 | *7 597* | *5 877* |
| Average wage (including supplements) | 6 380 | 6 760 | *5 685* | *3 872* |
| **-STRUCTURAL INDICES:** | | | | |
| Structural change θ (5-year average in degrees) | 3.90 | 5.10 | *7 67* | *10 28* |
| as a percentage of average θ in 1970-1975 | 71 | 92 | *139* | *186* |
| MVA growth rate / θ | 2 51 | 1.74 | -0.71 | -0.43 |
| Degree of specialization | 14.4 | 13.8 | 12.7 | 19.1 |
| **-VALUE ADDED:(millions of dollars)** | | | | |
| 311/2 Food products | 655 | 811 | *499* | *870* |
| 313 Beverages | 135 | 167 | *125* | *212* |
| 314 Tobacco products | 176 | 218 | *135* | *233* |
| 321 Textiles | 282 | 529 | *297* | *139* |
| 322 Wearing apparel | 227 | 426 | *228* | *89* |
| 323 Leather and fur products | 57 | 71 | *48* | *11* |
| 324 Footwear | 100 | 124 | 85 | *27* |
| 331 Wood and wood products | 109 | 168 | *105* | *71* |
| 332 Furniture and fixtures | 51 | 79 | *49* | *37* |
| 341 Paper and paper products | 129 | 198 | *142* | *95* |
| 342 Printing and publishing | 14 | 22 | *16* | *11* |
| 351 Industrial chemicals | 14 | 27 | *24* | *13* |
| 352 Other chemical products | 93 | 183 | *157* | 85 |
| 353 Petroleum refineries | 83 | 164 | 133 | *111* |
| 354 Miscellaneous petroleum and coal products | 4 | 8 | 6 | 5 |
| 355 Rubber products | 17 | 33 | *31* | *14* |
| 356 Plastic products | 34 | 67 | 54 | *24* |
| 361 Pottery, china and earthenware | 10 | 17 | *12* | *9* |
| 362 Glass and glass products | 36 | 61 | *42* | *34* |
| 369 Other non-metal mineral products | 355 | 592 | *404* | *326* |
| 371 Iron and steel | 323 | 774 | 537 | *389* |
| 372 Non-ferrous metals | 19 | 45 | 31 | *21* |
| 381 Metal products | 265 | 638 | 443 | *305* |
| 382 Non-electrical machinery | 46 | 112 | 78 | *53* |
| 383 Electrical machinery | 123 | 297 | 206 | *116* |
| 384 Transport equipment | 181 | 435 | 302 | *213* |
| 385 Professional and scientific equipment | 30 | 71 | 50 | *32* |
| 390 Other manufacturing industries | 76 | 162 | 151 | *105* |

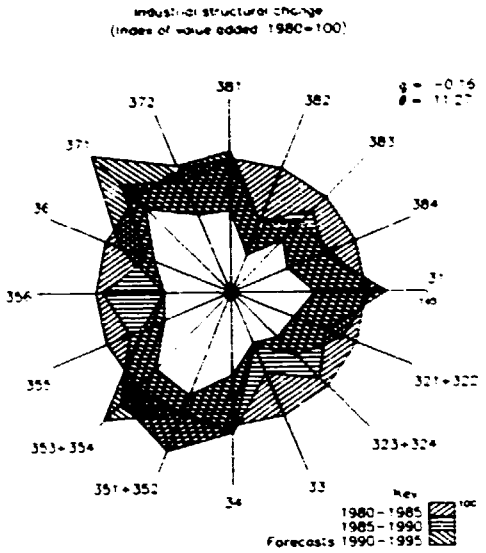


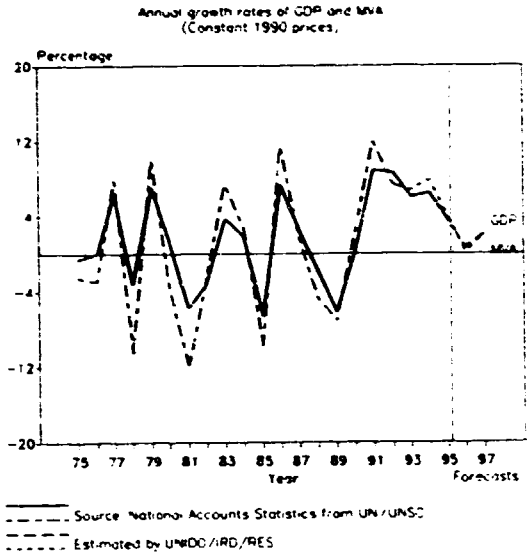




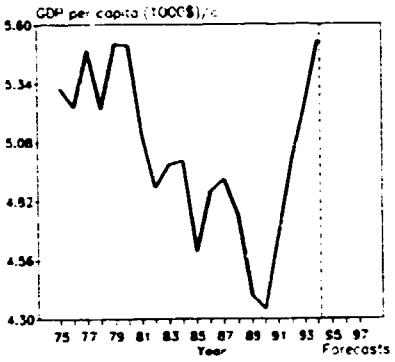
For sources, footnotes and comments see "Technical notes" at the beginning of this Annex.

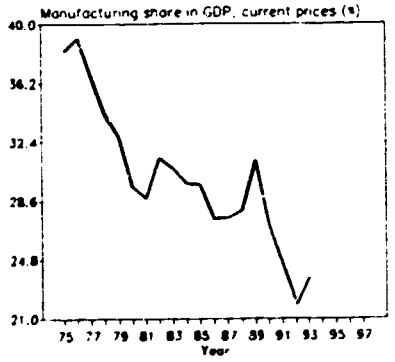
## ARGENTINA

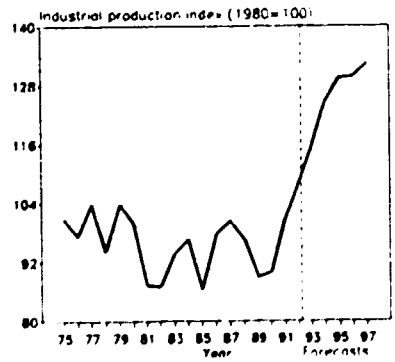


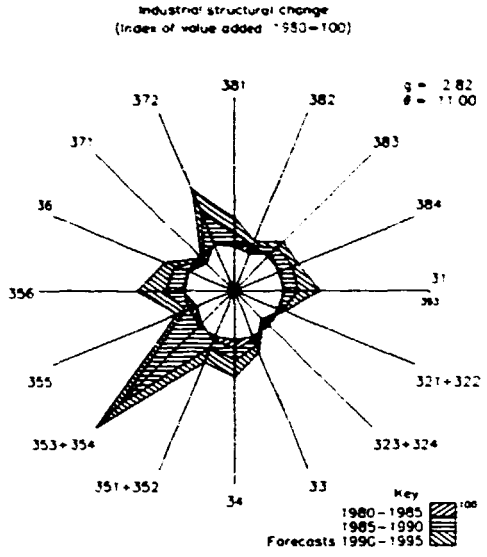

| | 1980 | 1985 | 1990 | 1993 |
|---|---|---|---|---|
| **GDP:[as]** (millions of 1990-dollars) | 154 856 | 139 446 | 141 350 | 177 353 |
| Per capita[as] (1990-dollars) | 5 508 | 4 598 | 4 343 | 5 250 |
| Manufacturing share[as] (%) (current factor prices) | 29.5 | 29.6 | 27.1 | 23.6 |
| **MANUFACTURING:** | | | | |
| Value added[as] (millions of 1990-dollars) | 43 565 | 37 053 | 37 867 | 48 545 |
| Industrial production index (1980=100) | 100 | 86 | 90 | 116 |
| Value added (millions of dollars) | 24 511 | 28 891 | 31 156 | 76 883 |
| Gross output (millions of dollars) | 55 936 | 48 084 | 78 999 | 191 023 |
| Employment (thousands) | 1 346 | 1 174 | 942 | 948 |
| **-PROFITABILITY:**(in percent of gross output) | | | | |
| Intermediate input (%) | 56 | 40 | 61 | 60 |
| Wages and salaries including supplements (%) | 10 | 11 | 8 | 8 |
| Gross operating surplus and net taxes (%) | 33 | 49 | 31 | 32 |
| **-PRODUCTIVITY:**(dollars) | | | | |
| Gross output per worker | 41 553 | 34 798 | 83 876 | 201 388 |
| Value added per worker | 18 208 | 20 908 | 33 079 | 81 135 |
| Average wage (including supplements) | 4 301 | 4 411 | 6 766 | 16 256 |
| **-STRUCTURAL INDICES:** | | | | |
| Structural change θ (5-year average in degrees) | 5.07 | 4.84 | 3.91 | 2.81 |
| as a percentage of average θ in 1970-1975 | 148 | 141 | 114 | 82 |
| MVA growth rate / θ | -0.57 | 0.00 | -2.05 | 0.40 |
| Degree of specialization | 13.0 | 15.9 | 16.3 | 17.4 |
| **-VALUE ADDED:**(millions of dollars) | | | | |
| 311/2 Food products | 3 544 | 4 912 | 4 695 | 12 092 |
| 313 Beverages | 703 | 942 | 932 | 2 392 |
| 314 Tobacco products | 498 | 719 | 480 | 1 271 |
| 321 Textiles | 1 703 | 1 832 | 2 209 | 5 775 |
| 322 Wearing apparel | 919 | 558 | 492 | 1 371 |
| 323 Leather and fur products | 284 | 350 | 336 | 824 |
| 324 Footwear | 245 | 240 | 190 | 420 |
| 331 Wood and wood products | 363 | 283 | 255 | 381 |
| 332 Furniture and fixtures | 226 | 185 | 246 | 585 |
| 341 Paper and paper products | 554 | 763 | 882 | 2 265 |
| 342 Printing and publishing | 679 | 800 | 695 | 1 832 |
| 351 Industrial chemicals | 914 | 1 367 | 1 844 | 4 169 |
| 352 Other chemical products | 1 206 | 1 916 | 1 791 | 3 013 |
| 353 Petroleum refineries | 3 647 | 5 120 | 6 069 | 15 698 |
| 354 Miscellaneous petroleum and coal products | 86 | 121 | 122 | 311 |
| 355 Rubber products | 331 | 327 | 368 | 756 |
| 356 Plastic products | 424 | 485 | 436 | 824 |
| 361 Pottery, china and earthenware | 189 | 130 | 156 | 422 |
| 362 Glass and glass products | 199 | 153 | 249 | 485 |
| 369 Other non-metal mineral products | 659 | 587 | 932 | 2 218 |
| 371 Iron and steel | 900 | 1 239 | 1 651 | 4 228 |
| 372 Non-ferrous metals | 235 | 257 | 305 | 782 |
| 381 Metal products | 1 272 | 1 499 | 1 611 | 4 230 |
| 382 Non-electrical machinery | 1 358 | 930 | 835 | 2 281 |
| 383 Electrical machinery | 902 | 936 | 1 025 | 2 192 |
| 384 Transport equipment | 2 289 | 2 054 | 2 140 | 5 612 |
| 385 Professional and scientific equipment | 86 | 95 | 112 | 296 |
| 390 Other manufacturing industries | 95 | 92 | 97 | 156 |

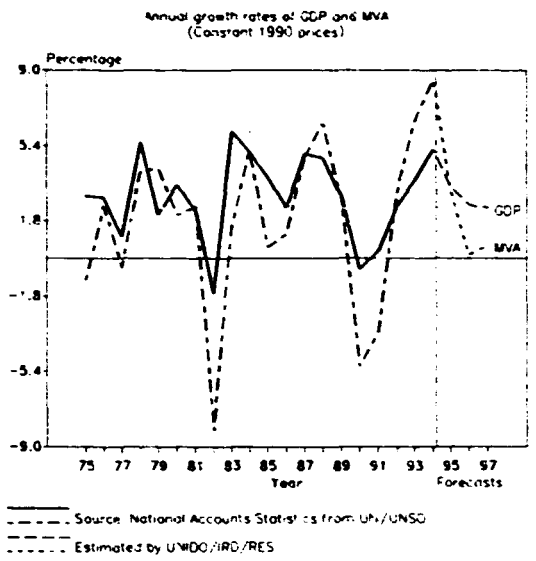


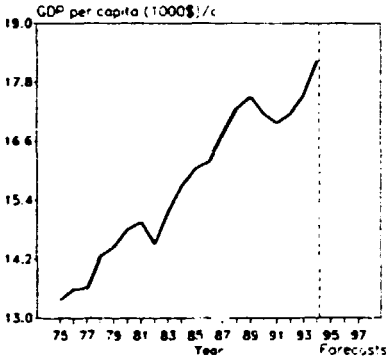

For sources, footnotes and comments see "Technical notes" at the beginning of this Annex.

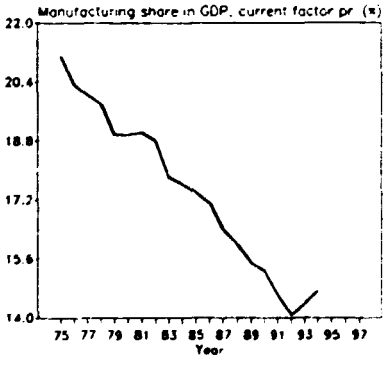


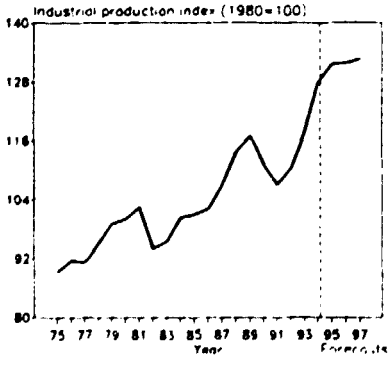




| | | 1980 | 1985 | 1990 | 1993 |
|---|---|---|---|---|---|
| **GDP:[88] (millions of 1990-dollars)** | | 215 620 | 251 024 | 289 788 | 309 264 |
| **Per capita[88] (1990-dollars)** | | 14 800 | 16 049 | 17 159 | 17 555 |
| **Manufacturing share[88] (%) (current factor prices)** | | 19.0 | 17.4 | 15.3 | 14.4 |
| **MANUFACTURING:** | | | | | |
| **Value added[88] (millions of 1990-dollars)** | | 40 263 | 40 619 | 44 683 | 47 354 |
| **Industrial production index (1980=100)** | | 100 | 101 | 111 | 118 |
| **Value added (millions of dollars)** | | 29 173 | 26 900 | 54 097 | *54 567* |
| **Gross output (millions of dollars)** | | 75 474 | 69 330 | 129 604 | 122 499 |
| **Employment (thousands)** | | 1 139 | 1 014 | 1 017 | *914* |
| **-PROFITABILITY:(in percent of gross output)** | | | | | |
| **Intermediate input (%)** | | 61 | 61 | 58 | 55 |
| **Wages and salaries including supplements (%)** | | 20 | 19 | 16 | *16* |
| **Gross operating surplus (%)** | | 18 | 20 | 25 | *28* |
| **-PRODUCTIVITY:(dollars)** | | | | | |
| **Gross output per worker** | | 65 402 | 67 785 | 125 719 | *133 843* |
| **Value added per worker** | | 25 280 | 26 301 | 52 475 | *59 649* |
| **Average wage (including supplements)** | | 13 356 | 12 977 | 20 719 | *21 661* |
| **-STRUCTURAL INDICES:** | | | | | |
| **Structural change θ (5-year average in degrees)** | | 2.78 | 4.46 | *3.05* | *2.93* |
| **as a percentage of average θ in 1970-1975** | | 94 | 150 | *103* | *99* |
| **MVA growth rate / θ** | | 0.34 | -0.02 | 1.57 | 1.41 |
| **Degree of specialization** | | 11.1 | 11.1 | 11.4 | 11.7 |
| **-VALUE ADDED:(millions of dollars)** | | | | | |
| 311/2 | Food products | 3 993 | 3 764 | 7 647 | *8 254* |
| 313 | Beverages | 785 | 847 | 1 723 | *1 904* |
| 314 | Tobacco products | 248 | 179 | 365 | *335* |
| 321 | Textiles | 1 050 | 955 | 1 673 | *1 568* |
| 322 | Wearing apparel | 821 | 722 | 1 223 | *1 102* |
| 323 | Leather and fur products | 93 | 77 | 105 | *98* |
| 324 | Footwear | 223 | 206 | 279 | *249* |
| 331 | Wood and wood products | 1 052 | 1 028 | 1 728 | *1 643* |
| 332 | Furniture and fixtures | 505 | 507 | 1 032 | *971* |
| 341 | Paper and paper products | 744 | 704 | 1 302 | *1 361* |
| 342 | Printing and publishing | 1 818 | 2 131 | 4 058 | *4 224* |
| 351 | Industrial chemicals | 969 | 982 | 1 660 | *1 727* |
| 352 | Other chemical products | 1 186 | 1 191 | 2 291 | *2 504* |
| 353 | Petroleum refineries | 323 | 285 | 1 659 | *1 749* |
| 354 | Miscellaneous petroleum and coal products | 30 | 25 | 34 | *37* |
| 355 | Rubber products | 341 | 264 | 546 | *530* |
| 356 | Plastic products | 831 | 808 | 1 702 | *1 919* |
| 361 | Pottery, china and earthenware | 46 | 41 | 76 | *74* |
| 362 | Glass and glass products | 246 | 254 | 528 | *524* |
| 369 | Other non-metal mineral products | 1 183 | 1 085 | 2 170 | *2 118* |
| 371 | Iron and steel | 1 920 | 1 391 | 2 431 | *2 293* |
| 372 | Non-ferrous metals | 1 473 | 1 409 | 3 791 | *3 895* |
| 381 | Metal products | 2 467 | 2 040 | 4 215 | *4 296* |
| 382 | Non-electrical machinery | 2 091 | 1 575 | 3 070 | *2 997* |
| 383 | Electrical machinery | 1 351 | 1 329 | 2 466 | *2 379* |
| 384 | Transport equipment | 2 830 | 2 579 | 5 379 | *4 850* |
| 385 | Professional and scientific equipment | 290 | 279 | 498 | *494* |
| 390 | Other manufacturing industries | 263 | 246 | 445 | *467* |

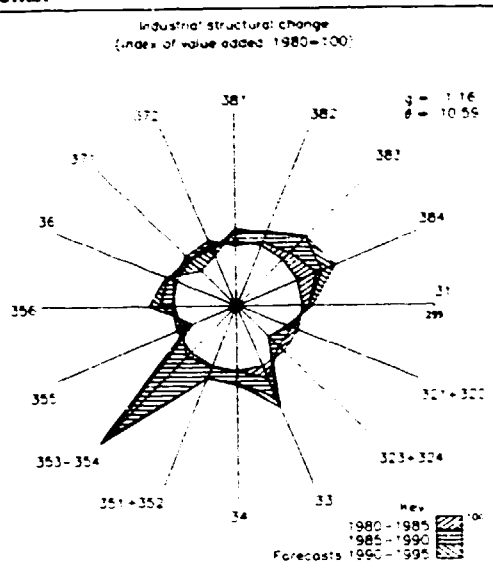
For sources, footnotes and comments see "Technical notes" at the beginning of this Annex.

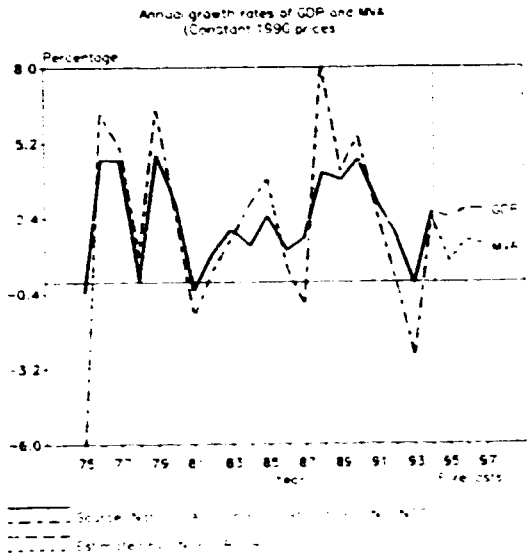


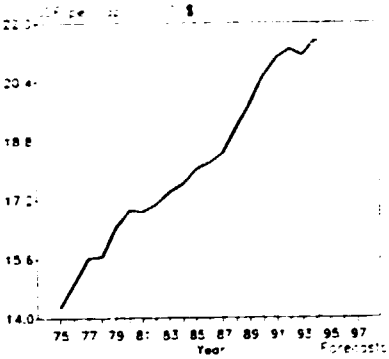
## AUSTRIA

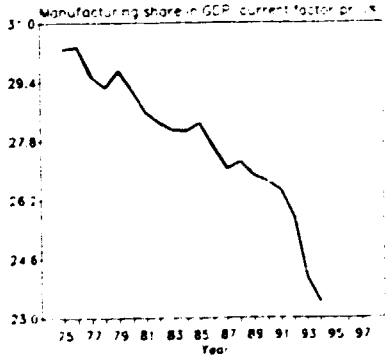


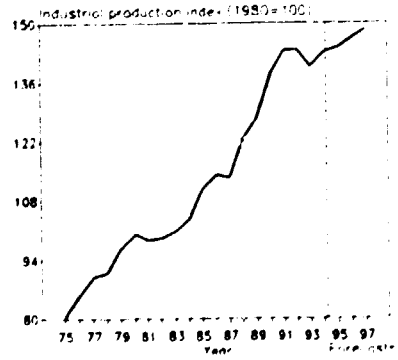



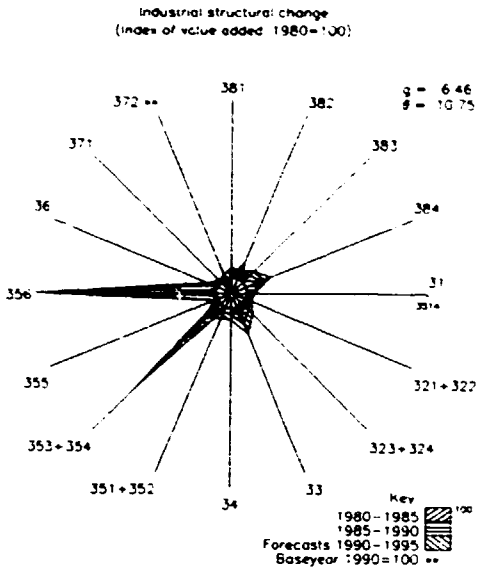

| | 1980 | 1985 | 1990 | 1993 |
|---|---|---|---|---|
| GDP[as] (millions of 1990-dollars) | 127 712 | 136 332 | 158 427 | 166 064 |
| Per capita[as] (1990-dollars) | 16 918 | 18 038 | 20 562 | 21 120 |
| Manufacturing share[as] (%) (current factor prices) | 29.1 | 28.3 | 26.7 | 24.1 |
| **MANUFACTURING:** | | | | |
| Value added[as] (millions of 1990-dollars) | 32 106 | 34 533 | 40 785 | 40 699 |
| Industrial production index (1980=100) | 100 | 111 | 138 | 140 |
| Value added (millions of dollars) | 15 949 | 13 394 | 31 318 | *33 680* |
| Gross output (millions of dollars) | 48 872 | 41 230 | 90 474 | 96 905 |
| Employment (thousands) | 699 | 654 | 642 | *606* |
| **-PROFITABILITY:**(in percent of gross output) | | | | |
| Intermediate input (%) | 67 | 68 | 65 | *65* |
| Wages and salaries including supplements (%) | 24 | 23 | 23 | *25* |
| Gross operating surplus and net taxes (%) | 9 | 10 | 11 | *10* |
| **-PRODUCTIVITY:**(dollars) | | | | |
| Gross output per worker | 69 500 | 62 508 | 139 901 | *158 437* |
| Value added per worker | 22 681 | 20 307 | 48 427 | *58 680* |
| Average wage (including supplements) | 16 754 | 14 288 | 33 021 | *39 282* |
| **-STRUCTURAL INDICES:** | | | | |
| Structural change θ (5-year average in degrees) | 4.67 | 5.57 | 4.44 | *2.41* |
| as a percentage of average θ in 1970-1975 | 78 | 94 | 74 | *40* |
| MVA growth rate / θ | 0.49 | 0.21 | 0.50 | 0.46 |
| Degree of specialization | 9.7 | 9.9 | 10.3 | 10.3 |
| **-VALUE ADDED:**(millions of dollars) | | | | |
| 311/2 Food products | 1 240 | 1 073 | 2 302 | *2 655* |
| 313 Beverages | 454 | 368 | 841 | *909* |
| 314 Tobacco products | 807 | 725 | 1 417 | *1 566* |
| 321 Textiles | 852 | 623 | 1 291 | *1 339* |
| 322 Wearing apparel | 447 | 303 | 547 | *546* |
| 323 Leather and fur products | 51 | 37 | 82 | *89* |
| 324 Footwear | 209 | 146 | 213 | *222* |
| 331 Wood and wood products | 192 | 298 | 879 | *918* |
| 332 Furniture and fixtures | 539 | 407 | 994 | *1 266* |
| 341 Paper and paper products | 631 | 500 | 1 333 | *1 374* |
| 342 Printing and publishing | 624 | 513 | 1 163 | *1 359* |
| 351 Industrial chemicals | 638 | 555 | 1 277 | *1 298* |
| 352 Other chemical products | 534 | 398 | 1 070 | *1 241* |
| 353 Petroleum refineries | 80 | 72 | 489 | *475* |
| 354 Miscellaneous petroleum and coal products | 32 | 24 | 65 | *74* |
| 355 Rubber products | 230 | 168 | 311 | *308* |
| 356 Plastic products | 281 | 215 | 545 | *649* |
| 361 Pottery, china and earthenware | 63 | 42 | 112 | *119* |
| 362 Glass and glass products | 235 | 229 | 518 | *557* |
| 369 Other non-metal mineral products | 815 | 652 | 1 473 | *1 677* |
| 371 Iron and steel | 1 223 | 1 051 | 2 068 | *1 734* |
| 372 Non-ferrous metals | 280 | 241 | 434 | *439* |
| 381 Metal products | 1 283 | 942 | 2 534 | *2 593* |
| 382 Non-electrical machinery | 1 656 | 1 400 | 3 292 | *3 612* |
| 383 Electrical machinery | 1 579 | 1 430 | 3 926 | *4 178* |
| 384 Transport equipment | 709 | 743 | 1 652 | *1 965* |
| 385 Professional and scientific equipment | 130 | 115 | 222 | *264* |
| 390 Other manufacturing industries | 136 | 123 | 249 | *269* |

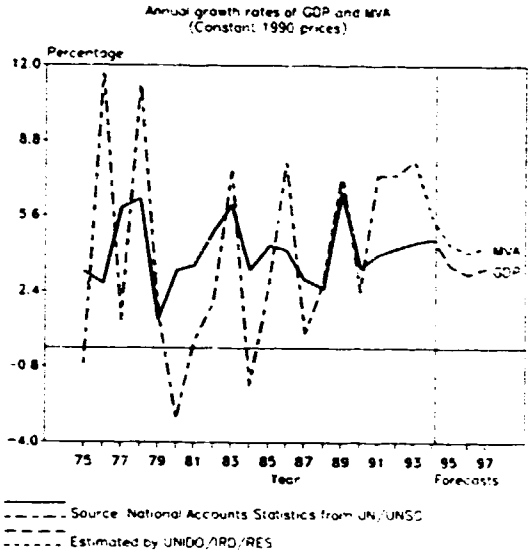
For sources, footnotes and comments see "Technical notes" at the beginning of this Annex



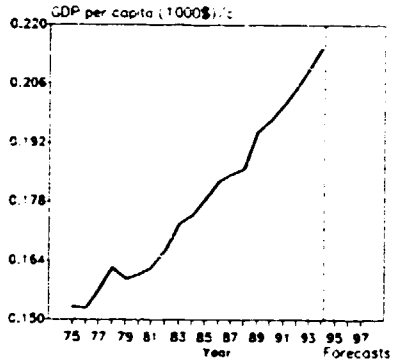



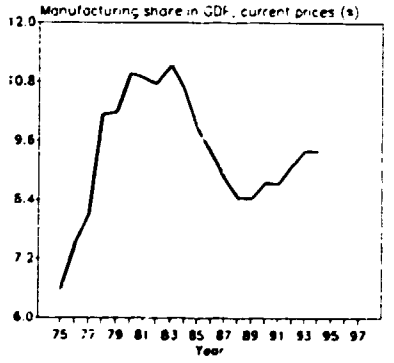


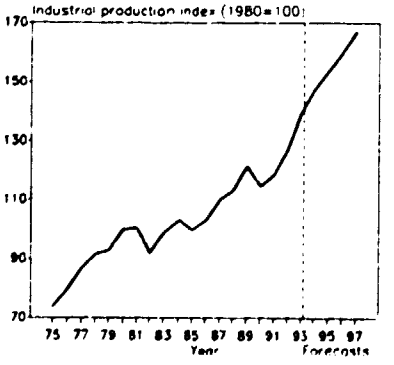




| | 1980 | 1985 | 1990 | 1993 |
|---|---|---|---|---|
| **GDP[88] (millions of 1990-dollars)** | 14 177 | 17 610 | 21 336 | 24 155 |
| **Per capita[88] (1990-dollars)** | 161 | 179 | 197 | 210 |
| **Manufacturing share[88] (%) (current factor prices)** | 11.0 | 9.9 | 8.7 | 9.4 |
| **MANUFACTURING:** | | | | |
| **Value added[88] (millions of 1990-dollars)** | 1 374 | 1 523 | 1 866 | 2 321 |
| **Industrial production index (1980=100)** | 100 | 100 | 114 | 140 |
| **Value added (millions of dollars)** | 834 | 863 | 1 759 | *2 238* |
| **Gross output (millions of dollars)** | 2 253 | 2 497 | 5 504 | *6 557* |
| **Employment (thousands)** | 412 | 469 | 1 028 | *1 177* |
| **-PROFITABILITY:(in percent of gross output)** | | | | |
| **Intermediate input (%)** | 63 | 65 | 38 | *66* |
| **Wages and salaries including supplements (%)** | *12* | 10 | *16* | *16* |
| **Gross operating surplus and net taxes (%)** | *25* | *24* | *16* | *18* |
| **-PRODUCTIVITY:(dollars)** | | | | |
| **Gross output per worker** | 5 466 | 5 191 | 4 418 | *4 611* |
| **Value added per worker** | 2 023 | 1 793 | 1 412 | *1 574* |
| **Average wage (including supplements)** | *639* | 557 | *854* | *905* |
| **-STRUCTURAL INDICES:** | | | | |
| **Structural change θ (5-year average in degrees)** | 6.86 | 8.03 | 12.60 | *8.20* |
| **as a percentage of average θ in 1970-1975** | 79 | 92 | 145 | *94* |
| **MVA growth rate / θ** | 3.14 | 0.21 | 1.10 | 2.18 |
| **Degree of specialization** | 36.0 | 25.3 | 24.9 | 24.2 |
| **-VALUE ADDED:(millions of dollars)** | | | | |
| **311/2 Food products** | 78 | 98 | 285 | *311* |
| **313 Beverages** | 7 | 6 | 4 | *5* |
| **314 Tobacco products** | 111 | 109 | 153 | *192* |
| **321 Textiles** | 336 | 230 | 439 | *538* |
| **322 Wearing apparel** | - | 8 | 158 | *196* |
| **323 Leather and fur products** | 18 | 14 | 42 | *54* |
| **324 Footwear** | 4 | 10 | 21 | *29* |
| **331 Wood and wood products** | 3 | 10 | 14 | *18* |
| **332 Furniture and fixtures** | 1 | 2 | 6 | *7* |
| **341 Paper and paper products** | 23 | 19 | 53 | *69* |
| **342 Printing and publishing** | 6 | 8 | 23 | *31* |
| **351 Industrial chemicals** | 33 | 70 | 134 | *191* |
| **352 Other chemical products** | 97 | 85 | 166 | *233* |
| **353 Petroleum refineries** | 2 | 75 | 9 | *14* |
| **354 Miscellaneous petroleum and coal products** | 1 | 2 | 1 | *1* |
| **355 Rubber products** | 4 | 1 | 5 | *7* |
| **356 Plastic products** | - | 2 | 14 | *17* |
| **361 Pottery, china and earthenware** | 2 | 4 | 10 | *13* |
| **362 Glass and glass products** | 4 | 4 | 7 | *9* |
| **369 Other non-metal mineral products** | 14 | 7 | 31 | *39* |
| **371 Iron and steel** | 39 | 35 | 43 | *59* |
| **372 Non-ferrous metals** | - | - | - | - |
| **381 Metal products** | 9 | 13 | 22 | *28* |
| **382 Non-electrical machinery** | 4 | 17 | 7 | *10* |
| **383 Electrical machinery** | 19 | 18 | 60 | *76* |
| **384 Transport equipment** | 11 | 10 | 56 | *70* |
| **385 Professional and scientific equipment** | - | - | - | - |
| **390 Other manufacturing industries** | 8 | 7 | 18 | *22* |

For sources, footnotes and comments see "Technical notes" at the beginning of this Annex.

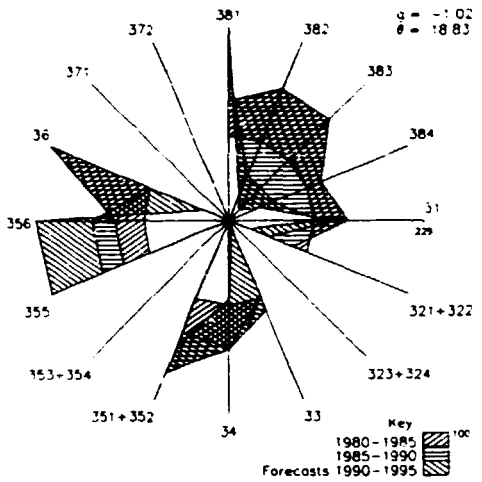


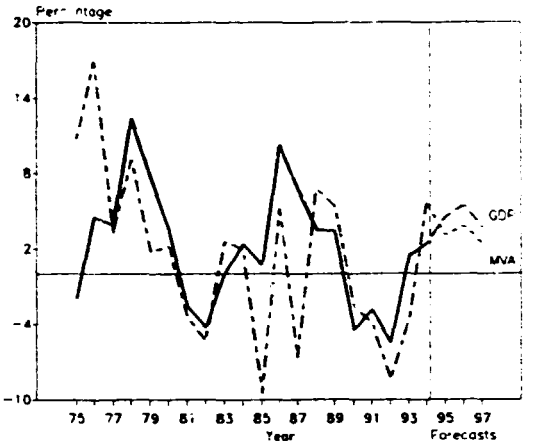



**BARBADOS**

Industrial structural change
(Index of value added 1980=100)




Annual growth rates of GDP and MVA
(Constant 1990 prices)

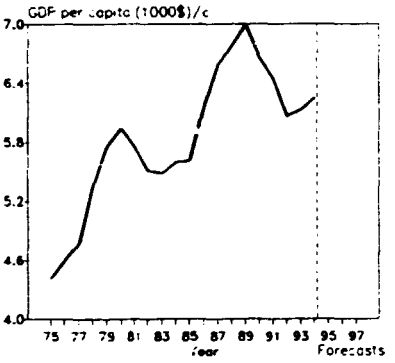



Source: National Accounts Statistics from UN/UNSO
Estimated by UNIDO/IRD/RES

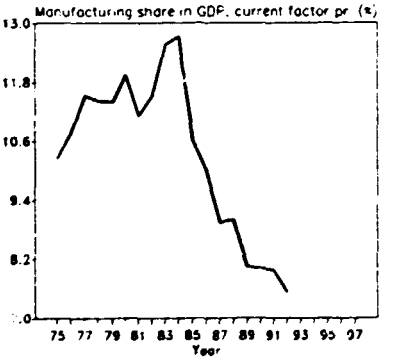
| | 1980 | 1985 | 1990 | 1993 |
|---|---|---|---|---|
| **GDP**[78] (millions of 1990-dollars) | 1 478 | 1 420 | 1 710 | 1 594 |
| Per capita[78] (1990-dollars) | 5 935 | 5 612 | 6 655 | 6 130 |
| Manufacturing share[78] (%) (current factor prices) | 11.9 | 10.6 | 8.0 | .. |
| **MANUFACTURING:** | | | | |
| Value added[78] (millions of 1990-dollars) | 127 | 110 | 118 | 100 |
| Industrial production index (1980=100) | 100 | 86 | 87 | 74 |
| Value added (millions of dollars) | 53 | 90 | 95 | 82 |
| Gross output (millions of dollars) | 241 | 383 | 412 | 373 |
| Employment (thousands) | 8 | 9 | 7 | 5 |
| **-PROFITABILITY:**(in percent of gross output) | | | | |
| Intermediate input (%) | 79 | 78 | 79 | 81 |
| Wages and salaries including supplements (%) | 14 | 18 | 16 | 14 |
| Gross operating surplus and net taxes (%) | 7 | 4 | 5 | 5 |
| **-PRODUCTIVITY:**(dollars) | | | | |
| Gross output per worker | 31 296 | 41 552 | 60 974 | 74 388 |
| Value added per worker | 6 482 | 9 123 | 12 793 | 13 911 |
| Average wage (including supplements) | 4 336 | 7 725 | 9 537 | 10 587 |
| **-STRUCTURAL INDICES:** | | | | |
| Structural change θ (5-year average in degrees) | 16.37 | 18.06 | 8.55 | 11.86 |
| as a percentage of average θ in 1970-1975 | 185 | 204 | 96 | 134 |
| MVA growth rate / θ | 0.09 | 0.26 | -0.20 | -0.87 |
| Degree of specialization | 14.4 | 15.9 | 20.3 | 19.5 |
| **-VALUE ADDED:**(millions of dollars) | | | | |
| 311/2 Food products | 12 | 25 | 30 | 23 |
| 313 Beverages | 6 | 12 | 10 | 11 |
| 314 Tobacco products | 1 | 2 | 1 | 2 |
| 321 Textiles | - | - | 1 | 1 |
| 322 Wearing apparel | 6 | 7 | 5 | 2 |
| 323 Leather and fur products | - | - | - | - |
| 324 Footwear | - | - | - | - |
| 331 Wood and wood products | - | - | - | - |
| 332 Furniture and fixtures | 1 | 2 | 2 | - |
| 341 Paper and paper products | - | 1 | 1 | 1 |
| 342 Printing and publishing | 4 | 8 | 10 | 6 |
| 351 Industrial chemicals | - | - | 1 | 2 |
| 352 Other chemical products | 1 | 3 | 4 | 3 |
| 353 Petroleum refineries | - | - | - | - |
| 354 Miscellaneous petroleum and coal products | - | - | - | - |
| 355 Rubber products | 1 | 3 | 4 | 6 |
| 356 Plastic products | 1 | 3 | 4 | 6 |
| 361 Pottery, china and earthenware | - | - | - | - |
| 362 Glass and glass products | - | - | 1 | - |
| 369 Other non-metal mineral products | 3 | -3 | 5 | 2 |
| 371 Iron and steel | - | - | - | - |
| 372 Non-ferrous metals | - | - | - | - |
| 381 Metal products | 3 | 5 | 10 | 8 |
| 382 Non-electrical machinery | 5 | 11 | 3 | 5 |
| 383 Electrical machinery | 3 | 8 | 1 | 3 |
| 384 Transport equipment | 1 | 2 | 1 | 1 |
| 385 Professional and scientific equipment | - | - | - | - |
| 390 Other manufacturing industries | 3 | 1 | 1 | - |

For sources, footnotes and comments see "Technical notes" at the beginning of this Annex.

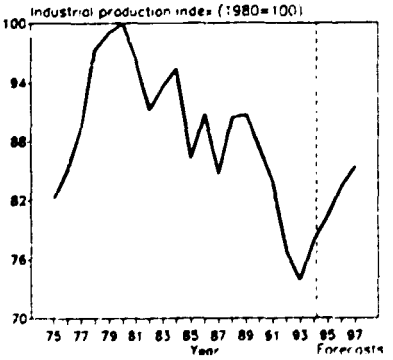
GDP per capita (1000$)/c

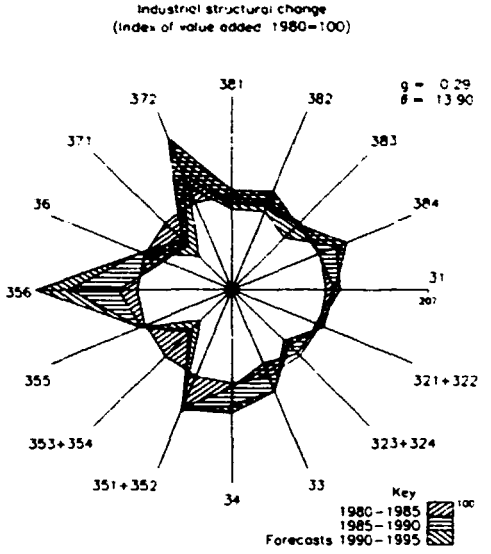


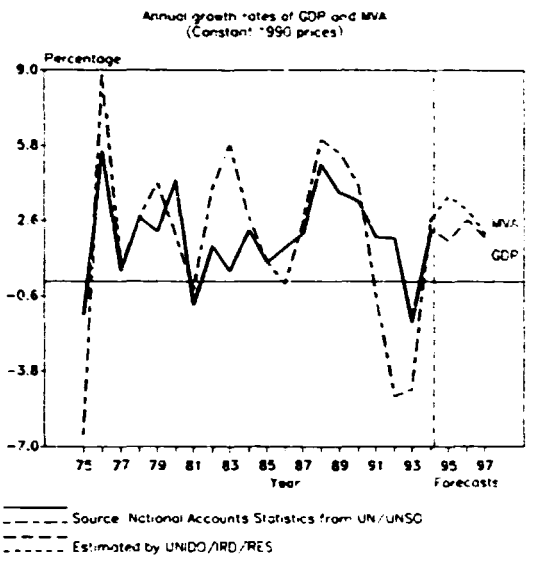

Manufacturing share in GDP, current factor pr (%)




Industrial production index (1980=100)

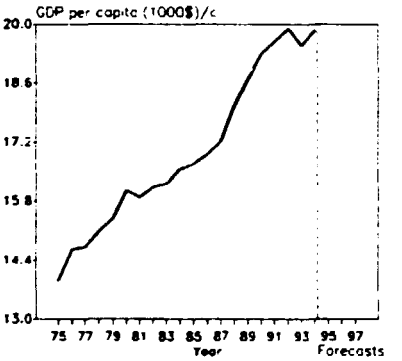


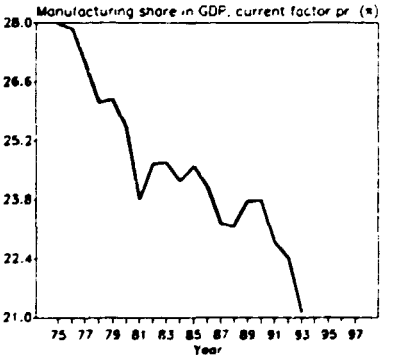


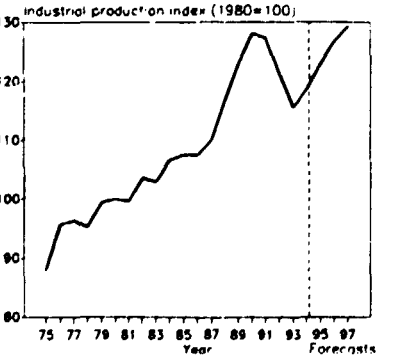



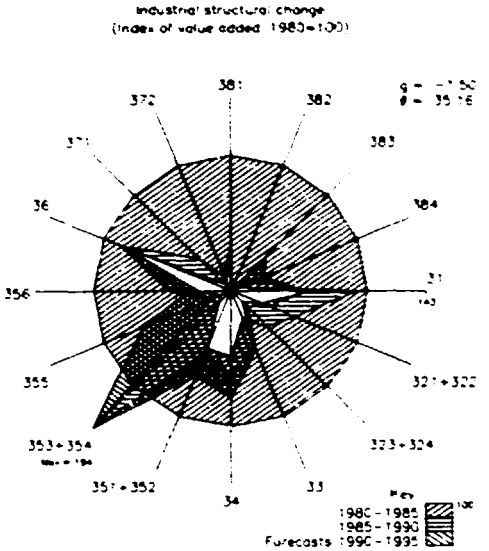

| | 1980 | 1985 | 1990 | 1993 |
|---|---|---|---|---|
| **GDP:[88] (millions of 1990-dollars)** | 158 201 | 164 502 | 191 925 | 195 786 |
| **Per capita[88] (1990-dollars)** | 16 058 | 16 689 | 19 287 | 19 489 |
| **Manufacturing share[88] (%) (current factor prices)** | 25.5 | 24.6 | 23.8 | *21.2* |
| **MANUFACTURING:** | | | | |
| **Value added[88] (millions of 1990-dollars)** | 32 018 | 36 333 | 43 280 | 39 049 |
| **Industrial production index (1980=100)** | 100 | 108 | 128 | 116 |
| **Value added (millions of dollars)** | *28 130* | *18 229* | *42 484* | *39 647* |
| **Gross output (millions of dollars)** | *94 373* | *67 219* | *148 687* | 143 835 |
| **Employment (thousands)** | 872 | 755 | 735 | *675* |
| **-PROFITABILITY:(in percent of gross output)** | | | | |
| **Intermediate input (%)** | *70* | *73* | *71* | *72* |
| **Wages and salaries including supplements (%)** | *15* | *12* | *11* | *12* |
| **Gross operating surplus (%)** | *15* | *15* | *17* | *16* |
| **-PRODUCTIVITY:(dollars)** | | | | |
| **Gross output per worker** | *102 512* | *83 909* | *190 551* | *197 802* |
| **Value added per worker** | 30 556 | 22 755 | 54 445 | *54 523* |
| **Average wage (including supplements)** | *16 066* | *10 617* | *22 774* | *24 702* |
| **-STRUCTURAL INDICES:** | | | | |
| **Structural change θ (5-year average in degrees)** | 3.23 | 3.69 | 3.74 | *3.13* |
| **as a percentage of average θ in 1970-1975** | 63 | 72 | 73 | *61* |
| **MVA growth rate / θ** | 0.20 | 0.01 | 0.67 | -0.35 |
| **Degree of specialization** | 12.5 | 14.1 | 12.8 | 12.7 |
| **-VALUE ADDED:(millions of dollars)** | | | | |
| **311/2 Food products** | 3 991 | 2 863 | 5 915 | *6 132* |
| **313 Beverages** | 549 | 359 | 700 | *729* |
| **314 Tobacco products** | 199 | 123 | 310 | *339* |
| **321 Textiles** | 1 445 | 937 | 2 064 | *1 868* |
| **322 Wearing apparel** | 671 | 392 | 914 | *980* |
| **323 Leather and fur products** | 136 | 93 | 156 | *202* |
| **324 Footwear** | 67 | 35 | 56 | *47* |
| **331 Wood and wood products** | 226 | 131 | 503 | *489* |
| **332 Furniture and fixtures** | 1 123 | 614 | 1 613 | *1 631* |
| **341 Paper and paper products** | 612 | 441 | 1 042 | *947* |
| **342 Printing and publishing** | 926 | 602 | 1 677 | *1 607* |
| **351 Industrial chemicals** | 2 401 | 2 250 | 4 483 | *4 360* |
| **352 Other chemical products** | 665 | 467 | 1 198 | *1 224* |
| **353 Petroleum refineries** | *517* | *218* | *421* | *352* |
| **354 Miscellaneous petroleum and coal products** | *72* | *29* | *52* | *42* |
| **355 Rubber products** | 193 | 130 | 272 | *273* |
| **356 Plastic products** | 819 | 633 | 1 878 | *2 145* |
| **361 Pottery, china and earthenware** | 107 | 61 | 150 | *147* |
| **362 Glass and glass products** | 516 | 289 | 761 | *774* |
| **369 Other non-metal mineral products** | 654 | 337 | 872 | *904* |
| **371 Iron and steel** | 2 294 | 965 | 2 305 | *1 768* |
| **372 Non-ferrous metals** | 487 | 417 | 1 140 | *754* |
| **381 Metal products** | 2 071 | 1 228 | 2 935 | *2 510* |
| **382 Non-electrical machinery** | 2 490 | 1 556 | 3 802 | *3 081* |
| **383 Electrical machinery** | 2 303 | 1 451 | 3 015 | *2 463* |
| **384 Transport equipment** | 1 892 | 1 217 | 3 308 | *2 978* |
| **385 Professional and scientific equipment** | 170 | 108 | 280 | *308* |
| **390 Other manufacturing industries** | 537 | 294 | 660 | *594* |

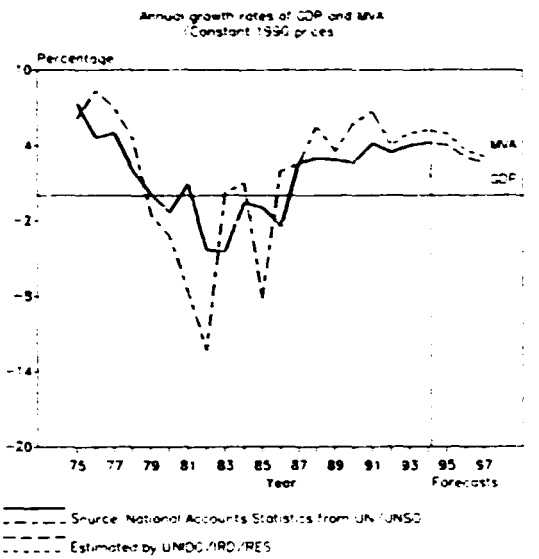
For sources, footnotes and comments see "Technical notes" at the beginning of this Annex.



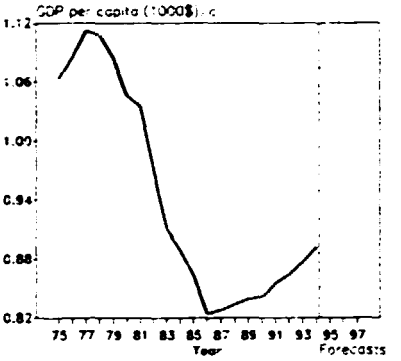





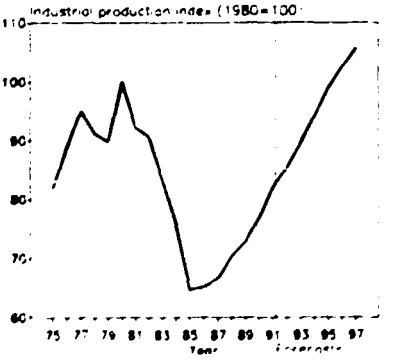



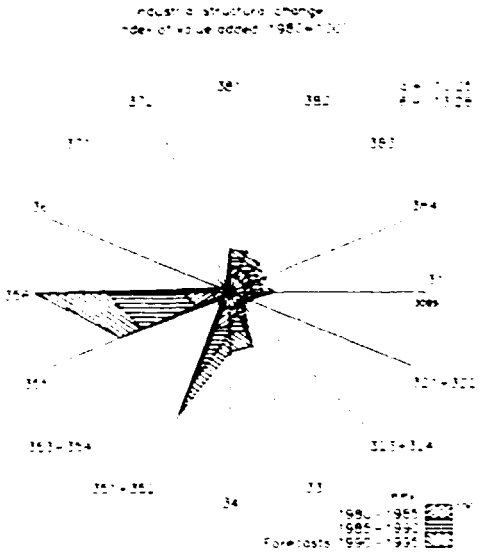

| | 1980 | 1985 | 1990 | 1993 |
|---|---|---|---|---|
| **GDP:[a2] (millions of 1990-dollars)** | **5 603** | **5 087** | **5 529** | **6 194** |
| **Per capita[a4] (1990-dollars)** | **1 046** | **863** | **841** | **877** |
| **Manufacturing share[a3] (%) (current factor prices)** | **15.2** | **11.8** | *10.7* | .. |
| **MANUFACTURING:** | | | | |
| **Value added[a2] (millions of 1990-dollars)** | **655** | **492** | **593** | *690* |
| **Industrial production index (1980=100)** | **100** | **65** | **77** | *90* |
| **Value added (millions of dollars)** | **619** | **394** | **572** | *728* |
| **Gross output (millions of dollars)** | **1 698** | **1 078** | **1 169** | *1 471* |
| **Employment (thousands)** | **43** | **28** | **25** | *25* |
| **-PROFITABILITY:(in percent of gross output)** | | | | |
| **Intermediate input (%)** | **64** | **64** | **51** | *51* |
| **Wages and salaries including supplements (%)** | **8** | **6** | **5** | *4* |
| **Gross operating surplus and net taxes (%)** | **28** | **31** | **44** | *45* |
| **-PRODUCTIVITY:(dollars)** | | | | |
| **Gross output per worker** | **38 348** | **38 228** | **46 965** | *55 771* |
| **Value added per worker** | **13 977** | **13 947** | **22 962** | *27 581* |
| **Average wage (including supplements)** | **3 147** | **2 129** | **2 200** | *2 383* |
| **-STRUCTURAL INDICES:** | | | | |
| **Structural change θ (5-year average in degrees)** | **31.03** | **25.43** | **17.62** | *4 29* |
| **as a percentage of average θ in 1970-1975** | **172** | **141** | **98** | *24* |
| **MVA growth rate / θ** | **0.58** | **-0.39** | **0.52** | **1.58** |
| **Degree of specialization** | **25.9** | **40.5** | **48.6** | **54.1** |
| **-VALUE ADDED:(millions of dollars)** | | | | |
| **311/2 Food products** | **93** | **193** | **70** | *60* |
| **313 Beverages** | **57** | **34** | **48** | *82* |
| **314 Tobacco products** | **21** | **4** | **5** | *5* |
| **321 Textiles** | **34** | **26** | **15** | *14* |
| **322 Wearing apparel** | **6** | **3** | **2** | *2* |
| **323 Leather and fur products** | **5** | **2** | **4** | *4* |
| **324 Footwear** | **24** | **14** | **2** | *1* |
| **331 Wood and wood products** | **15** | **5** | **10** | *11* |
| **332 Furniture and fixtures** | **2** | **1** | **-** | *1* |
| **341 Paper and paper products** | **-** | **1** | **1** | *2* |
| **342 Printing and publishing** | **14** | **9** | **14** | *12* |
| **351 Industrial chemicals** | **3** | **2** | **2** | *2* |
| **352 Other chemical products** | **16** | **11** | **16** | *14* |
| **353 Petroleum refineries** | **159** | **29** | **322** | *452* |
| **354 Miscellaneous petroleum and coal products** | **-** | **-** | **-** | **-** |
| **355 Rubber products** | **1** | **-** | **-** | *2* |
| **356 Plastic products** | **11** | **4** | **7** | *6* |
| **361 Pottery, china and earthenware** | *1* | **-** | **-** | **-** |
| **362 Glass and glass products** | **6** | **6** | **3** | *3* |
| **369 Other non-metal mineral products** | **21** | **28** | **29** | *29* |
| **371 Iron and steel** | **1** | **1** | **-** | **-** |
| **372 Non-ferrous metals** | **89** | **14** | **10** | *15* |
| **381 Metal products** | **14** | **4** | **4** | *7* |
| **382 Non-electrical machinery** | **16** | **-** | **-** | **-** |
| **383 Electrical machinery** | **3** | **1** | **2** | *1* |
| **384 Transport equipment** | **5** | **-** | **2** | *2* |
| **385 Professional and scientific equipment** | **1** | **1** | **1** | **-** |
| **390 Other manufacturing industries** | **2** | **-** | **1** | **-** |

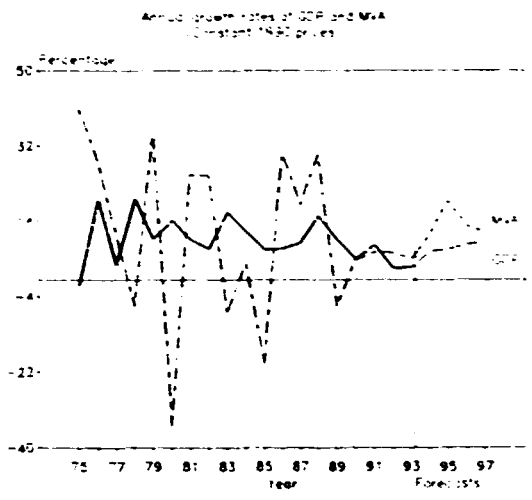
For sources, footnotes and comments see "Technical notes" at the beginning of this Annex





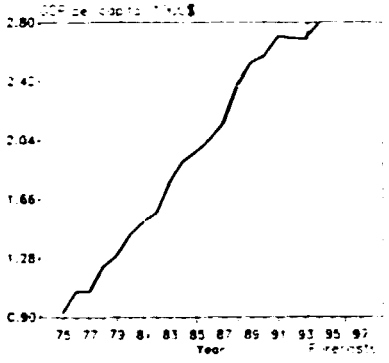




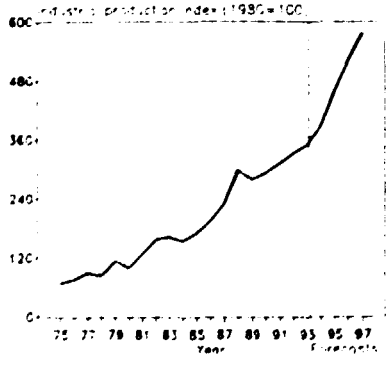


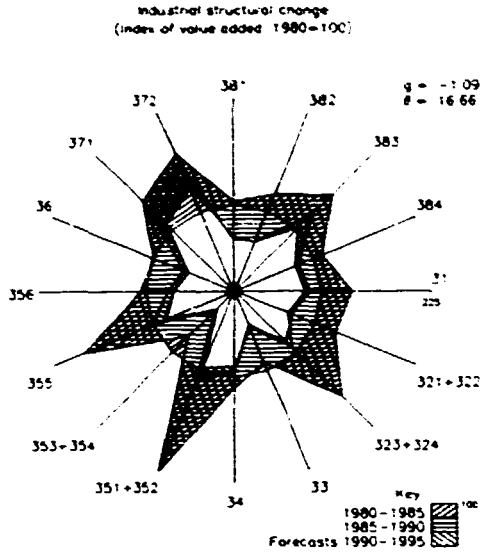

| | 1980 | 1985 | 1990 | 1993 |
|---|---|---|---|---|
| GDP:[m] (millions of 1990-dollars) | 1 298 | 2 119 | 3 296 | 3 775 |
| Per capita[m] (1990-dollars) | 1 433 | 1 968 | 2 583 | 2 694 |
| Manufacturing share[m] (%) (current factor prices) | 4.0 | 5.1 | 4.6 | 4.4 |
| **MANUFACTURING:** | | | | |
| Value added[m] (millions of 1990-dollars) | 62 | 74 | 144 | 172 |
| Industrial production index (1980=100) | 100 | 171 | 292 | 348 |
| Value added (millions of dollars) | 41 | 46 | *144* | *217* |
| Gross output (millions of dollars) | 149 | 169 | *509* | *779* |
| Employment (thousands) | 5 | 10 | 24 | *22* |
| **-PROFITABILITY:(in percent of gross output)** | | | | |
| Intermediate input (%) | 73 | 73 | *72* | *72* |
| Wages and salaries including supplements (%) | *14* | *11* | *10* | *10* |
| Gross operating surplus (%) | *14* | *16* | *19* | *18* |
| **-PRODUCTIVITY:(dollars)** | | | | |
| Gross output per worker | 27 102 | 16 581 | *20 943* | *34 771* |
| Value added per worker | 7 445 | 4 518 | 5 923 | 9 675 |
| Average wage (including supplements) | *3 664* | *1 880* | *1 994* | *3 311* |
| **-STRUCTURAL INDICES:** | | | | |
| Structural change θ (5-year average in degrees) | *3 92* | *8 68* | *7 26* | *1 65* |
| as a percentage of average θ in 1970-1975 | *400* | *886* | *742* | *169* |
| MVA growth rate / θ | 1.32 | 1.41 | 1.94 | 3.28 |
| Degree of specialization | 33.7 | 27.2 | 27.4 | 27.1 |
| **-VALUE ADDED:(millions of dollars)** | | | | |
| 311/2 Food products | 13 | 14 | *45* | *68* |
| 313 Beverages | 4 | 10 | *36* | *54* |
| 314 Tobacco products | - | - | - | - |
| 321 Textiles | *4* | *2* | *6* | *10* |
| 322 Wearing apparel | *2* | *1* | *2* | *3* |
| 323 Leather and fur products | - | - | - | - |
| 324 Footwear | *1* | - | *1* | *2* |
| 331 Wood and wood products | - | - | *2* | *3* |
| 332 Furniture and fixtures | - | - | *2* | *3* |
| 341 Paper and paper products | - | *1* | *2* | *4* |
| 342 Printing and publishing | - | *1* | *2* | *4* |
| 351 Industrial chemicals | - | *1* | *3* | *6* |
| 352 Other chemical products | - | *1* | *6* | *9* |
| 353 Petroleum refineries | - | - | - | - |
| 354 Miscellaneous petroleum and coal products | - | - | - | - |
| 355 Rubber products | - | - | *2* | *3* |
| 356 Plastic products | - | - | *2* | *3* |
| 361 Pottery, china and earther. vare | - | - | - | - |
| 362 Glass and glass products | - | - | - | - |
| 369 Other non-metal mineral products | - | - | - | - |
| 371 Iron and steel | - | - | - | - |
| 372 Non-ferrous metals | - | - | - | - |
| 381 Metal products | *1* | *2* | *6* | *9* |
| 382 Non-electrical machinery | *1* | *1* | *3* | *4* |
| 383 Electrical machinery | - | *1* | *2* | *3* |
| 384 Transport equipment | *1* | *1* | *2* | *3* |
| 385 Professional and scientific equipment | - | - | - | - |
| 390 Other manufacturing industries | 12 | 8 | *19* | *25* |

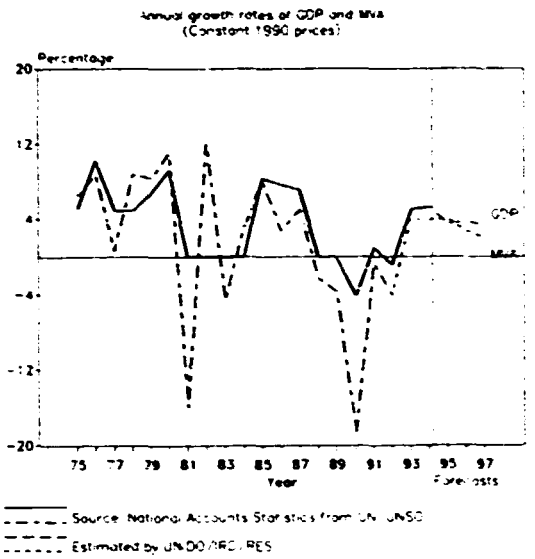
For sources, footnotes and comments see "Technical notes" at the beginning of this Annex.





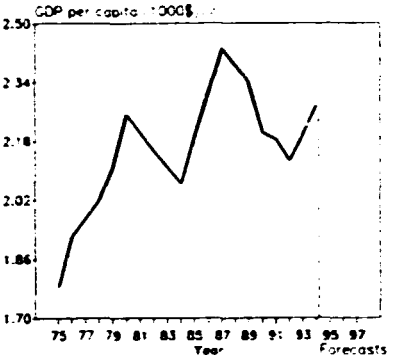


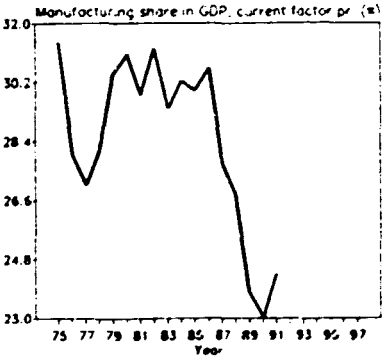


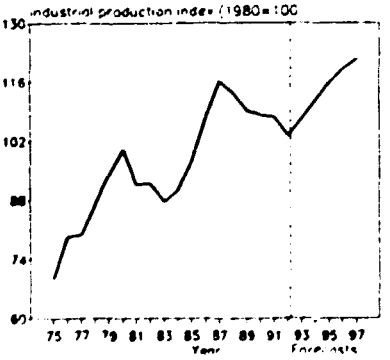



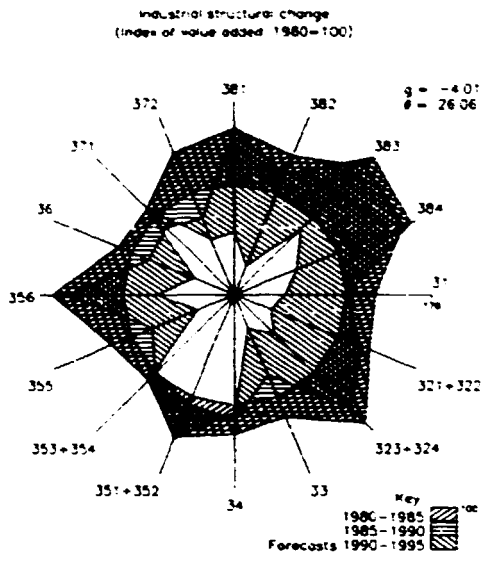

| | 1980 | 1985 | 1990 | 1993 |
|---|---|---|---|---|
| **GDP**[88] (millions of 1990-dollars) | 273 079 | 295 835 | 327 129 | 347 764 |
| Per capita[88] (1990-dollars) | 2 252 | 2 191 | 2 203 | 2 197 |
| Manufacturing share[88] (%) (current factor prices) | 31.1 | 30.0 | 23.0 | .. |
| **MANUFACTURING:** | | | | |
| Value added[88] (millions of 1990-dollars) | 89 977 | 89 863 | 74 263 | *73 482* |
| Industrial production index (1980=100) | 100 | 97 | 108 | *107* |
| Value added (millions of dollars) | 71 690 | 77 082 | 73 294 | *112 037* |
| Gross output (millions of dollars) | 189 076 | 174 341 | 185 523 | *284 868* |
| Employment (thousands) | 5 562 | 5 501 | 5 221 | *5 231* |
| **-PROFITABILITY:**(in percent of gross output) | | | | |
| Intermediate input (%) | 62 | 56 | 60 | *61* |
| Wages and salaries including supplements (%) | 10 | *9* | *11* | *11* |
| Gross operating surplus and net taxes (%) | 28 | *36* | *29* | *29* |
| **-PRODUCTIVITY:**(dollars) | | | | |
| Gross output per worker | 33 993 | 31 692 | 35 534 | *53 871* |
| Value added per worker | 12 889 | 14 012 | 14 039 | *21 192* |
| Average wage (including supplements) | 3 400 | *2 756* | *3 878* | *5 866* |
| **-STRUCTURAL INDICES:** | | | | |
| Structural change θ (5-year average in degrees) | 4.04 | *11 53* | *5 63* | *3 24* |
| as percentage of average θ in 1970-1975 | 70 | *199* | *100* | *56* |
| MVA growth rate / θ | 1.63 | 0.58 | -1.68 | -1.61 |
| Degree of specialization | 9.0 | 10.1 | 9.6 | 10.0 |
| **-VALUE ADDED:**(millions of dollars) | | | | |
| 311/2 Food products | 7 996 | 9 259 | 8 687 | *13 106* |
| 313 Beverages | 1 375 | 957 | 1 388 | *2 026* |
| 314 Tobacco products | 495 | 587 | 726 | *1 098* |
| 321 Textiles | 4 860 | 4 586 | 3 862 | *5 834* |
| 322 Wearing apparel | 2 307 | 2 639 | *2 425* | *3 652* |
| 323 Leather and fur products | 309 | 464 | 371 | *488* |
| 324 Footwear | 985 | 1 353 | *1 243* | *1 628* |
| 331 Wood and wood products | 1 903 | 1 220 | 951 | *1 177* |
| 332 Furniture and fixtures | 1 087 | 949 | 843 | *1 268* |
| 341 Paper and paper products | 2 238 | 2 260 | 2 556 | *3 854* |
| 342 Printing and publishing | 1 901 | 1 496 | 2 305 | *3 485* |
| 351 Industrial chemicals | 3 428 | *5 371* | *3 696* | *5 547* |
| 352 Other chemical products | 3 544 | *7 389* | *5 202* | *8 611* |
| 353 Petroleum refineries | 3 075 | *2 022* | *1 319* | *1 966* |
| 354 Miscellaneous petroleum and coal products | 1 216 | *562* | *330* | *487* |
| 355 Rubber products | 941 | 1 420 | 1 059 | *1 731* |
| 356 Plastic products | 1 994 | 1 742 | 1 847 | *2 781* |
| 361 Pottery, china and earthenware | 190 | 844 | *801* | *1 322* |
| 362 Glass and glass products | 558 | 525 | *499* | *751* |
| 369 Other non-metal mineral products | 3 447 | 1 941 | *1 838* | *2 765* |
| 371 Iron and steel | 4 128 | 4 927 | *6 053* | *10 056* |
| 372 Non-ferrous metals | 1 115 | 1 564 | *1 930* | *3 207* |
| 381 Metal products | 3 589 | 3 063 | *3 038* | *4 213* |
| 382 Non-electrical machinery | 7 171 | 7 092 | *5 956* | *8 128* |
| 383 Electrical machinery | 4 536 | 5 831 | *6 341* | *10 448* |
| 384 Transport equipment | 5 625 | 4 954 | 5 852 | *8 536* |
| 385 Professional and scientific equipment | 453 | *488* | *573* | *864* |
| 390 Other manufacturing industries | 1 216 | *1 576* | *1 803* | *2 989* |

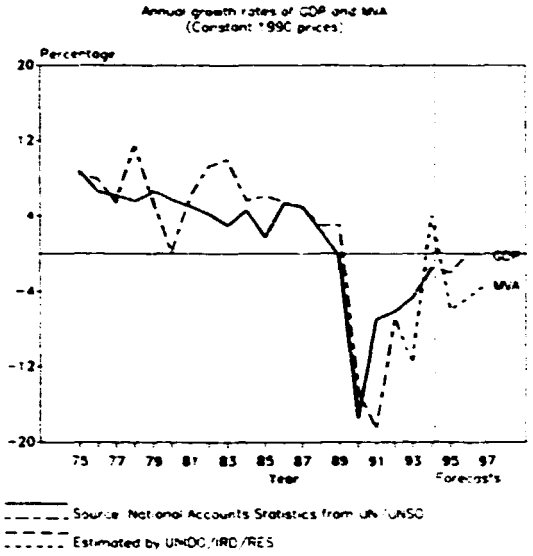
For sources, footnotes and comments see "Technical notes" at the beginning of this Annex



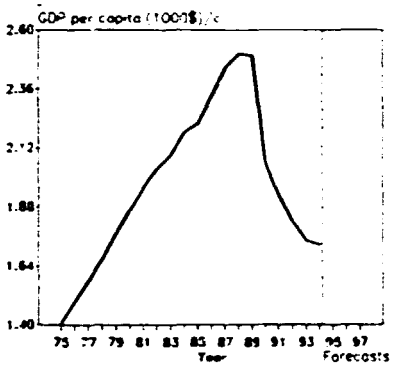



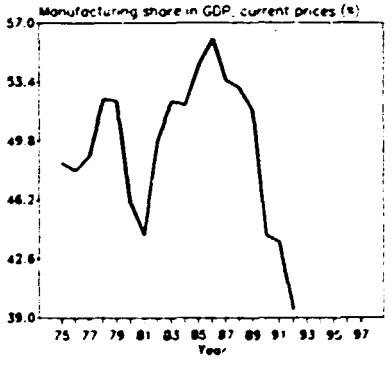


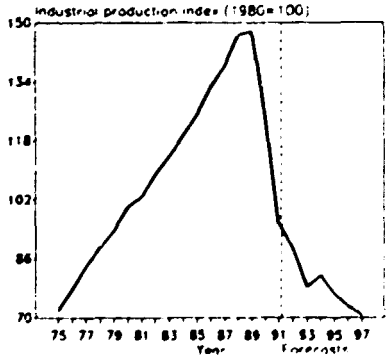



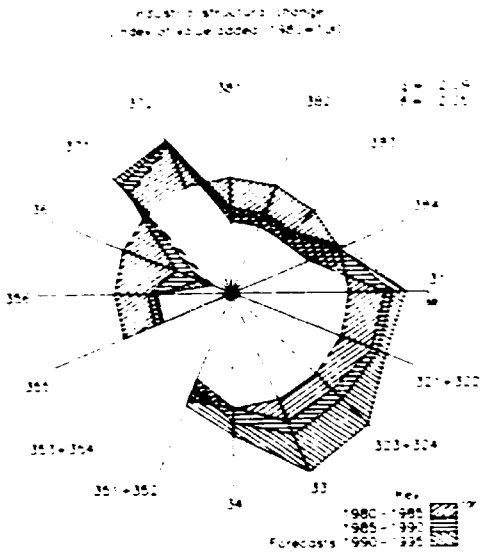

| | 1980 | 1985 | 1990 | 1993 |
|---|---|---|---|---|
| **GDP:[a0] (millions of 1990-dollars)** | 16 571 | 19 885 | 18 543 | 15 455 |
| **Per capita[a0] (1990-dollars)** | 1 870 | 2 219 | 2 062 | 1 742 |
| **Manufacturing share[a0] (%) (current factor prices)** | 46.0 | 54.4 | 44.0 | .. |
| **MANUFACTURING:** | | | | |
| **Value added[a0] (millions of 1990-dollars)** | 5 715 | 8 153 | 8 166 | *5 462* |
| **Industrial production index (1980=100)** | 100 | 125 | 124 | *78* |
| **Value added (millions of dollars)** | 11 771 | *20 759* | *10 227* | *6 292* |
| **Gross output (millions of dollars)** | *25 818* | *44 413* | 21 453 | *10 685* |
| **Employment (thousands)** | 1 260 | 1 316 | 1 374 | 889 |
| **-PROFITABILITY:(in percent of gross output)** | | | | |
| **Intermediate input (%)** | *54* | *53* | 52 | *41* |
| **Wages and salaries including supplements (%)** | *8* | *7* | *10* | *11* |
| **Gross operating surplus and net taxes (%)** | *38* | *39* | *38* | *48* |
| **-PRODUCTIVITY:(dollars)** | | | | |
| **Gross output per worker** | *21 221* | *35 355* | 16 252 | *12 648* |
| **Value added per worker** | 9 675 | 16 525 | 7 748 | *7 450* |
| **Average wage (including supplements)** | *2 737* | *2 664* | *1 675* | *1 458* |
| **-STRUCTURAL INDICES:** | | | | |
| **Structural change θ (5-year average in degrees)** | *3.15* | 1.48 | 3.57 | *7.01* |
| **as a percentage of average θ in 1970-1975** | *150* | 70 | 169 | *333* |
| **MVA growth rate / θ** | 1.92 | 4.29 | -0.48 | -2.46 |
| **Degree of specialization** | 12.0 | 12.4 | 13.4 | 9.4 |
| **-VALUE ADDED:(millions of dollars)** | | | | |
| 311/2 **Food products** | 1 870 | 3 093 | 1 429 | *742* |
| 313 **Beverages** | 308 | 504 | 230 | *156* |
| 314 **Tobacco products** | 426 | 627 | 260 | *281* |
| 321 **Textiles** | 904 | 1 421 | 760 | *335* |
| 322 **Wearing apparel** | 517 | 967 | 518 | *193* |
| 323 **Leather and fur products** | 84 | 179 | 91 | *45* |
| 324 **Footwear** | 156 | 332 | 169 | *92* |
| 331 **Wood and wood products** | 248 | 384 | 142 | *98* |
| 332 **Furniture and fixtures** | 233 | 365 | 137 | *73* |
| 341 **Paper and paper products** | 119 | 186 | 84 | *108* |
| 342 **Printing and publishing** | 83 | 146 | 86 | *87* |
| 351 **Industrial chemicals** | 404 | 671 | 264 | *435* |
| 352 **Other chemical products** | 291 | 585 | 292 | *405* |
| 353 **Petroleum refineries** | .. | .. | .. | .. |
| 354 **Miscellaneous petroleum and coal products** | 126 | 179 | 93 | *121* |
| 355 **Rubber products** | 227 | 350 | 134 | *85* |
| 356 **Plastic products** | 110 | 234 | 123 | *81* |
| 361 **Pottery, china and earthenware** | 45 | 63 | 38 | *31* |
| 362 **Glass and glass products** | 121 | 178 | 109 | *85* |
| 369 **Other non-metal mineral products** | 469 | 685 | 242 | *130* |
| 371 **Iron and steel** | 447 | 636 | 285 | *448* |
| 372 **Non-ferrous metals** | 189 | 342 | 105 | *107* |
| 381 **Metal products** | 484 | 946 | 529 | *300* |
| 382 **Non-electrical machinery** | *1 559* | *2 753* | *1 359* | *508* |
| 383 **Electrical machinery** | 743 | 1 585 | 968 | *587* |
| 384 **Transport equipment** | 587 | 1 194 | 714 | *323* |
| 385 **Professional and scientific equipment** | *104* | *185* | *91* | *34* |
| 390 **Other manufacturing industries** | 937 | 1 987 | 974 | *403* |

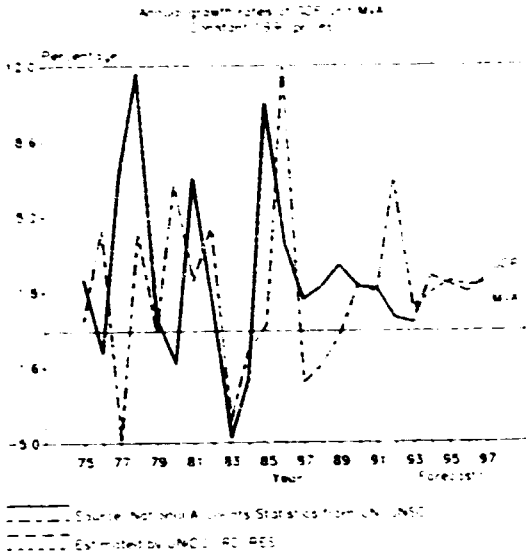
For sources, footnotes and comments see "Technical notes" at the beginning of this Annex



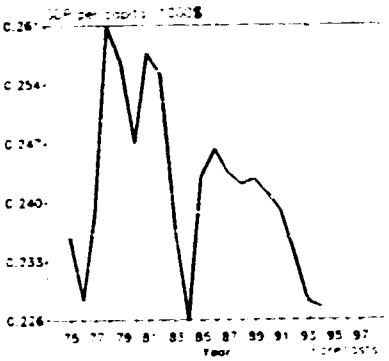



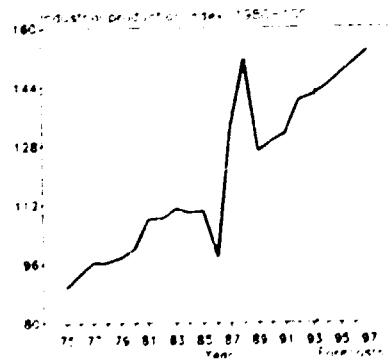


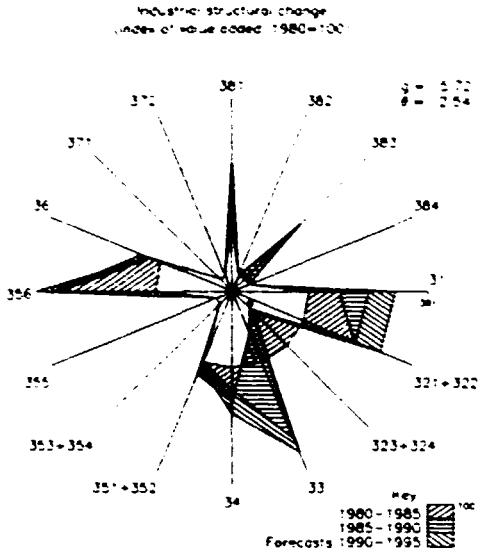


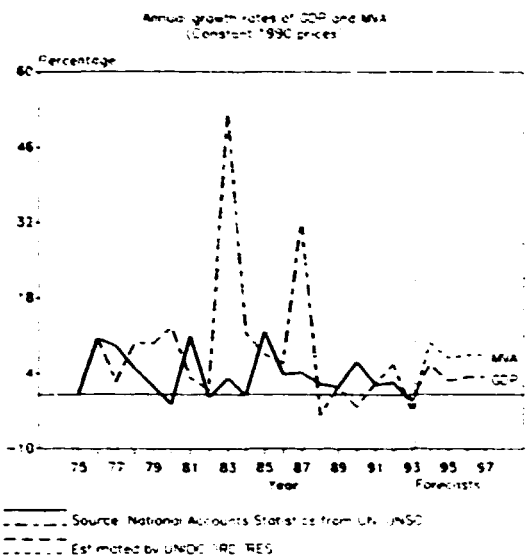
| | 1980 | 1985 | 1990 | 1993 |
|---|---|---|---|---|
| GDP[A0] (millions of 1990-dollars) | 1 718 | 1 915 | 2 165 | 2 230 |
| Per capita[A00] (1990-dollars) | 247 | 243 | 241 | 228 |
| Manufacturing share[A00] (%) (current factor prices) | 12.2 | 11.9 | 13.2 | .. |
| **MANUFACTURING:** | | | | |
| Value added[A00] (millions of 1990-dollars) | 231 | 235 | 258 | 284 |
| Industrial production index (1980=100) | 100 | 110 | 129 | 142 |
| Value added (millions of dollars) | 144 | 120 | 202 | 207 |
| Gross output (millions of dollars) | 391 | 316 | 597 | 641 |
| Employment (thousands) | 8 | 9 | 9 | 10 |
| **-PROFITABILITY:(in percent of gross output)** | | | | |
| Intermediate input (%) | 63 | 62 | 66 | 68 |
| Wages and salaries including supplements (%) | 8 | 7 | 8 | 8 |
| Gross operating surplus (%) | 28 | 31 | 26 | 24 |
| **-PRODUCTIVITY:(dollars)** | | | | |
| Gross output per worker | 47 326 | 36 534 | 64 247 | 66 353 |
| Value added per worker | 17 465 | 13 818 | 21 724 | 21 402 |
| Average wage (including supplements) | 4 021 | 2 675 | 5 154 | 5 189 |
| **-STRUCTURAL INDICES:** | | | | |
| Structural change θ (5-year average in degrees) | 2.80 | 3.00 | 1.06 | 0.85 |
| as a percentage of average θ in 1970-1975 | 240 | 258 | 91 | 73 |
| MVA growth rate / θ | 0.49 | 1.33 | 0.83 | 0.92 |
| Degree of specialization | 36.8 | 43.0 | 43.2 | 43.2 |
| **-VALUE ADDED:(millions of dollars)** | | | | |
| 311/2 Food products | 55 | 56 | 95 | 98 |
| 313 Beverages | 29 | 20 | 33 | 33 |
| 314 Tobacco products | 1 | 1 | 2 | 2 |
| 321 Textiles | 20 | 18 | 30 | 30 |
| 322 Wearing apparel | 2 | 2 | 3 | 3 |
| 323 Leather and fur products | 2 | 1 | 3 | 3 |
| 324 Footwear | 3 | 3 | 5 | 6 |
| 331 Wood and wood products | - | - | - | - |
| 332 Furniture and fixtures | 2 | 1 | 2 | 3 |
| 341 Paper and paper products | - | - | - | - |
| 342 Printing and publishing | 1 | 1 | 2 | 2 |
| 351 Industrial chemicals | 1 | 1 | 1 | 2 |
| 352 Other chemical products | - | - | - | - |
| 353 Petroleum refineries | - | - | - | - |
| 354 Miscellaneous petroleum and coal products | - | - | - | - |
| 355 Rubber products | 4 | 2 | 3 | 3 |
| 356 Plastic products | 2 | 1 | 1 | 2 |
| 361 Pottery, china and earthenware | - | - | - | - |
| 362 Glass and glass products | - | - | - | - |
| 369 Other non-metal mineral products | - | - | - | - |
| 371 Iron and steel | 1 | 1 | 2 | 2 |
| 372 Non-ferrous metals | - | - | - | - |
| 381 Metal products | 1 | - | 1 | 1 |
| 382 Non-electrical machinery | 1 | - | - | 1 |
| 383 Electrical machinery | 1 | - | 1 | 1 |
| 384 Transport equipment | 3 | 1 | 3 | 3 |
| 385 Professional and scientific equipment | - | - | - | - |
| 390 Other manufacturing industries | 12 | 9 | 14 | 13 |

For sources, footnotes and comments see "Technical notes" at the beginning of this Annex.

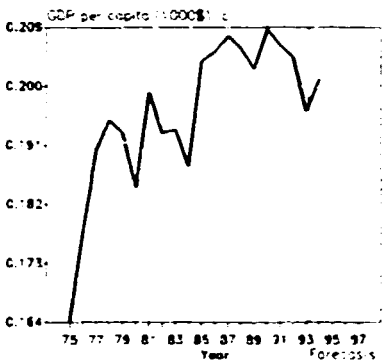


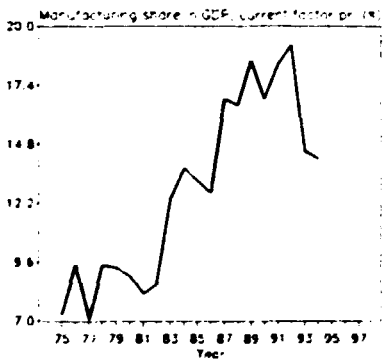


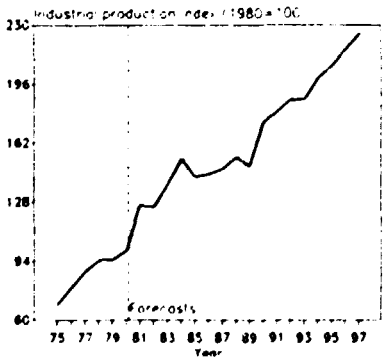



| | 1980 | 1986 | 1990 | 1993 |
|---|---|---|---|---|
| **GDP**[ms] **(millions of 1990-dollars)** | 762 | 968 | 1 148 | 1 182 |
| **Per capita**[ms] **(1990-dollars)** | 184 | 204 | 209 | 196 |
| **Manufacturing share**[ms] **(%) (current factor prices)** | 9.0 | 13.2 | 16.8 | 14.5 |
| **MANUFACTURING:** | | | | |
| **Value added**[ms] **(millions of 1990-dollars)** | 75 | 142 | 189 | 197 |
| **Industrial production index (1980=100)** | 100 | *143* | *174* | *187* |
| **Value added (millions of dollars)** | *56* | *88* | 105 | *99* |
| **Gross output (millions of dollars)** | 95 | *176* | *209* | *176* |
| **Employment (thousands)** | 3 | 5 | 7 | *7* |
| **-PROFITABILITY:(in percent of gross output)** | | | | |
| **Intermediate input (%)** | 41 | *50* | *50* | *44* |
| **Wages and salaries including supplements (%)** | 9 | *8* | *10* | *11* |
| **Gross operating surplus and net taxes (%)** | 51 | *41* | *40* | *45* |
| **-PRODUCTIVITY:(dollars)** | | | | |
| **Gross output per worker** | 27 640 | *35 653* | *31 824* | *23 458* |
| **Value added per worker** | 16 370 | *17 995* | 16 048 | *13 430* |
| **Average wage (including supplements)** | 2 357 | *3 026* | 3 303 | *2 582* |
| **-STRUCTURAL INDICES:** | | | | |
| **Structural change θ (5-year average in degrees)** | 4.88 | *2 46* | 1.59 | *0 97* |
| **as a percentage of average θ in 1970-1975** | 102 | *51* | 33 | *20* |
| **MVA growth rate / θ** | 1.92 | 3.70 | 3.05 | 2.17 |
| **Degree of specialization** | 41.1 | 47.0 | 49.3 | 50.6 |
| **-VALUE ADDED:(millions of dollars)** | | | | |
| 311/2 Food products | 30 | *46* | 59 | *56* |
| 313 Beverages | 11 | *18* | 23 | *21* |
| 314 Tobacco products | 3 | *4* | 5 | *5* |
| 321 Textiles | 2 | *9* | 9 | *8* |
| 322 Wearing apparel | 3 | *1* | 1 | - |
| 323 Leather and fur products | 1 | - | - | - |
| 324 Footwear | - | - | - | - |
| 331 Wood and wood products | - | - | *1* | *1* |
| 332 Furniture and fixtures | - | - | - | - |
| 341 Paper and paper products | - | - | - | - |
| 342 Printing and publishing | 1 | *1* | 1 | *1* |
| 351 Industrial chemicals | 1 | *1* | - | - |
| 352 Other chemical products | - | *1* | 1 | *1* |
| 353 Petroleum refineries | - | - | - | - |
| 354 Miscellaneous petroleum and coal products | - | - | - | - |
| 355 Rubber products | - | - | - | - |
| 356 Plastic products | - | - | - | - |
| 361 Pottery, china and earthenware | - | - | - | - |
| 362 Glass and glass products | - | - | - | - |
| 369 Other non-metal mineral products | 1 | *2* | 2 | *1* |
| 371 Iron and steel | - | - | - | - |
| 372 Non-ferrous metals | - | - | - | - |
| 381 Metal products | 2 | *4* | 2 | *2* |
| 382 Non-electrical machinery | - | - | - | - |
| 383 Electrical machinery | - | - | - | - |
| 384 Transport equipment | - | - | - | - |
| 385 Professional and scientific equipment | - | - | - | - |
| 390 Other manufacturing industries | - | - | *1* | *1* |

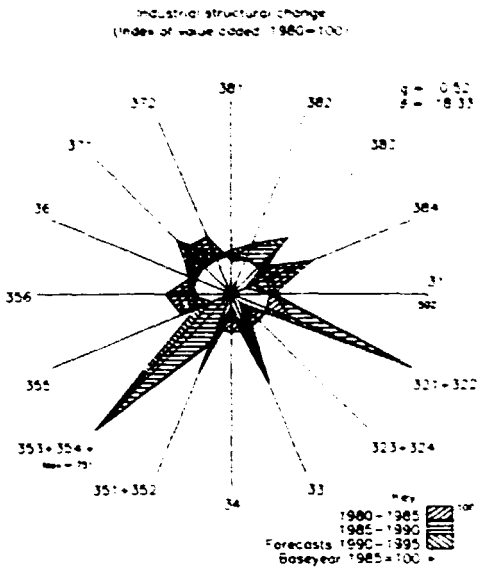


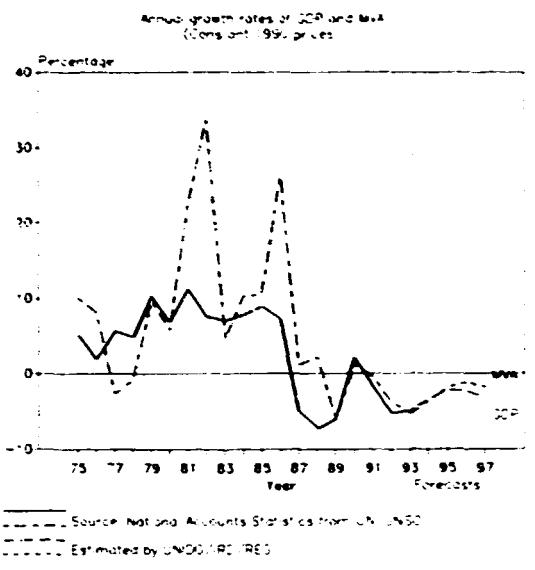




For sources, footnotes and comments see "Technical notes" at the beginning of this Annex.

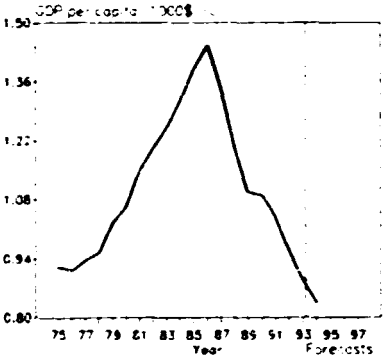
**CAMEROON**

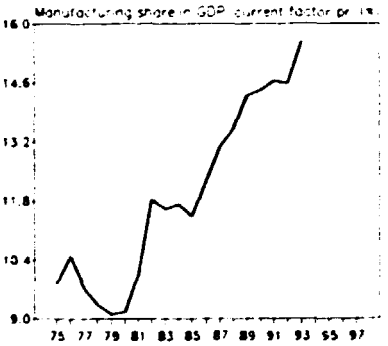


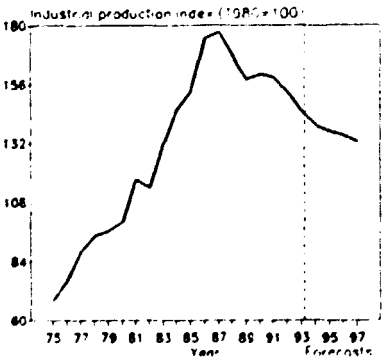



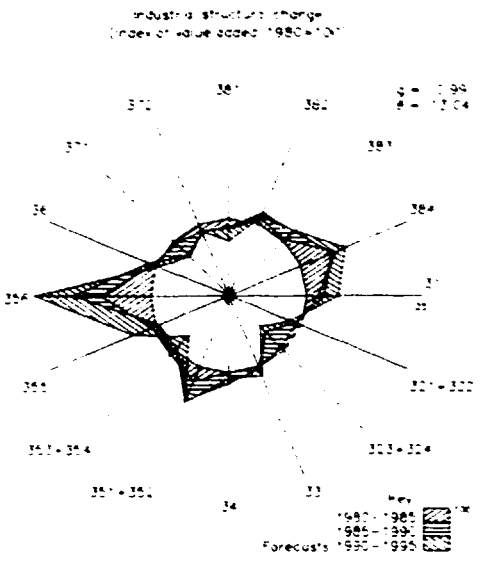

| | 1980 | 1985 | 1990 | 1993 |
|---|---|---|---|---|
| **GDP:[a,b] (millions of 1990-dollars)** | **9 207** | **13 848** | **12 565** | **11 114** |
| **Per capita[a,b] (1990-dollars)** | **1 064** | **1 389** | **1 090** | **888** |
| **Manufacturing share[a,b] (%) (current factor prices)** | **9.2** | **11.4** | **14.4** | **15.6** |
| **MANUFACTURING:** | | | | |
| **Value added[a,b] (millions of 1990-dollars)** | **689** | **1 437** | **1 781** | **1 612** |
| **Industrial production index (1980=100)** | **100** | **153** | **160** | **145** |
| **Value added (millions of dollars)** | **692** | *707* | *826* | .. |
| **Gross output (millions of dollars)** | *1 708* | *1 470* | **2 607** | .. |
| **Employment (thousands)** | *51* | *66* | **50** | **45** |
| **-PROFITABILITY:(in percent of gross output)** | | | | |
| **Intermediate input (%)** | *60* | *53* | **68** | .. |
| **Wages and salaries including supplements (%)** | *14* | *15* | **14** | .. |
| **Gross operating surplus and net taxes (%)** | *26* | *33* | **18** | .. |
| **-PRODUCTIVITY:(dollars)** | | | | |
| **Gross output per worker** | *33 434* | *22 105* | **51 631** | .. |
| **Value added per worker** | *13 582* | *10 512* | **16 357** | .. |
| **Average wage (including supplements)** | *4 794* | *3 286* | **7 281** | .. |
| **-STRUCTURAL INDICES:** | | | | |
| **Structural change θ (5-year average in degrees)** | *8.74* | *4.80* | *10.13* | *8.01* |
| **as a percentage of average θ in 1970-1975** | *108* | *59* | *125* | *99* |
| **MVA growth rate / θ** | **1.33** | **1.09** | **-0.54** | **-0.35** |
| **Degree of specialization** | **24.3** | **22.5** | **21.6** | **23.3** |
| **-VALUE ADDED:(millions of dollars)** | | | | |
| **311/2 Food products** | *167* | *133* | **185** | .. |
| **313 Beverages** | *183* | *195* | **294** | .. |
| **314 Tobacco products** | *24* | *21* | **23** | .. |
| **321 Textiles** | *36* | *46* | **-87** | .. |
| **322 Wearing apparel** | *10* | *15* | **-27** | .. |
| **323 Leather and fur products** | *7* | *3* | **3** | .. |
| **324 Footwear** | *10* | *4* | **5** | .. |
| **331 Wood and wood products** | *30* | *61* | **61** | .. |
| **332 Furniture and fixtures** | *13* | *26* | **26** | .. |
| **341 Paper and paper products** | *17* | *7* | **11** | .. |
| **342 Printing and publishing** | *20* | *8* | **6** | .. |
| **351 Industrial chemicals** | *10* | *19* | **17** | .. |
| **352 Other chemical products** | *12* | *21* | **21** | .. |
| **353 Petroleum refineries** | . | *10* | *114* | .. |
| **354 Miscellaneous petroleum and coal products** | . | . | . | . |
| **355 Rubber products** | *2* | *3* | **2** | .. |
| **356 Plastic products** | *16* | *22* | *24* | .. |
| **361 Pottery, china and earthenware** | *6* | *5* | **8** | .. |
| **362 Glass and glass products** | *4* | *4* | **6** | .. |
| **369 Other non-metal mineral products** | *12* | *11* | **16** | .. |
| **371 Iron and steel** | *24* | *32* | **30** | .. |
| **372 Non-ferrous metals** | *19* | *24* | **23** | .. |
| **381 Metal products** | *13* | *9* | **17** | .. |
| **382 Non-electrical machinery** | *18* | *14* | **32** | .. |
| **383 Electrical machinery** | *4* | *3* | **9** | .. |
| **384 Transport equipment** | *3* | *6* | **3** | .. |
| **385 Professional and scientific equipment** | . | . | . | . |
| **390 Other manufacturing industries** | *11* | *5* | **6** | .. |

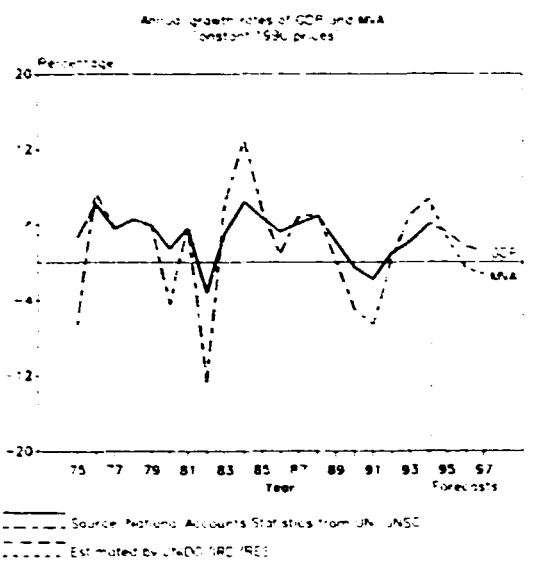
For sources, footnotes and comments see "Technical notes" at the beginning of this Annex.



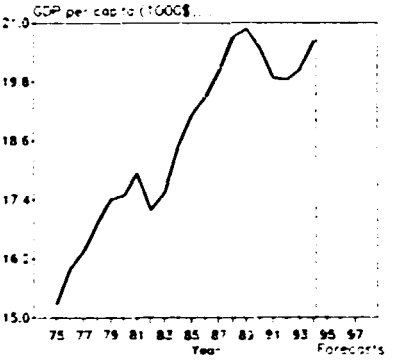





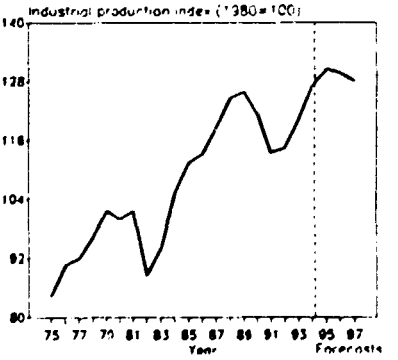


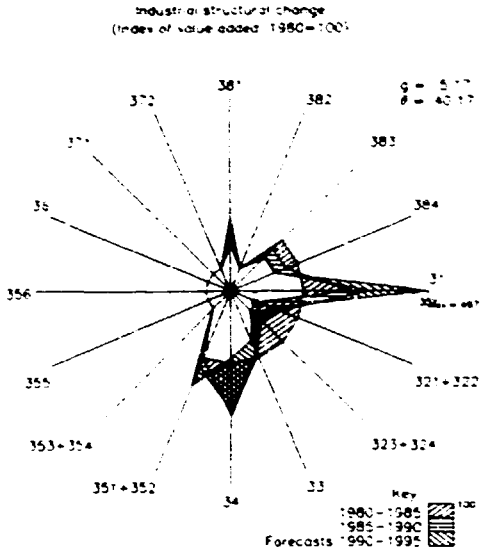

| | 1980 | 1985 | 1990 | 1993 |
|---|---|---|---|---|
| **GDP:[a0] (millions of 1990-dollars)** | 429 917 | 496 034 | 569 433 | 577 624 |
| **Per capita[a0] (1990-dollars)** | 17 481 | 19 121 | 20 490 | 20 045 |
| **Manufacturing share[a0] (%) (current factor prices)** | 19.5 | 19.0 | 17.9 | .. |
| **MANUFACTURING:** | | | | |
| **Value added[a0] (millions of 1990-dollars)** | 75 310 | 86 354 | 91 122 | 89 553 |
| **Industrial production index (1980=100)** | 100 | 111 | 121 | 120 |
| **Value added (millions of dollars)** | 59 803 | 74 209 | 112 195 | *104 220* |
| **Gross output (millions of dollars)** | 167 211 | 211 017 | 295 448 | 277 473 |
| **Employment (thousands)** | 1 852 | 1 765 | 1 867 | *1 694* |
| **-PROFITABILITY:(in percent of gross output)** | | | | |
| **Intermediate input (%)** | 64 | 65 | 62 | *62* |
| **Wages and salaries including supplements (%)** | 17 | 16 | 17 | *17* |
| **Gross operating surplus and net taxes (%)** | 19 | 19 | 21 | *20* |
| **-PRODUCTIVITY:(dollars)** | | | | |
| **Gross output per worker** | 89 995 | 119 306 | 158 104 | *159 670* |
| **Value added per worker** | 32 187 | 41 957 | 60 039 | *61 203* |
| **Average wage (including supplements)** | 15 296 | 19 168 | 27 543 | *28 152* |
| **-STRUCTURAL INDICES:** | | | | |
| **Structural change θ (5-year average in degrees)** | 3.41 | 4.86 | 4.22 | *3 64* |
| **as a percentage of average θ in 1970-1975** | 76 | 108 | 94 | *81* |
| **MVA growth rate / θ** | 1.06 | 0.41 | 0.27 | -0.81 |
| **Degree of specialization** | 10.3 | 11.0 | 11.5 | 12.1 |
| **-VALUE ADDED:(millions of dollars)** | | | | |
| 311/2 **Food products** | 6 142 | 8 001 | 12 701 | *13 363* |
| 313 **Beverages** | 1 580 | 2 189 | 2 948 | *3 460* |
| 314 **Tobacco products** | 479 | 608 | 977 | *1 044* |
| 321 **Textiles** | 2 130 | 2 152 | 2 974 | *2 847* |
| 322 **Wearing apparel** | 1 694 | 1 933 | 2 828 | *2 285* |
| 323 **Leather and fur products** | 154 | 154 | 163 | *116* |
| 324 **Footwear** | 299 | 344 | 334 | *284* |
| 331 **Wood and wood products** | 2 968 | 3 236 | 4 465 | *4 805* |
| 332 **Furniture and fixtures** | 1 044 | 1 332 | 2 245 | *1 883* |
| 341 **Paper and paper products** | 5 714 | 5 410 | 8 750 | *6 651* |
| 342 **Printing and publishing** | 3 054 | 4 517 | 7 671 | *7 160* |
| 351 **Industrial chemicals** | 2 164 | 2 570 | 4 808 | *3 780* |
| 352 **Other chemical products** | 2 421 | 3 756 | 6 256 | *6 308* |
| 353 **Petroleum refineries** | 1 531 | 1 867 | 2 271 | *1 623* |
| 354 **Miscellaneous petroleum and coal products** | 111 | 132 | 291 | *279* |
| 355 **Rubber products** | 873 | 1 089 | 1 397 | *1 769* |
| 356 **Plastic products** | 873 | 1 664 | 2 897 | *3 017* |
| 361 **Pottery, china and earthenware** | 43 | 29 | 69 | *58* |
| 362 **Glass and glass products** | 385 | 578 | 643 | *606* |
| 369 **Other non-metal mineral products** | 1 497 | 1 713 | 2 803 | *2 137* |
| 371 **Iron and steel** | 2 652 | 2 906 | 3 231 | *3 011* |
| 372 **Non-ferrous metals** | 2 190 | 2 284 | 3 222 | *2 857* |
| 381 **Metal products** | 4 414 | 4 363 | 6 454 | *4 928* |
| 382 **Non-electrical machinery** | 3 952 | 4 912 | 7 578 | *6 569* |
| 383 **Electrical machinery** | 3 849 | 4 531 | 7 485 | *6 836* |
| 384 **Transport equipment** | 5 911 | 10 088 | 14 124 | *14 148* |
| 385 **Professional and scientific equipment** | 667 | 559 | 926 | *850* |
| 390 **Other manufacturing industries** | 932 | 1 223 | 1 706 | *1 546* |

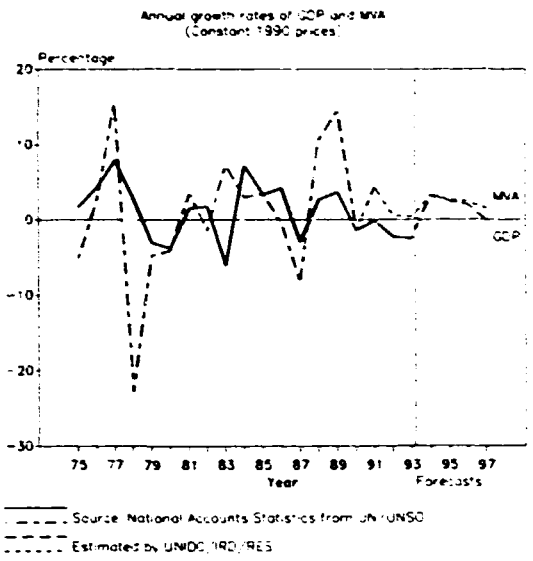
For sources, footnotes and comments see "Technical notes" at the beginning of this Annex.





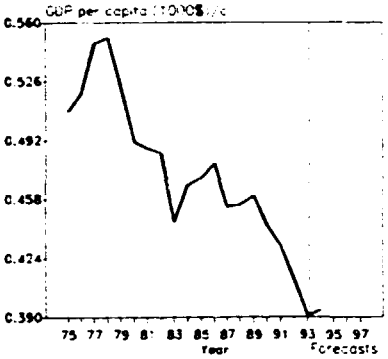


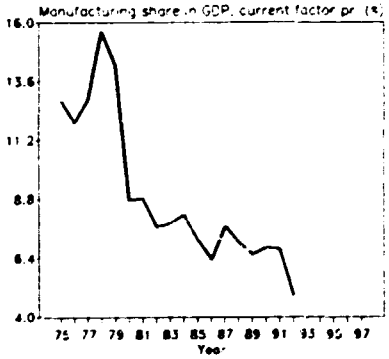


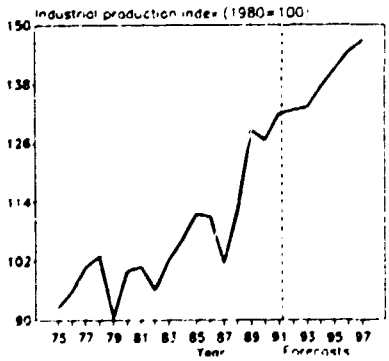



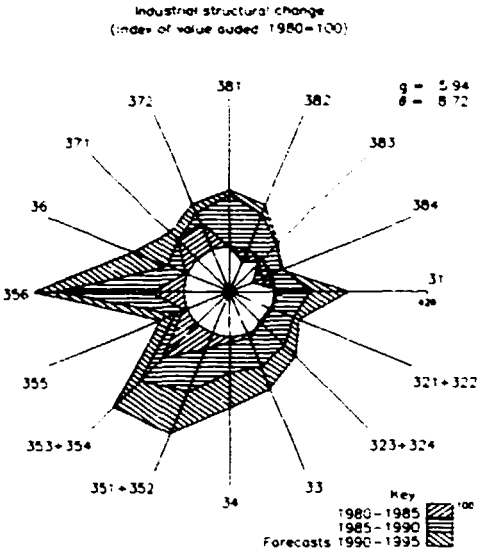

| | 1980 | 1985 | 1990 | 1993 |
|---|---|---|---|---|
| **GDP:[58]** (millions of 1990-dollars) | 1 136 | 1 222 | 1 296 | 1 233 |
| Per capita[60] (1990-dollars) | 491 | 471 | 443 | 391 |
| Manufacturing share[60] (%) (current factor prices) | 8.8 | 7.1 | 6.8 | .. |
| **MANUFACTURING:** | | | | |
| Value added[58] (millions of 1990-dollars) | 67 | 78 | 89 | *93* |
| Industrial production index (1980=100) | 100 | 112 | 127 | *133* |
| Value added (millions of dollars) | *35* | *33* | *62* | *69* |
| Gross output (millions of dollars) | *98* | 108 | 165 | *116* |
| Employment (thousands) | *6* | 8 | 5 | *4* |
| **-PROFITABILITY:**(in percent of gross output) | | | | |
| Intermediate input (%) | *64* | 70 | 62 | *41* |
| Wages and salaries including supplements (%) | *16* | *18* | *15* | *13* |
| Gross operating surplus (%) | *19* | *12* | *22* | *46* |
| **-PRODUCTIVITY:**(dollars) | | | | |
| Gross output per worker | *16 612* | 13 857 | 30 521 | *21 594* |
| Value added per worker | *5 933* | *4 156* | 11 454 | *12 827* |
| Average wage (including supplements) | *2 703* | *2 428* | *4 654* | *3 420* |
| **-STRUCTURAL INDICES:** | | | | |
| Structural change θ (5-year average in degrees) | *9.25* | *16.43* | 19.16 | *7.42* |
| as a percentage of average θ in 1970-1975 | *143* | *255* | 297 | *115* |
| MVA growth rate / θ | -0.73 | 0.36 | 0.44 | 2.03 |
| Degree of specialization | 21.6 | 25.4 | 24.5 | 32.8 |
| **-VALUE ADDED:**(millions of dollars) | | | | |
| 311/2 Food products | 5 | 8 | 15 | *23* |
| 313 Beverages | 3 | 4 | 8 | *11* |
| 314 Tobacco products | 4 | 6 | 13 | *19* |
| 321 Textiles | 5 | - | *3* | *2* |
| 322 Wearing apparel | *1* | . | *1* | - |
| 323 Leather and fur products | - | - | - | - |
| 324 Footwear | - | - | - | - |
| 331 Wood and wood products | *11* | 8 | 12 | 6 |
| 332 Furniture and fixtures | - | 1 | 1 | - |
| 341 Paper and paper products | - | - | - | - |
| 342 Printing and publishing | 1 | 2 | 3 | *1* |
| 351 Industrial chemicals | 1 | 1 | 1 | *1* |
| 352 Other chemical products | 2 | 1 | 3 | *3* |
| 353 Petroleum refineries | - | - | - | - |
| 354 Miscellaneous petroleum and coal products | - | - | - | - |
| 355 Rubber products | - | - | - | - |
| 356 Plastic products | - | - | - | - |
| 361 Pottery, china and earthenware | - | - | - | - |
| 362 Glass and glass products | - | - | - | - |
| 369 Other non-metal mineral products | - | - | - | - |
| 371 Iron and steel | - | - | - | - |
| 372 Non-ferrous metals | - | - | - | - |
| 381 Metal products | 1 | - | - | - |
| 382 Non-electrical machinery | - | - | - | - |
| 383 Electrical machinery | - | - | - | - |
| 384 Transport equipment | 2 | 1 | 1 | *1* |
| 385 Professional and scientific equipment | - | - | - | - |
| 390 Other manufacturing industries | - | 1 | 1 | *1* |

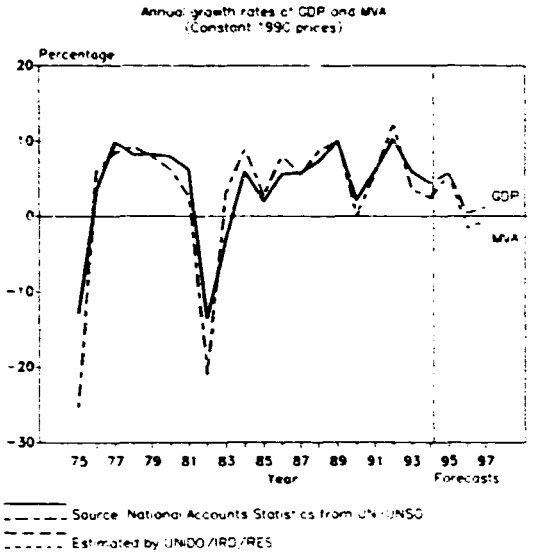
For sources, footnotes and comments see "Technical notes" at the beginning of this Annex.



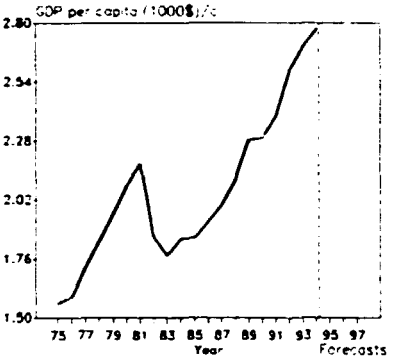



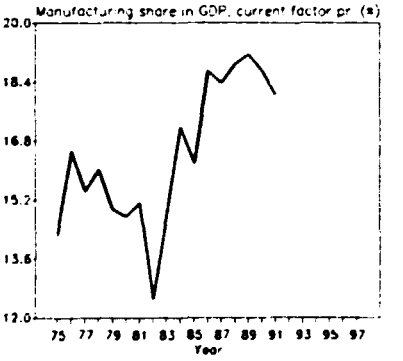


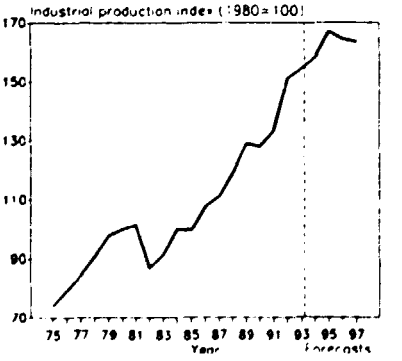




| | 1980 | 1985 | 1990 | 1993 |
|---|---|---|---|---|
| **GDP:[a/c]** (millions of 1990-dollars) | 23 242 | 22 387 | 30 167 | 37 367 |
| Per capita[a/c] (1990-dollars) | 2 086 | 1 854 | 2 293 | 2 703 |
| Manufacturing share[a/c] (%) (current factor prices) | 14.7 | 16.2 | 18.7 | .. |
| **MANUFACTURING:** | | | | |
| Value added[a/c] (millions of 1990-dollars) | 4 209 | 3 933 | 5 359 | 6 567 |
| Industrial production index (1980=100) | 100 | 100 | 128 | 155 |
| Value added (millions of dollars) | 4 991 | 4 713 | 8 757 | *12 326* |
| Gross output (millions of dollars) | 10 790 | 10 477 | 21 215 | *29 809* |
| Employment (thousands) | 206 | 185 | 298 | *336* |
| **-PROFITABILITY:**(in percent of gross output) | | | | |
| Intermediate input (%) | 54 | 55 | 59 | *59* |
| Wages and salaries including supplements (%) | *9* | 6 | 7 | *7* |
| Gross operating surplus and net taxes (%) | *38* | 39 | 34 | *34* |
| **-PRODUCTIVITY:**(dollars) | | | | |
| Gross output per worker | 51 994 | 56 380 | 70 919 | *88 678* |
| Value added per worker | 24 050 | 25 363 | 29 274 | *37 428* |
| Average wage (including supplements) | *4 444* | 3 499 | 4 861 | *6 611* |
| **-STRUCTURAL INDICES:** | | | | |
| Structural change θ (5-year average in degrees) | 11.13 | 7.41 | *4 03* | *3 37* |
| as a percentage of average θ in 1970-1975 | 63 | 42 | *23* | *19* |
| MVA growth rate / θ | -0.31 | 0.73 | 2.22 | 3.07 |
| Degree of specialization | 16.0 | 20.4 | 17.0 | 16.7 |
| **-VALUE ADDED:**(millions of dollars) | | | | |
| 311/2 Food products | 827 | 805 | 1 543 | *2 341* |
| 313 Beverages | 289 | 177 | 374 | *631* |
| 314 Tobacco products | 214 | 205 | 303 | *562* |
| 321 Textiles | 234 | 162 | 333 | *368* |
| 322 Wearing apparel | 111 | 83 | 163 | *253* |
| 323 Leather and fur products | 22 | 18 | 37 | *38* |
| 324 Footwear | 77 | 51 | 121 | *178* |
| 331 Wood and wood products | 153 | 143 | 270 | *385* |
| 332 Furniture and fixtures | 37 | 14 | 53 | *65* |
| 341 Paper and paper products | 281 | 278 | 561 | *839* |
| 342 Printing and publishing | 182 | 104 | 224 | *360* |
| 351 Industrial chemicals | 55 | 94 | 247 | *350* |
| 352 Other chemical products | 324 | 289 | 617 | *977* |
| 353 Petroleum refineries | 184 | 277 | 480 | *692* |
| 354 Miscellaneous petroleum and coal products | 27 | 47 | 69 | *70* |
| 355 Rubber products | 60 | 49 | 72 | *107* |
| 356 Plastic products | 50 | 63 | 118 | *226* |
| 361 Pottery, china and earthenware | 14 | 9 | 9 | *22* |
| 362 Glass and glass products | 38 | 27 | 51 | *67* |
| 369 Other non-metal mineral products | 146 | 115 | 218 | *393* |
| 371 Iron and steel | 188 | 226 | 284 | *377* |
| 372 Non-ferrous metals | 965 | 1 175 | 1 716 | *2 019* |
| 381 Metal products | 181 | 130 | 366 | *433* |
| 382 Non-electrical machinery | 96 | 50 | 168 | *215* |
| 383 Electrical machinery | 90 | 61 | 125 | *149* |
| 384 Transport equipment | 127 | 50 | 153 | *178* |
| 385 Professional and scientific equipment | 5 | 4 | 9 | *15* |
| 390 Other manufacturing industries | 13 | 7 | 14 | *17* |

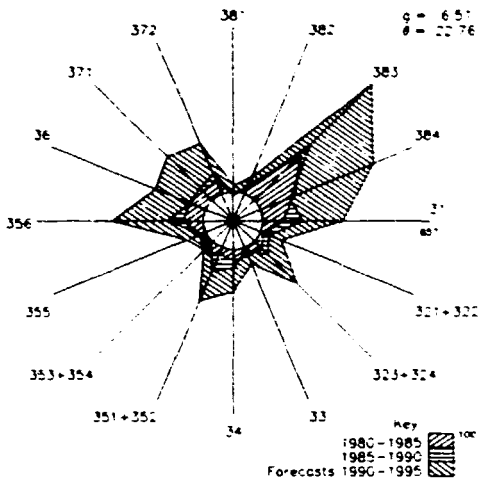
For sources, footnotes and comments see "Technical notes" at the beginning of this Annex.



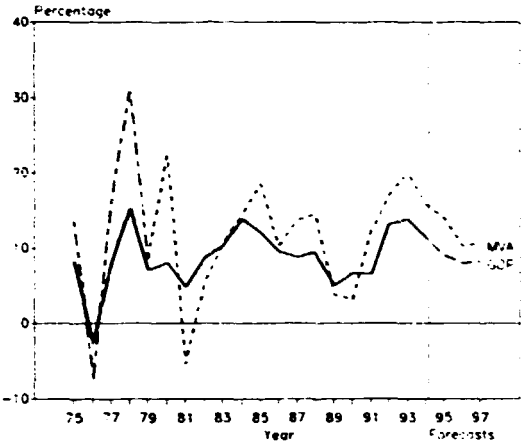



Industrial structural change
(Index of value added 1980=100)



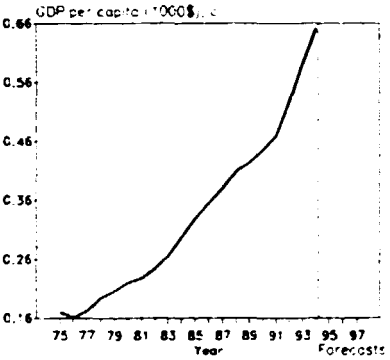

Annual growth rates of GDP and MVA
(Constant 1990 prices)

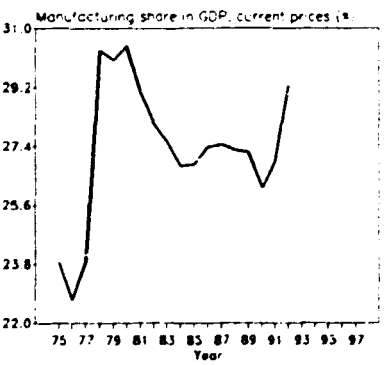


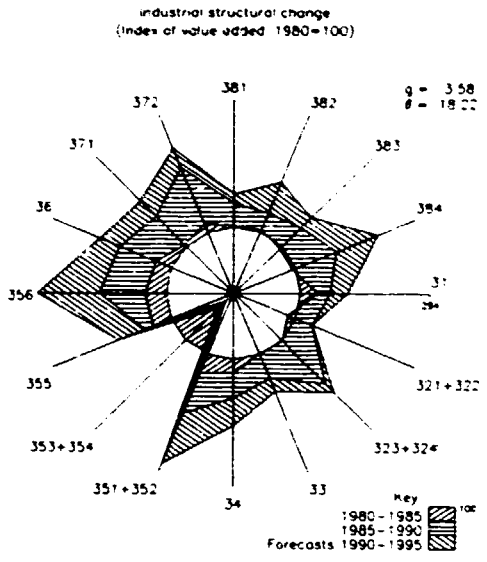

Source: National Accounts Statistics from UN, UNSO
Estimated by UNIDO/PPD/RES

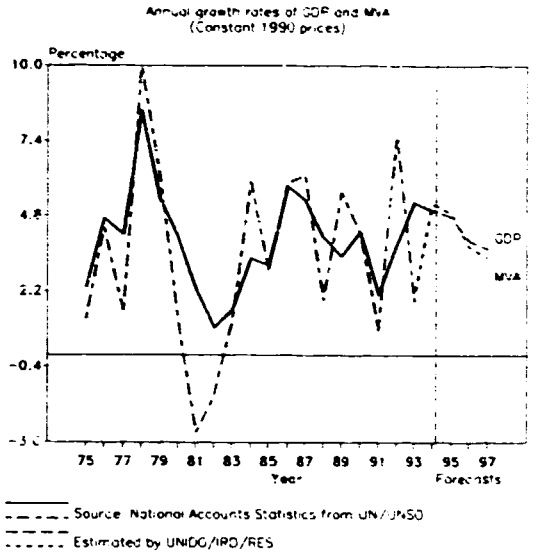
| | 1980 | 1985 | 1990 | 1993 |
|---|---|---|---|---|
| **GDP:[as]** (millions of 1990-dollars) | 215 498 | 345 792 | 505 750 | 694 261 |
| Per capita[as] (1990-dollars) | 220 | 329 | 446 | 591 |
| Manufacturing share[as] (%) (current factor prices) | 30.5 | 26.8 | 26.1 | .. |
| **MANUFACTURING:** | | | | |
| Value added[as] (millions of 1990-dollars) | *57 508* | 86 000 | 132 148 | 208 235 |
| Industrial production index (1980=100) | .. | .. | .. | .. |
| Value added (millions of dollars) | *88 577* | *78 380* | *90 259* | *141 341* |
| Gross output (millions of dollars) | *232 460* | 246 331 | 349 604 | *537 499* |
| Employment (thousands) | 24 390 | 29 743 | 33 950 | *36 616* |
| **-PROFITABILITY:**(in percent of gross output) | | | | |
| Intermediate input (%) | *62* | 68 | 74 | *74* |
| Wages and salaries including supplements (%) | *6* | 5 | *5* | *4* |
| Gross operating surplus and net taxes (%) | *32* | 27 | *21* | *21* |
| **-PRODUCTIVITY:**(dollars) | | | | |
| Gross output per worker | *9 531* | 8 282 | 10 298 | *14 668* |
| Value added per worker | *3 632* | 2 635 | 2 659 | *3 833* |
| Average wage (including supplements) | 548 | 384 | *500* | *656* |
| **-STRUCTURAL INDICES:** | | | | |
| Structural change θ (5-year average in degrees) | *2.32* | *5.91* | 3.30 | *3.30* |
| as a percentage of average θ in 1970-1975 | *141* | *358* | 200 | *200* |
| MVA growth rate / θ | 1.64 | 1.24 | 0.77 | 2.18 |
| Degree of specialization | 12.6 | 10.8 | 10.8 | 10.6 |
| **-VALUE ADDED:**(millions of dollars) | | | | |
| 311/2 Food products | *3 764* | 3 433 | 4 489 | *6 611* |
| 313 Beverages | *1 587* | 1 696 | 2 414 | *4 327* |
| 314 Tobacco products | 3 545 | 3 999 | 6 220 | *8 034* |
| 321 Textiles | 13 409 | 8 587 | 10 299 | *12 959* |
| 322 Wearing apparel | 1 866 [s] | 1 716 [s] | 2 109 [s] | *3 454* [s] |
| 323 Leather and fur products | 911 | 747 | 944 | *1 593* |
| 324 Footwear | [s] | [s] | [s] | [s] |
| 331 Wood and wood products | *751* | 591 | 502 | *825* |
| 332 Furniture and fixtures | *653* | 514 | 455 | *630* |
| 341 Paper and paper products | *1 929* | 1 532 | 1 949 | *2 624* |
| 342 Printing and publishing | 1 042 | 980 | 1 036 | *1 627* |
| 351 Industrial chemicals | 7 125 | 5 584 | 8 459 | *12 221* |
| 352 Other chemical products | 2 924 | 2 292 | 3 372 | *4 868* |
| 353 Petroleum refineries | 4 223 | 3 676 | 2 714 | *3 911* |
| 354 Miscellaneous petroleum and coal products | *154* | 183 | 208 | *223* |
| 355 Rubber products | 2 175 | 1 593 | 1 603 | *2 380* |
| 356 Plastic products | 1 256 | 1 317 | 1 736 | *2 931* |
| 361 Pottery, china and earthenware | 439 | 431 | 504 | *935* |
| 362 Glass and glass products | 838 | 822 | 705 | *1 307* |
| 369 Other non-metal mineral products | 4 425 | 4 340 | 4 524 | *8 391* |
| 371 Iron and steel | *6 538* | 5 810 | 6 571 | *11 673* |
| 372 Non-ferrous metals | *1 868* | 1 730 | 2 050 | *3 085* |
| 381 Metal products | 4 861 | 2 582 | 2 946 | *4 065* |
| 382 Non-electrical machinery | 13 418 | 10 941 | 10 116 | *16 894* |
| 383 Electrical machinery | 3 216 | 6 458 | 7 445 | *12 166* |
| 384 Transport equipment | 3 013 | 4 134 | 3 918 | *8 872* |
| 385 Professional and scientific equipment | 810 | 1 021 | 843 | *1 441* |
| 390 Other manufacturing industries | *1 838* | 1 691 | 2 125 | *3 296* |

For sources, footnotes and comments see "Technical notes" at the beginning of this Annex.



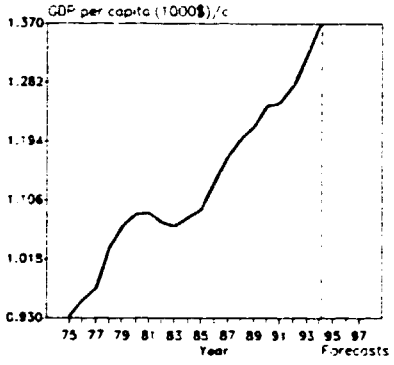



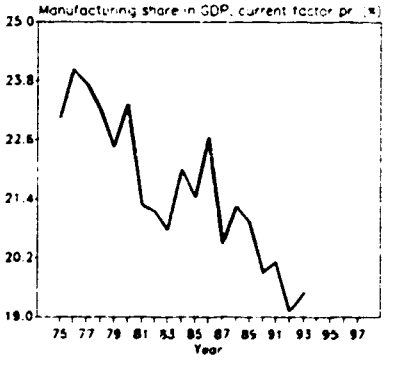


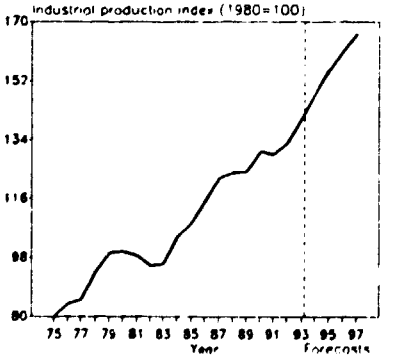




| | 1980 | 1985 | 1990 | 1993 |
|---|---|---|---|---|
| **GDP[as] (millions of 1990-dollars)** | 28 799 | 32 184 | 40 274 | 44 946 |
| **Per capita[as] (1990-dollars)** | 1 086 | 1 092 | 1 247 | 1 323 |
| **Manufacturing share[as] (%) (current factor prices)** | 23.3 | 21.4 | 19.9 | *19.8* |
| **MANUFACTURING:** | | | | |
| **Value added[as] (millions of 1990-dollars)** | 6 010 | 6 365 | 8 034 | 8 872 |
| **Industrial production index (1980=100)** | 100 | 106 | 130 | 141 |
| **Value added (millions of dollars)** | 7 131 | 6 711 | 7 882 | *10 098* |
| **Gross output (millions of dollars)** | 16 453 | 16 823 | 20 601 | *25* |
| **Employment (thousands)** | 508 | 440 | 489 | *505* |
| **-PROFITABILITY:(in percent of gross output)** | | | | |
| **Intermediate input (%)** | 57 | 60 | 62 | *61* |
| **Wages and salaries including supplements (%)** | 8 | 7 | 6 | *6* |
| **Gross operating surplus and net taxes (%)** | 35 | 33 | 33 | *34* |
| **-PRODUCTIVITY:(dollars)** | | | | |
| **Gross output per worker** | 31 860 | 37 635 | 41 526 | *49 948* |
| **Value added per worker** | 13 809 | 15 012 | 15 887 | *19 726* |
| **Average wage (including supplements)** | 2 583 | 2 709 | 2 359 | *2 866* |
| **-STRUCTURAL INDICES:** | | | | |
| **Structural change θ (5-year average in degrees)** | 8.39 | 6.18 | 6.96 | *3.23* |
| **as a percentage of average θ in 1970-1975** | 129 | 95 | 107 | *50* |
| **MVA growth rate / θ** | 0.86 | 0.15 | 0.93 | 0.81 |
| **Degree of specialization** | 14.6 | 14.7 | 13.0 | 13.1 |
| **-VALUE ADDED:(millions of dollars)** | | | | |
| 311/2 Food products | 951 | 1 166 | 1 306 | *1 611* |
| 313 Beverages | 1 021 | 1 032 | 928 | *1 247* |
| 314 Tobacco products | 160 | 224 | 173 | *162* |
| 321 Textiles | 803 | 619 | 816 | *842* |
| 322 Wearing apparel | 241 | 206 | 221 | *294* |
| 323 Leather and fur products | 59 | 47 | 66 | *65* |
| 324 Footwear | 50 | 54 | 100 | *129* |
| 331 Wood and wood products | 50 | 46 | 54 | *75* |
| 332 Furniture and fixtures | 34 | 29 | 38 | *41* |
| 341 Paper and paper products | 227 | 274 | 301 | *434* |
| 342 Printing and publishing | 185 | 180 | 213 | *251* |
| 351 Industrial chemicals | 303 | 405 | 522 | *730* |
| 352 Other chemical products | 419 | 457 | 597 | *909* |
| 353 Petroleum refineries | 773 | 90 | 151 | *168* |
| 354 Miscellaneous petroleum and coal products | 17 | 28 | 34 | *46* |
| 355 Rubber products | 117 | 138 | 131 | *188* |
| 356 Plastic products | 141 | 169 | 223 | *347* |
| 361 Pottery, china and earthenware | 44 | 46 | 60 | *92* |
| 362 Glass and glass products | 76 | 92 | 113 | *139* |
| 369 Other non-metal mineral products | 232 | 264 | 338 | *410* |
| 371 Iron and steel | 217 | 205 | 281 | *348* |
| 372 Non-ferrous metals | 34 | 36 | 56 | *67* |
| 381 Metal products | 260 | 242 | 279 | *331* |
| 382 Non-electrical machinery | 120 | 114 | 124 | *165* |
| 383 Electrical machinery | 244 | 211 | 271 | *330* |
| 384 Transport equipment | 256 | 221 | 332 | *486* |
| 385 Professional and scientific equipment | 26 | 38 | 70 | *69* |
| 390 Other manufacturing industries | 72 | 78 | 84 | *101* |

For sources, footnotes and comments see "Technical notes" at the beginning of this Annex.



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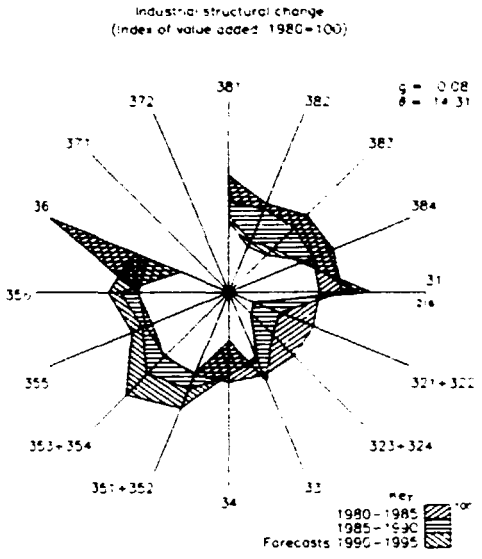
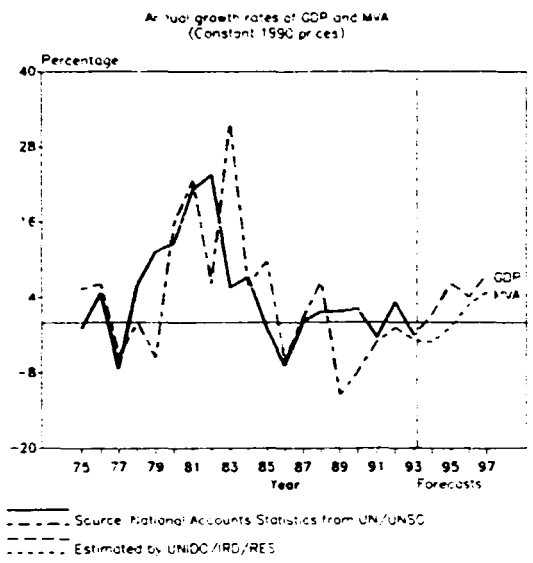
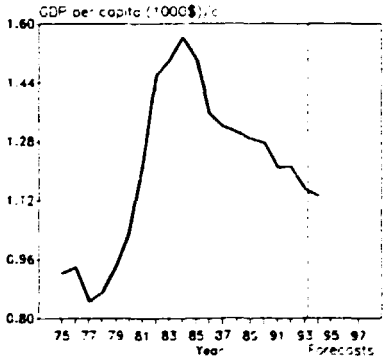
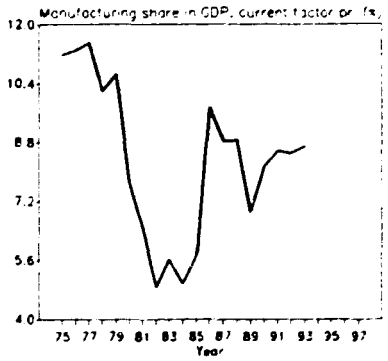
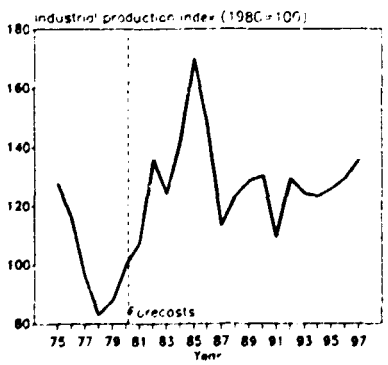


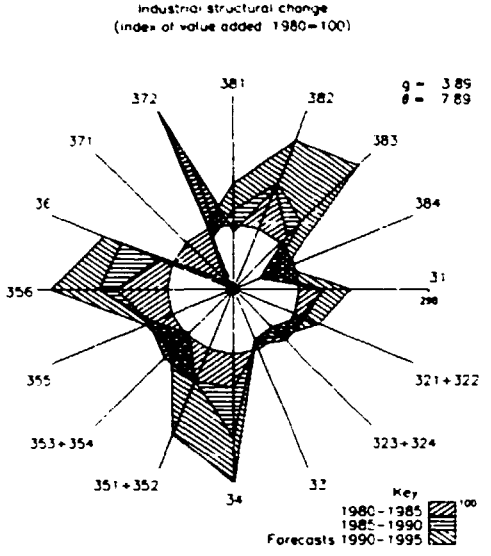

| | 1980 | 1985 | 1990 | 1993 |
|---|---|---|---|---|
| **GDP:[a2] (millions of 1990-dollars)** | 1 722 | 2 887 | 2 851 | 2 812 |
| **Per capita[a2] (1990-dollars)** | 1 032 | 1 501 | 1 277 | 1 151 |
| **Manufacturing share[a2] (%) (current factor prices)** | 7.7 | 5.7 | 8.2 | 8.7 |
| **MANUFACTURING:** | | | | |
| **Value added[a2] (millions of 1990-dollars)** | 139 | 278 | 227 | 212 |
| **Industrial production index (1980=100)** | 100 | 170 | *130* | *124* |
| **Value added (millions of dollars)** | *62* | *54* | *92* | .. |
| **Gross output (millions of dollars)** | *169* | 154 | *267* | .. |
| **Employment (thousands)** | *7* | 9 | *8* | 8 |
| **-PROFITABILITY:(in percent of gross output)** | | | | |
| **Intermediate input (%)** | *63* | 65 | *66* | .. |
| **Wages and salaries including supplements (%)** | *14* | *17* | *15* | .. |
| **Gross operating surplus and net taxes (%)** | *23* | *18* | *19* | .. |
| **-PRODUCTIVITY:(dollars)** | | | | |
| **Gross output per worker** | *13 629* | 17 546 | *34 765* | .. |
| **Value added per worker** | *5 014* | 6 210 | *11 953* | .. |
| **Average wage (including supplements)** | *3 487* | *3 033* | *5 354* | .. |
| **-STRUCTURAL INDICES:** | | | | |
| **Structural change θ (5-year average in degrees)** | *6 87* | *10 82* | *6 09* | *2 62* |
| **as a percentage of average θ in 1970-1975** | *64* | *101* | *57* | *24* |
| **MVA growth rate / θ** | -0.69 | 0.27 | -0.01 | -0.14 |
| **Degree of specialization** | 16.6 | 19.2 | 25.9 | 24.1 |
| **-VALUE ADDED:(millions of dollars)** | | | | |
| **311/2 Food products** | *10* | 10 | *22* | .. |
| **313 Beverages** | *11* | 11 | *23* | .. |
| **314 Tobacco products** | *3* | 3 | *8* | .. |
| **321 Textiles** | *4* | *2* | *1* | .. |
| **322 Wearing apparel** | *1* | *1* | *1* | .. |
| **323 Leather and fur products** | - | - | - | .. |
| **324 Footwear** | *3* | *2* | *2* | .. |
| **331 Wood and wood products** | *6* | 5 | *6* | .. |
| **332 Furniture and fixtures** | *4* | *3* | *4* | .. |
| **341 Paper and paper products** | *1* | - | *1* | .. |
| **342 Printing and publishing** | *1* | - | *1* | .. |
| **351 Industrial chemicals** | *3* | *2* | 5 | .. |
| **352 Other chemical products** | *2* | *2* | *3* | .. |
| **353 Petroleum refineries** | - | - | - | .. |
| **354 Miscellaneous petroleum and coal products** | - | - | - | .. |
| **355 Rubber products** | *1* | - | *1* | .. |
| **356 Plastic products** | - | - | - | .. |
| **361 Pottery, china and earthenware** | - | - | - | .. |
| **362 Glass and glass products** | - | - | | .. |
| **369 Other non-metal mineral products** | *1* | *2* | *1* | .. |
| **371 Iron and steel** | - | - | - | - |
| **372 Non-ferrous metals** | - | - | - | - |
| **381 Metal products** | *4* | 5 | 5 | .. |
| **382 Non-electrical machinery** | *1* | *1* | *1* | .. |
| **383 Electrical machinery** | *2* | *2* | *2* | .. |
| **384 Transport equipment** | *2* | *2* | *3* | .. |
| **385 Professional and scientific equipment** | - | - | - | - |
| **390 Other manufacturing industries** | - | - | - | - |

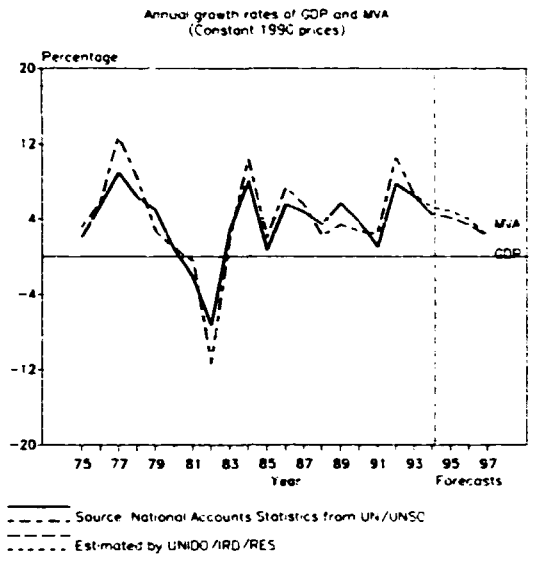


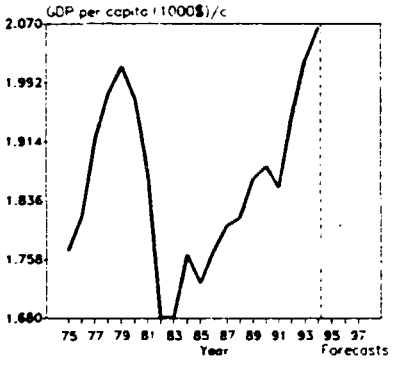

For sources, footnotes and comments see "Technical notes" at the beginning of this Annex.

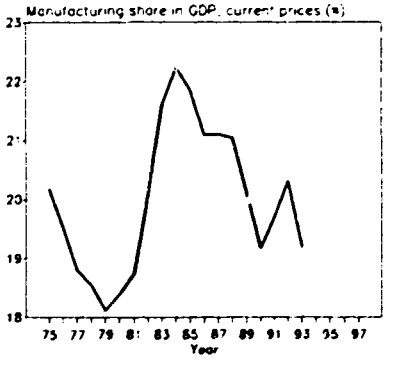


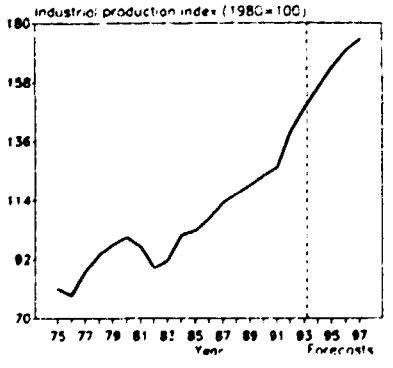



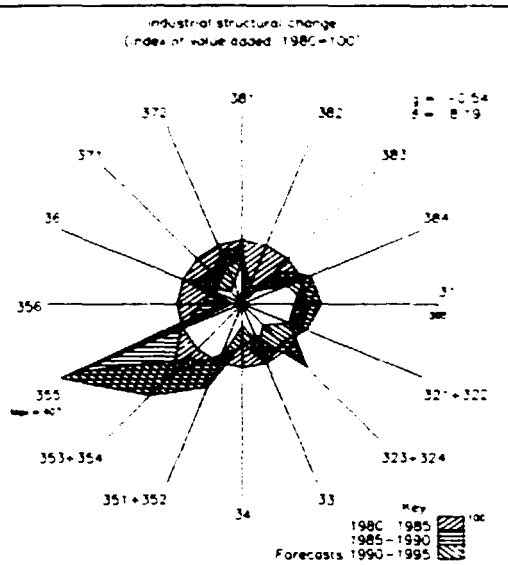

| | 1980 | 1985 | 1990 | 1993 |
|---|---|---|---|---|
| **GDP:[as] (millions of 1990-dollars)** | 4 496 | 4 560 | 5 710 | 6 612 |
| **Per capita[as] (1990-dollars)** | 1 969 | 1 726 | 1 881 | 2 022 |
| **Manufacturing share[as] (%) (current factor prices)** | 18.4 | 21.9 | 19.2 | 19.2 |
| **MANUFACTURING:** | | | | |
| **Value added[as] (millions of 1990-dollars)** | 882 | 891 | 1 095 | 1 319 |
| **Industrial production index (1980=100)** | 100 | 103 | 123 | 148 |
| **Value added (millions of dollars)** | 788 | 762 | 961 | *1 282* |
| **Gross output (millions of dollars)** | 2 743 | 2 468 | 3 171 | *4 109* |
| **Employment (thousands)** | *73* | 104 | 135 | *147* |
| **-PROFITABILITY:(in percent of gross output)** | | | | |
| **Intermediate input (%)** | 71 | 69 | 70 | *69* |
| **Wages and salaries including supplements (%)** | 12 | 11 | 11 | *11* |
| **Gross operating surplus and net taxes (%)** | 17 | 20 | 19 | *20* |
| **-PRODUCTIVITY:(dollars)** | | | | |
| **Gross output per worker** | *37 732* | 23 757 | 23 544 | *28 000* |
| **Value added per worker** | *11 989* | 7 338 | 7 134 | *8 798* |
| **Average wage (including supplements)** | *4 356* | 2 569 | 2 689 | *3 038* |
| **-STRUCTURAL INDICES:** | | | | |
| **Structural change θ (5-year average in degrees)** | 2.85 | 7.04 | 3.39 | *2 72* |
| **as a percentage of average θ in 1970-1975** | 81 | 201 | 97 | *77* |
| **MVA growth rate / θ** | 1.02 | 0.77 | 0.28 | 1.19 |
| **Degree of specialization** | 20.4 | 21.4 | 21.5 | 21.1 |
| **-VALUE ADDED:(millions of dollars)** | | | | |
| **311/2 Food products** | 241 | 247 | 292 | *363* |
| **313 Beverages** | 96 | 94 | 128 | *186* |
| **314 Tobacco products** | 24 | 28 | 31 | *44* |
| **321 Textiles** | 33 | 23 | 32 | *34* |
| **322 Wearing apparel** | 31 | 34 | 32 | *50* |
| **323 Leather and fur products** | 7 | 5 | 5 | *5* |
| **324 Footwear** | 10 | 9 | 8 | *11* |
| **331 Wood and wood products** | 30 | 25 | 22 | *24* |
| **332 Furniture and fixtures** | 26 | 14 | 21 | *23* |
| **341 Paper and paper products** | 20 | 22 | 45 | *54* |
| **342 Printing and publishing** | 18 | 21 | 34 | *45* |
| **351 Industrial chemicals** | 19 | 26 | 33 | *51* |
| **352 Other chemical products** | 40 | 42 | 50 | *79* |
| **353 Petroleum refineries** | 40 | 45 | 35 | *45* |
| **354 Miscellaneous petroleum and coal products** | - | - | - | - |
| **355 Rubber products** | 14 | 15 | 17 | *18* |
| **356 Plastic products** | 19 | 26 | 36 | *49* |
| **361 Pottery, china and earthenware** | 1 | 2 | 3 | *5* |
| **362 Glass and glass products** | 3 | 7 | 11 | *12* |
| **369 Other non-metal mineral products** | 25 | 19 | 36 | *41* |
| **371 Iron and steel** | 4 | - | - | *1* |
| **372 Non-ferrous metals** | *1* | - | 1 | *1* |
| **381 Metal products** | 18 | 12 | 20 | *27* |
| **382 Non-electrical machinery** | 8 | 10 | 13 | *19* |
| **383 Electrical machinery** | 25 | 21 | 33 | *61* |
| **384 Transport equipment** | 31 | 10 | 16 | *26* |
| **385 Professional and scientific equipment** | - | *1* | 2 | *3* |
| **390 Other manufacturing industries** | 2 | 3 | 4 | *5* |

For sources, footnotes and comments see "Technical notes" at the beginning of this Annex.



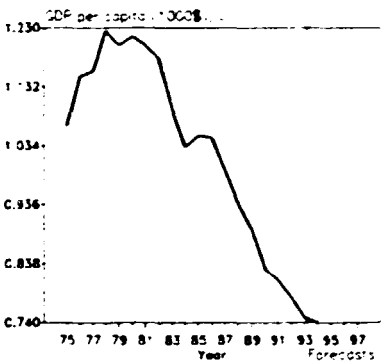



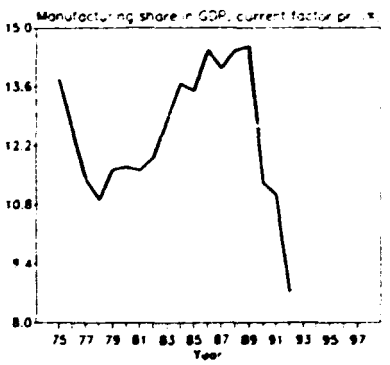


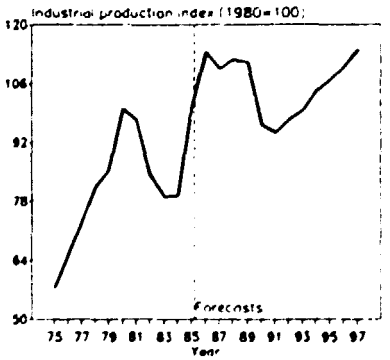


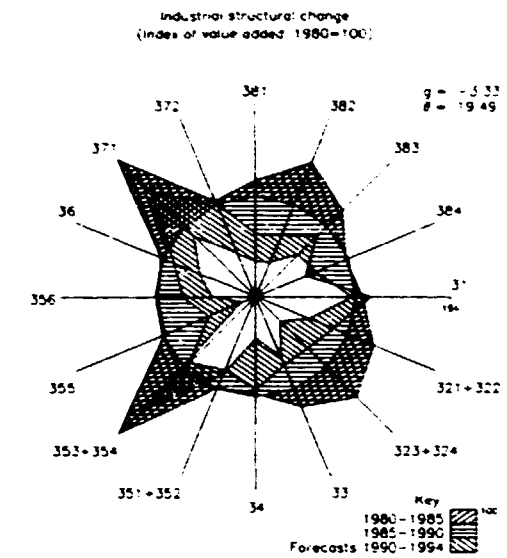
| | 1980 | 1985 | 1990 | 1993 |
|---|---|---|---|---|
| **GDP[88] (millions of 1990-dollars)** | **9 965** | **10 439** | **9 899** | **9 957** |
| **Per capita[88] (1990-dollars)** | **1 216** | **1 051** | **827** | **748** |
| **Manufacturing share[88] (%) (current factor prices)** | **11.7** | **13.5** | **11.3** | .. |
| **MANUFACTURING:** | | | | |
| **Value added[88] (millions of 1990-dollars)** | **1 246** | **1 487** | **1 120** | **1 178** |
| **Industrial production index (1980=100)** | **100** | **100** | **96** | *100* |
| **Value added (millions of dollars)** | *1 273* | *719* | **2 030** | *1 456* |
| **Gross output (millions of dollars)** | **4 006** | *2 869* | *6 324* | *5 283* |
| **Employment (thousands)** | **67** | *55* | *53* | *52* |
| **-PROFITABILITY:(in percent of gross output)** | | | | |
| **Intermediate input (%)** | **68** | *75* | *68* | *72* |
| **Wages and salaries including supplements (%)** | **10** | *9* | *7* | *8* |
| **Gross operating surplus and net taxes (%)** | **22** | *16* | *26* | *20* |
| **-PRODUCTIVITY:(dollars)** | | | | |
| **Gross output per worker** | **59 631** | *51 949* | *117 275* | *99 717* |
| **Value added per worker** | **18 950** | *13 040* | *38 169* | *27 653* |
| **Average wage (including supplements)** | **6 052** | *4 863* | *7 777* | *8 129* |
| **-STRUCTURAL INDICES:** | | | | |
| **Structural change θ (5-year average in degrees)** | *7 65* | *6 51* | *5 40* | *5 10* |
| **as a percentage of average θ in 1970-1975** | *80* | *68* | *57* | *53* |
| **MVA growth rate / θ** | **0.79** | **-0.20** | **1.53** | **-1.20** |
| **Degree of specialization** | **23.3** | **28.7** | **30.4** | **31.9** |
| **-VALUE ADDED:(millions of dollars)** | | | | |
| **311/2 Food products** | **303** | *162* | *599* | *491* |
| **313 Beverages** | **75** | *29* | *66* | *48* |
| **314 Tobacco products** | **66** | *14* | *22* | *15* |
| **321 Textiles** | **169** | *82* | *224* | *162* |
| **322 Wearing apparel** | **8** | *5* | *14* | *11* |
| **323 Leather and fur products** | *8* | *7* | *9* | *7* |
| **324 Footwear** | *2* | *2* | *2* | *1* |
| **331 Wood and wood products** | **67** | *22* | *83* | *61* |
| **332 Furniture and fixtures** | **21** | *7* | *27* | *20* |
| **341 Paper and paper products** | *15* | *6* | *9* | *7* |
| **342 Printing and publishing** | *22* | *9* | *19* | *12* |
| **351 Industrial chemicals** | *22* | *15* | *55* | *41* |
| **352 Other chemical products** | *53* | *25* | *77* | *49* |
| **353 Petroleum refineries** | *168* | *160* | *433* | *255* |
| **354 Miscellaneous petroleum and coal products** | *13* | *11* | *26* | *11* |
| **355 Rubber products** | *4* | *3* | *22* | *16* |
| **356 Plastic products** | *1* | . | . | . |
| **361 Pottery, china and earthenware** | *2* | . | . | . |
| **362 Glass and glass products** | . | . | . | . |
| **369 Other non-metal mineral products** | *27* | *9* | *32* | *23* |
| **371 Iron and steel** | *6* | *2* | *5* | *2* |
| **372 Non-ferrous metals** | *2* | *1* | *2* | *1* |
| **381 Metal products** | **70** | *31* | *80* | *61* |
| **382 Non-electrical machinery** | **3** | *1* | . | . |
| **383 Electrical machinery** | **20** | *4* | *18* | *9* |
| **384 Transport equipment** | **106** | *69* | **151** | *109* |
| **385 Professional and scientific equipment** | . | . | . | . |
| **390 Other manufacturing industries** | **20** | *23* | **51** | *45* |

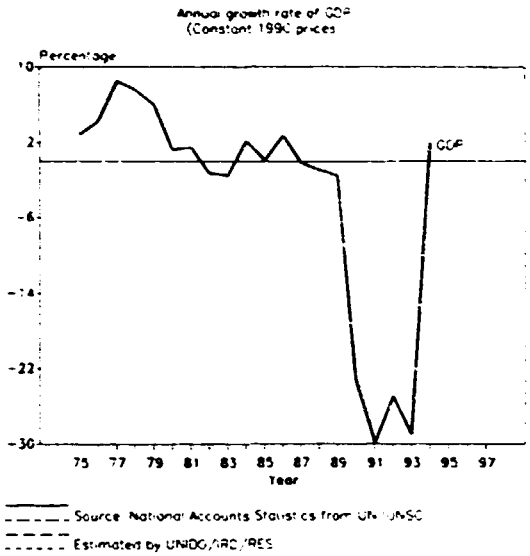
For sources, footnotes and comments see "Technical notes" at the beginning of this Annex.



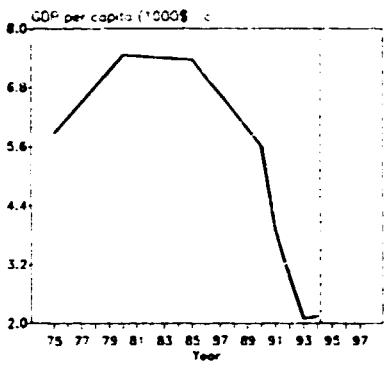



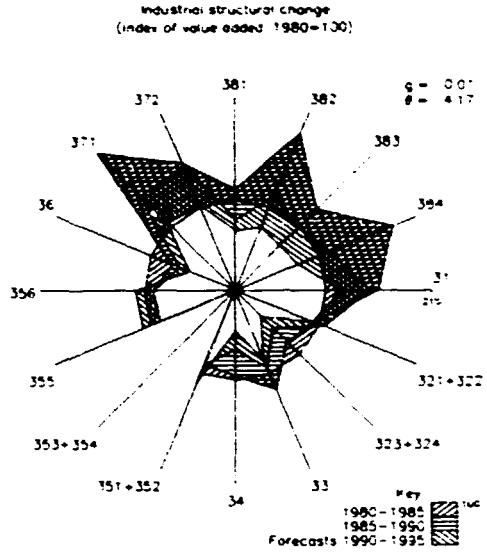


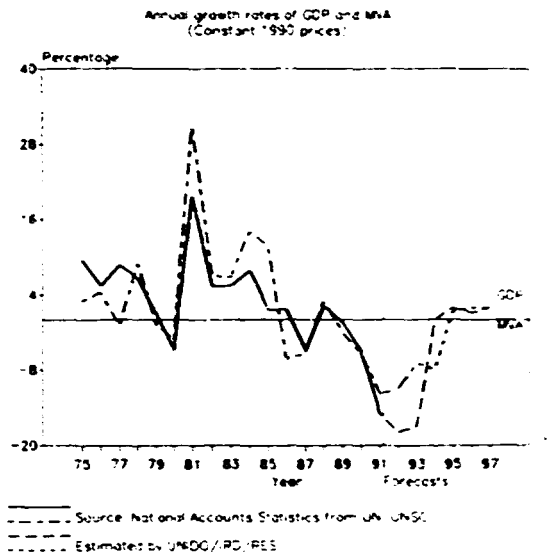




| | 1990 | 1985 | 1980 | 1963 |
|---|---|---|---|---|
| **GDP**[38] (millions of 1990-dollars) | 32 652 | 32 924 | 25 323 | 9 448 |
| Per capita[38] (1990-dollars) | 7 460 | 7 364 | 5 606 | 2 095 |
| Manufacturing share[38] (%) (current factor prices) | .. | .. | .. | .. |
| **MANUFACTURING:** | | | | |
| Value added[38] (millions of 1990-dollars) | .. | .. | .. | .. |
| Industrial production index (1990=100) | .. | .. | .. | .. |
| Value added (millions of dollars) | *4 800* | *3 509* | 6 839 | .. |
| Gross output (millions of dollars) | *17 882* | *11 602* | 17 207 | .. |
| Employment (thousands) | 565 | 557 | 533 | *320* |
| **-PROFITABILITY:**(in percent of gross output) | | | | |
| Intermediate input (%) | *73* | *70* | 60 | .. |
| Wages and salaries including supplements (%) | *11* | *10* | 16 | .. |
| Gross operating surplus and net taxes (%) | *16* | *20* | 23 | .. |
| **-PRODUCTIVITY:**(dollars) | | | | |
| Gross output per worker | *31 440* | *20 807* | 32 307 | .. |
| Value added per worker | *8 616* | *6 311* | 12 841 | .. |
| Average wage (including supplements) | *3 387* | *2 182* | 5 308 | .. |
| **-STRUCTURAL INDICES:** | | | | |
| Structural change θ (5-year average in degrees) | *1 80* | *2 35* | 8.40 | 17.65 |
| as a percentage of average θ in 1970-1975 | *108* | *140* | 502 | 1 055 |
| MVA growth rate / θ | 4.03 | 1.34 | -0.16 | -0.64 |
| Degree of specialization | 10.5 | 9.9 | 9.8 | 11.2 |
| **-VALUE ADDED:**(millions of dollars) | | | | |
| 311/2 Food products | *651* | *396* | 1 153 | .. |
| 313 Beverages | *68* | *73* | 222 | .. |
| 314 Tobacco products | *46* | *40* | 124 | .. |
| 321 Textiles | *249* | *249* | 417 | .. |
| 322 Wearing apparel | *282* | *172* | 339 | .. |
| 323 Leather and fur products | *83* | *50* | 58 | .. |
| 324 Footwear | *110* | *122* | 181 | .. |
| 331 Wood and wood products | *123* | *113* | 186 | .. |
| 332 Furniture and fixtures | *160* | *98* | 171 | .. |
| 341 Paper and paper products | *145* | *88* | 203 | .. |
| 342 Printing and publishing | *233* | *141* | 394 | .. |
| 351 Industrial chemicals | *199* | *125* | 152 | .. |
| 352 Other chemical products | *192* | *116* | 380 | .. |
| 353 Petroleum refineries | *41* | *71* | 123 | .. |
| 354 Miscellaneous petroleum and coal products | *36* | *22* | -2 | .. |
| 355 Rubber products | *74* | *45* | 83 | .. |
| 356 Plastic products | *110* | *67* | 135 | .. |
| 361 Pottery, china and earthenware | *16* | *18* | 45 | .. |
| 362 Glass and glass products | *55* | *33* | 105 | .. |
| 369 Other non-metal mineral products | *194* | *118* | 243 | .. |
| 371 Iron and steel | *91* | *111* | 229 | .. |
| 372 Non-ferrous metals | *61* | *40* | 106 | .. |
| 381 Metal products | *384* | *279* | 411 | .. |
| 382 Non-electrical machinery | *453* | *414* | 517 | .. |
| 383 Electrical machinery | *342* | *261* | 499 | .. |
| 384 Transport equipment | *368* | *224* | 339 | .. |
| 385 Professional and scientific equipment | *17* | *10* | 20 | .. |
| 390 Other manufacturing industries | *18* | *11* | 28 | .. |



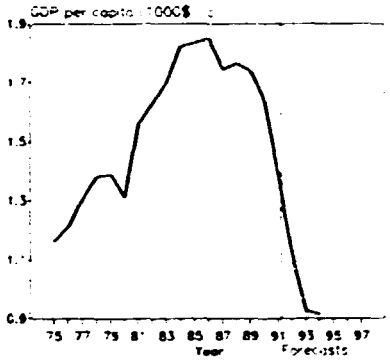

For sources, footnotes and comments see "Technical notes" at the beginning of this Annex

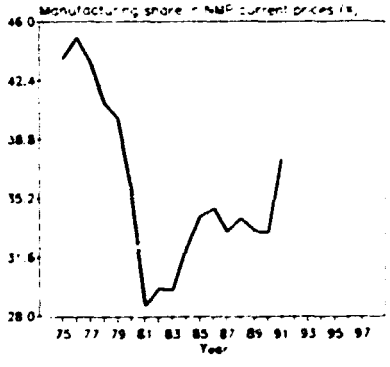


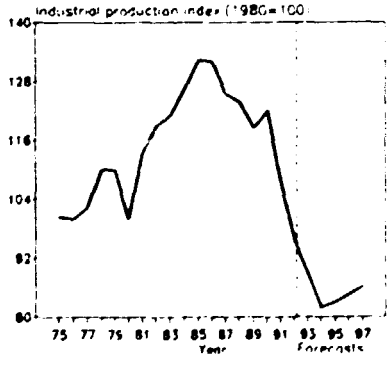



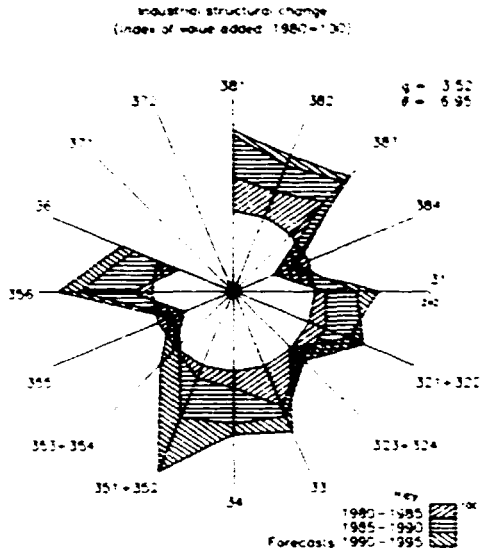

| | 1980 | 1985 | 1990 | 1993 |
|---|---|---|---|---|
| GDP[a,c] (millions of 1990-dollars) | 12 729 | 18 560 | 17 357 | *10 042* |
| Per capita[a,c] (1990-dollars) | 1 311 | 1 837 | 1 638 | *923* |
| Manufacturing share[a,c] (%) (current factor prices) | 35.8 | 34.1 | *33 1* | .. |
| **MANUFACTURING:** | | | | |
| Value added[a,c] (millions of 1990-dollars) | 3 589 | 6 825 | 5 750 | *4 191* |
| Industrial production index (1980=100) | 100 | 132 | *122* | 89 |
| Value added (millions of dollars) | *4 882* | *5 120* | *5 892* | .. |
| Gross output (millions of dollars) | 9 725 | 12 032 | *17 548* | .. |
| Employment (thousands) | 501 | 654 | *700* | *652* |
| **-PROFITABILITY:**(in percent of gross output) | | | | |
| Intermediate input (%) | 50 | 57 | *66* | .. |
| Wages and salaries including supplements (%) | *13* | *14* | *13* | .. |
| Gross operating surplus and net taxes (%) | *37* | *29* | *21* | .. |
| **-PRODUCTIVITY:**(dollars) | | | | |
| Gross output per worker | 19 420 | 18 386 | *25 052* | .. |
| Value added per worker | 9 748 | 7 824 | *8 443* | .. |
| Average wage (including supplements) | *2 606* | *2 514* | *3 175* | .. |
| **-STRUCTURAL INDICES:** | | | | |
| Structural change θ (5-year average in degrees) | *2 64* | 3.48 | *3 46* | *1 46* |
| as a percentage of average θ in 1970-1975 | *221* | 291 | *290* | *123* |
| MVA growth rate / θ | -0.11 | 1.97 | -0.63 | -3.00 |
| Degree of specialization | 25.8 | 31.3 | 34.2 | 32.7 |
| **-VALUE ADDED:**(millions of dollars) | | | | |
| 311/2 Food products | 655 | 957 | *1 008* | .. |
| 313 Beverages | 246 | 273 | *350* | .. |
| 314 Tobacco products | 1 805 | 2 004 | *2 566* | .. |
| 321 Textiles | 50 | 40 | *107* | .. |
| 322 Wearing apparel | 146 | 98 | *96* | .. |
| 323 Leather and fur products | 53 | 32 | *28* | .. |
| 324 Footwear | 79 | 48 | *48* | .. |
| 331 Wood and wood products | 58 | 53 | *52* | .. |
| 332 Furniture and fixtures | 48 | 43 | *44* | .. |
| 341 Paper and paper products | 46 | 44 | *13* | .. |
| 342 Printing and publishing | 96 | 59 | *79* | .. |
| 351 Industrial chemicals | *80* | *54* | *70* | .. |
| 352 Other chemical products | *329* | *224* | *290* | .. |
| 353 Petroleum refineries | .. | .. | .. | .. |
| 354 Miscellaneous petroleum and coal products | .. | .. | .. | .. |
| 355 Rubber products | *96* | *65* | *85* | .. |
| 356 Plastic products | *84* | *57* | *74* | .. |
| 361 Pottery, china and earthenware | 8 | 6 | *8* | .. |
| 362 Glass and glass products | 17 | 13 | *19* | .. |
| 369 Other non-metal mineral products | 188 | 104 | *114* | .. |
| 371 Iron and steel | 27 | 44 | *37* | .. |
| 372 Non-ferrous metals | 41 | 48 | *61* | .. |
| 381 Metal products | 108 | 92 | *83* | .. |
| 382 Non-electrical machinery | *127* | *182* | *141* | .. |
| 383 Electrical machinery | 60 | 58 | *58* | .. |
| 384 Transport equipment | *219* | *313* | *240* | .. |
| 385 Professional and scientific equipment | *15* | *21* | *16* | .. |
| 390 Other manufacturing industries | 201 | 188 | *202* | .. |

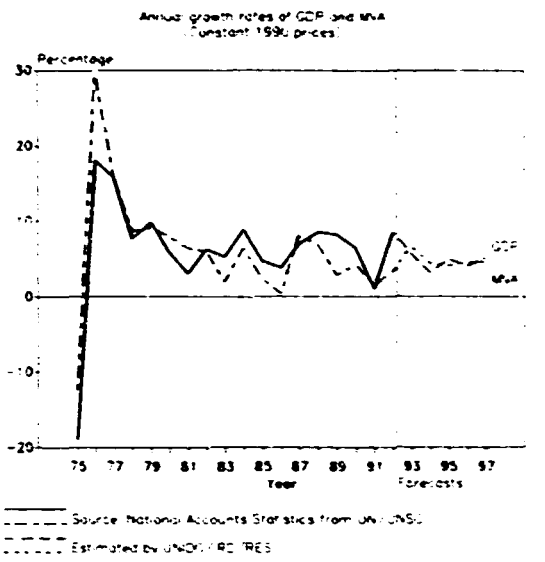
For sources, footnotes and comments see "Technical notes" at the beginning of this Annex



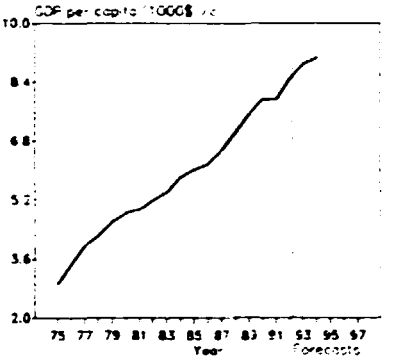



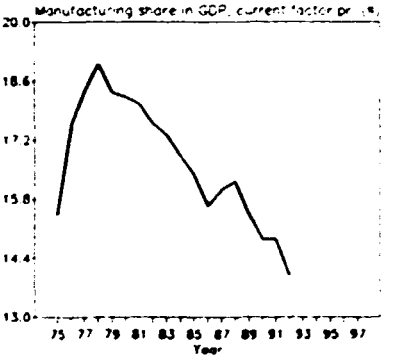


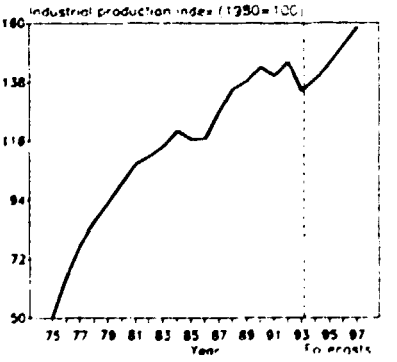



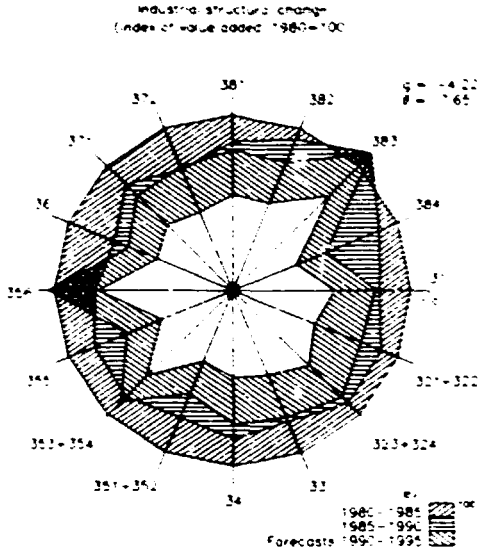

| | 1980 | 1985 | 1990 | 1993 |
|---|---|---|---|---|
| **GDP:[90] (millions of 1990-dollars)** | 3 051 | 4 010 | 5 574 | 6 456 |
| **Per capita[90] (1990-dollars)** | 4 850 | 6 030 | 7 939 | 8 892 |
| **Manufacturing share[90] (%) (current factor prices)** | 18.2 | 16.4 | 14.8 | .. |
| **MANUFACTURING:** | | | | |
| **Value added[90] (millions of 1990-dollars)** | 513 | 641 | 796 | 890 |
| **Industrial production index (1980=100)** | 100 | 117 | 143 | 135 |
| **Value added (millions of dollars)** | 406 | 378 | 792 | 840 |
| **Gross output (millions of dollars)** | 1 134 | 1 122 | 2 196 | 2 167 |
| **Employment (thousands)** | 34 | 39 | 43 | 41 |
| **-PROFITABILITY:(in percent of gross output)** | | | | |
| **Intermediate input (%)** | 64 | 66 | 64 | 61 |
| **Wages and salaries including supplements (%)** | *15* | 18 | 19 | *22* |
| **Gross operating surplus and net taxes (%)** | *21* | 16 | 17 | *17* |
| **-PRODUCTIVITY:(dollars)** | | | | |
| **Gross output per worker** | 29 417 | 25 804 | 46 057 | 48 386 |
| **Value added per worker** | 10 525 | 8 697 | 16 606 | 18 759 |
| **Average wage (including supplements)** | 5 062 | 5 143 | 9 738 | *11 580* |
| **-STRUCTURAL INDICES:** | | | | |
| **Structural change θ (5-year average in degrees)** | 7.28 | 4.59 | 3.81 | 4.08 |
| **as a percentage of average θ in 1970-1975** | 101 | 64 | 53 | 57 |
| **MVA growth rate / θ** | 3.03 | 0.70 | 1.61 | 0.34 |
| **Degree of specialization** | 11.3 | 11.7 | 13.3 | 13.1 |
| **-VALUE ADDED:(millions of dollars)** | | | | |
| 311/2 Food products | 42 | 49 | 101 | 126 |
| 313 Beverages | 37 | 29 | 73 | 71 |
| 314 Tobacco products | 36 | 26 | 41 | 58 |
| 321 Textiles | 16 | 14 | 32 | 33 |
| 322 Wearing apparel | 53 | 54 | 118 | 94 |
| 323 Leather and fur products | 5 | 6 | 11 | 8 |
| 324 Footwear | 21 | 19 | 30 | 24 |
| 331 Wood and wood products | 19 | 23 | 39 | 45 |
| 332 Furniture and fixtures | 17 | 22 | 36 | 38 |
| 341 Paper and paper products | 11 | 8 | 17 | 17 |
| 342 Printing and publishing | 15 | 18 | 37 | 41 |
| 351 Industrial chemicals | 3 | 2 | 3 | 3 |
| 352 Other chemical products | 12 | 12 | 28 | 40 |
| 353 Petroleum refineries | 6 | 5 | 7 | 10 |
| 354 Miscellaneous petroleum and coal products | - | - | - | - |
| 355 Rubber products | 3 | 2 | 3 | 3 |
| 356 Plastic products | 11 | 11 | 25 | 28 |
| 361 Pottery, china and earthenware | - | 1 | 2 | 3 |
| 362 Glass and glass products | - | - | 1 | 2 |
| 369 Other non-metal mineral products | 44 | 24 | 69 | 78 |
| 371 Iron and steel | - | - | - | - |
| 372 Non-ferrous metals | - | - | - | - |
| 381 Metal products | 23 | 26 | 55 | 56 |
| 382 Non-electrical machinery | 11 | 12 | 24 | 26 |
| 383 Electrical machinery | 5 | 6 | 12 | 12 |
| 384 Transport equipment | 8 | 4 | 9 | 8 |
| 385 Professional and scientific equipment | - | - | - | - |
| 390 Other manufacturing industries | 7 | 7 | 19 | 16 |

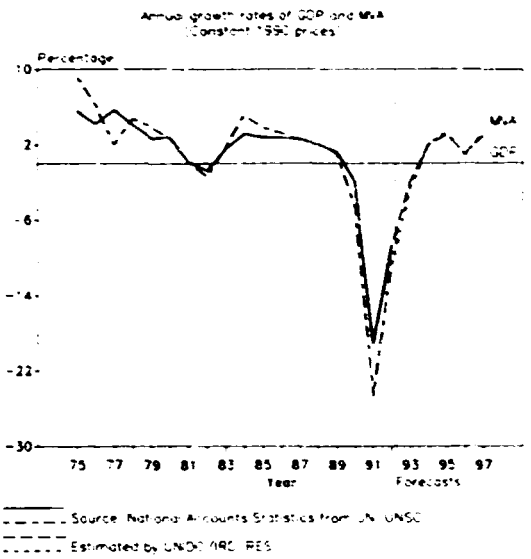
For sources, footnotes and comments see "Technical notes" at the beginning of this Annex.



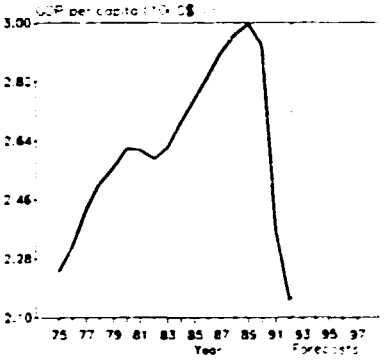



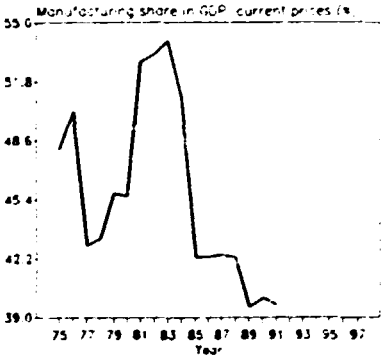



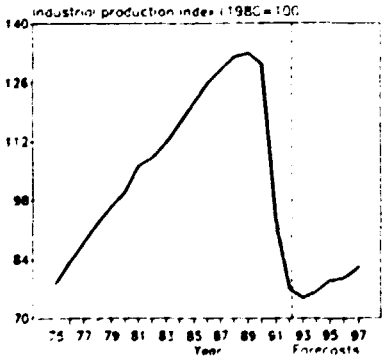



| | 1980 | 1985 | 1990 | 1993 |
|---|---|---|---|---|
| **GDP[as] (millions of 1990-dollars)** | 39 930 | 42 756 | 45 525 | *32 877* |
| **Per capita[as] (1990-dollars)** | 2 617 | 2 768 | 2 932 | .. |
| **Manufacturing share[a] (%) (current factor prices)** | 45.6 | 42.3 | 40.1 | .. |
| **MANUFACTURING:** | | | | |
| **Value added[as] (millions of 1990-dollars)** | 16 064 | 17 611 | 18 283 | *11 925* |
| **Industrial production index (1980=100)** | 100 | 121 | 130 | *75* |
| **Value added (millions of dollars)** | 17 194 | 13 083 | 12 471 | .. |
| **Gross output (millions of dollars)** | 41 415 | 45 108 | 44 915 | .. |
| **Employment (thousands)** | 2 518 | 2 588 | 2 448 | *1 876* |
| **-PROFITABILITY:(in percent of gross output)** | | | | |
| **Intermediate input (%)** | 58 | 71 | 72 | .. |
| **Wages and salaries including supplements (%)** | 15 | 13 | 13 | .. |
| **Gross operating surplus and net taxes (%)** | 27 | 16 | 15 | .. |
| **-PRODUCTIVITY:(dollars)** | | | | |
| **Gross output per worker** | 16 448 | 17 430 | 18 348 | .. |
| **Value added per worker** | 6 828 | 5 055 | 5 094 | .. |
| **Average wage (including supplements)** | 2 438 | 2 264 | 2 396 | .. |
| **-STRUCTURAL INDICES:** | | | | |
| **Structural change θ (5-year average in degrees)** | 3.32 | 2.96 | 4.37 | *3.10* |
| **as a percentage of average θ in 1970-1975** | 91 | 81 | 119 | *85* |
| **MVA growth rate / θ** | 2.35 | -0.75 | -0.52 | *-3.82* |
| **Degree of specialization** | 15.9 | 17.0 | 14.8 | *14.3* |
| **-VALUE ADDED:(millions of dollars)** | | | | |
| 311/2 Food products | 1 257 | 911 | 916 | .. |
| 313 Beverages | 285 | 209 | 258 | .. |
| 314 Tobacco products | 33 | 23 | 24 | .. |
| 321 Textiles | 1 100 | 848 | 790 | .. |
| 322 Wearing apparel | 271 | 236 | 223 | .. |
| 323 Leather and fur products | 94 | 69 | 66 | .. |
| 324 Footwear | 299 | 244 | 256 | .. |
| 331 Wood and wood products | 387 | 259 | 289 | .. |
| 332 Furniture and fixtures | 210 | 162 | 154 | .. |
| 341 Paper and paper products | 391 | 287 | 255 | .. |
| 342 Printing and publishing | 136 | 103 | 127 | .. |
| 351 Industrial chemicals | 1 262 | 862 | 698 | .. |
| 352 Other chemical products | 178 | 130 | 177 | .. |
| 353 Petroleum refineries | 497 | 390 | 316 | .. |
| 354 Miscellaneous petroleum and coal products | 120 | 74 | 209 | .. |
| 355 Rubber products | 214 | 158 | 131 | .. |
| 356 Plastic products | 50 | 34 | 49 | .. |
| 361 Pottery, china and earthenware | 45 | 39 | 46 | .. |
| 362 Glass and glass products | 422 | 263 | 298 | .. |
| 369 Other non-metal mineral products | 773 | 488 | 411 | .. |
| 371 Iron and steel | 1 753 | 1 312 | 1 271 | .. |
| 372 Non-ferrous metals | 327 | 214 | 236 | .. |
| 381 Metal products | 792 | 580 | 602 | .. |
| 382 Non-electrical machinery | 3 452 | 2 827 | 2 587 | .. |
| 383 Electrical machinery | 853 | 828 | 894 | .. |
| 384 Transport equipment | 1 877 | 1 315 | 903 | .. |
| 385 Professional and scientific equipment | 94 | 67 | 84 | .. |
| 390 Other manufacturing industries | 223 | 140 | 192 | .. |

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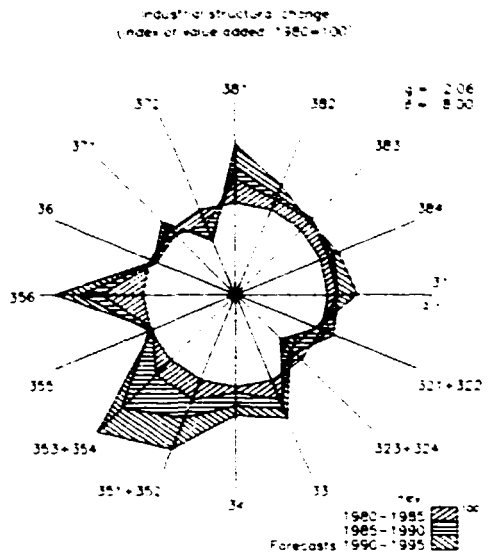
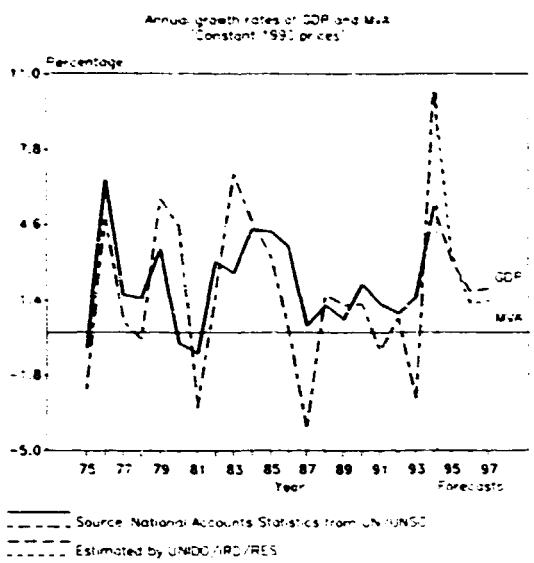
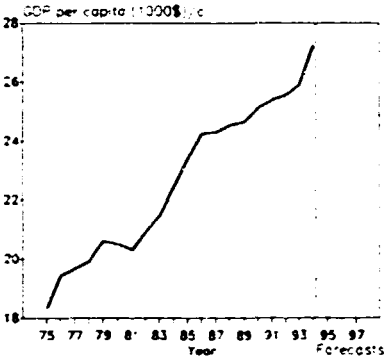
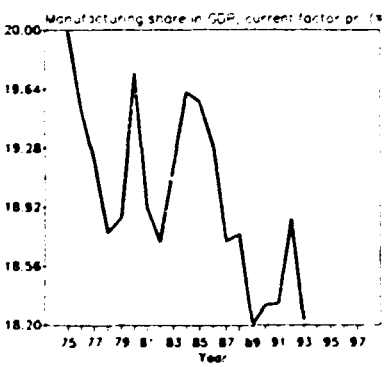


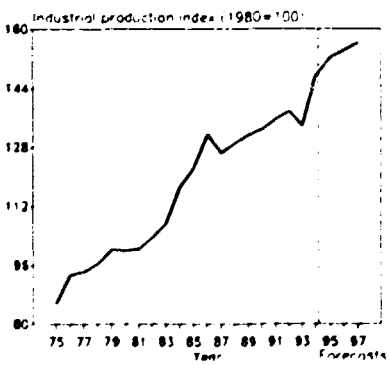




| | 1980 | 1985 | 1990 | 1993 |
|---|---|---|---|---|
| **GDP:[a]** (millions of 1990-dollars) | 104 998 | 119 649 | 129 118 | 133 754 |
| Per capita[a] (1990-dollars) | 20 495 | 23 396 | 25 120 | 25 896 |
| Manufacturing share[a] (%) (current factor prices) | 19.7 | 19.6 | 18.3 | *18.2* |
| **MANUFACTURING:** | | | | |
| Value added[a] (millions of 1990-dollars) | 18 562 | 21 047 | 20 992 | 20 347 |
| Industrial production index (1980=100) | 100 | 122 | 133 | 134 |
| Value added (millions of dollars) | 11 945 | 10 451 | 22 989 | *23 931* |
| Gross output (millions of dollars) | 29 347 | 25 713 | 52 701 | 52 658 |
| Employment (thousands) | 381 | 405 | 511 | *478* |
| **-PROFITABILITY:** (in percent of gross output) | | | | |
| Intermediate input (%) | 59 | 59 | 56 | 55 |
| Wages and salaries including supplements (%) | 26 | 24 | 27 | *28* |
| Gross operating surplus (%) | 15 | 17 | 16 | *18* |
| **-PRODUCTIVITY:** (dollars) | | | | |
| Gross output per worker | 76 624 | 63 316 | 99 958 | *108 786* |
| Value added per worker | 31 187 | 25 735 | 43 603 | *50 447* |
| Average wage (including supplements) | 19 697 | 15 021 | 28 336 | *30 389* |
| **-STRUCTURAL INDICES:** | | | | |
| Structural change θ (5-year average in degrees) | 2.91 | 2.51 | 1.99 | *1.71* |
| as a percentage of average θ in 1970-1975 | 95 | 95 | 65 | *56* |
| MVA growth rate / θ | 0.99 | 0.92 | 0.52 | 0.69 |
| Degree of specialization | 14.8 | 15.1 | 15.1 | 15.1 |
| **-VALUE ADDED:** (millions of dollars) | | | | |
| 311/2 Food products | 2 232 | 1 925 | 4 072 | *4 309* |
| 313 Beverages | 484 | 381 | 757 | *867* |
| 314 Tobacco products | 108 | 95 | 203 | *292* |
| 321 Textiles | 366 | 324 | 610 | *561* |
| 322 Wearing apparel | 204 | 176 | 259 | *249* |
| 323 Leather and fur products | 27 | 18 | 25 | *16* |
| 324 Footwear | 55 | 38 | 85 | *92* |
| 331 Wood and wood products | 252 | 193 | 486 | *509* |
| 332 Furniture and fixtures | 271 | 305 | 642 | *650* |
| 341 Paper and paper products | 300 | 262 | 628 | *666* |
| 342 Printing and publishing | 845 | 675 | 1 592 | *1 624* |
| 351 Industrial chemicals | 534 | 482 | 1 107 | *1 225* |
| 352 Other chemical products | 604 | 599 | 1 537 | *1 657* |
| 353 Petroleum refineries | 53 | 51 | 118 | *181* |
| 354 Miscellaneous petroleum and coal products | 64 | 59 | 207 | *189* |
| 355 Rubber products | 75 | 56 | 122 | *116* |
| 356 Plastic products | 238 | 264 | 635 | *673* |
| 361 Pottery, china and earthenware | 83 | 40 | 71 | *60* |
| 362 Glass and glass products | 94 | 58 | 114 | *118* |
| 369 Other non-metal mineral products | 568 | 432 | 941 | *864* |
| 371 Iron and steel | 167 | 118 | 281 | *271* |
| 372 Non-ferrous metals | 67 | 42 | 73 | *63* |
| 381 Metal products | 825 | 798 | 1 837 | *1 931* |
| 382 Non-electrical machinery | 1 616 | 1 387 | 3 050 | *3 135* |
| 383 Electrical machinery | 703 | 622 | 1 319 | *1 219* |
| 384 Transport equipment | 644 | 572 | 1 128 | *1 179* |
| 385 Professional and scientific equipment | 275 | 294 | 622 | *603* |
| 390 Other manufacturing industries | 192 | 166 | 489 | *611* |

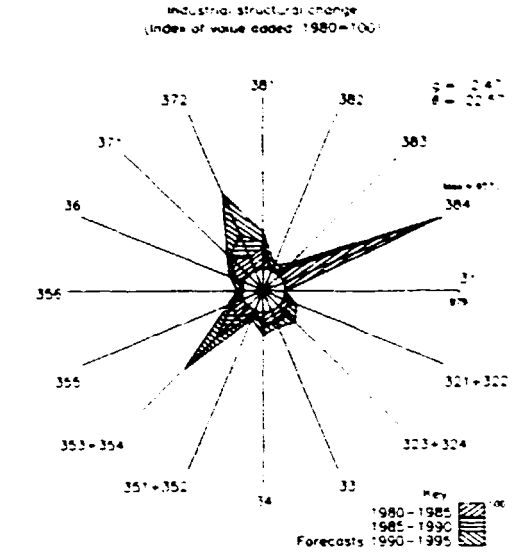
For sources, footnotes and comments see "Technical notes" at the beginning of this Annex

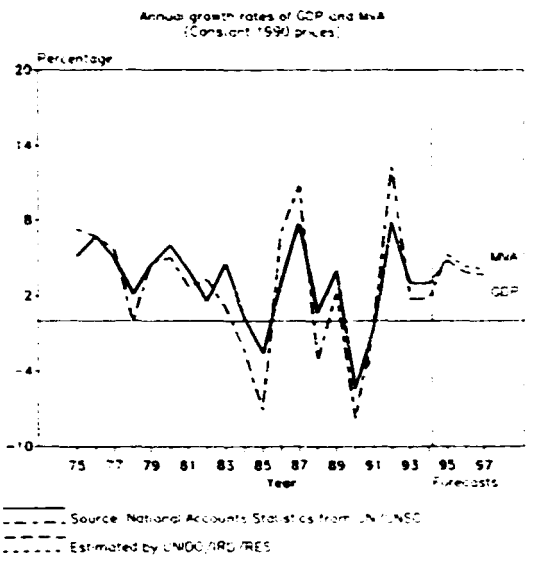


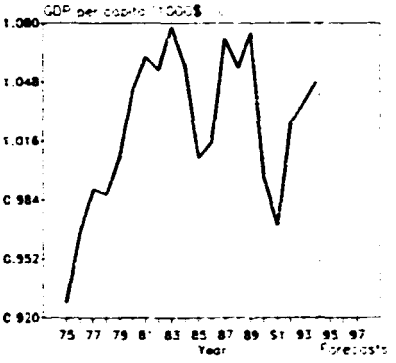



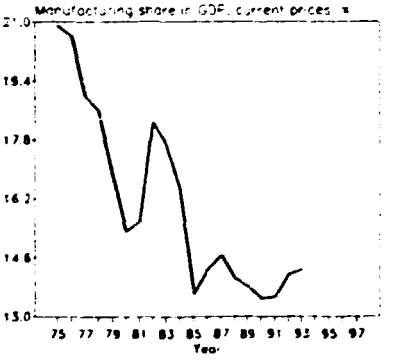
**DOMINICAN REPUBLIC**

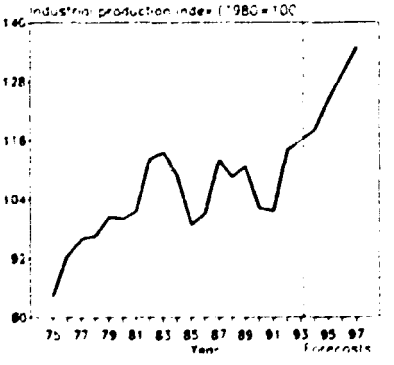


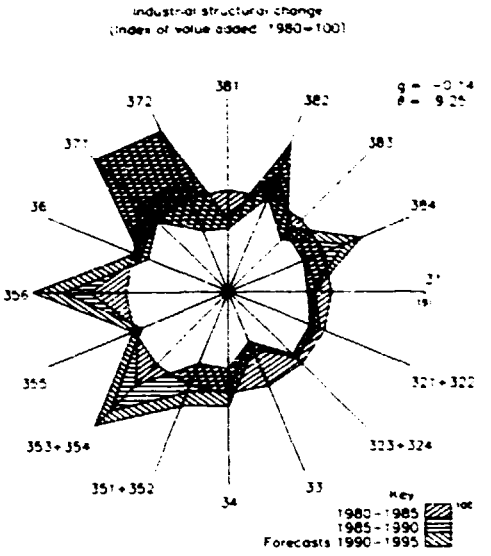

| | 1980 | 1985 | 1990 | 1993 |
|---|---|---|---|---|
| **GDP:[88] (millions of 1990-dollars)** | 5 946 | 6 419 | 7 080 | 7 822 |
| **Per capita[88] (1990-dollars)** | 1 044 | 1 007 | 996 | 1 037 |
| **Manufacturing share[88] (%) (current factor prices)** | 15.3 | 13.6 | 13.5 | *14.3* |
| **MANUFACTURING:** | | | | |
| **Value added[88] (millions of 1990-dollars)** | 910 | 884 | 955 | 1 084 |
| **Industrial production index (1980=100)** | 100 | 99 | 102 | 116 |
| **Value added (millions of dollars)** | 1 013 | *778* | *1 290* | *1 623* |
| **Gross output (millions of dollars)** | 2 376 | *1 816* | *3 032* | *3 750* |
| **Employment (thousands)** | 146 | 131 | *141* | *151* |
| **-PROFITABILITY:(in percent of gross output)** | | | | |
| **Intermediate input (%)** | 57 | *57* | *57* | *57* |
| **Wages and salaries including supplements (%)** | 11 | *7* | *5* | *6* |
| **Gross operating surplus and net taxes (%)** | 31 | *36* | *36* | *38* |
| **-PRODUCTIVITY:(dollars)** | | | | |
| **Gross output per worker** | 16 284 | *13 829* | *21 500* | *24 812* |
| **Value added per worker** | 6 940 | *5 927* | *9 227* | *10 888* |
| **Average wage (including supplements)** | 1 867 | 998 | *1 319* | *1 419* |
| **-STRUCTURAL INDICES:** | | | | |
| **Structural change θ (5-year average in degrees)** | 2.23 | *3.18* | *2.39* | *2.96* |
| **as a percentage of average θ in 1970-1975** | 67 | *96* | *72* | *89* |
| **MVA growth rate / θ** | -0.63 | 0.87 | 0.58 | 0.55 |
| **Degree of specialization** | 39.0 | 30.4 | 28.3 | 27.6 |
| **-VALUE ADDED:(millions of dollars)** | | | | |
| **311/2 Food products** | 510 | *289* | *402* | *442* |
| **313 Beverages** | 103 | *110* | *179* | *221* |
| **314 Tobacco products** | 50 | *42* | *67* | *80* |
| **321 Textiles** | 29 | *26* | *45* | *56* |
| **322 Wearing apparel** | 13 | *9* | *16* | *20* |
| **323 Leather and fur products** | 11 | *8* | *14* | *18* |
| **324 Footwear** | 13 | *13* | *25* | *34* |
| **331 Wood and wood products** | 2 | *3* | *2* | *2* |
| **332 Furniture and fixtures** | 11 | *11* | *19* | *24* |
| **341 Paper and paper products** | 19 | *21* | *37* | *47* |
| **342 Printing and publishing** | 14 | *13* | *22* | *28* |
| **351 Industrial chemicals** | 18 | *15* | *27* | *35* |
| **352 Other chemical products** | 41 | *27* | *44* | *56* |
| **353 Petroleum refineries** | 66 | *80* | *209* | *327* |
| **354 Miscellaneous petroleum and coal products** | 1 | . | *1* | *1* |
| **355 Rubber products** | 6 | *6* | *10* | *13* |
| **356 Plastic products** | 21 | *12* | *21* | *27* |
| **361 Pottery, china and earthenware** | 1 | *1* | *1* | *1* |
| **362 Glass and glass products** | 3 | *5* | *8* | *9* |
| **369 Other non-metal mineral products** | 32 | *29* | *45* | *58* |
| **371 Iron and steel** | 10 | *15* | *24* | *28* |
| **372 Non-ferrous metals** | 1 | *1* | *3* | *5* |
| **381 Metal products** | 21 | *28* | *48* | *61* |
| **382 Non-electrical machinery** | 5 | *3* | *6* | *8* |
| **383 Electrical machinery** | 7 | *6* | *11* | *14* |
| **384 Transport equipment** | . | . | *1* | *2* |
| **385 Professional and scientific equipment** | 1 | *1* | *2* | *2* |
| **390 Other manufacturing industries** | 2 | *1* | *3* | *3* |

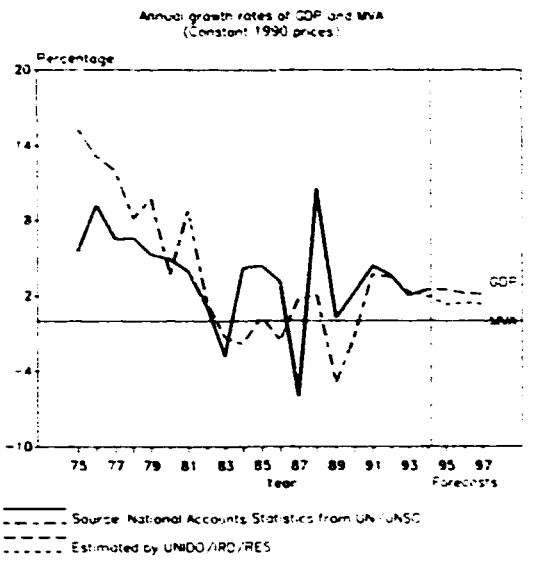


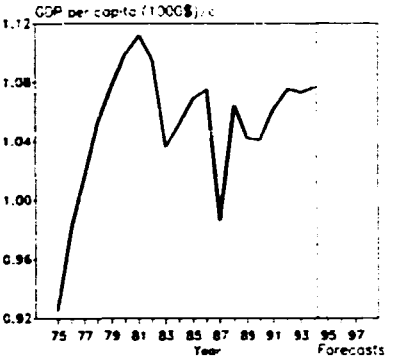

For sources, footnotes and comments see "Technical notes" at the beginning of this Annex.

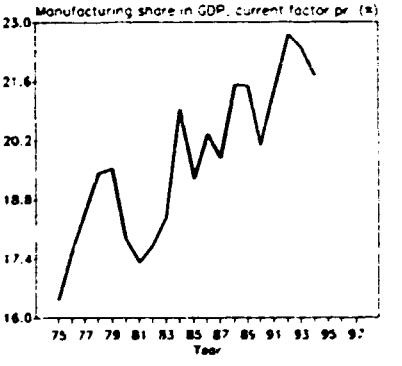


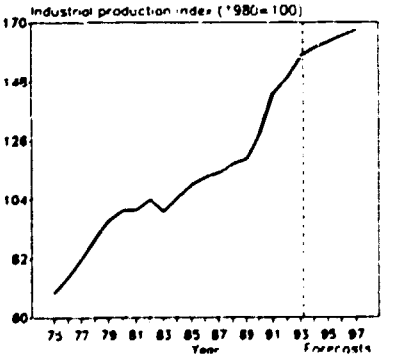



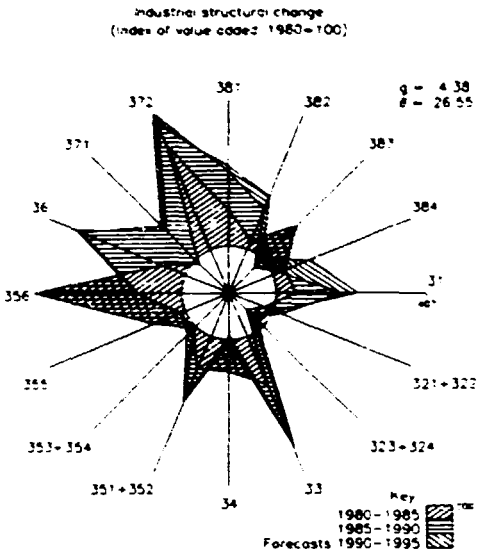

| | 1980 | 1986 | 1990 | 1993 |
|---|---|---|---|---|
| **GDP**[as] (millions of 1990-dollars) | 8 755 | 9 730 | 10 686 | 11 784 |
| Per capita[as] (1990-dollars) | 1 100 | 1 069 | 1 041 | 1 073 |
| Manufacturing share[as] (%) (current factor prices) | 17.8 | 19.3 | 20.1 | 22.4 |
| **MANUFACTURING:** | | | | |
| Value added[as] (millions of 1990-dollars) | 2 017 | 2 160 | 2 058 | 2 270 |
| Industrial production index (1980=100) | 100 | 110 | 128 | 158 |
| Value added (millions of dollars) | 1 289 | 1 322 | 860 | *1 282* |
| Gross output (millions of dollars) | 3 571 | 4 379 | 3 934 | *6 193* |
| Employment (thousands) | 112 | 97 | 112 | *126* |
| **-PROFITABILITY:**(in percent of gross output) | | | | |
| Intermediate input (%) | 64 | 70 | 78 | *79* |
| Wages and salaries including supplements (%) | *17* | 13 | 9 | *8* |
| Gross operating surplus and net taxes (%) | *19* | 18 | 13 | *12* |
| **-PRODUCTIVITY:**(dollars) | | | | |
| Gross output per worker | 31 623 | 45 072 | 35 083 | *49 205* |
| Value added per worker | 11 414 | 13 606 | 7 666 | *10 891* |
| Average wage (including supplements) | *5 347* | 5 677 | 3 137 | *4 154* |
| **-STRUCTURAL INDICES:** | | | | |
| Structural change θ (5-year average in degrees) | 12.08 | 8.85 | 6.44 | *3 63* |
| as a percentage of average θ in 1970-1975 | 221 | 162 | 118 | *67* |
| MVA growth rate / θ | 0.91 | -0.23 | 0.25 | -0.38 |
| Degree of specialization | 17.2 | 16.7 | 19.7 | 19.1 |
| **-VALUE ADDED:**(millions of dollars) | | | | |
| 311/2 Food products | 294 | 328 | 228 | *337* |
| 313 Beverages | 96 | 65 | 33 | *46* |
| 314 Tobacco products | 46 | 17 | 1 | *2* |
| 321 Textiles | 134 | 146 | 95 | *133* |
| 322 Wearing apparel | 20 | 15 | 10 | *16* |
| 323 Leather and fur products | 7 | 6 | 4 | *4* |
| 324 Footwear | 6 | 7 | 6 | *8* |
| 331 Wood and wood products | 35 | 18 | 16 | *23* |
| 332 Furniture and fixtures | 28 | 23 | 9 | *15* |
| 341 Paper and paper products | 42 | 41 | 34 | *51* |
| 342 Printing and publishing | 40 | 35 | 27 | *39* |
| 351 Industrial chemicals | 25 | 32 | 17 | *31* |
| 352 Other chemical products | 90 | 76 | 75 | *109* |
| 353 Petroleum refineries | 29 | 38 | 37 | *59* |
| 354 Miscellaneous petroleum and coal products | 4 | 14 | 4 | *7* |
| 355 Rubber products | 25 | 29 | 17 | *25* |
| 356 Plastic products | 34 | 57 | 42 | *63* |
| 361 Pottery, china and earthenware | 7 | 15 | 7 | *11* |
| 362 Glass and glass products | 9 | 15 | 8 | *13* |
| 369 Other non-metal mineral products | 100 | 101 | 60 | *90* |
| 371 Iron and steel | 25 | 56 | 19 | *31* |
| 372 Non-ferrous metals | 5 | 10 | 2 | *5* |
| 381 Metal products | 93 | 78 | 44 | *67* |
| 382 Non-electrical machinery | 4 | 7 | 3 | *4* |
| 383 Electrical machinery | 59 | 58 | 32 | *51* |
| 384 Transport equipment | 23 | 23 | 22 | *32* |
| 385 Professional and scientific equipment | 2 | 9 | 3 | *5* |
| 390 Other manufacturing industries | 7 | 5 | 3 | *5* |

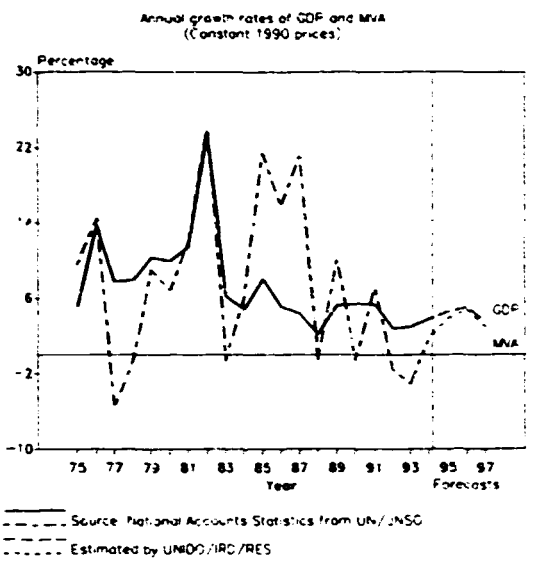
For sources, footnotes and comments see "Technical notes" at the beginning of this Annex



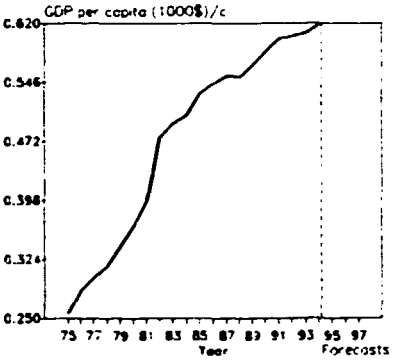



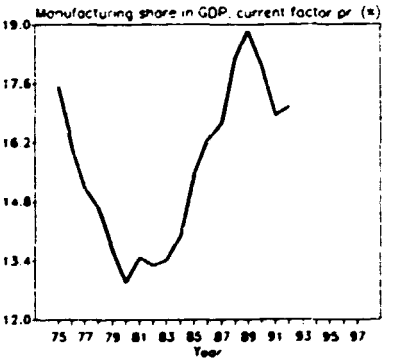


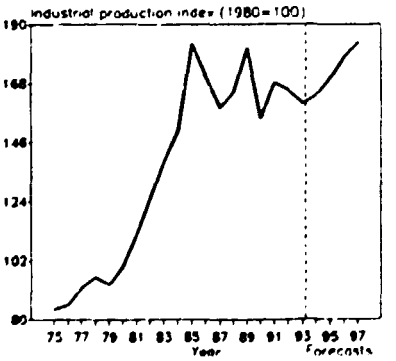



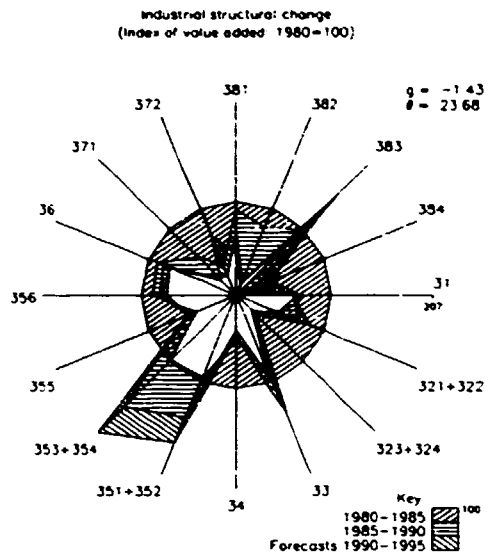

| | 1980 | 1985 | 1990 | 1993 |
|---|---|---|---|---|
| **GDP**[88] **(millions of 1990-dollars)** | 15 986 | 26 438 | 32 907 | 36 680 |
| **Per capita**[88] **(1990-dollars)** | 365 | 531 | 584 | 608 |
| **Manufacturing share**[88] **(%) (current factor prices)** | 12.9 | 15.4 | 18.0 | .. |
| **MANUFACTURING:** | | | | |
| **Value added**[88] **(millions of 1990-dollars)** | 2 041 | 3 612 | 5 502 | 5 617 |
| **Industrial production index (1980=100)** | 100 | 183 | 155 | 160 |
| **Value added (millions of dollars)** | 1 769 | 2 938 | *5 108* | *6 047* |
| **Gross output (millions of dollars)** | 6 986 | 10 260 | *9 768* | *12 438* |
| **Employment (thousands)** | 868 | 907 | *1 028* | *916* |
| **-PROFITABILITY:(in percent of gross output)** | | | | |
| **Intermediate input (%)** | 75 | 71 | *59* | *63* |
| **Wages and salaries including supplements (%)** | *17* | *18* | *17* | *18* |
| **Gross operating surplus and net taxes (%)** | *8* | *10* | *25* | *19* |
| **-PRODUCTIVITY:(dollars)** | | | | |
| **Gross output per worker** | 7 984 | 11 231 | *12 639* | *16 307* |
| **Value added per worker** | 2 023 | 3 216 | *5 009* | *6 006* |
| **Average wage (including supplements)** | *1 360* | *2 059* | *2 067* | *2 830* |
| **-STRUCTURAL INDICES:** | | | | |
| **Structural change θ (5-year average in degrees)** | 6.87 | 15.44 | *27 89* | *15 40* |
| **as a percentage of average θ in 1970-1975** | 98 | 221 | *400* | *221* |
| **MVA growth rate / θ** | 0.60 | 0.32 | 0.31 | 0.05 |
| **Degree of specialization** | 22.6 | 15.0 | 20.5 | 19.5 |
| **-VALUE ADDED:(millions of dollars)** | | | | |
| **311/2 Food products** | 308 | 421 | *1 031* | *1 335* |
| **313 Beverages** | 14 | 71 | *73* | *70* |
| **314 Tobacco products** | 21 | 131 | *157* | *215* |
| **321 Textiles** | 506 | 509 | *929* | *937* |
| **322 Wearing apparel** | 6 | 15 | *18* | *29* |
| **323 Leather and fur products** | 3 | 7 | *12* | *15* |
| **324 Footwear** | 22 | 9 | *14* | *23* |
| **331 Wood and wood products** | 9 | 24 | *24* | *27* |
| **332 Furniture and fixtures** | 7 | 19 | *60* | *72* |
| **341 Paper and paper products** | 42 | 76 | *55* | *82* |
| **342 Printing and publishing** | 39 | 101 | *61* | *72* |
| **351 Industrial chemicals** | 69 | 145 | *165* | *203* |
| **352 Other chemical products** | 87 | 205 | *428* | *481* |
| **353 Petroleum refineries** | 40 | 59 | *111* | *144* |
| **354 Miscellaneous petroleum and coal products** | 61 | 78 | *55* | *73* |
| **355 Rubber products** | 12 | 28 | *22* | *25* |
| **356 Plastic products** | 33 | -21 | *102* | *117* |
| **361 Pottery, china and earthenware** | 6 | 12 | *46* | *52* |
| **362 Glass and glass products** | 17 | 22 | *43* | *50* |
| **369 Other non-metal mineral products** | 78 | 187 | *449* | *518* |
| **371 Iron and steel** | 88 | 96 | *277* | *296* |
| **372 Non-ferrous metals** | 64 | 279 | *415* | *439* |
| **381 Metal products** | 42 | 95 | *170* | *201* |
| **382 Non-electrical machinery** | 54 | 83 | *160* | *206* |
| **383 Electrical machinery** | 69 | 181 | *83* | *117* |
| **384 Transport equipment** | 65 | 106 | *117* | *207* |
| **385 Professional and scientific equipment** | 4 | 13 | *28* | *39* |
| **390 Other manufacturing industries** | 1 | 6 | *4* | *3* |

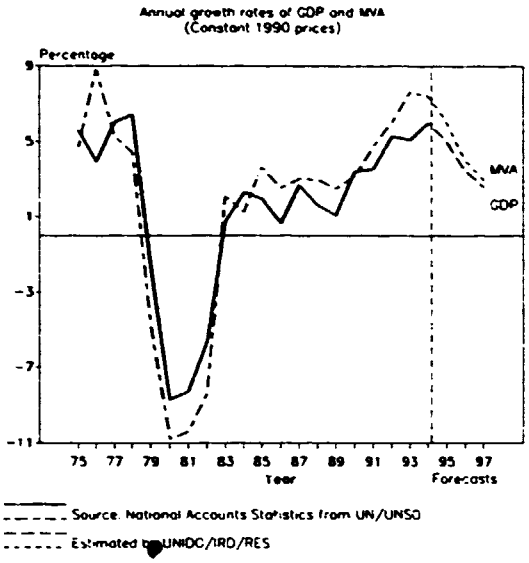
For sources, footnotes and comments see "Technical notes" at the beginning of this Annex.



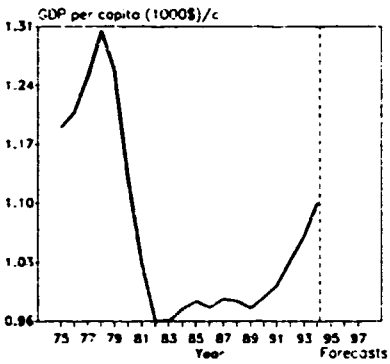





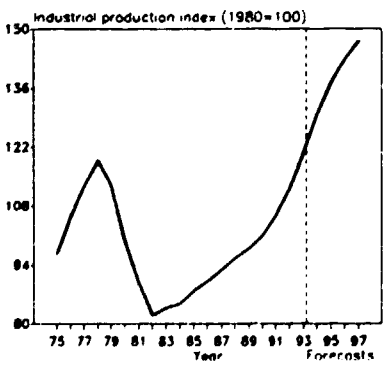




| | 1980 | 1985 | 1990 | 1993 |
|---|---|---|---|---|
| **GDP:[p$] (millions of 1990-dollars)** | **5 119** | **4 660** | **5 113** | **5 855** |
| **Per capita[p$] (1990-dollars)** | **1 131** | **983** | **989** | **1 061** |
| **Manufacturing share[p$] (%) (current factor prices)** | **15.0** | **16.4** | **18.6** | *20.2* |
| **MANUFACTURING:** | | | | |
| **Value added[p$] (millions of 1990-dollars)** | **943** | **828** | **952** | **1 138** |
| **Industrial production index (1980=100)** | **100** | **88** | **101** | **121** |
| **Value added (millions of dollars)** | **448** | **393** | *586* | *762* |
| **Gross output (millions of dollars)** | **1 130** | **860** | *1 365* | *1 164* |
| **Employment (thousands)** | **39** | **25** | *26* | *36* |
| **-PROFITABILITY:(in percent of gross output)** | | | | |
| **Intermediate input (%)** | **60** | **54** | *57* | *34* |
| **Wages and salaries including supplements (%)** | *15* | *12* | *10* | *16* |
| **Gross operating surplus and net taxes (%)** | *24* | *34* | *33* | *50* |
| **-PRODUCTIVITY:(dollars)** | | | | |
| **Gross output per worker** | **28 857** | **34 129** | *50 269* | *32 429* |
| **Value added per worker** | **11 426** | **15 593** | *21 887* | *25 553* |
| **Average wage (including supplements)** | *4 383* | *3 991* | *5 378* | *5 155* |
| **-STRUCTURAL INDICES:** | | | | |
| **Structural change θ (5-year average in degrees)** | **11.59** | **9.32** | *3 66* | *5 82* |
| **as a percentage of average θ in 1970-1975** | **202** | **163** | *64* | *101* |
| **MVA growth rate / θ** | **-0.32** | **-0.77** | **0.71** | **0.04** |
| **Degree of specialization** | **19.1** | **18.0** | **22.9** | **23.3** |
| **-VALUE ADDED:(millions of dollars)** | | | | |
| **311/2 Food products** | **78** | **55** | *92* | *100* |
| **313 Beverages** | **63** | **59** | *67* | *78* |
| **314 Tobacco products** | **26** | **29** | *40* | *45* |
| **321 Textiles** | **62** | **40** | *75* | *104* |
| **322 Wearing apparel** | **16** | **10** | *19* | *32* |
| **323 Leather and fur products** | **5** | **5** | *5* | *7* |
| **324 Footwear** | **13** | **1** | *2* | *3* |
| **331 Wood and wood products** | **1** | **-** | *1* | *1* |
| **332 Furniture and fixtures** | **3** | **4** | *6* | *8* |
| **341 Paper and paper products** | **40** | **24** | *16* | *20* |
| **342 Printing and publishing** | **8** | **8** | *17* | *21* |
| **351 Industrial chemicals** | **4** | **7** | *19* | *25* |
| **352 Other chemical products** | **46** | **57** | *105* | *152* |
| **353 Petroleum refineries** | **14** | **20** | *44* | *69* |
| **354 Miscellaneous petroleum and coal products** | **2** | **-** | *3* | *3* |
| **355 Rubber products** | **4** | **3** | *4* | *6* |
| **356 Plastic products** | **13** | **15** | *17* | *20* |
| **361 Pottery, china and earthenware** | **-** | **-** | **-** | **-** |
| **362 Glass and glass products** | **-** | **-** | **-** | **-** |
| **369 Other non-metal mineral products** | **11** | **13** | *14* | *17* |
| **371 Iron and steel** | **9** | **7** | *3* | *4* |
| **372 Non-ferrous metals** | **1** | **1** | *1* | *1* |
| **381 Metal products** | **10** | **12** | *8* | *11* |
| **382 Non-electrical machinery** | **6** | **7** | *1* | *2* |
| **383 Electrical machinery** | **9** | **12** | *21* | *28* |
| **384 Transport equipment** | **1** | **-** | *1* | *1* |
| **385 Professional and scientific equipment** | **-** | **1** | *1* | *1* |
| **390 Other manufacturing industries** | **4** | **2** | *4* | *4* |

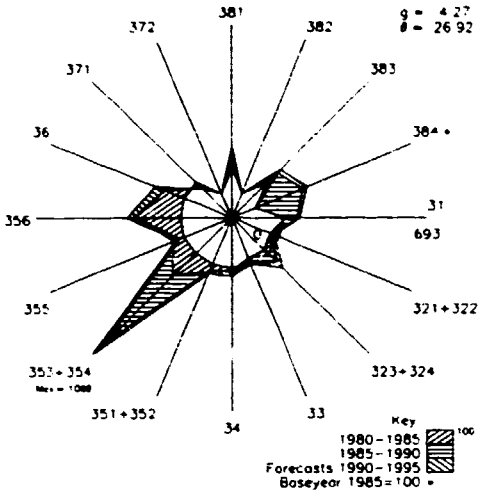
For sources, footnotes and comments see "Technical notes" at the beginning of this Annex.



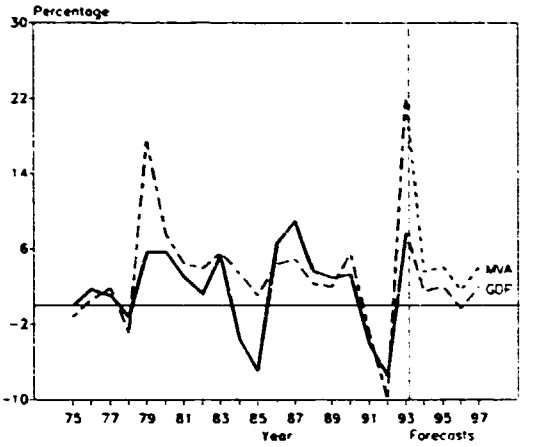




Industrial structural change
(Index of value added 1980=100)




Annual growth rates of GDP and MVA
(Constant 1990 prices)

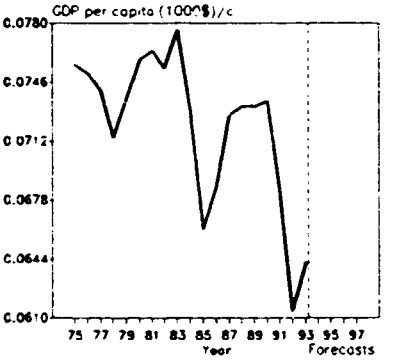



Source National Accounts Statistics from UN/UNSO
Estimated by UNIDO/IRD/RES

| | 1980 | 1985 | 1990 | 1993 |
|---|---|---|---|---|
| **GDP:[83] (millions of 1990-dollars)** | 2 941 | 2 897 | 3 710 | 3 543 |
| **Per capita[83] (1990-dollars)** | 76 | 66 | 73 | 64 |
| **Manufacturing share[83] (%) (current factor prices)** | 10.8 | 11.2 | 11.1 | *8 0* |
| **MANUFACTURING:** | | | | |
| **Value added[83] (millions of 1990-dollars)** | 260 | 311 | 375 | 398 |
| **Industrial production index (1980=100)** | 100 | 137 | 153 | 162 |
| **Value added (millions of dollars)** | 273 | 311 | *554* | *620* |
| **Gross output (millions of dollars)** | 604 | 741 | *1 164* | *1 208* |
| **Employment (thousands)** | 77 | *88* | *102* | *107* |
| **-PROFITABILITY:(in percent of gross output)** | | | | |
| **Intermediate input (%)** | 55 | *58* | *52* | *49* |
| **Wages and salaries including supplements (%)** | *8* | *9* | *9* | *9* |
| **Gross operating surplus and net taxes (%)** | *37* | *33* | *39* | *42* |
| **-PRODUCTIVITY:(dollars)** | | | | |
| **Gross output per worker** | 7 859 | 8 385 | *11 330* | *11 325* |
| **Value added per worker** | 3 551 | *3 519* | *5 394* | *5 837* |
| **Average wage (including supplements)** | *642* | *718* | *1 018* | *1 016* |
| **-STRUCTURAL INDICES:** | | | | |
| **Structural change θ (5-year average in degrees)** | 9.90 | *5 78* | *5 13* | *4 08* |
| **as a percentage of average θ in 1970-1975** | 162 | *95* | *84* | *67* |
| **MVA growth rate / θ** | 0.59 | 0.24 | 1.56 | 0.83 |
| **Degree of specialization** | 25.8 | 21.7 | 25.0 | 27.2 |
| **-VALUE ADDED:(millions of dollars)** | | | | |
| **311/2 Food products** | 66 | *61* | *107* | *107* |
| **313 Beverages** | 50 | 76 | *129* | *133* |
| **314 Tobacco products** | 18 | 19 | *45* | *46* |
| **321 Textiles** | 63 | 37 | *52* | *58* |
| **322 Wearing apparel** | 2 | 6 | *8* | *8* |
| **323 Leather and fur products** | 9 | 7 | *20* | *26* |
| **324 Footwear** | 6 | 5 | *8* | *8* |
| **331 Wood and wood products** | 5 | 3 | *5* | *5* |
| **332 Furniture and fixtures** | 1 | 2 | *4* | *4* |
| **341 Paper and paper products** | 5 | 5 | *4* | *4* |
| **342 Printing and publishing** | 6 | 9 | *13* | *15* |
| **351 Industrial chemicals** | 1 | 1 | *1* | *1* |
| **352 Other chemical products** | 8 | 11 | *12* | *12* |
| **353 Petroleum refineries** | 12 | 29 | *94* | *139* |
| **354 Miscellaneous petroleum and coal products** | . | . | . | . |
| **355 Rubber products** | 4 | 7 | *7* | *7* |
| **356 Plastic products** | 2 | 6 | *7* | *7* |
| **361 Pottery, china and earthenware** | . | . | . | . |
| **362 Glass and glass products** | 1 | 2 | *1* | *1* |
| **369 Other non-metal mineral products** | 5 | 10 | *13* | *15* |
| **371 Iron and steel** | 5 | 4 | *5* | *4* |
| **372 Non-ferrous metals** | . | . | . | . |
| **381 Metal products** | 4 | 7 | *9* | *9* |
| **382 Non-electrical machinery** | . | . | . | . |
| **383 Electrical machinery** | . | . | . | . |
| **384 Transport equipment** | . | 4 | *9* | *9* |
| **385 Professional and scientific equipment** | . | . | . | . |
| **390 Other manufacturing industries** | . | . | . | . |

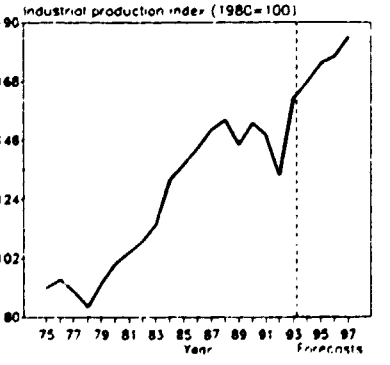
For sources, footnotes and comments see "Technical notes" at the beginning of this Annex.

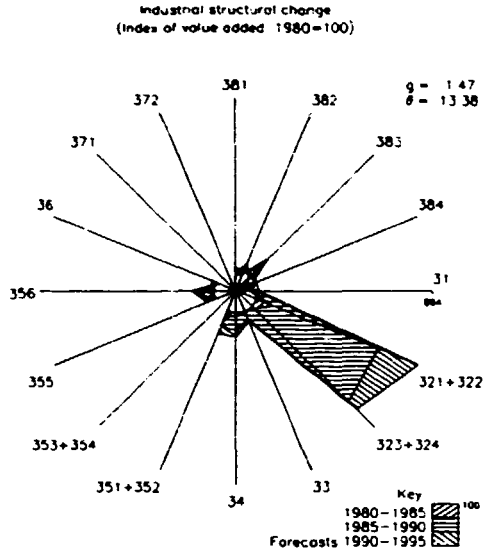
GDP per capita (1000$)/c

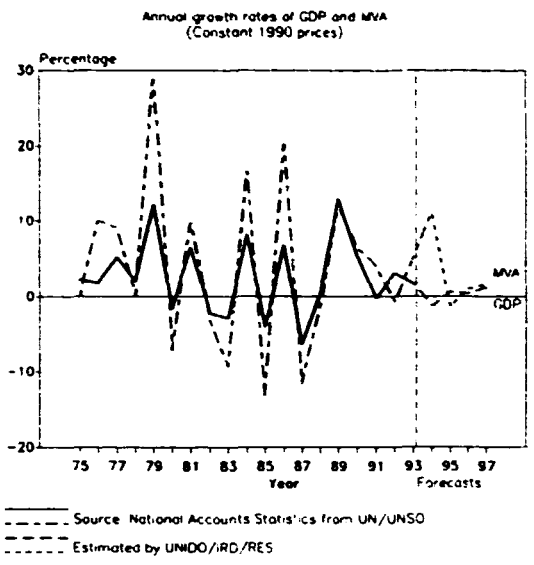



Manufacturing share in GDP current factor pr (%)

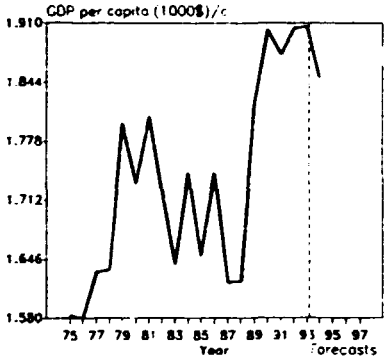

Industrial production index (1980=100)



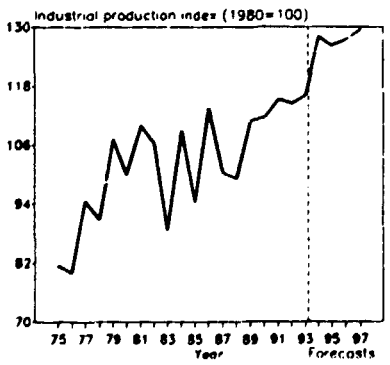



| | 1980 | 1985 | 1990 | 1993 |
|---|---|---|---|---|
| **GDP:**[88] (millions of 1990-dollars) | 1 097 | 1 153 | 1 381 | 1 445 |
| Per capita[88] (1990-dollars) | 1 730 | 1 650 | 1 902 | 1 906 |
| Manufacturing share[88] (%) (current factor prices) | 11.5 | 9.1 | 9.4 | *9.7* |
| **MANUFACTURING:** | | | | |
| Value added[88] (millions of 1990-dollars) | 99 | 97 | 122 | 132 |
| Industrial production index (1980=100) | 100 | 94 | 112 | 116 |
| Value added (millions of dollars) | 121 | *90* | *142* | *165* |
| Gross output (millions of dollars) | 489 | 395 | 642 | *763* |
| Employment (thousands) | 13 | 13 | 21 | *21* |
| **-PROFITABILITY:**(in percent of gross output) | | | | |
| Intermediate input (%) | 75 | 77 | 78 | *78* |
| Wages and salaries including supplements (%) | 11 | 13 | 11 | *10* |
| Gross operating surplus and net taxes (%) | 14 | 9 | 12 | *11* |
| **-PRODUCTIVITY:**(dollars) | | | | |
| Gross output per worker | 37 145 | 28 787 | 30 360 | *35 087* |
| Value added per worker | 9 230 | 6 571 | 6 715 | *7 599* |
| Average wage (including supplements) | 4 114 | 3 990 | 3 253 | *3 822* |
| **-STRUCTURAL INDICES:** | | | | |
| Structural change θ (5-year average in degrees) | 3.75 | *6.63* | 6.49 | *3.07* |
| as a percentage of average θ in 1970-1975 | 76 | *133* | 131 | *62* |
| MVA growth rate / θ | 1.43 | -0.68 | 1.41 | 2.11 |
| Degree of specialization | 40.4 | 24.3 | 27.3 | 27.4 |
| **-VALUE ADDED:**(millions of dollars) | | | | |
| 311/2 Food products | 71 | 37 | 60 | *69* |
| 313 Beverages | 6 | 7 | 11 | *13* |
| 314 Tobacco products | 2 | 2 | 3 | *3* |
| 321 Textiles | - | - | - | - |
| 322 Wearing apparel | 2 | 4 | 16 | *21* |
| 323 Leather and fur products | - | - | - | - |
| 324 Footwear | - | - | 1 | *1* |
| 331 Wood and wood products | 7 | 6 | 11 | *12* |
| 332 Furniture and fixtures | 3 | 3 | 3 | *3* |
| 341 Paper and paper products | 2 | 2 | 5 | *6* |
| 342 Printing and publishing | 4 | 5 | 6 | *7* |
| 351 Industrial chemicals | - | - | - | - |
| 352 Other chemical products | 4 | 5 | 7 | *9* |
| 353 Petroleum refineries | - | - | - | - |
| 354 Miscellaneous petroleum and coal products | - | - | - | - |
| 355 Rubber products | 1 | 1 | 1 | *1* |
| 356 Plastic products | 2 | 2 | 3 | *4* |
| 361 Pottery, china and earthenware | - | - | - | - |
| 362 Glass and glass products | - | - | - | - |
| 369 Other non-metal mineral products | 6 | 7 | 5 | *6* |
| 371 Iron and steel | - | - | - | - |
| 372 Non-ferrous metals | - | - | - | - |
| 381 Metal products | 6 | 4 | 5 | *6* |
| 382 Non-electrical machinery | 1 | 1 | 1 | *1* |
| 383 Electrical machinery | - | 1 | - | - |
| 384 Transport equipment | 4 | 3 | 1 | *2* |
| 385 Professional and scientific equipment | - | - | - | - |
| 390 Other manufacturing industries | - | 1 | 1 | *1* |

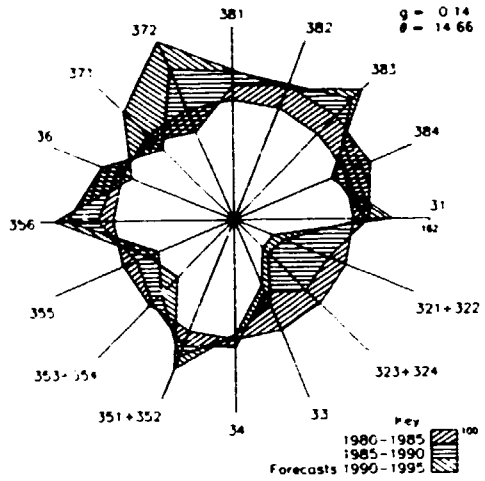




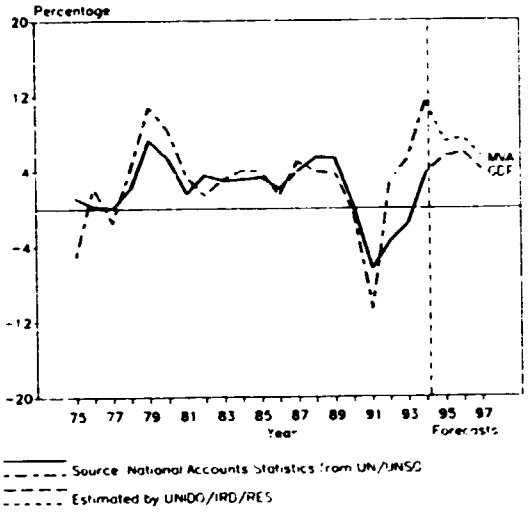



For sources, footnotes and comments see "Technical notes" at the beginning of this Annex.

Industrial structural change
(Index of value added 1980=100)



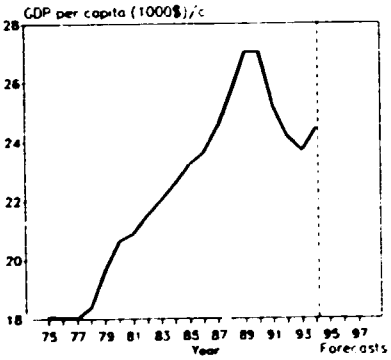

Annual growth rates of GDP and MVA
(Constant 1990 prices)



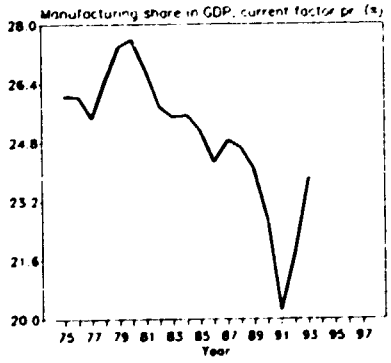

| | 1980 | 1985 | 1990 | 1993 |
|---|---|---|---|---|
| **GDP:[a,b] (millions of 1990-dollars)** | 98 701 | 113 888 | 134 788 | 119 733 |
| **Per capita[a,b] (1990-dollars)** | 20 649 | 23 233 | 27 033 | 23 672 |
| **Manufacturing share[a,b] (%) (current factor prices)** | 27.6 | 25.1 | 22.7 | *23 8* |
| **MANUFACTURING:** | | | | |
| **Value added[a,b] (millions of 1990-dollars)** | 20 708 | 24 192 | 27 558 | 26 608 |
| **Industrial production index (1980=100)** | 100 | 115 | 131 | 127 |
| **Value added (millions of dollars)** | 14 343 | 13 594 | 26 980 | *17 153* |
| **Gross output (millions of dollars)** | 40 839 | 36 967 | 74 497 | 48 279 |
| **Employment (thousands)** | 531 | 496 | 432 | *369* |
| **-PROFITABILITY:(in percent of gross output)** | | | | |
| **Intermediate input (%)** | 65 | 63 | 64 | *64* |
| **Wages and salaries including supplements (%)** | 19 | 20 | 21 | *21* |
| **Gross operating surplus (%)** | 16 | 17 | 15 | *15* |
| **-PRODUCTIVITY:(dollars)** | | | | |
| **Gross output per worker** | 76 435 | 74 030 | 171 573 | *130 527* |
| **Value added per worker** | 26 845 | 27 223 | 62 136 | *50 474* |
| **Average wage (including supplements)** | 14 694 | 14 599 | 36 744 | *26 842* |
| **-STRUCTURAL INDICES:** | | | | |
| **Structural change θ (5-year average in degrees)** | 6.33 | 5.51 | 5.48 | *6 10* |
| **as a percentage of average θ in 1970-1975** | 82 | 71 | 71 | *79* |
| **MVA growth rate / θ** | 0.58 | 0.16 | -0.06 | -0.51 |
| **Degree of specialization** | 13.3 | 13.8 | 13.8 | 14.2 |
| **-VALUE ADDED:(millions of dollars)** | | | | |
| **311/2 Food products** | 1 402 | 1 413 | 2 576 | *2 013* |
| **313 Beverages** | 225 | 227 | 666 | *474* |
| **314 Tobacco products** | 46 | 57 | 177 | *106* |
| **321 Textiles** | 469 | 309 | 386 | *257* |
| **322 Wearing apparel** | 499 | 435 | 428 | *175* |
| **323 Leather and fur products** | 54 | 38 | 48 | *27* |
| **324 Footwear** | 134 | 106 | 93 | *52* |
| **331 Wood and wood products** | 1 196 | 652 | 1 578 | *773* |
| **332 Furniture and fixtures** | 257 | 215 | 515 | *241* |
| **341 Paper and paper products** | 2 068 | 1 845 | 3 603 | *2 391* |
| **342 Printing and publishing** | 1 060 | 1 222 | 2 113 | *1 259* |
| **351 Industrial chemicals** | 555 | 561 | 1 371 | *921* |
| **352 Other chemical products** | 349 | 371 | 707 | *528* |
| **353 Petroleum refineries** | 445 | 384 | 674 | *293* |
| **354 Miscellaneous petroleum and coal products** | 46 | 47 | 121 | *74* |
| **355 Rubber products** | 105 | 84 | 133 | *99* |
| **356 Plastic products** | 164 | 168 | 425 | *278* |
| **361 Pottery, china and earthenware** | 46 | 40 | 73 | *40* |
| **362 Glass and glass products** | 105 | 78 | 183 | *137* |
| **369 Other non-metal mineral products** | 434 | 434 | 1 053 | *463* |
| **371 Iron and steel** | 5[illegible] | 463 | 850 | *822* |
| **372 Non-ferrous metals** | 14[illegible] | 103 | 383 | *265* |
| **381 Metal products** | [illegible] | 768 | 1 759 | *1 061* |
| **382 Non-electrical machinery** | 1 468 | 1 618 | 3 355 | *1 930* |
| **383 Electrical machinery** | 694 | 764 | 1 832 | *1 204* |
| **384 Transport equipment** | 823 | 915 | 1 405 | *840* |
| **385 Professional and scientific equipment** | 110 | 166 | 344 | *292* |
| **390 Other manufacturing industries** | 107 | 112 | 168 | *139* |

For sources, footnotes and comments see "Technical notes" at the beginning of this Annex.

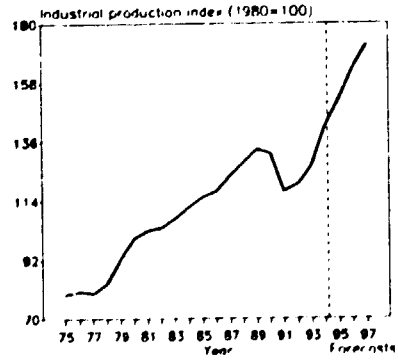
GDP per capita (1000$)/c



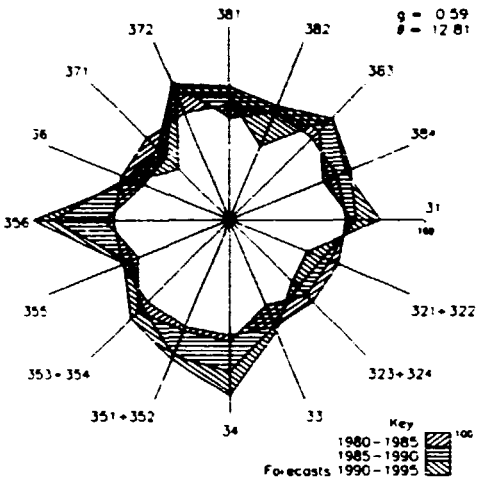

Manufacturing share in GDP, current factor pr (%)



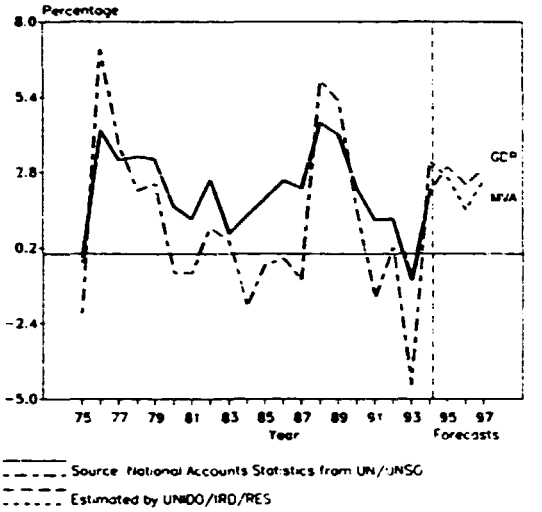

Industrial production index (1980=100)



Industrial structural change
(Index of value added 1980=100)



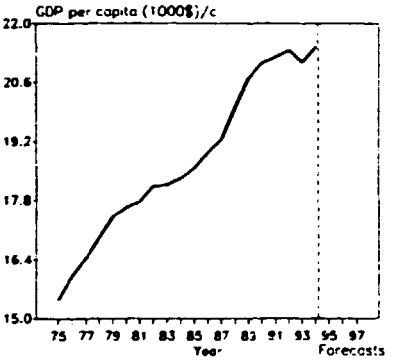

Annual growth rates of GDP and MVA
(Constant 1990 prices)



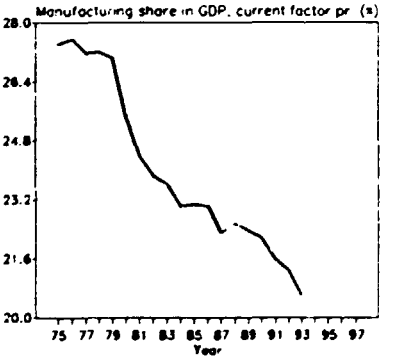

| | 1980 | 1985 | 1990 | 1993 |
|---|---|---|---|---|
| **GDP[as] (millions of 1990-dollars)** | 950 201 | 1 024 667 | 1 194 761 | 1 212 013 |
| Per capita[as] (1990-dollars) | 17 635 | 18 573 | 21 065 | 21 076 |
| Manufacturing share[as] (%) (current factor prices) | 25.5 | 23.1 | 22.2 | *20.6* |
| **MANUFACTURING:** | | | | |
| Value added[as] (millions of 1990-dollars) | 231 229 | 227 454 | 254 641 | 239 928 |
| Industrial production index (1980=100) | 100 | 95 | 109 | 101 |
| Value added (millions of dollars) | 161 552 | 115 474 | 257 284 | 248 514 |
| Gross output (millions of dollars) | 453 636 | 326 406 | 681 401 | 632 784 |
| Employment (thousands) | 5 103 | 4 579 | 4 389 | 4 025 |
| **-PROFITABILITY:(in percent of gross output)** | | | | |
| Intermediate input (%) | 64 | 65 | 62 | 61 |
| Wages and salaries including supplements (%) | 24 | 23 | *22* | *24* |
| Gross operating surplus and net taxes (%) | 11 | 12 | *16* | *16* |
| **-PRODUCTIVITY:(dollars)** | | | | |
| Gross output per worker | 84 523 | 67 851 | 148 266 | 150 185 |
| Value added per worker | 30 101 | 24 004 | 56 000 | 59 012 |
| Average wage (including supplements) | 21 643 | 16 725 | *33 961* | *37 305* |
| **-STRUCTURAL INDICES:** | | | | |
| Structural change θ (5-year average in degrees) | *3 70* | 2.83 | 2.64 | 2.84 |
| as a percentage of average θ in 1970-1975 | *81* | 62 | 58 | 62 |
| MVA growth rate / θ | 0.47 | -0.14 | 0.97 | -0.10 |
| Degree of specialization | 10.4 | 11.1 | 11.1 | 11.4 |
| **-VALUE ADDED:(millions of dollars)** | | | | |
| 311/2 Food products | 15 952 | 12 825 | 25 556 | 28 663 |
| 313 Beverages | 3 486 | 2 268 | 5 382 | 6 424 |
| 314 Tobacco products | 1 497 | 948 | 1 919 | 2 574 |
| 321 Textiles | 6 130 | 4 239 | 7 666 | 6 066 |
| 322 Wearing apparel | 4 742 | 3 104 | 5 807 | 5 533 |
| 323 Leather and fur products | 757 | 527 | 1 130 | 868 |
| 324 Footwear | 1 411 | 929 | 1 420 | 1 436 |
| 331 Wood and wood products | 2 888 | 1 704 | 4 183 | 3 972 |
| 332 Furniture and fixtures | 2 846 | 1 632 | 3 973 | 4 506 |
| 341 Paper and paper products | 3 592 | 2 817 | 6 823 | 5 490 |
| 342 Printing and publishing | 6 660 | 5 089 | 12 500 | 15 469 |
| 351 Industrial chemicals | 6 462 | 4 669 | 10 873 | 7 324 |
| 352 Other chemical products | 6 302 | 4 996 | 12 427 | 15 003 |
| 353 Petroleum refineries | 9 973 | 8 127 | 15 129 | 17 109 |
| 354 Miscellaneous petroleum and coal products | 118 | *83* | *177* | *179* |
| 355 Rubber products | 2 483 | 1 544 | 3 341 | 3 336 |
| 356 Plastic products | 3 083 | 2 415 | 6 663 | 6 719 |
| 361 Pottery, china and earthenware | 639 | *406* | *1 000* | *986* |
| 362 Glass and glass products | 2 170 | 1 366 | 3 090 | 2 744 |
| 369 Other non-metal mineral products | 5 653 | 3 153 | 7 523 | 6 792 |
| 371 Iron and steel | 6 741 | 3 788 | 8 434 | 5 528 |
| 372 Non-ferrous metals | 2 479 | 2 340 | 4 534 | 4 061 |
| 381 Metal products | 12 119 | 7 792 | 20 097 | 18 274 |
| 382 Non-electrical machinery | 16 245 | 11 998 | 24 821 | 19 636 |
| 383 Electrical machinery | 14 411 | 11 491 | 25 771 | 25 744 |
| 384 Transport equipment | 17 733 | 11 316 | 28 618 | 25 718 |
| 385 Professional and scientific equipment | 2 206 | 1 752 | 4 109 | 3 800 |
| 390 Other manufacturing industries | 2 772 | 2 178 | 4 319 | 4 521 |

For sources, footnotes and comments see "Technical notes" at the beginning of this Annex.

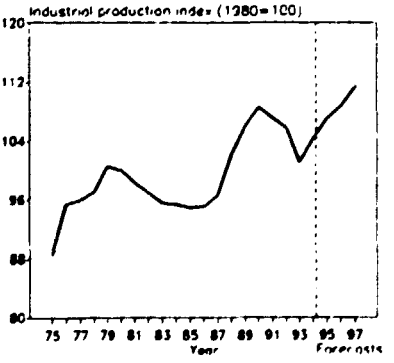
GDP per capita (1000$)/c



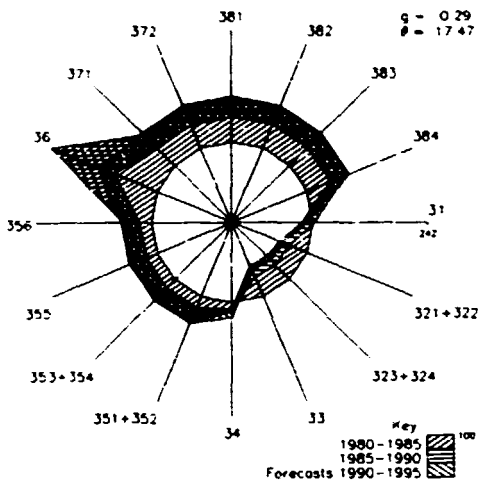

Manufacturing share in GDP, current factor pr (%)



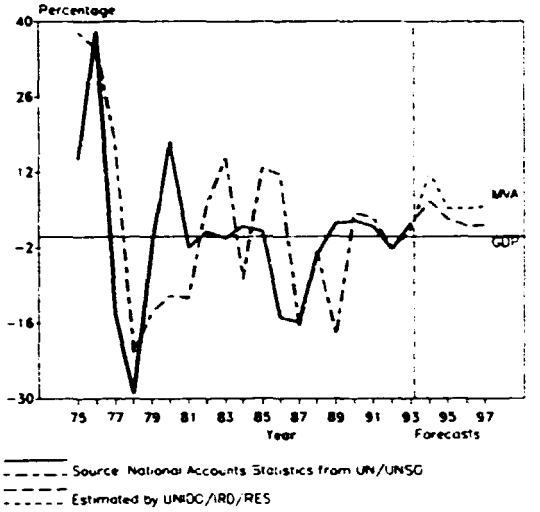

Industrial production index (1980=100)



Industrial structural change
(Index of value added 1980=100)



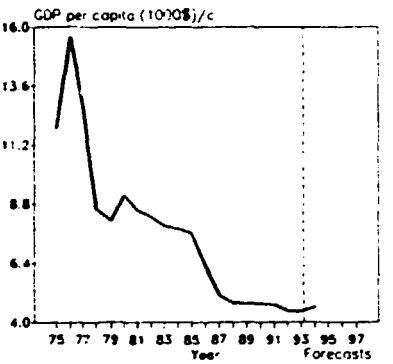

Annual growth rates of GDP and MVA
(Constant 1990 prices)




| | 1980 | 1985 | 1990 | 1993 |
|---|---|---|---|---|
| **GDP**[aa] (millions of 1990-dollars) | 7 369 | 7 484 | 5 456 | 5 565 |
| Per capita[aa] (1990-dollars) | 9 142 | 7 598 | 4 761 | 4 459 |
| Manufacturing share[aa] (%) (current factor prices) | 5.1 | 5.6 | 12.2 | 12.5 |
| **MANUFACTURING:** | | | | |
| Value added[aa] (millions of 1990-dollars) | 740 | 825 | 631 | 646 |
| Industrial production index (1980=100) | 100 | 126 | 135 | 138 |
| Value added (millions of dollars) | *224* | *152* | *283* | .. |
| Gross output (millions of dollars) | 690 | *511* | *945* | .. |
| Employment (thousands) | *18* | *18* | *16* | *16* |
| **-PROFITABILITY:**(in percent of gross output) | | | | |
| Intermediate input (%) | *68* | *70* | *70* | .. |
| Wages and salaries including supplements (%) | *16* | *17* | *19* | .. |
| Gross operating surplus and net taxes (%) | *16* | *13* | *11* | .. |
| **-PRODUCTIVITY:**(dollars) | | | | |
| Gross output per worker | *38 481* | *28 767* | *60 147* | .. |
| Value added per worker | *12 470* | *8 792* | *18 313* | .. |
| Average wage (including supplements) | *6 283* | *4 948* | *11 775* | . |
| **-STRUCTURAL INDICES:** | | | | |
| Structural change θ (5-year average in degrees) | *13.61* | *5.35* | *2.32* | *1.16* |
| as a percentage of average θ in 1970-1975 | *164* | *64* | *28* | *14* |
| MVA growth rate / θ | 0.14 | 0.45 | -1.55 | -0.34 |
| Degree of specialization | 21.0 | 16.2 | 15.8 | 15.9 |
| **-VALUE ADDED:**(millions of dollars) | | | | |
| 311/2 Food products | *18* | *14* | *27* | .. |
| 313 Beverages | 19 | *11* | *20* | .. |
| 314 Tobacco products | 17 | *10* | *17* | .. |
| 321 Textiles | 3 | *1* | *3* | .. |
| 322 Wearing apparel | 5 | *2* | *5* | .. |
| 323 Leather and fur products | 1 | - | *1* | .. |
| 324 Footwear | 1 | - | *1* | .. |
| 331 Wood and wood products | 64 | 29 | 52 | .. |
| 332 Furniture and fixtures | 9 | *4* | *7* | .. |
| 341 Paper and paper products | 2 | *1* | *3* | .. |
| 342 Printing and publishing | 3 | *2* | *4* | .. |
| 351 Industrial chemicals | 6 | *5* | *10* | .. |
| 352 Other chemical products | 3 | *2* | *4* | .. |
| 353 Petroleum refineries | 18 | *15* | *29* | .. |
| 354 Miscellaneous petroleum and coal products | - | - | - | .. |
| 355 Rubber products | - | - | - | .. |
| 356 Plastic products | - | - | - | .. |
| 361 Pottery, china and earthenware | - | - | - | - |
| 362 Glass and glass products | 1 | *1* | *2* | .. |
| 369 Other non-metal mineral products | 8 | *12* | *17* | .. |
| 371 Iron and steel | 3 | *3* | *5* | .. |
| 372 Non-ferrous metals | 3 | *3* | *5* | .. |
| 381 Metal products | 13 | *12* | *24* | .. |
| 382 Non-electrical machinery | 2 | *2* | *3* | .. |
| 383 Electrical machinery | 8 | *7* | *14* | .. |
| 384 Transport equipment | 11 | *10* | *20* | .. |
| 385 Professional and scientific equipment | 1 | *1* | *1* | .. |
| 390 Other manufacturing industries | 5 | 5 | 9 | .. |

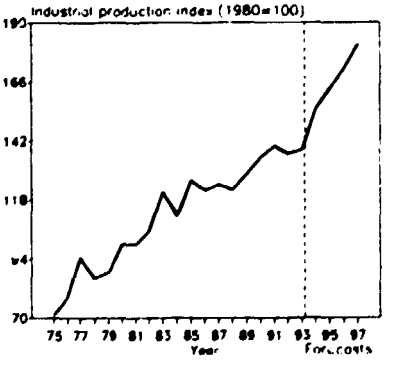
For sources, footnotes and comments see "Technical notes" at the beginning of this Annex.

GDP per capita (1990$)/c

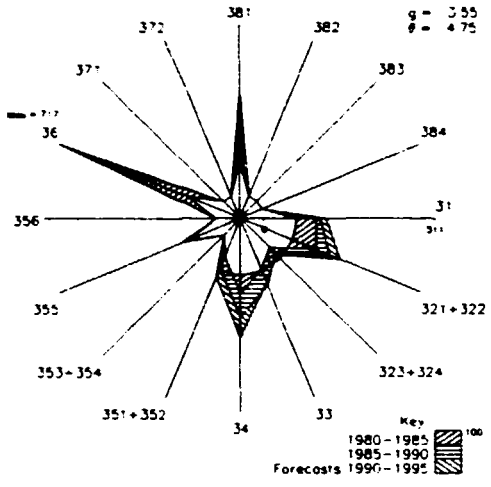



Manufacturing share in GDP, current factor pr (%)

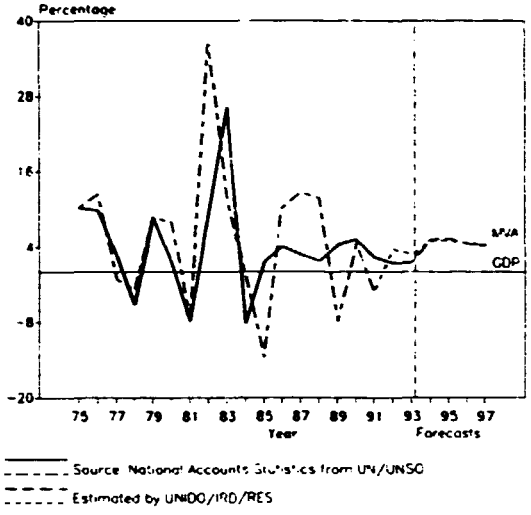

Industrial production index (1980=100)



Industrial structural change
(Index of value added 1980=100)




Annual growth rates of GDP and MVA
(Constant 1990 prices)

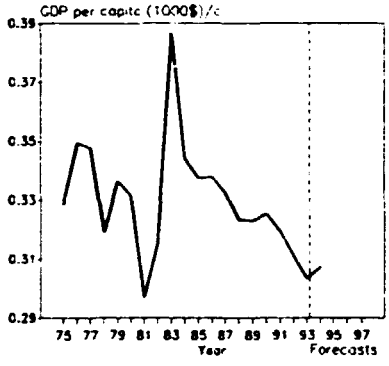



Source National Accounts Statistics from UN/UNSO
Estimated by UNIDO/IRD/RES

| | 1980 | 1985 | 1990 | 1993 |
|---|---|---|---|---|
| **GDP:[88] (millions of 1990-dollars)** | 212 | 251 | 300 | 316 |
| **Per capita[88] (1990-dollars)** | 331 | 338 | 325 | 303 |
| **Manufacturing share[82] (%) (current factor prices)** | 3.6 | 7.7 | 5.4 | 6.1 |
| **MANUFACTURING:** | | | | |
| **Value added[82] (millions of 1990-dollars)** | 10 | 13 | 17 | 17 |
| **Industrial production index (1980=100)** | 100 | 119 | 161 | 166 |
| **Value added (millions of dollars)** | 11 | 9 | 16 | 20 |
| **Gross output (millions of dollars)** | 30 | 41 | 57 | 68 |
| **Employment (thousands)** | 2 | 3 | 3 | 3 |
| **-PROFITABILITY:(in percent of gross output)** | | | | |
| **Intermediate input (%)** | 62 | 77 | 71 | 71 |
| **Wages and salaries including supplements (%)** | 10 | 7 | 8 | 8 |
| **Gross operating surplus and net taxes (%)** | 28 | 16 | 21 | 21 |
| **-PRODUCTIVITY:(dollars)** | | | | |
| **Gross output per worker** | 16 115 | 13 506 | 16 382 | 17 823 |
| **Value added per worker** | 6 094 | 3 086 | 4 908 | 5 503 |
| **Average wage (including supplements)** | 1 566 | 1 115 | 1 690 | 1 934 |
| **-STRUCTURAL INDICES:** | | | | |
| **Structural change θ (5-year average in degrees)** | 17.04 | 9.66 | 3.80 | 3.50 |
| **as a percentage of average θ in 1970-1975** | 1 365 | 774 | 304 | 280 |
| **MVA growth rate / θ** | 1.31 | -0.01 | 1.76 | 1.10 |
| **Degree of specialization** | 36.7 | 32.4 | 29.4 | 30.8 |
| **-VALUE ADDED:(millions of dollars)** | | | | |
| **311/2 Food products** | 3 | 4 | 5 | 6 |
| **313 Beverages** | 1 | 1 | 2 | 3 |
| **314 Tobacco products** | - | - | - | - |
| **321 Textiles** | - | - | - | 1 |
| **322 Wearing apparel** | - | - | - | - |
| **323 Leather and fur products** | - | - | - | - |
| **324 Footwear** | - | - | - | - |
| **331 Wood and wood products** | - | - | - | - |
| **332 Furniture and fixtures** | 1 | 1 | 1 | 1 |
| **341 Paper and paper products** | - | - | - | - |
| **342 Printing and publishing** | - | - | - | 1 |
| **351 Industrial chemicals** | - | - | - | - |
| **352 Other chemical products** | - | - | - | - |
| **353 Petroleum refineries** | - | - | - | - |
| **354 Miscellaneous petroleum and coal products** | - | - | - | - |
| **355 Rubber products** | - | - | - | - |
| **356 Plastic products** | - | - | - | - |
| **361 Pottery, china and earthenware** | - | - | - | - |
| **362 Glass and glass products** | - | - | - | - |
| **369 Other non-metal mineral products** | - | - | - | - |
| **371 Iron and steel** | - | - | - | - |
| **372 Non-ferrous metals** | - | - | - | - |
| **381 Metal products** | - | - | - | 1 |
| **382 Non-electrical machinery** | - | - | - | - |
| **383 Electrical machinery** | - | - | - | - |
| **384 Transport equipment** | - | - | - | - |
| **385 Professional and scientific equipment** | - | - | - | - |
| **390 Other manufacturing industries** | 6 | 2 | 6 | 7 |

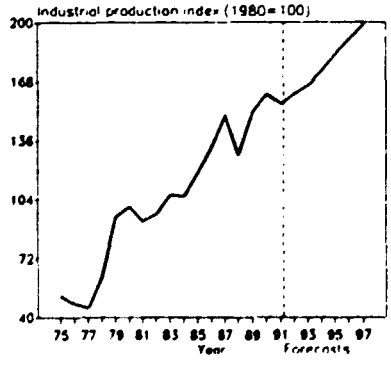
For sources, footnotes and comments see "Technical notes" at the beginning of this Annex.

GDP per capita (1000$)/c

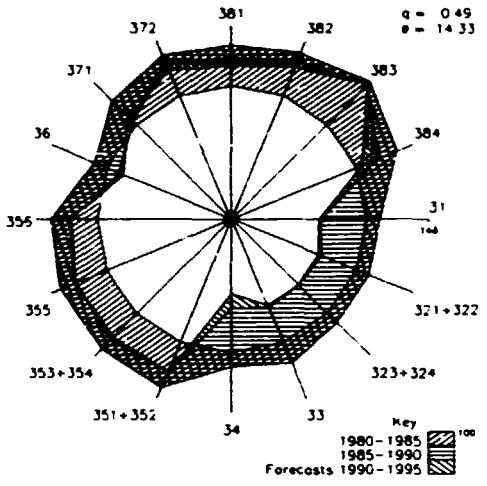



Manufacturing share in GDP, current factor pr (%)

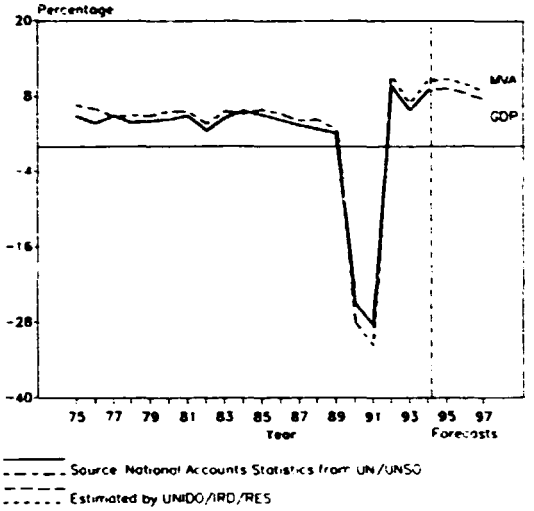

Industrial production index (1980=100)



Indu... al structural change
(Index of value added 1990=100)




Annual growth rates of GDP and MVA
(Constant 1990 prices)

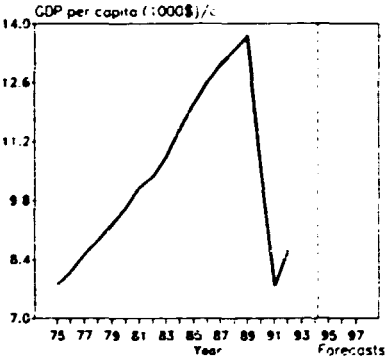



Source National Accounts Statistics from UN/UNSO
Estimated by UNIDO/IRD/RES

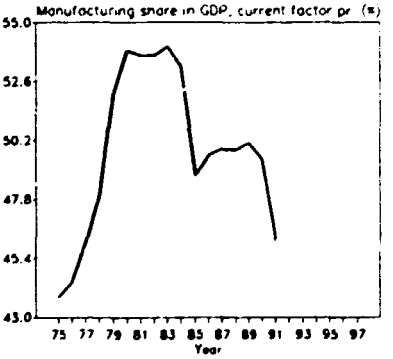
| | 1980 | 1986 | 1990 | 1993 |
|---|---|---|---|---|
| **GDP:[as] (millions of 1990-dollars)** | 161 301 | 201 323 | 170 821 | 141 920 |
| **Per capita[as] (1990-dollars)** | 9 637 | 12 095 | 10 512 | .. |
| **Manufacturing share[as] (%) (current factor prices)** | *53 8* | *48 8* | *49 4* | .. |
| **MANUFACTURING:** | | | | |
| **Value added[as] (millions of 1990-dollars)** | 72 752 | 93 464 | 78 816 | *64 025* |
| **Industrial production index (1980=100)** | 100 | 128 | 108 | *86* |
| **Value added (millions of 1980-dollars)** | *76 600* | *98 407* | *82 983* | *67 410* |
| **Gross output (millions of dollars)** | 132 645 | 159 661 | *324 212* | .. |
| **Employment (thousands)** | 2 895 | 2 968 | *2 811* | *2 740* |
| **-PROFITABILITY:(in percent of gross output)** | | | | |
| **Intermediate input (%)** | .. | .. | .. | .. |
| **Wages and salaries including supplements (%)** | *15* | *9* | *8* | .. |
| **Gross operating surplus and net taxes (%)** | .. | .. | .. | .. |
| **-PRODUCTIVITY:(dollars)** | | | | |
| **Gross output per worker** | 45 819 | 53 434 | *114 977* | .. |
| **Value added per worker [c]** | 26 460 | *32 934* | *29 600* | *24 308* |
| **Average wage (including supplements)** | *6 771* | *4 836* | *9 681* | .. |
| **-STRUCTURAL INDICES:** | | | | |
| **Structural change θ (5-year average in degrees)** | *0 99* | *1 13* | *1 55* | *2 01* |
| **as a percentage of average θ in 1970-1975** | *147* | *169* | *232* | *300* |
| **MVA growth rate / θ** | 5.73 | 4.55 | -1.52 | -3.87 |
| **Degree of specialization** | 13.2 | 14.3 | 16.6 | 16.6 |
| **-VALUE ADDED:(millions of 1980-dollars)** | | | | |
| **311/2 Food products** | 6 043 | 6 647 | 3 988 | *3 188* |
| **313 Beverages** | 1 040 | 1 144 | 687 | *579* |
| **314 Tobacco products** | 254 | 280 | 168 | *134* |
| **321 Textiles** | 6 276 | 6 841 | 4 644 | *3 715* |
| **322 Wearing apparel** | 2 199 | 2 485 | 1 473 | *1 160* |
| **323 Leather and fur products** | 839 | 923 | 587 | *477* |
| **324 Footwear** | 631 | 694 | 441 | *359* |
| **331 Wood and wood products** | 1 178 | 1 378 | 848 | *670* |
| **332 Furniture and fixtures** | 1 081 | 1 265 | 778 | *615* |
| **341 Paper and paper products** | 931 | 1 089 | 438 | *358* |
| **342 Printing and publishing** | 727 | 748 | 676 | *423* |
| **351 Industrial chemicals** | 8 697 | *11 914* | *10 833* | 8 839 |
| **352 Other chemical products** | 1 220 | *1 671* | *1 519* | *1 240* |
| **353 Petroleum refineries** | 2 853 | *3 927* | *3 569* | *2 984* |
| **354 Miscellaneous petroleum and coal products** | 141 | *190* | *175* | *142* |
| **355 Rubber products** | 3 202 | *4 417* | *4 042* | *3 299* |
| **356 Plastic products** | 1 528 | *2 059* | *1 850* | *1 501* |
| **361 Pottery, china and earthenware** | 616 | *789* | *681* | *586* |
| **362 Glass and glass products** | 473 | *605* | *522* | *449* |
| **369 Other non-metal mineral products** | 1 768 | 1 768 | 1 255 | *1 076* |
| **371 Iron and steel** | 2 651 | *3 331* | *2 861* | *2 276* |
| **372 Non-ferrous metals** | 884 | *1 179* | *1 071* | *926* |
| **381 Metal products** | 3 171 | *4 143* | *3 664* | *3 153* |
| **382 Non-electrical machinery** | 9 950 | *13 464* | *12 332* | *10 480* |
| **383 Electrical machinery** | 7 480 | *10 912* | *10 706* | *8 642* |
| **384 Transport equipment** | 6 896 | *9 145* | *8 047* | *5 987* |
| **385 Professional and scientific equipment** | 3 264 | *4 761* | *4 671* | *3 770* |
| **390 Other manufacturing industries** | 606 | 638 | *458* | *393* |

For sources, footnotes and comments see "Technical notes" at the beginning of this Annex.

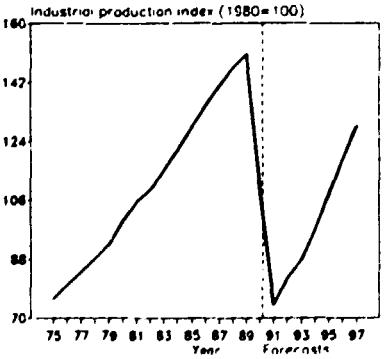
GDP per capita (1000$)/c

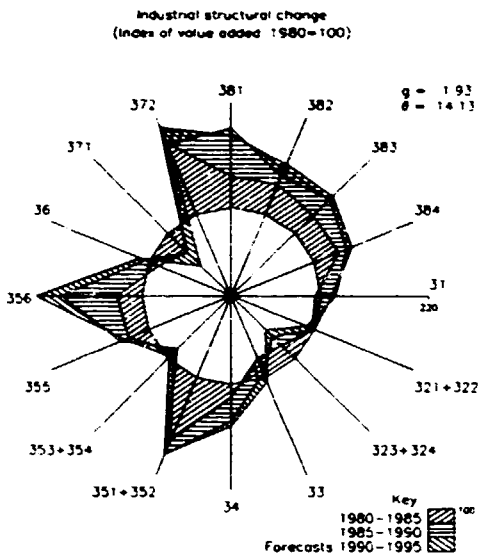


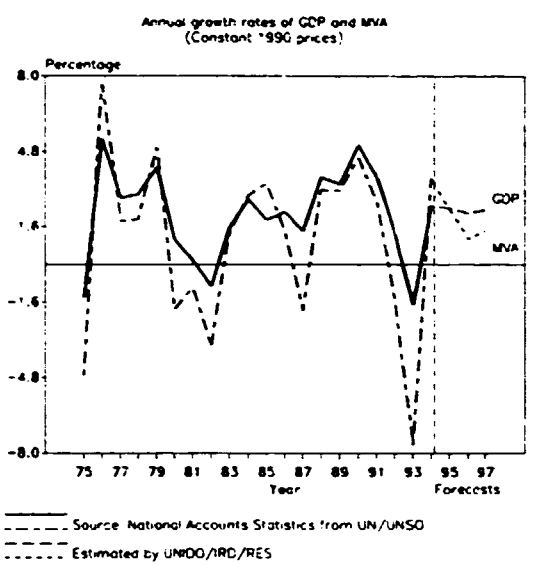

Manufacturing share in GDP, current factor pr (%)




Industrial production index (1980=100)

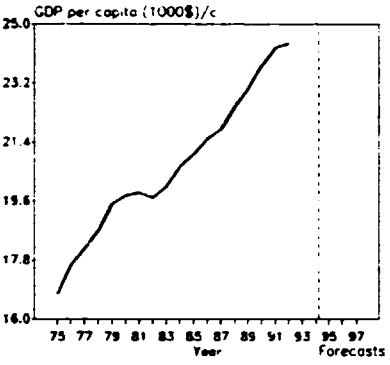


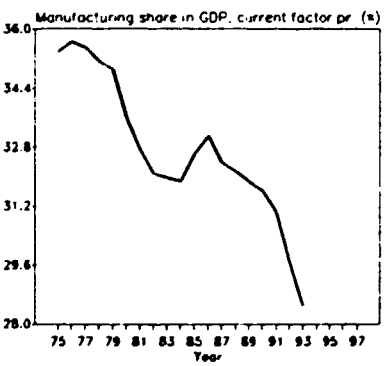


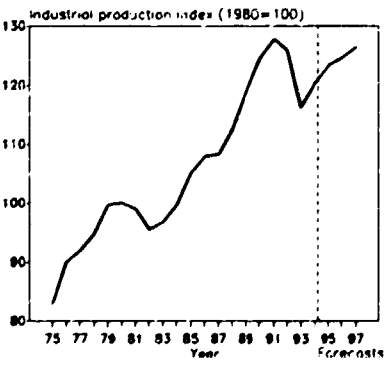



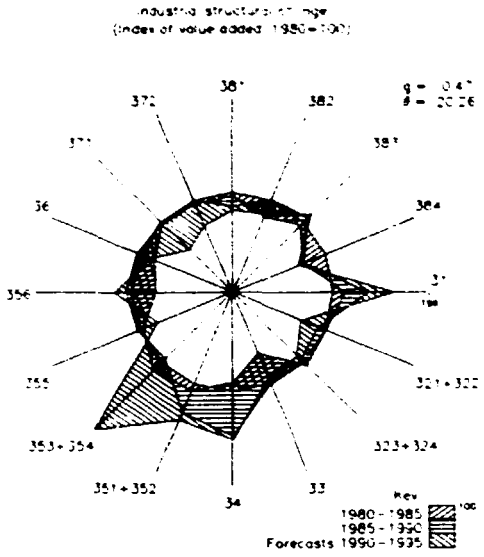

| | 1980 | 1985 | 1990 | 1993 |
|---|---|---|---|---|
| **GDP**[22] (millions of 1990-dollars) | 1 217 099 | 1 284 502 | 1 501 021 | 1 551 717 |
| Per capita[22] (1990-dollars) | 19 769 | 21 049 | 23 739 | .. |
| Manufacturing share[22] (%) (current factor prices) | 33.6 | 32.6 | 31.6 | *28.5* |
| **MANUFACTURING:** | | | | |
| Value added[22] (millions of 1990-dollars) | 402 262 | 414 744 | 458 643 | 428 210 |
| Industrial production index (1980=100) | 100 | 105 | 125 | 116 |
| Value added (millions of dollars) | *265 588* | 223 253 | 535 541 | *556 473* |
| Gross output (millions of dollars) | 632 161 | 489 414 | 1 097 650 | 1 106 084 |
| Employment (thousands) | 7 229 | 6 616 | 7 120 | *6 836* |
| **-PROFITABILITY:**(in percent of gross output) | | | | |
| Intermediate input (%) | 58 | 54 | 51 | *50* |
| Wages and salaries including supplements (%) | 26 | 24 | 25 | *27* |
| Gross operating surplus and net taxes (%) | 16 | 22 | 24 | *23* |
| **-PRODUCTIVITY:**(dollars) | | | | |
| Gross output per worker | 87 448 | 73 973 | 154 161 | *155 478* |
| Value added per worker | 36 739 | 33 744 | 75 214 | *78 580* |
| Average wage (including supplements) | 22 606 | 17 563 | 38 487 | *43 735* |
| **-STRUCTURAL INDICES:** | | | | |
| Structural change θ (5-year average in degrees) | 2.72 | 3.46 | 1.89 | *1.89* |
| as a percentage of average θ in 1970-1975 | 81 | 103 | 56 | *56* |
| MVA growth rate / θ | 0.83 | 0.93 | 1.62 | 0.32 |
| Degree of specialization | 12.1 | 14.7 | 15.4 | 14.6 |
| **-VALUE ADDED:**(millions of dollars) | | | | |
| 311/2 Food products | 18 570 | 10 830 | 28 590 | *33 315* |
| 313 Beverages | 6 452 | 5 047 | 11 911 | *13 407* |
| 314 Tobacco products | 6 909 | 5 720 | 12 633 | *13 600* |
| 321 Textiles | 6 964 | 5 526 | 11 849 | *11 816* |
| 322 Wearing apparel | 4 934 | 2 803 | 5 887 | *5 719* |
| 323 Leather and fur products | 935 | 501 | 944 | *841* |
| 324 Footwear | 1 205 | 726 | 1 152 | *1 211* |
| 331 Wood and wood products | 4 485 | 2 431 | 6 179 | *7 315* |
| 332 Furniture and fixtures | 5 548 | 3 084 | 7 885 | *9 631* |
| 341 Paper and paper products | 5 099 | 5 221 | 13 490 | *14 968* |
| 342 Printing and publishing | 6 150 | 4 139 | 10 256 | *11 600* |
| 351 Industrial chemicals | 13 944 | 16 570 | 35 537 | *32 097* |
| 352 Other chemical products | 8 003 | 11 597 | 27 942 | *32 294* |
| 353 Petroleum refineries | 14 637 | *9 580* | *19 130* | *23 963* |
| 354 Miscellaneous petroleum and coal products | 990 | *546* | *528* | *598* |
| 355 Rubber products | 3 201 | 2 880 | 6 414 | *6 537* |
| 356 Plastic products | 6 095 | 5 638 | 17 313 | *18 939* |
| 361 Pottery, china and earthenware | 1 304 | 671 | 1 555 | *1 468* |
| 362 Glass and glass products | 2 492 | 1 917 | 4 791 | *5 177* |
| 369 Other non-metal mineral products | 7 937 | 4 876 | 12 031 | *14 493* |
| 371 Iron and steel | 18 872 | 9 538 | 19 206 | *15 962* |
| 372 Non-ferrous metals | 2 508 | 3 412 | 7 733 | *6 931* |
| 381 Metal products | 14 456 | 14 162 | 39 181 | *43 348* |
| 382 Non-electrical machinery | 34 263 | 33 812 | 82 544 | *78 771* |
| 383 Electrical machinery | 30 501 | 28 329 | 72 587 | *72 793* |
| 384 Transport equipment | 31 232 | 29 078 | 67 434 | *68 412* |
| 385 Professional and scientific equipment | 6 205 | 3 446 | 8 011 | *8 293* |
| 390 Other manufacturing industries | 1 700 | 1 175 | 2 849 | *2 980* |

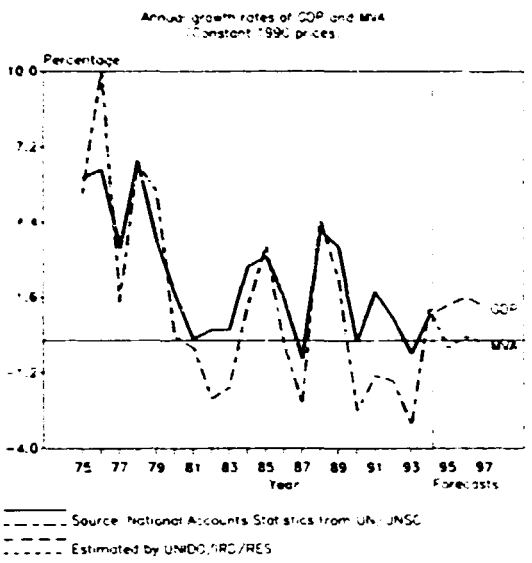
For sources, footnotes and comments see "Technical notes" at the beginning of this Annex.



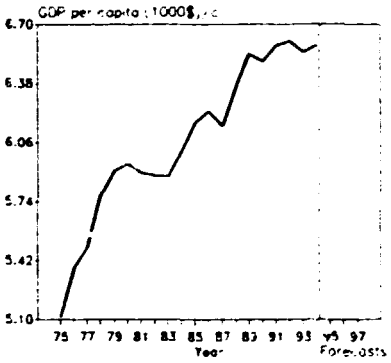



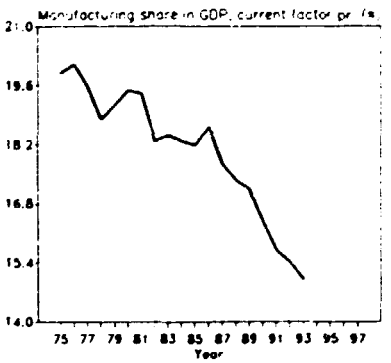



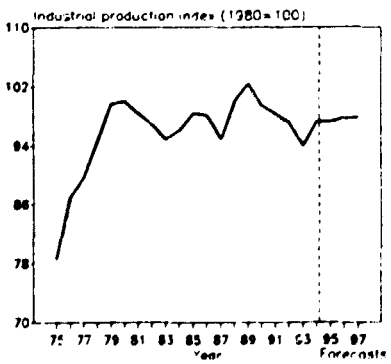


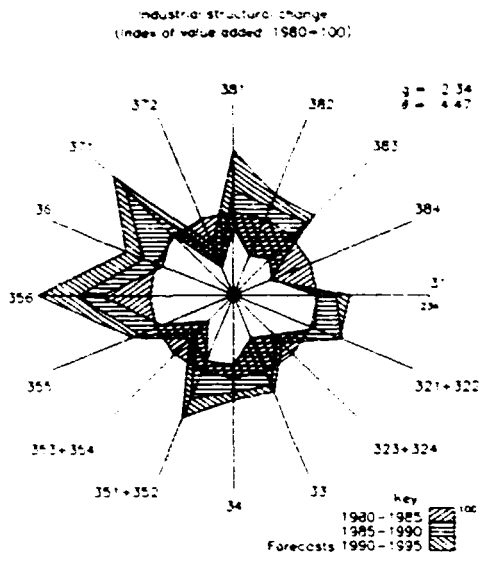

| | 1980 | 1986 | 1990 | 1993 |
|---|---|---|---|---|
| **GDP[a,b] (millions of 1990-dollars)** | **57 305** | **61 238** | **66 532** | **67 963** |
| **Per capita[a] (1990-dollars)** | **5 943** | **6 164** | **6 499** | **6 549** |
| **Manufacturing share[a,b] (%) (current factor prices)** | **19.5** | **18.2** | **16.4** | *15.0* |
| **MANUFACTURING:** | | | | |
| **Value added[a,b] (millions of 1990-dollars)** | **9 362** | **9 405** | **9 534** | **8 972** |
| **Industrial production index (1980=100)** | **100** | **98** | **99** | **94** |
| **Value added (millions of dollars)** | **6 129** | **4 644** | **9 293** | *9 830* |
| **Gross output (millions of dollars)** | **20 906** | **16 937** | **29 649** | **28 167** |
| **Employment (thousands)** | **378** | **352** | **346** | *309* |
| **-PROFITABILITY:(in percent of gross output)** | | | | |
| **: ermediate input (%)** | **71** | **73** | **69** | *65* |
| **Wages and salaries including supplements (%)** | **14** | **15** | **17** | *17* |
| **Gross operating surplus (%)** | **15** | **12** | **15** | *17* |
| **-PRODUCTIVITY:(dollars)** | | | | |
| **Gross output per worker** | **55 275** | **48 081** | **85 619** | *91 174* |
| **Value added per worker** | **16 204** | **13 184** | **26 837** | *31 820* |
| **Average wage (including supplements)** | **7 964** | **7 281** | **14 319** | *15 917* |
| **-STRUCTURAL INDICES:** | | | | |
| **Structural change θ (5-year average in degrees)** | **2.82** | **4.77** | **5.71** | *4.86* |
| **as a percentage of average θ in 1970-1975** | *44* | **75** | **90** | *77* |
| **MVA growth rate / θ** | **2.21** | **-0.09** | **0.35** | **-0.05** |
| **Degree of specialization** | **11.8** | **12.5** | **11.3** | **12.3** |
| **-VALUE ADDED:(millions of dollars)** | | | | |
| **311/2 Food products** | **731** | **631** | **1 349** | *1 690* |
| **313 Beverages** | **233** | **217** | **474** | *592* |
| **314 Tobacco products** | **138** | **114** | **280** | *367* |
| **321 Textiles** | **927** | **762** | **1 109** | *946* |
| **322 Wearing apparel** | **283** | **235** | **552** | *526* |
| **323 Leather and fur products** | **46** | **38** | **68** | *71* |
| **324 Footwear** | **76** | **61** | **100** | *94* |
| **331 Wood and wood products** | **138** | **65** | **176** | *173* |
| **332 Furniture and fixtures** | **54** | **34** | **93** | *96* |
| **341 Paper and paper products** | **118** | **94** | **272** | *298* |
| **342 Printing and publishing** | **155** | **99** | **289** | *314* |
| **351 Industrial chemicals** | **180** | **192** | **290** | *214* |
| **352 Other chemical products** | **314** | **223** | **628** | *759* |
| **353 Petroleum refineries** | **152** | **140** | **217** | *505* |
| **354 Miscellaneous petroleum and coal products** | **31** | **19** | **27** | *44* |
| **355 Rubber products** | **58** | **44** | **84** | *70* |
| **356 Plastic products** | **186** | **109** | **276** | *325* |
| **361 Pottery, china and earthenware** | **61** | **43** | **73** | *63* |
| **362 Glass and glass products** | **49** | **23** | **49** | *44* |
| **369 Other non-metal mineral products** | **414** | **276** | **641** | *587* |
| **371 Iron and steel** | **200** | **153** | **280** | *173* |
| **372 Non-ferrous metals** | **245** | **184** | **347** | *254* |
| **381 Metal products** | **366** | **276** | **449** | *438* |
| **382 Non-electrical machinery** | **125** | **81** | **178** | *159* |
| **383 Electrical machinery** | **296** | **219** | **441** | *494* |
| **384 Transport equipment** | **453** | **268** | **488** | *474* |
| **385 Professional and scientific equipment** | **8** | **5** | **16** | *18* |
| **390 Other manufacturing industries** | **31** | **39** | **47** | *43* |

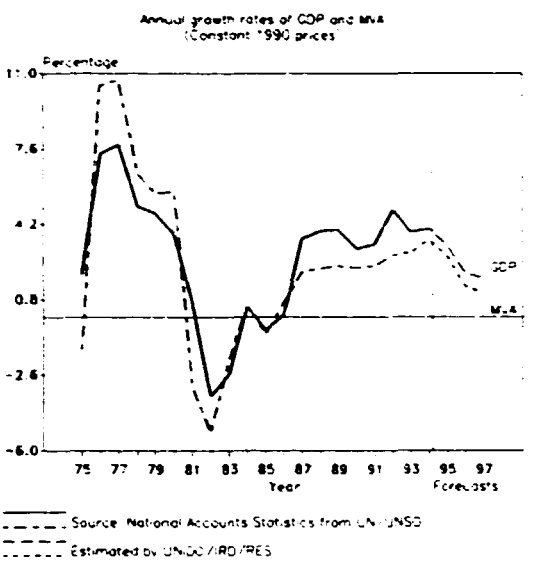


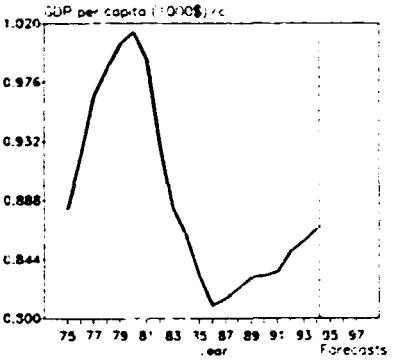

For sources, footnotes and comments see "Technical notes" at the beginning of this Annex.



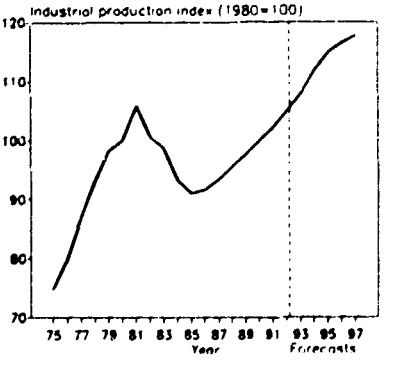



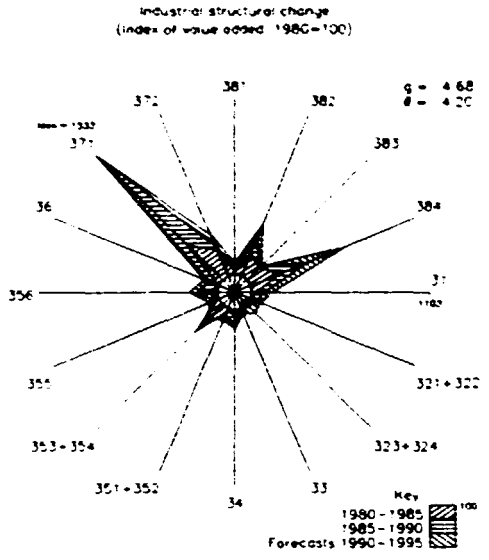

| | 1980 | 1985 | 1990 | 1993 |
|---|---|---|---|---|
| **GDP:[as] (millions of 1990-dollars)** | 7 012 | 6 627 | 7 650 | 8 605 |
| **Per capita[as] (1990-dollars)** | 1 014 | 832 | 832 | 858 |
| **Manufacturing share[as] (%) (current factor prices)** | 11.6 | 11.1 | 9.9 | .. |
| **MANUFACTURING:** | | | | |
| **Value added[as] (millions of 1990-dollars)** | 772 | 694 | 761 | 824 |
| **Industrial production index (1980=100)** | 100 | 91 | 100 | 108 |
| **Value added (millions of dollars)** | 794 | 907 | 846 | 1 193 |
| **Gross output (millions of dollars)** | 1 968 | 2 195 | 2 057 | 2 873 |
| **Employment (thousands)** | 82 | 73 | 93 | 100 |
| **-PROFITABILITY:(in percent of gross output)** | | | | |
| **Intermediate input (%)** | 60 | 59 | 59 | 58 |
| **Wages and salaries including supplements (%)** | 10 | 10 | 8 | 8 |
| **Gross operating surplus and net taxes (%)** | 30 | 31 | 33 | 33 |
| **-PRODUCTIVITY:(dollars)** | | | | |
| **Gross output per worker** | 23 189 | 28 305 | 20 364 | 26 346 |
| **Value added per worker** | 9 359 | 11 690 | 8 378 | 10 941 |
| **Average wage (including supplements)** | 2 470 | 3 079 | 1 874 | 2 420 |
| **-STRUCTURAL INDICES:** | | | | |
| **Structural change θ (5-year average in degrees)** | 5.01 | 6.86 | 4.79 | 0.68 |
| **as a percentage of average θ in 1970-1975** | 88 | 120 | 84 | 12 |
| **MVA growth rate / θ** | 0.73 | -0.22 | 1.79 | 3.71 |
| **Degree of specialization** | 20.4 | 24.5 | 23.0 | 23.3 |
| **-VALUE ADDED:(millions of dollars)** | | | | |
| **311/2 Food products** | 204 | 276 | 253 | 356 |
| **313 Beverages** | 91 | 89 | 50 | 72 |
| **314 Tobacco products** | 14 | 15 | 20 | 26 |
| **321 Textiles** | 45 | 71 | 52 | 77 |
| **322 Wearing apparel** | 19 | 13 | 24 | 31 |
| **323 Leather and fur products** | 3 | 3 | 3 | 5 |
| **324 Footwear** | 15 | 13 | 7 | 11 |
| **331 Wood and wood products** | 10 | 7 | 9 | 11 |
| **332 Furniture and fixtures** | 4 | 3 | 5 | 6 |
| **341 Paper and paper products** | 19 | 21 | 15 | 19 |
| **342 Printing and publishing** | 34 | 34 | 38 | 53 |
| **351 Industrial chemicals** | 28 | 28 | 29 | 41 |
| **352 Other chemical products** | 110 | 121 | 130 | 190 |
| **353 Petroleum refineries** | 14 | 8 | 8 | 12 |
| **354 Miscellaneous petroleum and coal products** | 2 | - | - | 1 |
| **355 Rubber products** | 21 | 24 | 22 | 30 |
| **356 Plastic products** | 19 | 37 | 30 | 46 |
| **361 Pottery, china and earthenware** | 2 | 6 | 6 | 9 |
| **362 Glass and glass products** | 22 | 17 | 14 | 20 |
| **369 Other non-metal mineral products** | 34 | 41 | 38 | 55 |
| **371 Iron and steel** | 16 | 21 | 25 | 35 |
| **372 Non-ferrous metals** | 1 | - | - | 1 |
| **381 Metal products** | 23 | 23 | 25 | 40 |
| **382 Non-electrical machinery** | 6 | 4 | 6 | 8 |
| **383 Electrical machinery** | 25 | 19 | 27 | 37 |
| **384 Transport equipment** | 8 | 5 | 3 | 4 |
| **385 Professional and scientific equipment** | 1 | 1 | 2 | 2 |
| **390 Other manufacturing industries** | 4 | 3 | 4 | 5 |

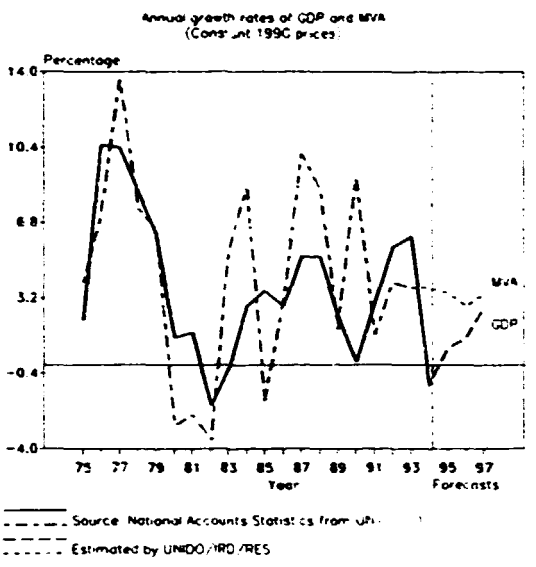
For sources, footnotes and comments see "Technical notes" at the beginning of this Annex.





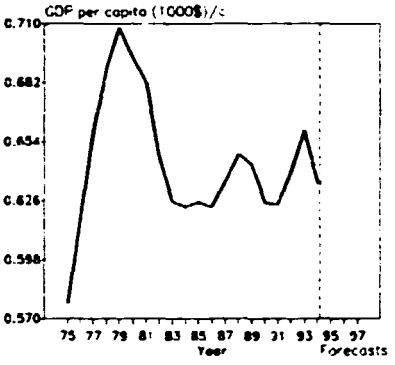




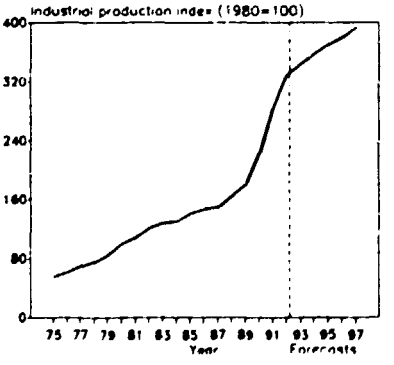




| | 1980 | 1985 | 1990 | 1993 |
|---|---|---|---|---|
| **GDP:[88] (millions of 1990-dollars)** | 2 476 | 2 617 | 3 049 | 3 518 |
| **Per capita[88] (1990-dollars)** | 694 | 625 | 625 | 660 |
| **Manufacturing share[83] (%) (current factor prices)** | 15.1 | 15.1 | 16.3 | 17.9 |
| **MANUFACTURING:** | | | | |
| **Value added[88] (millions of 1990-dollars)** | 308 | 326 | 443 | 484 |
| **Industrial production index (1980=100)** | 100 | 141 | 225 | 345 |
| **Value added (millions of dollars)** | 288 | 493 | 472 | 513 |
| **Gross output (millions of dollars)** | 1 028 | 1 611 | 1 547 | 1 585 |
| **Employment (thousands)** | 55 | 64 | 89 | 136 |
| **-PROFITABILITY:(in percent of gross output)** | | | | |
| **Intermediate input (%)** | 72 | 69 | 69 | 68 |
| **Wages and salaries including supplements (%)** | 11 | 13 | 12 | 13 |
| **Gross operating surplus (%)** | 17 | 18 | 19 | 20 |
| **-PRODUCTIVITY:(dollars)** | | | | |
| **Gross output per worker** | 18 658 | 25 187 | 17 332 | 11 668 |
| **Value added per worker** | 5 222 | 7 707 | 6 248 | 5 615 |
| **Average wage (including supplements)** | 2 128 | 3 173 | 2 066 | 1 499 |
| **-STRUCTURAL INDICES:** | | | | |
| **Structural change θ (5-year average in degrees)** | 2.18 | 4.10 | 2.91 | 2.06 |
| **as a percentage of average θ in 1970-1975** | 42 | 79 | 56 | 40 |
| **MVA growth rate / θ** | 2.66 | 1.05 | 1.87 | 2.98 |
| **Degree of specialization** | 25.0 | 22.4 | 24.2 | 26.2 |
| **-VALUE ADDED:(millions of dollars)** | | | | |
| 311/2 Food products | 75 | 129 | 148 | 179 |
| 313 Beverages | 61 | 78 | 73 | 71 |
| 314 Tobacco products | 19 | 42 | 33 | 42 |
| 321 Textiles | 13 | 13 | 16 | 17 |
| 322 Wearing apparel | 6 | 14 | 11 | 9 |
| 323 Leather and fur products | 3 | 2 | 3 | 3 |
| 324 Footwear | 2 | 2 | 3 | 4 |
| 331 Wood and wood products | 20 | 30 | 22 | 22 |
| 332 Furniture and fixtures | 5 | 8 | 7 | 7 |
| 341 Paper and paper products | 4 | 9 | 11 | 12 |
| 342 Printing and publishing | 8 | 13 | 11 | 12 |
| 351 Industrial chemicals | 1 | 2 | 2 | 2 |
| 352 Other chemical products | 12 | 20 | 18 | 20 |
| 353 Petroleum refineries | 9 | 38 | 23 | 19 |
| 354 Miscellaneous petroleum and coal products | . | . | . | . |
| 355 Rubber products | 6 | 8 | 7 | 7 |
| 356 Plastic products | 8 | 18 | 18 | 19 |
| 361 Pottery, china and earthenware | . | . | . | . |
| 362 Glass and glass products | . | . | . | . |
| 369 Other non-metal mineral products | 17 | 24 | 27 | 30 |
| 371 Iron and steel | . | 1 | 3 | 3 |
| 372 Non-ferrous metals | . | 1 | 1 | 1 |
| 381 Metal products | 13 | 21 | 18 | 19 |
| 382 Non-electrical machinery | 1 | 3 | 4 | 4 |
| 383 Electrical machinery | 3 | 8 | 6 | 5 |
| 384 Transport equipment | . | 2 | 2 | 2 |
| 385 Professional and scientific equipment | . | 1 | 1 | 1 |
| 390 Other manufacturing industries | 1 | 5 | 5 | 5 |

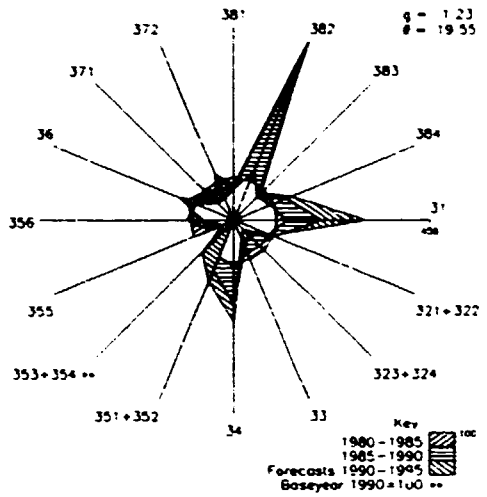
For sources, footnotes and comments see "Technical notes" at the beginning of this Annex.



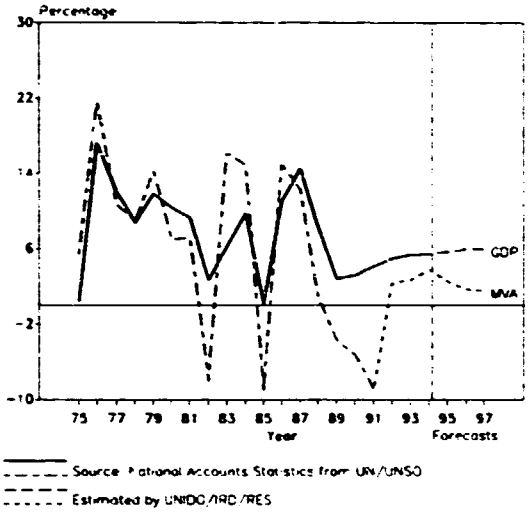




Industrial structural change
(Index of value added 1980=100)




Annual growth rates of GDP and MVA
(Constant 1990 prices)



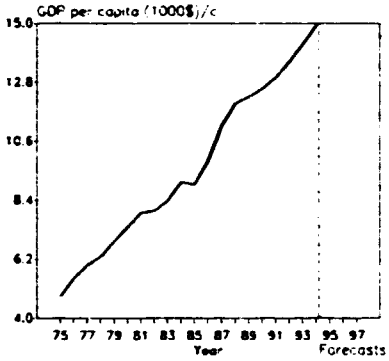

Source : National Accounts Statistics from UN/UNSO

Estimated by UNIDO/ARD/RES

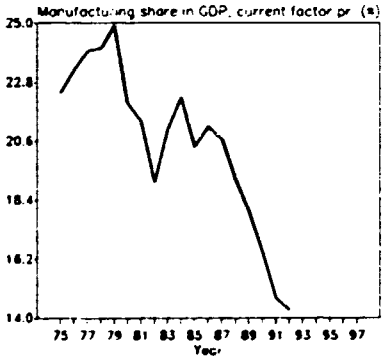
| | 1980 | 1985 | 1990 | 1993 |
|---|---|---|---|---|
| **GDP:[88] (millions of 1990-dollars)** | 37 318 | 48 997 | 71 649 | 82 591 |
| **Per capita[88] (1990-dollars)** | 7 406 | 8 980 | 12 559 | 14 218 |
| **Manufacturing share[88] (%) (current factor prices)** | 22.0 | 20.4 | 16.5 | .. |
| **MANUFACTURING:** | | | | |
| **Value added[88] (millions of 1990-dollars)** | 8 346 | 9 974 | 11 826 | *11 304* |
| **Industrial production index (1980=100)** | 100 | 131 | 185 | 191 |
| **Value added (millions of dollars)** | 7 343 | 6 582 | 12 034 | *15 496* |
| **Gross output (millions of dollars)** | 22 187 | 22 835 | 41 513 | *53 940* |
| **Employment (thousands)** | 937 | 908 | 763 | *662* |
| **-PROFITABILITY:(in percent of gross output)** | | | | |
| **Intermediate input (%)** | 67 | 71 | 71 | *71* |
| **Wages and salaries including supplements (%)** | *18* | 19 | 17 | *16* |
| **Gross operating surplus and net taxes (%)** | *15* | 10 | 12 | *13* |
| **-PRODUCTIVITY:(dollars)** | | | | |
| **Gross output per worker** | 23 686 | 25 140 | 54 430 | *81 530* |
| **Value added per worker** | 7 840 | 7 246 | 15 779 | *23 442* |
| **Average wage (including supplements)** | *4 239* | 4 808 | 9 161 | *13 220* |
| **-STRUCTURAL INDICES:** | | | | |
| **Structural change θ (5-year average in degrees)** | 4.55 | 4.42 | 5.33 | *3 61* |
| **as a percentage of average θ in 1970-1975** | 66 | 64 | 78 | *53* |
| **MVA growth rate / θ** | 3.20 | -0.35 | 0.95 | -0.49 |
| **Degree of specialization** | 24.2 | 22 6 | 21.3 | 20.6 |
| **-VALUE ADDED:(millions of dollars)** | | | | |
| 311/2 **Food products** | 161 | 171 | 397 | *583* |
| 313 **Beverages** | 99 | 125 | 200 | *247* |
| 314 **Tobacco products** | 81 | 127 | 394 | *880* |
| 321 **Textiles** | 1 027 | 964 | 1 801 | *2 234* |
| 322 **Wearing apparel** | 1 920 | 1 594 | 2 455 | *2 845* |
| 323 **Leather and fur products** | 43 | 26 | 38 | *32* |
| 324 **Footwear** | 59 | 62 | 35 | *28* |
| 331 **Wood and wood products** | 45 | 32 | 38 | *30* |
| 332 **Furniture and fixtures** | 62 | 54 | 66 | *68* |
| 341 **Paper and paper products** | 110 | 90 | 275 | *412* |
| 342 **Printing and publishing** | 290 | 350 | 877 | *1 205* |
| 351 **Industrial chemicals** | 40 | 36 | 64 | *137* |
| 352 **Other chemical products** | 77 | 71 | 153 | *189* |
| 353 **Petroleum refineries** | - | - | - | .. |
| 354 **Miscellaneous petroleum and coal products** | - | - | 13 | *15* |
| 355 **Rubber products** | 29 | 17 | 16 | *16* |
| 356 **Plastic products** | 563 | 612 | 759 | *787* |
| 361 **Pottery, china and earthenware** | 5 | 3 | 6 | *4* |
| 362 **Glass and glass products** | 10 | 17 | 19 | *31* |
| 369 **Other non-metal mineral products** | 55 | 47 | 95 | *133* |
| 371 **Iron and steel** | 31 | 17 | 44 | *37* |
| 372 **Non-ferrous metals** | 35 | 20 | 40 | *73* |
| 381 **Metal products** | 638 | 480 | 716 | *942* |
| 382 **Non-electrical machinery** | 188 | 236 | 1 077 | *1 435* |
| 383 **Electrical machinery** | 987 | 752 | 1 153 | *1 563* |
| 384 **Transport equipment** | 176 | 157 | 333 | *447* |
| 385 **Professional and scientific equipment** | 362 | 289 | 536 | *631* |
| 390 **Other manufacturing industries** | 250 | 253 | 432 | *491* |

For sources, footnotes and comments see "Technical notes" at the beginning of this Annex.

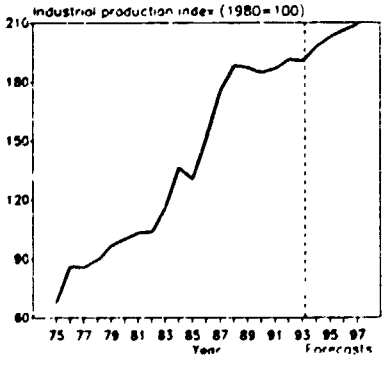
GDP per capita (1000$)/c

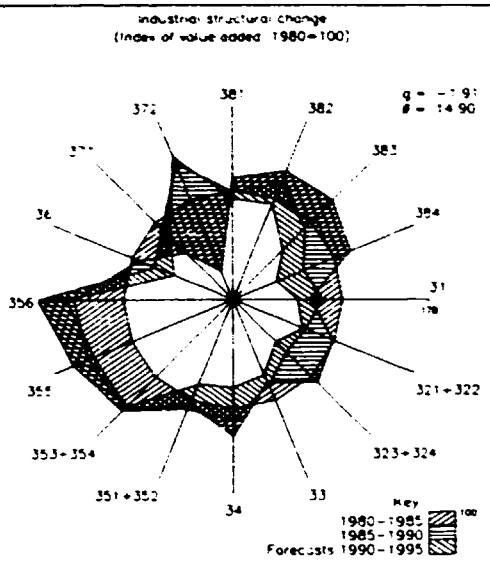


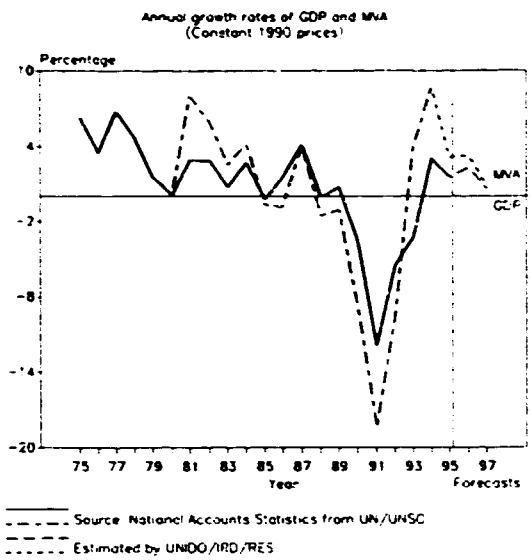

Manufacturing share in GDP, current factor pr (%)




Industrial production index (1980=100)

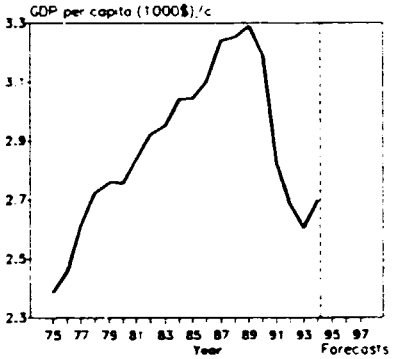


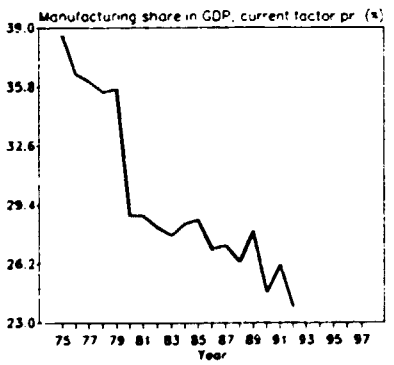


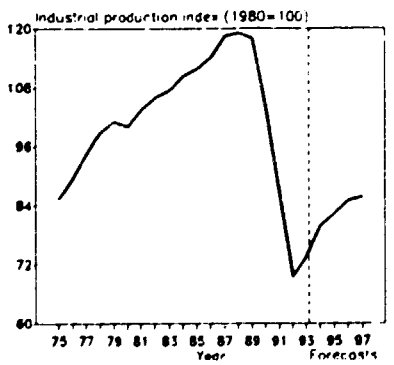



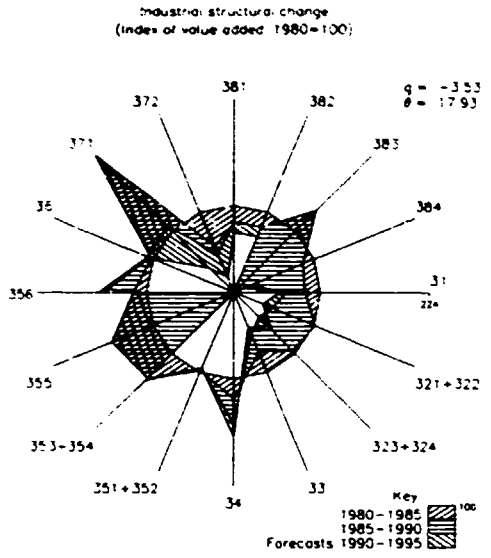

| | 1980 | 1985 | 1990 | 1993 |
|---|---|---|---|---|
| **GDP:[a,b] (millions of 1990-dollars)** | 29 517 | 32 206 | 33 056 | 26 614 |
| **Per capita[a,b] (1990-dollars)** | 2 757 | 3 044 | 3 189 | 2 607 |
| **Manufacturing share[a,b] (%) (current factor prices)** | 28.8 | 28.6 | 24.7 | .. |
| **MANUFACTURING:** | | | | |
| **Value added[a,b] (millions of 1990-dollars)** | 6 236 | 7 562 | 6 906 | 5 278 |
| **Industrial production index (1980=100)** | 100 | 112 | 104 | 74 |
| **Value added (millions of dollars)** | 5 907 | 5 356 | 7 839 | 7 984 |
| **Gross output (millions of dollars)** | 24 898 | 21 690 | 25 081 | 17 343 |
| **Employment (thousands)** | 1 384 | 1 278 | 1 117 | 825 |
| **-PROFITABILITY:(in percent of gross output)** | | | | |
| **Intermediate input (%)** | 76 | 75 | 69 | 54 |
| **Wages and salaries including supplements (%)** | 8 | 8 | 11 | 16 |
| **Gross operating surplus and net taxes (%)** | 16 | 16 | 20 | 30 |
| **-PRODUCTIVITY:(dollars)** | | | | |
| **Gross output per worker** | 17 990 | 16 972 | 22 454 | 20 964 |
| **Value added per worker** | 4 268 | 4 191 | 7 018 | 9 675 |
| **Average wage (including supplements)** | 1 437 | 1 403 | 2 495 | 3 387 |
| **-STRUCTURAL INDICES:** | | | | |
| **Structural change θ (5-year average in degrees)** | 5.34 | 4.99 | 6 75 | 3 52 |
| **as a percentage of average θ in 1970-1975** | 105 | 98 | 133 | 69 |
| **MVA growth rate / θ** | -1.29 | 0.05 | -0.19 | -1.53 |
| **Degree of specialization** | 9.9 | 10.9 | 9.5 | 8.9 |
| **-VALUE ADDED:(millions of dollars)** | | | | |
| **311/2 Food products** | 555 | 281 | 583 | 569 |
| **313 Beverages** | 83 | 107 | 138 | 143 |
| **314 Tobacco products** | 27 | 28 | 42 | 40 |
| **321 Textiles** | 353 | 325 | 355 | 395 |
| **322 Wearing apparel** | 194 | 158 | 202 | 243 |
| **323 Leather and fur products** | 48 | 39 | 42 | 43 |
| **324 Footwear** | 79 | 85 | 82 | 85 |
| **331 Wood and wood products** | 81 | 42 | 89 | 101 |
| **332 Furniture and fixtures** | 101 | 92 | 132 | 144 |
| **341 Paper and paper products** | 94 | 106 | 125 | 115 |
| **342 Printing and publishing** | 83 | 94 | 155 | 150 |
| **351 Industrial chemicals** | 417 | 320 | 558 | 533 |
| **352 Other chemical products** | 242 | 303 | 467 | 476 |
| **353 Petroleum refineries** | 153 | 193 | 313 | 385 |
| **354 Miscellaneous petroleum and coal products** | 2 | 2 | 4 | 5 |
| **355 Rubber products** | 56 | 71 | 124 | 138 |
| **356 Plastic products** | 61 | 80 | 155 | 167 |
| **361 Pottery, china and earthenware** | 57 | 46 | 63 | 58 |
| **362 Glass and glass products** | 70 | 71 | 87 | 93 |
| **369 Other non-metal mineral products** | 204 | 161 | 217 | 209 |
| **371 Iron and steel** | 370 | 200 | 480 | 530 |
| **372 Non-ferrous metals** | 215 | 54 | 415 | 503 |
| **381 Metal products** | 214 | 215 | 303 | 338 |
| **382 Non-electrical machinery** | 497 | 569 | 817 | 795 |
| **383 Electrical machinery** | 655 | 758 | 867 | 791 |
| **384 Transport equipment** | 486 | 507 | 483 | 428 |
| **385 Professional and scientific equipment** | 272 | 287 | 390 | 369 |
| **390 Other manufacturing industries** | 237 | 164 | 152 | 156 |

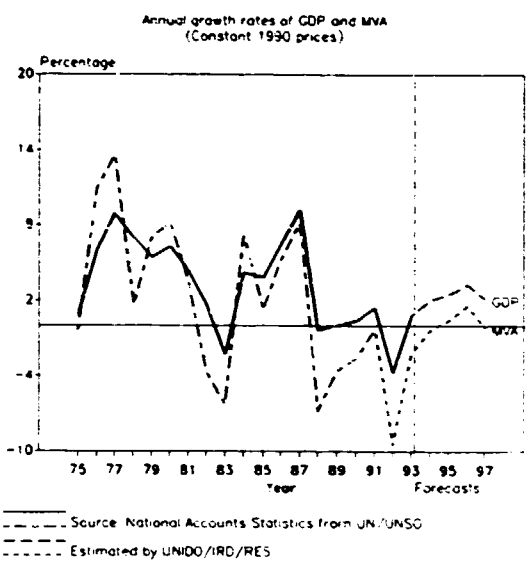
For sources, footnotes and comments see "Technical notes" at the beginning of this Annex.



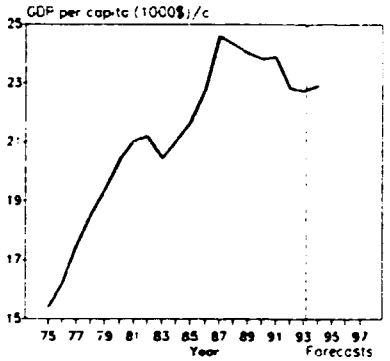



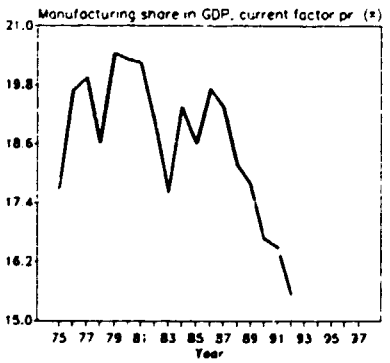


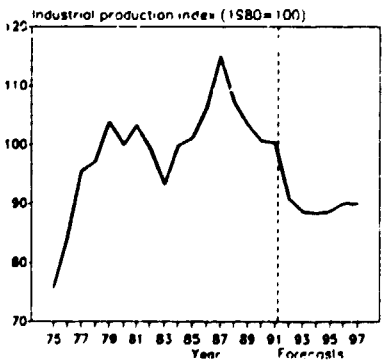




| | 1980 | 1985 | 1990 | 1993 |
|---|---|---|---|---|
| **GDP**[as] (millions of 1990-dollars) | 4 657 | 5 225 | 6 080 | 5 961 |
| Per capita[as] (1990-dollars) | 20 425 | 21 681 | 23 844 | 22 741 |
| Manufacturing share[as] (%) (current factor prices) | 20.3 | 18.6 | 16.7 | .. |
| **MANUFACTURING:** | | | | |
| Value added[as] (millions of 1990-dollars) | 813 | 823 | 819 | *722* |
| Industrial production index (1980=100) | 100 | 101 | 101 | *89* |
| Value added (millions of dollars) | 765 | 558 | 758 | *670* |
| Gross output (millions of dollars) | 1 969 | 1 629 | 2 605 | *2 421* |
| Employment (thousands) | 28 | 30 | 22 | *24* |
| **-PROFITABILITY:**(in percent of gross output) | | | | |
| Intermediate input (%) | 61 | 66 | 71 | *72* |
| Wages and salaries including supplements (%) | *20* | *19* | *22* | *23* |
| Gross operating surplus and net taxes (%) | *19* | *15* | *7* | *5* |
| **-PRODUCTIVITY:**(dollars) | | | | |
| Gross output per worker | 69 708 | 54 610 | 112 116 | *101 065* |
| Value added per worker | 27 097 | 18 717 | 32 611 | *28 741* |
| Average wage (including supplements) | *13 687* | *10 407* | *25 776* | *23 683* |
| **-STRUCTURAL INDICES:** | | | | |
| Structural change θ (5-year average in degrees) | 2.44 | 4.42 | 5.85 | *4.97* |
| as a percentage of average θ in 1970-1975 | 75 | 137 | 181 | *154* |
| MVA growth rate / θ | 4.07 | -0.38 | -0.85 | -1.49 |
| Degree of specialization | 31.7 | 27.5 | 26.0 | 28.5 |
| **-VALUE ADDED:**(millions of dollars) | | | | |
| 311/2 Food products | 330 | 221 | 288 | *260* |
| 313 Beverages | 11 | 10 | 21 | *21* |
| 314 Tobacco products | .. | .. | .. | .. |
| 321 Textiles | 26 | 25 | 21 | *14* |
| 322 Wearing apparel | 17 | 11 | 10 | *10* |
| 323 Leather and fur products | 8 | 6 | 5 | *8* |
| 324 Footwear | 1 | 1 | 1 | . |
| 331 Wood and wood products | - | - | 1 | *1* |
| 332 Furniture and fixtures | 53 | 32 | 40 | *36* |
| 341 Paper and paper products | 5 | 5 | 9 | *10* |
| 342 Printing and publishing | 36 | 37 | 84 | *87* |
| 351 Industrial chemicals | 11 | 9 | 17 | *15* |
| 352 Other chemical products | 11 | 9 | 15 | *15* |
| 353 Petroleum refineries | - | - | - | - |
| 354 Miscellaneous petroleum and coal products | - | - | - | - |
| 355 Rubber products | 5 | 6 | - | - |
| 356 Plastic products | 12 | 11 | 27 | *25* |
| 361 Pottery, china and earthenware | 1 | - | 1 | . |
| 362 Glass and glass products | 4 | 3 | 4 | *3* |
| 369 Other non-metal mineral products | 22 | 19 | 37 | *35* |
| 371 Iron and steel | 6 | 11 | 9 | *4* |
| 372 Non-ferrous metals | 50 | 24 | 36 | *13* |
| 381 Metal products | *24* | *16* | *29* | *24* |
| 382 Non-electrical machinery | *46* | *31* | *56* | *48* |
| 383 Electrical machinery | 15 | 16 | - | - |
| 384 Transport equipment | 65 | 47 | 20 | *16* |
| 385 Professional and scientific equipment | 2 | 1 | - | . |
| 390 Other manufacturing industries | 3 | 4 | 27 | *26* |

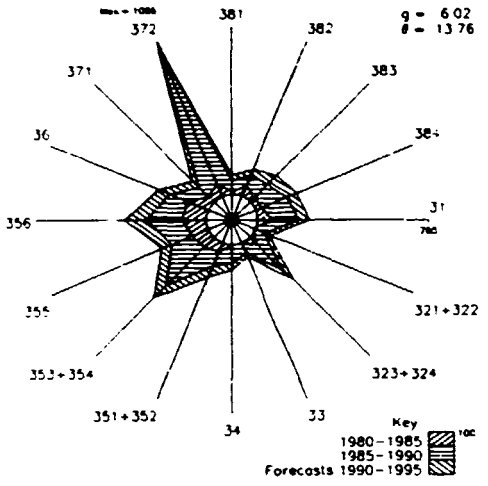
For sources, footnotes and comments see "Technical notes" at the beginning of this Annex.



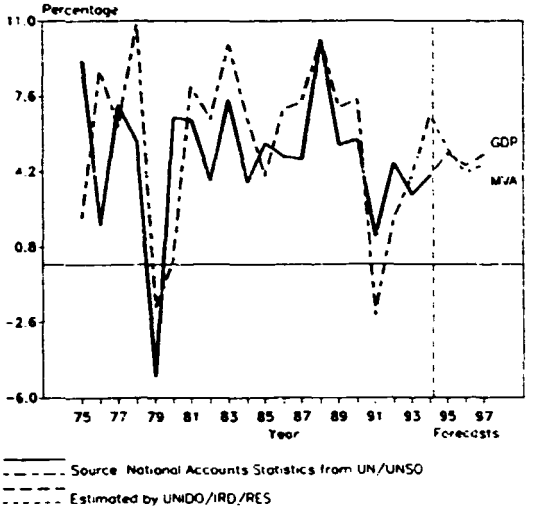



Industrial structural change
(Index of value added 1980=100)



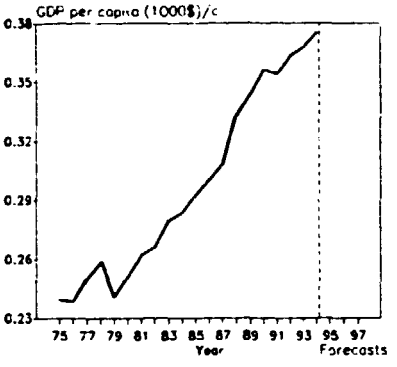

Annual growth rates of GDP and MVA
(Constant 1990 prices)



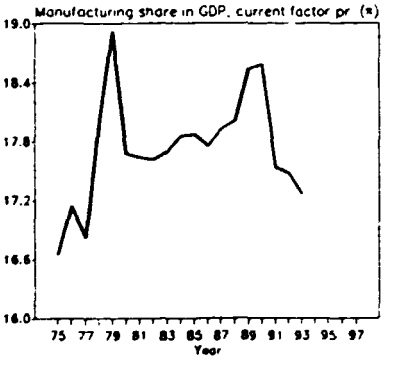

| | 1980 | 1985 | 1990 | 1993 |
|---|---|---|---|---|
| **GDP[78] (millions of 1990-dollars)** | 173 216 | 224 966 | 303 282 | 331 461 |
| **Per capita[78] (1990-dollars)** | 251 | 293 | 357 | 368 |
| **Manufacturing share[78] (%) (current factor prices)** | 17.7 | 17.9 | 18.6 | 17.3 |
| **MANUFACTURING:** | | | | |
| **Value added[78] (millions of 1990-dollars)** | 24 608 | 34 472 | 50 174 | 52 069 |
| **Industrial production index (1980=100)** | 100 | 129 | 181 | 187 |
| **Value added (millions of dollars)** | 13 086 | 15 526 | 25 097 | *20 773* |
| **Gross output (millions of dollars)** | 71 387 | 88 304 | 140 511 | *123 015* |
| **Employment (thousands)** | 6 992 | 6 578 | 7 299 | *7 725* |
| **-PROFITABILITY:(in percent of gross output)** | | | | |
| **Intermediate input (%)** | 82 | 82 | 82 | *83* |
| **Wages and salaries including supplements (%)** | *11* | 10 | *8* | *8* |
| **Gross operating surplus (%)** | *8* | 8 | *10* | *9* |
| **-PRODUCTIVITY:(dollars)** | | | | |
| **Gross output per worker** | 10 210 | 13 423 | 19 250 | *15 902* |
| **Value added per worker** | 1 872 | 2 360 | 3 438 | *2 686* |
| **Average wage (including supplements)** | *1 079* | 1 298 | *1 592* | *1 230* |
| **-STRUCTURAL INDICES:** | | | | |
| **Structural change θ (5-year average in degrees)** | 4.85 | 7.59 | 8.02 | *4.43* |
| **as a percentage of average θ in 1970-1975** | 83 | 130 | 137 | *76* |
| **MVA growth rate / θ** | 0.42 | 0.68 | 1.20 | 1.51 |
| **Degree of specialization** | 19.3 | 16.9 | 15.3 | 15.5 |
| **-VALUE ADDED:(millions of dollars)** | | | | |
| **311/2 Food products** | 899 | 1 436 | 2 212 | *1 772* |
| **313 Beverages** | 99 | 135 | 246 | *199* |
| **314 Tobacco products** | 196 | 230 | 489 | *383* |
| **321 Textiles** | 2 642 | 2 135 | 3 264 | *2 759* |
| **322 Wearing apparel** | 62 | 87 | 316 | *233* |
| **323 Leather and fur products** | 48 | 52 | 123 | *100* |
| **324 Footwear** | 37 | 52 | 104 | *84* |
| **331 Wood and wood products** | 74 | 73 | 102 | *84* |
| **332 Furniture and fixtures** | 8 | 7 | 8 | *6* |
| **341 Paper and paper products** | 296 | 233 | 574 | *466* |
| **342 Printing and publishing** | 256 | 280 | 340 | *276* |
| **351 Industrial chemicals** | 778 | 1 200 | 1 833 | *1 569* |
| **352 Other chemical products** | 1 062 | 1 146 | 1 644 | *1 410* |
| **353 Petroleum refineries** | 203 | 344 | 1 072 | *865* |
| **354 Miscellaneous petroleum and coal products** | 151 | 152 | 149 | *133* |
| **355 Rubber products** | 234 | 363 | 566 | *454* |
| **356 Plastic products** | 93 | 166 | 297 | *248* |
| **361 Pottery, china and earthenware** | 47 | 27 | 53 | *45* |
| **362 Glass and glass products** | 67 | 101 | 111 | *91* |
| **369 Other non-metal mineral products** | 399 | 775 | 1 122 | *916* |
| **371 Iron and steel** | 1 489 | 1 790 | 2 551 | *2 151* |
| **372 Non-ferrous metals** | 81 | 115 | 654 | *579* |
| **381 Metal products** | 421 | 425 | 614 | *489* |
| **382 Non-electrical machinery** | 1 130 | 1 536 | 2 011 | *1 557* |
| **383 Electrical machinery** | 1 061 | 1 201 | 2 009 | *1 735* |
| **384 Transport equipment** | 1 068 | 1 231 | 2 374 | *1 948* |
| **385 Professional and scientific equipment** | 92 | 118 | 166 | *142* |
| **390 Other manufacturing industries** | 72 | 146 | 92 | *79* |

For sources, footnotes and comments see "Technical notes" at the beginning of this Annex.

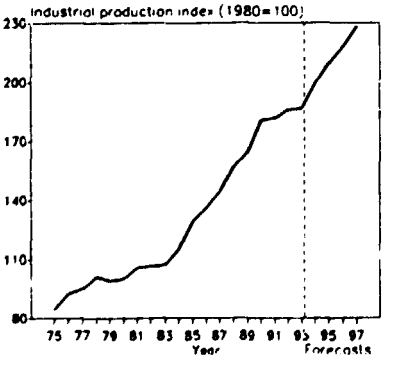
GDP per capita (1000$)/c



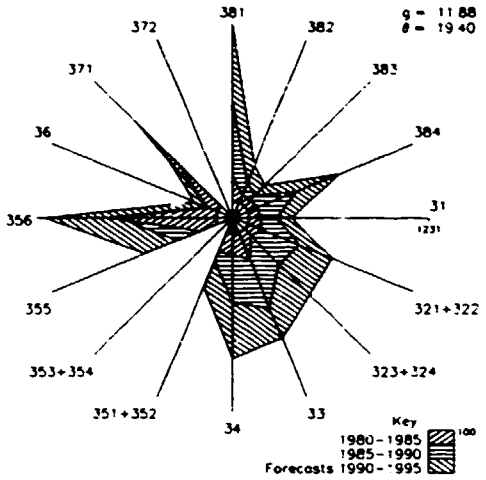

Manufacturing share in GDP, current factor pr (%)



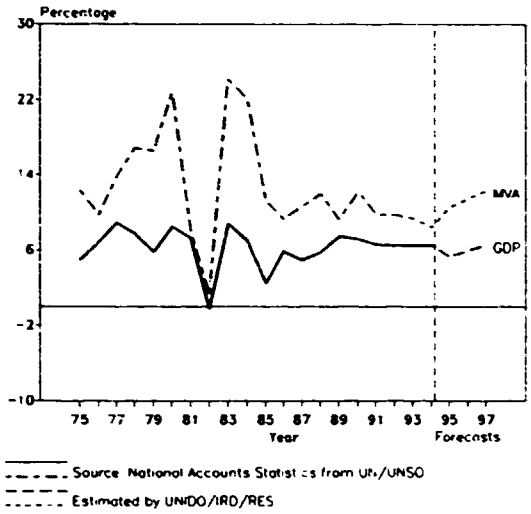

Industrial production index (1980=100)



Industrial structural change
(Index of value added 1980=100)




Annual growth rates of GDP and MVA
(Constant 1990 prices)

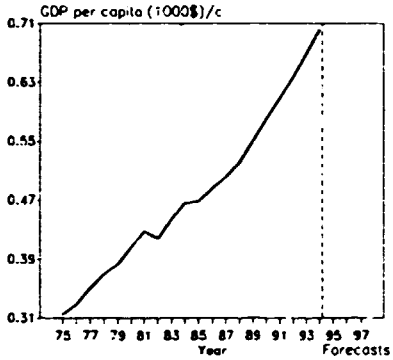



Source National Accounts Statistics from UN/UNSO
Estimated by UNIDO/IRD/RES

| | 1980 | 1985 | 1990 | 1993 |
|---|---|---|---|---|
| **GDP[88] (millions of 1990-dollars)** | 61 524 | 78 453 | 106 141 | 128 278 |
| **Per capita[88] (1990-dollars)** | 408 | 469 | 581 | 669 |
| **Manufacturing share[88] (%) (current factor prices)** | 13.0 | 16.0 | 19.9 | 22.4 |
| **MANUFACTURING:** | | | | |
| Value added[88] (millions of 1990-dollars) | 6 923 | 12 730 | 21 115 | 27 824 |
| Industrial production index (1980=100) | 100 | 118 | 192 | 231 |
| Value added (millions of dollars) | 3 389 | 6 487 | *10 155* | *13 981* |
| Gross output (millions of dollars) | 10 875 | 20 734 | *35 900* | *50 904* |
| Employment (thousands) | 963 | 1 672 | *2 365* | *2 810* |
| **-PROFITABILITY:(in percent of gross output)** | | | | |
| Intermediate input (%) | 69 | 69 | *72* | *73* |
| Wages and salaries including supplements (%) | 7 | 7 | *6* | *6* |
| Gross operating surplus and net taxes (%) | 25 | 24 | *22* | *21* |
| **-PRODUCTIVITY:(dollars)** | | | | |
| Gross output per worker | 11 222 | 12 308 | *15 077* | *18 016* |
| Value added per worker | 3 497 | 3 850 | *4 265* | *4 949* |
| Average wage (including supplements) | 743 | 921 | *925* | *1 128* |
| **-STRUCTURAL INDICES:** | | | | |
| Structural change θ (5-year average in degrees) | 11.84 | 10.79 | *6.90* | *4.33* |
| as a percentage of average θ in 1970-1975 | 103 | 94 | *60* | *38* |
| MVA growth rate / θ | 1.06 | 1.61 | 1.82 | 2.04 |
| Degree of specialization | 17.6 | 14.0 | 15.2 | 14.7 |
| **-VALUE ADDED:(millions of dollars)** | | | | |
| 311/2 Food products | 376 | 870 | *1 219* | *1 784* |
| 313 Beverages | 51 | 77 | *76* | *116* |
| 314 Tobacco products | 649 | 741 | *1 101* | *1 195* |
| 321 Textiles | 420 | 687 | *1 304* | *1 940* |
| 322 Wearing apparel | 15 | 105 | *257* | *325* |
| 323 Leather and fur products | 5 | 14 | *14* | *22* |
| 324 Footwear | 26 | 31 | *90* | *139* |
| 331 Wood and wood products | 239 | 612 | *1 165* | *1 460* |
| 332 Furniture and fixtures | 6 | 18 | *42* | *52* |
| 341 Paper and paper products | 43 | 110 | *256* | *394* |
| 342 Printing and publishing | 51 | 92 | *148* | *227* |
| 351 Industrial chemicals | 145 | 385 | *451* | *694* |
| 352 Other chemical products | 241 | 430 | *461* | *700* |
| 353 Petroleum refineries | .. | .. | .. | .. |
| 354 Miscellaneous petroleum and coal products | .. | .. | .. | .. |
| 355 Rubber products | 164 | 328 | *489* | *745* |
| 356 Plastic products | 25 | 175 | *140* | *216* |
| 361 Pottery, china and earthenware | 8 | 24 | *47* | *71* |
| 362 Glass and glass products | 36 | 98 | *55* | *74* |
| 369 Other non-metal mineral products | 200 | 282 | *220* | *327* |
| 371 Iron and steel | 107 | 469 | *735* | *605* |
| 372 Non-ferrous metals | - | - | - | - |
| 381 Metal products | 118 | 278 | *697* | *1 076* |
| 382 Non-electrical machinery | 53 | 76 | *102* | *152* |
| 383 Electrical machinery | 180 | 248 | *276* | *414* |
| 384 Transport equipment | 217 | 331 | *740* | *1 153* |
| 385 Professional and scientific equipment | 2 | 4 | *7* | *11* |
| 390 Other manufacturing industries | 13 | 24 | *61* | *91* |

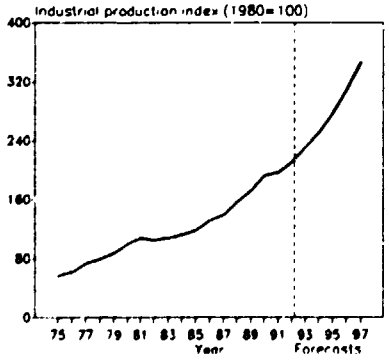
For sources, footnotes and comments see "Technical notes" at the beginning of this Annex.

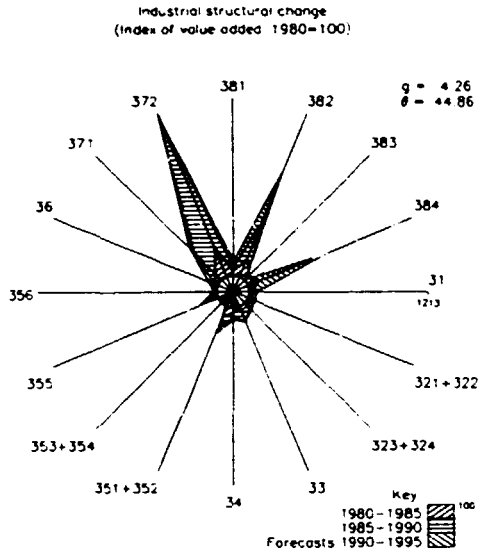
GDP per capita (1000$)/c

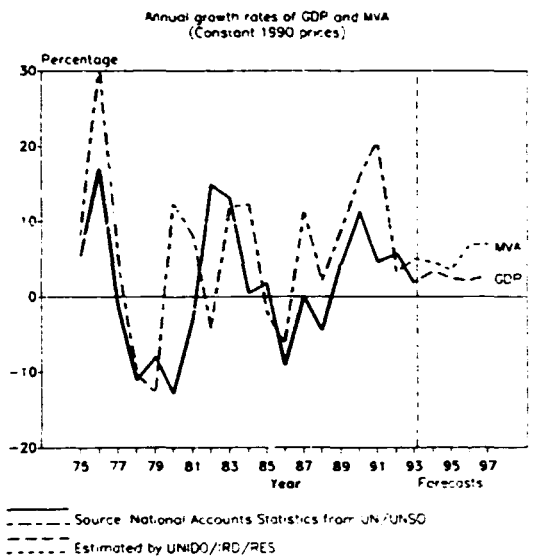



Manufacturing share in GDP, current prices (%)


Industrial production index (1980=100)

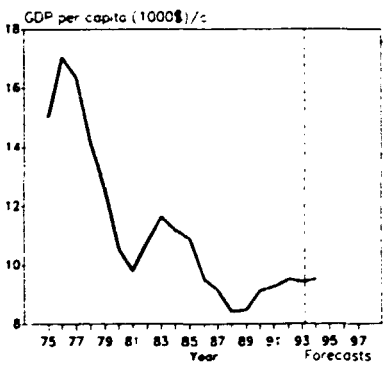


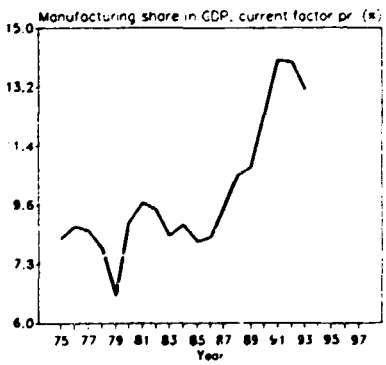


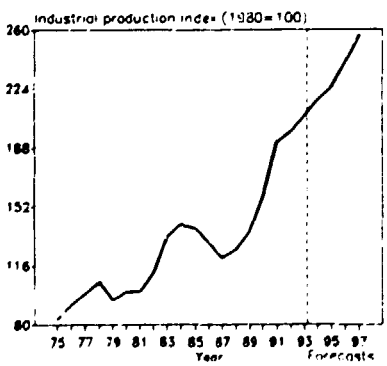




| | 1980 | 1985 | 1990 | 1993 |
|---|---|---|---|---|
| **GDP:**[aa] (millions of 1990-dollars) | 413 554 | 532 799 | 538 132 | 605 980 |
| Per capita[aa] (1990-dollars) | 10 535 | 10 892 | 9 129 | 9 443 |
| Manufacturing share[aa] (%) (current factor prices) | 9.1 | 8.5 | 12.3 | *13 1* |
| **MANUFACTURING:** | | | | |
| Value added[aa] (millions of 1990-dollars) | 38 048 | 48 338 | 64 819 | 84 684 |
| Industrial production index (1980=100) | 100 | 139 | 159 | 208 |
| Value added (millions of dollars) | 8 186 | 12 235 | 48 791 | *5 892* |
| Gross output (millions of dollars) | 15 871 | 25 030 | 106 037 | *12 530* |
| Employment (thousands) | 470 | 613 | 653 | *673* |
| **-PROFITABILITY:**(in percent of gross output) | | | | |
| Intermediate input (%) | 48 | 52 | 54 | *53* |
| Wages and salaries including supplements (%) | 29 | 28 | 15 | *16* |
| Gross operating surplus and net taxes (%) | 23 | 19 | 31 | *31* |
| **-PRODUCTIVITY:**(dollars) | | | | |
| Gross output per worker | 33 756 | 39 072 | 158 728 | *18 542* |
| Value added per worker | 17 411 | 19 961 | 73 035 | *8 907* |
| Average wage (including supplements) | 9 668 | 11 181 | 23 953 | *3 061* |
| **-STRUCTURAL INDICES:** | | | | |
| Structural change θ (5-year average in degrees) | *10 91* | 11 45 | 12.18 | *8 66* |
| as a percentage of average θ in 1970-1975 | *166* | 174 | 185 | *132* |
| MVA growth rate / θ | 0.46 | 0.22 | 0.56 | 1.70 |
| Degree of specialization | 20.3 | 15.9 | 15.9 | 18.3 |
| **-VALUE ADDED:**(millions of dollars) | | | | |
| 311/2 Food products | 930 | 1 259 | 4 497 | *618* |
| 313 Beverages | 145 | 302 | 925 | *89* |
| 314 Tobacco products | *190* | 104 | 499 | *78* |
| 321 Textiles | 1 329 | 2 119 | 8 268 | *846* |
| 322 Wearing apparel | 78 | 76 | 517 | *34* |
| 323 Leather and fur products | 36 | 68 | 419 | *33* |
| 324 Footwear | 100 | 161 | 518 | *45* |
| 331 Wood and wood products | 68 | 119 | 559 | *56* |
| 332 Furniture and fixtures | 33 | 48 | 197 | *24* |
| 341 Paper and paper products | 135 | 262 | 794 | *83* |
| 342 Printing and publishing | 80 | 96 | 693 | *67* |
| 351 Industrial chemicals | 93 | 231 | 1 385 | *167* |
| 352 Other chemical products | 278 | 606 | 2 514 | *221* |
| 353 Petroleum refineries | 1 652 | *879* | *190* | *19* |
| 354 Miscellaneous petroleum and coal products | 2 | 32 | 233 | *18* |
| 355 Rubber products | 93 | 180 | 711 | *81* |
| 356 Plastic products | 36 | 235 | 1 003 | *93* |
| 361 Pottery, china and earthenware | 45 | 75 | 251 | *22* |
| 362 Glass and glass products | 115 | 166 | 443 | *90* |
| 369 Other non-metal mineral products | 819 | 1 368 | 4 198 | *491* |
| 371 Iron and steel | 367 | 713 | 5 453 | *548* |
| 372 Non-ferrous metals | 48 | 191 | 2 521 | *217* |
| 381 Metal products | 319 | 565 | 2 065 | *239* |
| 382 Non-electrical machinery | 208 | 631 | 4 420 | *617* |
| 383 Electrical machinery | 391 | 749 | 2 027 | *157* |
| 384 Transport equipment | 399 | 927 | 3 077 | *890* |
| 385 Professional and scientific equipment | 24 | 55 | 141 | *25* |
| 390 Other manufacturing industries | 11 | 26 | 172 | *25* |

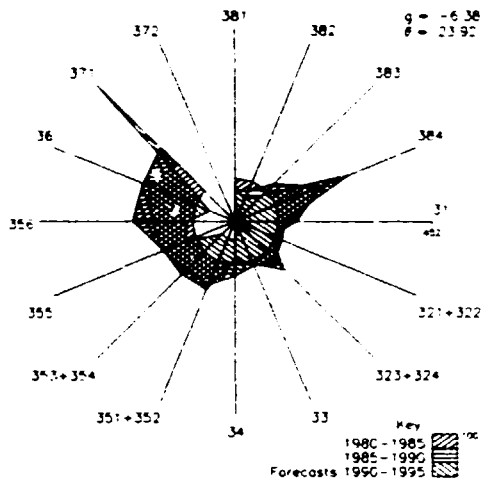
For sources, footnotes and comments see "Technical notes" at the beginning of this Annex



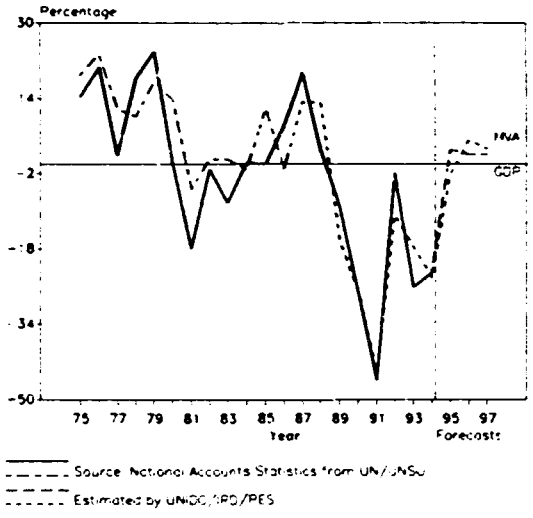



Industrial structural change
(index of value added 1980=100)



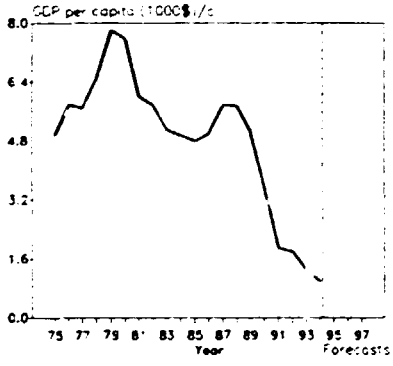

Annual growth rates of GDP and MVA
(Constant 1990 prices)



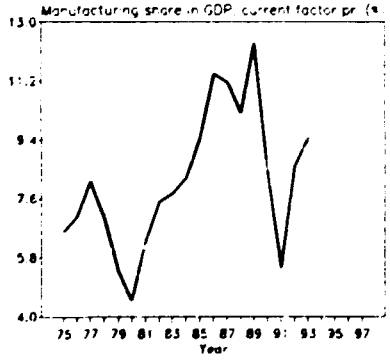

| | 1980 | 1986 | 1990 | 1993 |
|---|---|---|---|---|
| **GDP**[88] (millions of 1990-dollars) | 98 479 | 73 401 | 64 898 | 25 363 |
| Per capita[88] (1990-dollars) | 7 571 | 4 792 | 3 590 | 1 304 |
| Manufacturing share[88] (%) (current factor prices) | 4.5 | 9.5 | 8.4 | 9.5 |
| **MANUFACTURING:** | | | | |
| Value added[88] (millions of 1990-dollars) | 6 983 | 7 445 | 5 735 | 2 312 |
| Industrial production index (1980=100) | 100 | 107 | 128 | 80 |
| Value added (millions of dollars) | 2 047 | 3 676 | 3 622 | .. |
| Gross output (millions of dollars) | 5 137 | 7 162 | 7 560 | .. |
| Employment (thousands) | 177 | 174 | 132 | 126 |
| **-PROFITABILITY:**(in percent of gross output) | | | | |
| Intermediate input (%) | 60 | 49 | 37 | .. |
| Wages and salaries including supplements (%) | 13 | 13 | 46 | .. |
| Gross operating surplus and net taxes (%) | 27 | 39 | 17 | .. |
| **-PRODUCTIVITY:**(dollars) | | | | |
| Gross output per worker | 28 995 | 41 091 | 6 715 | .. |
| Value added per worker | 11 554 | 21 069 | 28 385 | .. |
| Average wage (including supplements) | 3 700 | 5 242 | 3 559 | .. |
| **-STRUCTURAL INDICES:** | | | | |
| Structural change θ (5-year average in degrees) | 6 95 | 5 68 | 4 51 | 12 00 |
| as a percentage of average θ in 1970-1975 | 46 | 37 | 30 | 79 |
| MVA growth rate / θ | 1.78 | 1.66 | 0.02 | -1.14 |
| Degree of specialization | 20.0 | 24.2 | 23.3 | 21.9 |
| **-VALUE ADDED:**(millions of dollars) | | | | |
| 311/2 Food products | 183 | 396 | 306 | .. |
| 313 Beverages | 91 | 125 | 139 | .. |
| 314 Tobacco products | 108 | 140 | 125 | .. |
| 321 Textiles | 246 | 248 | 362 | .. |
| 322 Wearing apparel | 30 | 53 | 47 | .. |
| 323 Leather and fur products | 24 | 1 | 1 | .. |
| 324 Footwear | 18 | 81 | 70 | .. |
| 331 Wood and wood products | 1 | 1 | 1 | .. |
| 332 Furniture and fixtures | 10 | 13 | 14 | .. |
| 341 Paper and paper products | 48 | 52 | 78 | .. |
| 342 Printing and publishing | 29 | 33 | 50 | .. |
| 351 Industrial chemicals | 67 | 151 | 167 | .. |
| 352 Other chemical products | 187 | 389 | 362 | .. |
| 353 Petroleum refineries | 393 | 868 | 836 | .. |
| 354 Miscellaneous petroleum and coal products | 27 | 40 | 56 | .. |
| 355 Rubber products | 5 | 10 | 11 | .. |
| 356 Plastic products | 11 | 33 | 28 | .. |
| 361 Pottery, china and earthenware | 1 | 1 | 1 | .. |
| 362 Glass and glass products | 21 | 35 | 31 | .. |
| 369 Other non-metal mineral products | 190 | 565 | 557 | .. |
| 371 Iron and steel | 7 | 20 | 17 | .. |
| 372 Non-ferrous metals | . | . | . | . |
| 381 Metal products | 53 | 47 | 56 | .. |
| 382 Non-electrical machinery | 160 | 149 | 111 | .. |
| 383 Electrical machinery | 122 | 185 | 139 | .. |
| 384 Transport equipment | 15 | 40 | 56 | .. |
| 385 Professional and scientific equipment | 1 | . | . | .. |
| 390 Other manufacturing industries | 1 | . | . | .. |

For sources, footnotes and comments see "Technical notes" at the beginning of this Annex.

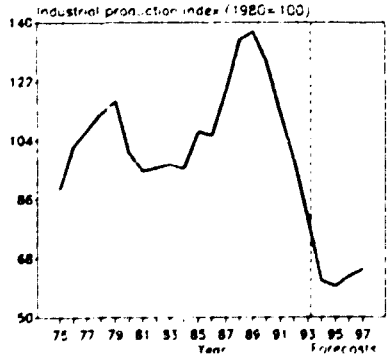
GDP per capita (1990$ p/c)



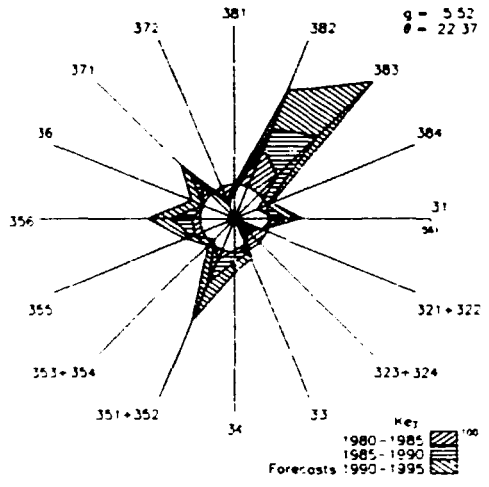

Manufacturing share in GDP, current factor pr. (%



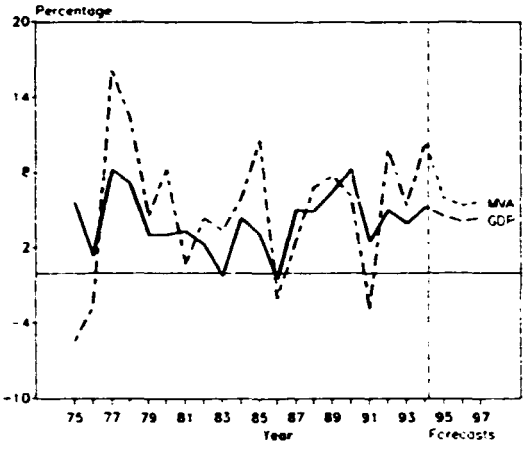

Industrial production index (1980=100)



Industrial structural change
(Index of value added 1980=100)




Annual growth rates of GDP and MVA
(Constant 1990 prices)

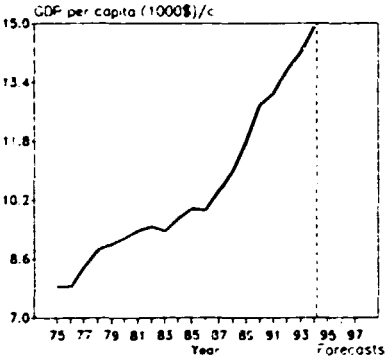



Source: National Accounts Statistics from UN/UNSO
Estimated by UNIDO/IRD/RES

| | 1980 | 1985 | 1990 | 1993 |
|---|---|---|---|---|
| **GDP[a,c]** (millions of 1990-dollars) | 31 196 | 35 380 | 44 748 | 50 092 |
| Per capita[a,c] (1990-dollars) | 9 172 | 9 960 | 12 774 | 14 216 |
| Manufacturing share[a,c] (%) (current factor prices) | 26.2 | 28.1 | 31.5 | .. |
| **MANUFACTURING:** | | | | |
| Value added[a,c] (millions of 1990-dollars) | 7 539 | 9 577 | 11 757 | 13 215 |
| Industrial production index (1980=100) | 100 | 116 | 168 | 200 |
| Value added (millions of dollars) | *5 700* | *5 819* | *14 775* | *16 640* |
| Gross output (millions of dollars) | 15 905 | 15 394 | 33 106 | 37 298 |
| Employment (thousands) | 225 | 186 | 194 | *197* |
| **-PROFITABILITY:**(in percent of gross output) | | | | |
| Intermediate input (%) | 64 | *62* | 55 | 55 |
| Wages and salaries including supplements (%) | *17* | *14* | *14* | *13* |
| Gross operating surplus (%) | *19* | *24* | *31* | *32* |
| **-PRODUCTIVITY:**(dollars) | | | | |
| Gross output per worker | 70 068 | 82 191 | 170 495 | *183 407* |
| Value added per worker | 25 112 | *31 070* | 76 091 | *86 128* |
| Average wage (including supplements) | *11 894* | *11 582* | *23 915* | *24 846* |
| **-STRUCTURAL INDICES:** | | | | |
| Structural change θ (5-year average in degrees) | 4.50 | *4.63* | 3.87 | *2.63* |
| as a percentage of average θ in 1970-1975 | 94 | 97 | 81 | 55 |
| MVA growth rate / θ | 1.41 | 0.72 | 1.67 | 2.20 |
| Degree of specialization | 14.9 | 18.5 | 20.7 | 22.4 |
| **-VALUE ADDED:**(millions of dollars) | | | | |
| 311/2 Food products | 1 264 | 1 194 | 3 032 | *3 360* |
| 313 Beverages | 325 | 331 | 792 | *800* |
| 314 Tobacco products | 83 | 83 | 165 | *175* |
| 321 Textiles | 266 | 181 | 345 | *328* |
| 322 Wearing apparel | 147 | 118 | 207 | *165* |
| 323 Leather and fur products | 28 | 12 | 21 | *16* |
| 324 Footwear | 42 | 22 | 18 | *12* |
| 331 Wood and wood products | 93 | 66 | 170 | *178* |
| 332 Furniture and fixtures | 59 | 40 | 86 | *87* |
| 341 Paper and paper products | 105 | 75 | 190 | *192* |
| 342 Printing and publishing | 265 | 219 | 561 | *607* |
| 351 Industrial chemicals | 236 | *264* | 757 | *963* |
| 352 Other chemical products | 536 | *595* | 1 718 | *2 179* |
| 353 Petroleum refineries | 22 | *18* | 31 | *32* |
| 354 Miscellaneous petroleum and coal products | - | - | - | - |
| 355 Rubber products | 52 | *56* | 117 | *110* |
| 356 Plastic products | 113 | *120* | 331 | *362* |
| 361 Pottery, china and earthenware | 28 | 13 | 28 | *29* |
| 362 Glass and glass products | 109 | 113 | 144 | *169* |
| 369 Other non-metal mineral products | 322 | 260 | 559 | *624* |
| 371 Iron and steel | 31 | 37 | 92 | *94* |
| 372 Non-ferrous metals | 15 | 8 | 10 | *11* |
| 381 Metal products | 335 | 216 | 470 | *432* |
| 382 Non-electrical machinery | 449 | 854 | 2 034 | *2 248* |
| 383 Electrical machinery | 337 | 512 | 1 842 | *2 346* |
| 384 Transport equipment | 190 | 116 | 310 | *307* |
| 385 Professional and scientific equipment | 168 | 261 | 611 | *701* |
| 390 Other manufacturing industries | 79 | 39 | 132 | *112* |

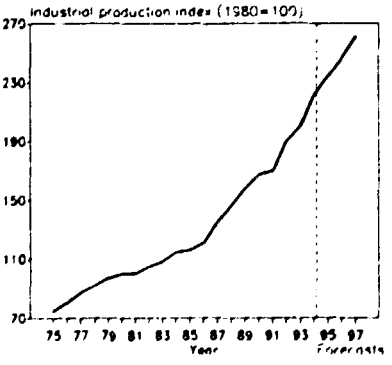
For sources, footnotes and comments see "Technical notes" at the beginning of this Annex.

GDP per capita (1000$)/c

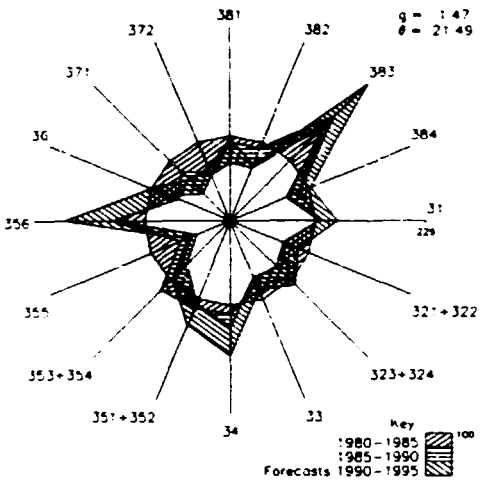



Manufacturing share in GDP, current factor pr (%)

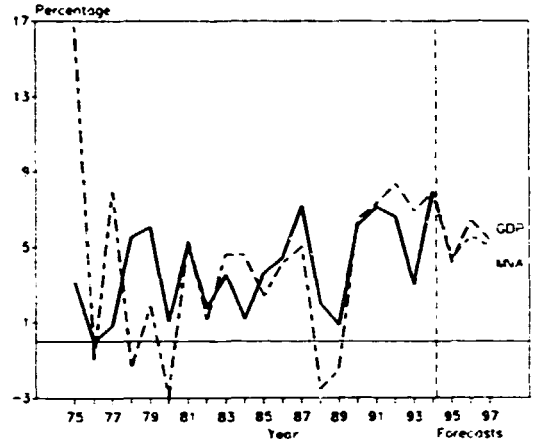

Industrial production index (1980=100)



Industrial structural change
(Index of value added 1980=100)




Annual growth rates of GDP and MVA
(Constant 1990 prices)

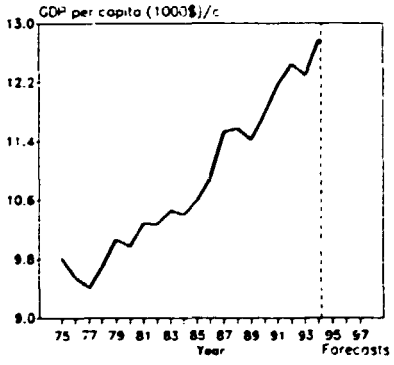



Source National Accounts Statistics from UN/UNSC
Estimated by UNIDO/IRD/RES

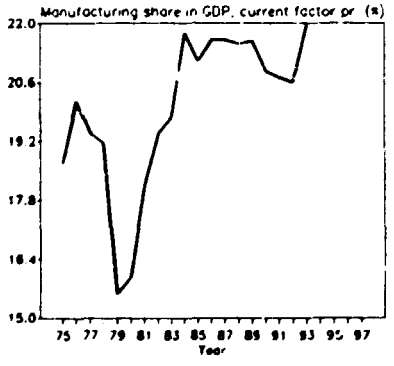
| | 1980 | 1985 | 1990 | 1993 |
|---|---|---|---|---|
| **GDP:[a]** (millions of 1990-dollars) | 38 687 | 44 907 | 54 910 | 64 578 |
| Per capita[a] (1990-dollars) | 9 973 | 10 609 | 11 783 | 12 291 |
| Manufacturing share[a] (%) (current factor prices) | 16.0 | *21.1* | 20.9 | *22.0* |
| **MANUFACTURING:** | | | | |
| Value added[a] (millions of 1990-dollars) | 6 303 | 7 513 | 8 394 | 10 428 |
| Industrial production index (1980=100) | 100 | 119 | 133 | 156 |
| Value added (millions of dollars) | *6 490* | *8 655* | 10 193 | *12 789* |
| Gross output (millions of dollars) | 14 332 | 16 351 | 24 574 | *36 241* |
| Employment (thousands) | 259 | 292 | 292 | *334* |
| **-PROFITABILITY:**(in percent of gross output) | | | | |
| Intermediate input (%) | 55 | 59 | 59 | *65* |
| Wages and salaries including supplements (%) | *30* | *30* | *32* | *25* |
| Gross operating surplus and net taxes (%) | *15* | *11* | *9* | *10* |
| **-PRODUCTIVITY:**(dollars) | | | | |
| Gross output per worker | 54 619 | 55 297 | 83 048 | *101 978* |
| Value added per worker | 24 733 | 22 506 | 34 449 | *35 994* |
| Average wage (including supplements) | *16 750* | *16 850* | *27 193* | *27 193* |
| **-STRUCTURAL INDICES:** | | | | |
| Structural change θ (5-year average in degrees) | 5.50 | 6.41 | *5.14* | *2.26* |
| as a percentage of average θ in 1970-1975 | 99 | 115 | *92* | *41* |
| MVA growth rate / θ | 1.76 | 0.87 | -0.43 | 1.77 |
| Degree of specialization | 14.8 | 18.3 | 18.0 | 18.8 |
| **-VALUE ADDED:**(millions of dollars) | | | | |
| 311/2 Food products | 706 | 748 | 1 221 | *1 406* |
| 313 Beverages | 66 | 56 | 146 | *178* |
| 314 Tobacco products | 24 | 10 | 33 | *25* |
| 321 Textiles | 422 | 243 | 404 | *442* |
| 322 Wearing apparel | 293 | 229 | 427 | *563* |
| 323 Leather and fur products | 18 | 13 | 19 | *23* |
| 324 Footwear | 38 | 42 | 55 | *72* |
| 331 Wood and wood products | 112 | 78 | 116 | *147* |
| 332 Furniture and fixtures | 90 | 81 | 131 | *157* |
| 341 Paper and paper products | 150 | 135 | 241 | *286* |
| 342 Printing and publishing | 184 | 227 | 470 | *561* |
| 351 Industrial chemicals | 256 | 317 | 498 | *549* |
| 352 Other chemical products | 250 | 241 | 420 | *509* |
| 353 Petroleum refineries | 93 | 106 | 115 | *136* |
| 354 Miscellaneous petroleum and coal products | 93 | 106 | 115 | *136* |
| 355 Rubber products | 104 | 64 | 76 | *97* |
| 356 Plastic products | 212 | 290 | 468 | *646* |
| 361 Pottery, china and earthenware | 26 | 25 | 30 | *48* |
| 362 Glass and glass products | 30 | 23 | 37 | *39* |
| 369 Other non-metal mineral products | 239 | 143 | 306 | *421* |
| 371 Iron and steel | 148 | 118 | 113 | *169* |
| 372 Non-ferrous metals | 61 | 36 | 61 | *69* |
| 381 Metal products | 1 060 | 967 | 1 228 | *1 570* |
| 382 Non-electrical machinery | 245 | 224 | 279 | *300* |
| 383 Electrical machinery | 831 | 1 415 | 2 200 | *2 963* |
| 384 Transport equipment | 610 | 522 | 742 | *985* |
| 385 Professional and scientific equipment | 66 | 129 | 125 | *178* |
| 390 Other manufacturing industries | 63 | 67 | 120 | *115* |

For sources, footnotes and comments see "Technical notes" at the beginning of this Annex

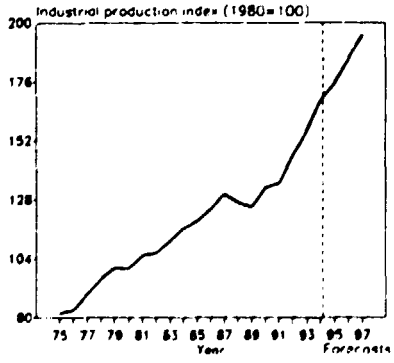
GDP per capita (1000$)/c

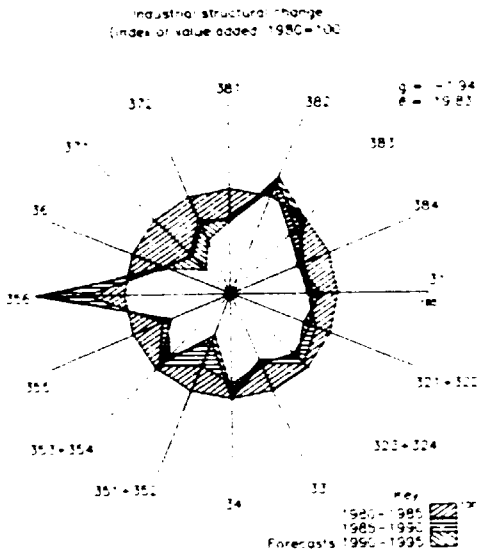


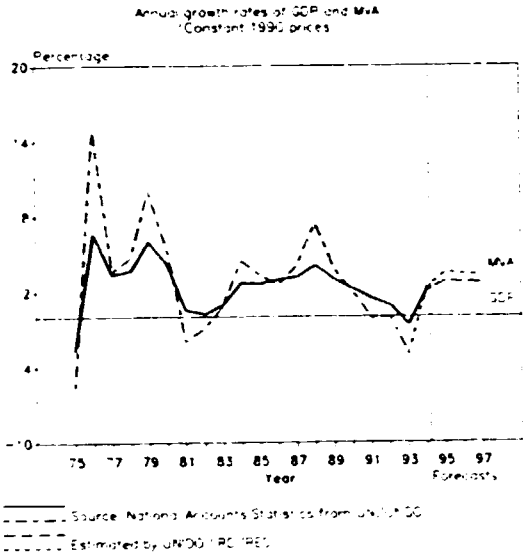

Manufacturing share in GDP, current factor pr (%)




Industrial production index (1980=100)

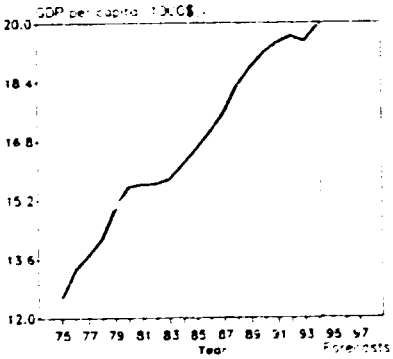




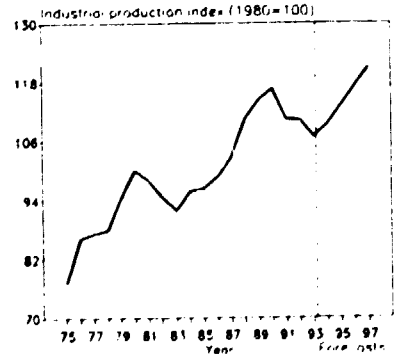



| | 1980 | 1985 | 1990 | 1993 |
|---|---|---|---|---|
| **GDP[a/b]** (millions of 1990-dollars) | 878 864 | 942 089 | 1 095 122 | 1 113 778 |
| Per capita[a/b] (1990-dollars) | 15 573 | 16 594 | 19 205 | 19 497 |
| Manufacturing share[a/b] (%) (current factor prices) | 28.1 | 24.5 | 22.7 | 20.4 |
| **MANUFACTURING:** | | | | |
| Value added[a/b] (millions of 1990-dollars) | 191 990 | 202 705 | 245 232 | 237 267 |
| Industrial production index (1980=100) | 100 | 96 | 117 | 107 |
| Value added (millions of dollars) | 97 032 | 64 726 | 144 733 | *122 253* |
| Gross output (millions of dollars) | 250 912 | 212 913 | 478 031 | 392 541 |
| Employment (thousands) | 3 333 | 2 875 | 2 757 | *2 680* |
| **-PROFITABILITY:**(in percent of gross output) | | | | |
| Intermediate input (%) | 61 | 70 | 70 | *69* |
| Wages and salaries including supplements (%) | *21* | *18* | *27* | *29* |
| Gross operating surplus and net taxes (%) | *18* | *12* | *4* | *3* |
| **-PRODUCTIVITY:**(dollars) | | | | |
| Gross output per worker | 74 433 | 73 115 | 170 315 | *143 809* |
| Value added per worker | 28 784 | 22 227 | 51 566 | *44 788* |
| Average wage (including supplements) | *15 647* | *13 630* | *46 311* | *41 850* |
| **-STRUCTURAL INDICES:** | | | | |
| Structural change θ (5-year average in degrees) | *2 90* | *6 15* | 3.51 | *2 79* |
| as a percentage of average θ in 1970-1975 | *69* | *145* | 83 | *66* |
| MVA growth rate / θ | 0.86 | -0.80 | 0.09 | -0.77 |
| Degree of specialization | 10.0 | 10.7 | 11.0 | 11.3 |
| **-VALUE ADDED:**(millions of dollars) | | | | |
| 311/2 Food products | 6 362 | 3 618 | 9 599 | *9 280* |
| 313 Beverages | 1 672 | 1 354 | 2 015 | *1 704* |
| 314 Tobacco products | 307 | 224 | 556 | *557* |
| 321 Textiles | 6 716 | 5 062 | 10 327 | *7 944* |
| 322 Wearing apparel | 3 197 | 2 322 | 4 876 | *4 582* |
| 323 Leather and fur products | 718 | 560 | 1 234 | *1 131* |
| 324 Footwear | 1 495 | 1 260 | 2 271 | *2 086* |
| 331 Wood and wood products | 1 318 | 786 | 1 616 | *1 323* |
| 332 Furniture and fixtures | 1 936 | 1 257 | 2 900 | *2 501* |
| 341 Paper and paper products | 2 260 | 1 661 | 3 878 | *2 870* |
| 342 Printing and publishing | 3 017 | 2 271 | 6 171 | *5 406* |
| 351 Industrial chemicals | *6 354* | *4 219* | 6 020 | *4 325* |
| 352 Other chemical products | *4 068* | *2 471* | 3 860 | *3 247* |
| 353 Petroleum refineries | *1 128* | *936* | 1 718 | *1 693* |
| 354 Miscellaneous petroleum and coal products | *206* | *170* | 406 | *458* |
| 355 Rubber products | 1 832 | 1 107 | 2 254 | *1 966* |
| 356 Plastic products | 1 465 | 1 729 | 4 799 | *4 328* |
| 361 Pottery, china and earthenware | *1 984* | *1 178* | 2 860 | *2 405* |
| 362 Glass and glass products | *1 336* | *806* | 1 673 | *1 440* |
| 369 Other non-metal mineral products | *3 361* | *1 864* | 4 299 | *3 476* |
| 371 Iron and steel | 8 354 | 3 846 | 8 117 | *5 046* |
| 372 Non-ferrous metals | 1 315 | 875 | 1 788 | *1 341* |
| 381 Metal products | 5 687 | 3 406 | 8 014 | *6 947* |
| 382 Non-electrical machinery | 9 326 | 8 914 | 20 330 | *18 144* |
| 383 Electrical machinery | 6 435 | 5 813 | 14 990 | *13 567* |
| 384 Transport equipment | 10 280 | 6 172 | 14 550 | *11 737* |
| 385 Professional and scientific equipment | 2 032 | 560 | 1 762 | *1 323* |
| 390 Other manufacturing industries | 871 | 297 | 1 890 | *1 429* |

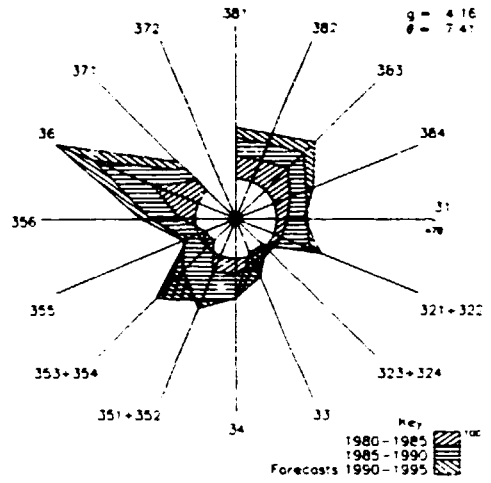
For sources, footnotes and comments see "Technical notes" at the beginning of this Annex



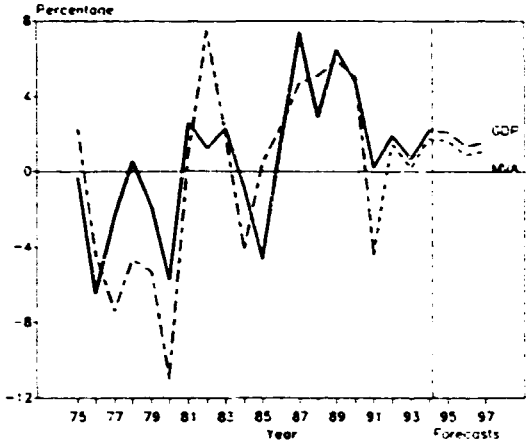




Industrial structural change
(Index of value added 1980=100)




Annual growth rates of GDP and MVA
(Constant 1990 prices)

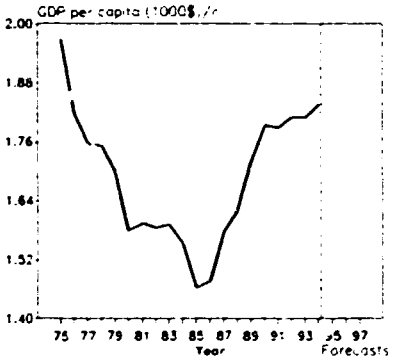



Source National Accounts Statistics from UN/UNSO
Estimated by UNIDO/IRD/RES

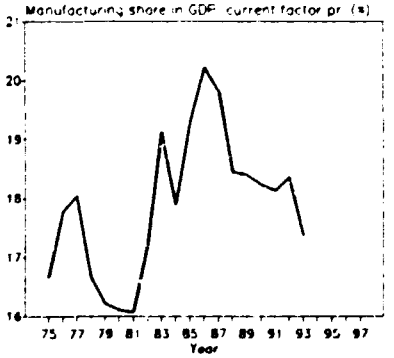
| | 1980 | 1985 | 1990 | 1993 |
|---|---|---|---|---|
| **GDP:[88] (millions of 1990-dollars)** | 3 369 | 3 382 | 4 242 | 4 362 |
| **Per capita[88] (1990-dollars)** | 1 579 | 1 463 | 1 793 | 1 809 |
| **Manufacturing share[88] (%) (current factor prices)** | 16.1 | 19.3 | 18.2 | 17.4 |
| **MANUFACTURING:** | | | | |
| **Value added[88] (millions of 1990-dollars)** | 619 | 658 | 824 | *800* |
| **Industrial production index (1980=100)** | 100 | 106 | 133 | *129* |
| **Value added (millions of dollars)** | *431* | *370* | *831* | *709* |
| **Gross output (millions of dollars)** | 1 661 | 1 498 | 2 549 | *2 347* |
| **Employment (thousands)** | 44 | 46 | 65 | *66* |
| **-PROFITABILITY:(in percent of gross output)** | | | | |
| **Intermediate input (%)** | *74* | 75 | 67 | *70* |
| **Wages and salaries including supplements (%)** | 12 | 10 | 10 | *10* |
| **Gross operating surplus and net taxes (%)** | *14* | 15 | 22 | *20* |
| **-PRODUCTIVITY:(dollars)** | | | | |
| **Gross output per worker** | *37 512* | 32 235 | 39 234 | *35 329* |
| **Value added per worker** | *9 734* | 7 959 | 12 757 | *10 666* |
| **Average wage (including supplements)** | *4 560* | 3 225 | 4 076 | *3 668* |
| **-STRUCTURAL INDICES:** | | | | |
| **Structural change θ (5-year average in degrees)** | 6.01 | 7.03 | 6.55 | *5.07* |
| **as a percentage of average θ in 1970-1975** | 126 | 148 | 138 | *107* |
| **MVA growth rate / θ** | -1.38 | 0.67 | 1.48 | 0.08 |
| **Degree of specialization** | 18.8 | 17.0 | 20.2 | 19.2 |
| **-VALUE ADDED:(millions of dollars)** | | | | |
| 311/2 **Food products** | 78 | 74 | 182 | *181* |
| 313 **Beverages** | 63 | 51 | 103 | 83 |
| 314 **Tobacco products** | 61 | 48 | 56 | *39* |
| 321 **Textiles** | 3 | 2 | 5 | *6* |
| 322 **Wearing apparel** | 15 | 12 | 28 | *29* |
| 323 **Leather and fur products** | 2 | 3 | 2 | *1* |
| 324 **Footwear** | 8 | 5 | 7 | *6* |
| 331 **Wood and wood products** | 3 | 2 | 5 | *2* |
| 332 **Furniture and fixtures** | 12 | 12 | 19 | *11* |
| 341 **Paper and paper products** | 7 | 6 | 12 | *11* |
| 342 **Printing and publishing** | 15 | 14 | 29 | *25* |
| 351 **Industrial chemicals** | *7* | 4 | 8 | *8* |
| 352 **Other chemical products** | *21* | 20 | 44 | *42* |
| 353 **Petroleum refineries** | 55 | 28 | 151 | *83* |
| 354 **Miscellaneous petroleum and coal products** | *2* | 1 | 3 | *2* |
| 355 **Rubber products** | *10* | 5 | 12 | *12* |
| 356 **Plastic products** | *10* | 9 | 20 | *19* |
| 361 **Pottery, china and earthenware** | 1 | 2 | 5 | *6* |
| 362 **Glass and glass products** | 2 | 3 | 8 | *9* |
| 369 **Other non-metal mineral products** | 8 | 12 | 29 | *34* |
| 371 **Iron and steel** | 5 | 5 | 9 | *9* |
| 372 **Non-ferrous metals** | - | - | - | - |
| 381 **Metal products** | 10 | 11 | 20 | *20* |
| 382 **Non-electrical machinery** | 6 | *7* | 13 | *13* |
| 383 **Electrical machinery** | 6 | 7 | 14 | *14* |
| 384 **Transport equipment** | 25 | 23 | 42 | *41* |
| 385 **Professional and scientific equipment** | - | - | - | - |
| 390 **Other manufacturing industries** | 4 | 4 | 6 | *4* |

For sources, footnotes and comments see "Technical notes" at the beginning of this Annex

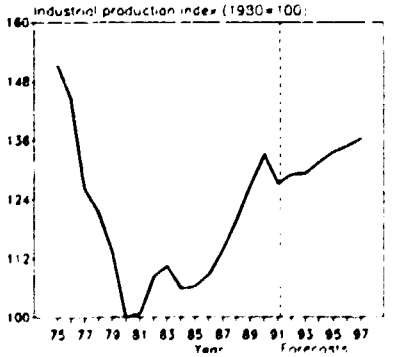
GDP per capita (1000$ /c

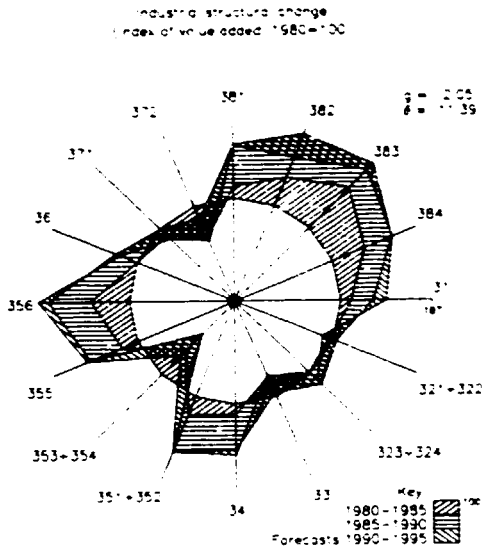


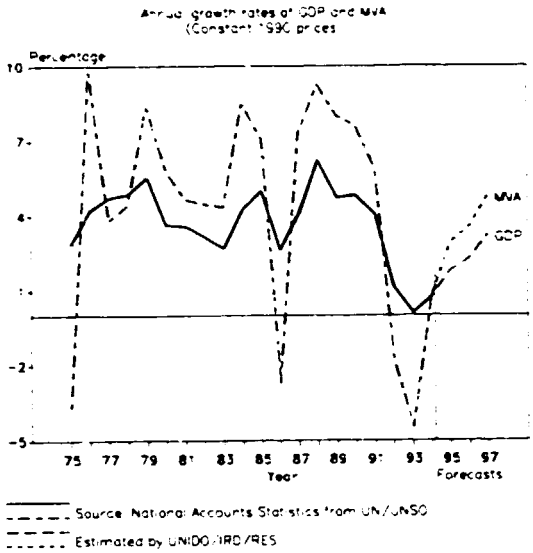

Manufacturing share in GDP current factor pr (%)




Industrial production index (1980=100)

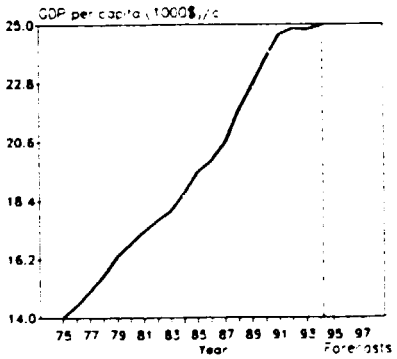


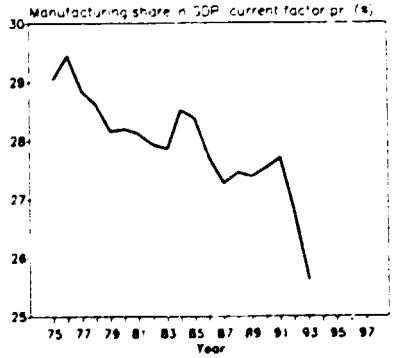


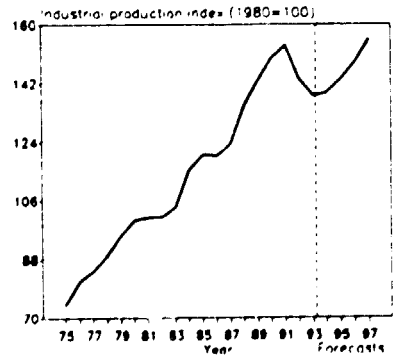



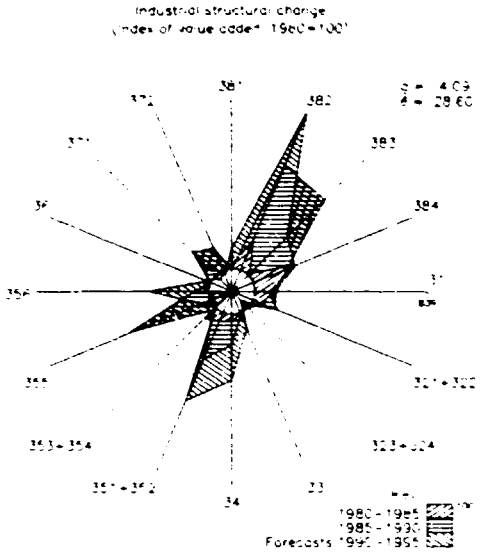

| | 1980 | 1985 | 1990 | 1993 |
|---|---|---|---|---|
| **GDP:**[a,e] (millions of 1990-dollars) | 1 959 820 | 2 354 213 | 2 932 088 | 3 088 818 |
| Per capita[a,e] (1990-dollars) | 16 778 | 19 483 | 23 734 | 24 803 |
| Manufacturing share[a,e] (%) (current factor prices) | 28.2 | 28.4 | 27.5 | *25.6* |
| **MANUFACTURING:** | | | | |
| Value added[a,e] (millions of 1990-dollars) | 485 633 | 643 188 | 852 566 | 846 109 |
| Industrial production index (1980=100) | 100 | 120 | 150 | 138 |
| Value added (millions of dollars) | 339 234 | 412 505 | 891 780 | *1 156 787* |
| Gross output (millions of dollars) | 970 568 | 1 114 669 | 2 245 738 | 2 872 483 |
| Employment (thousands) | 10 253 | 10 652 | 11 172 | *10 885* |
| **-PROFITABILITY:**(in percent of gross output) | | | | |
| Intermediate input (%) | 65 | 63 | 60 | *60* |
| Wages and salaries including supplements (%) | 12 | 13 | 13 | *14* |
| Gross operating surplus and net taxes (%) | 23 | 24 | 27 | *26* |
| **-PRODUCTIVITY:**(dollars) | | | | |
| Gross output per worker | 88 443 | 102 310 | 201 015 | *260 655* |
| Value added per worker | 30 912 | 37 862 | 79 823 | *106 510* |
| Average wage (including supplements) | 11 522 | 13 644 | 26 368 | *37 854* |
| **-STRUCTURAL INDICES:** | | | | |
| Structural change θ (5-year average in degrees) | 2.96 | 3.12 | 2.29 | *2.08* |
| as a percentage of average θ in 1970-1975 | 70 | 74 | 54 | *49* |
| MVA growth rate / θ | 1.82 | 0.95 | 1.92 | 0.59 |
| Degree of specialization | 11.8 | 15.1 | 15.8 | 15.2 |
| **-VALUE ADDED:**(millions of dollars) | | | | |
| 311/2 Food products | 25 889 | 32 041 | 66 676 | *98 412* |
| 313 Beverages | 5 015 | 5 303 | 10 305 | *13 131* |
| 314 Tobacco products | 1 888 | 700 | 2 003 | *3 304* |
| 321 Textiles | 15 436 | 15 259 | 27 046 | *32 283* |
| 322 Wearing apparel | 5 156 | 5 622 | 11 921 | *16 297* |
| 323 Leather and fur products | 886 | 977 | 1 872 | *2 495* |
| 324 Footwear | 697 | 650 | 1 478 | *1 888* |
| 331 Wood and wood products | 8 997 | 6 888 | 14 000 | *16 405* |
| 332 Furniture and fixtures | 3 788 | 3 798 | 8 730 | *10 919* |
| 341 Paper and paper products | 9 310 | 9 759 | 22 287 | *28 809* |
| 342 Printing and publishing | 17 099 | 20 789 | 47 938 | *66 158* |
| 351 Industrial chemicals | 13 809 | 16 811 | 38 083 | *51 231* |
| 352 Other chemical products | 15 471 | 19 758 | 48 764 | *62 060* |
| 353 Petroleum refineries | 6 620 | 4 595 | 4 841 | *12 216* |
| 354 Miscellaneous petroleum and coal products | 1 063 | 713 | 1 540 | *2 071* |
| 355 Rubber products | 4 150 | 5 077 | 11 403 | *15 213* |
| 356 Plastic products | 9 478 | 13 570 | 30 796 | *42 055* |
| 361 Pottery, china and earthenware | 1 623 | 1 627 | 2 984 | *3 918* |
| 362 Glass and glass products | 2 876 | 4 029 | 8 467 | *10 098* |
| 369 Other non-metal mineral products | 12 565 | 12 321 | 26 659 | *34 809* |
| 371 Iron and steel | 26 444 | 25 224 | 48 539 | *60 793* |
| 372 Non-ferrous metals | 7 458 | 5 236 | 11 976 | *13 197* |
| 381 Metal products | 22 409 | 26 356 | 62 905 | *63 428* |
| 382 Non-electrical machinery | 39 270 | 53 576 | 126 569 | *146 977* |
| 383 Electrical machinery | 38 868 | 63 180 | 133 877 | *166 303* |
| 384 Transport equipment | 32 107 | 45 158 | 95 594 | *125 916* |
| 385 Professional and scientific equipment | 5 [illegible]5 | 6 972 | 12 798 | *15 887* |
| 390 Other manufacturing industries | 5 178 | 6 510 | 13 730 | *20 516* |

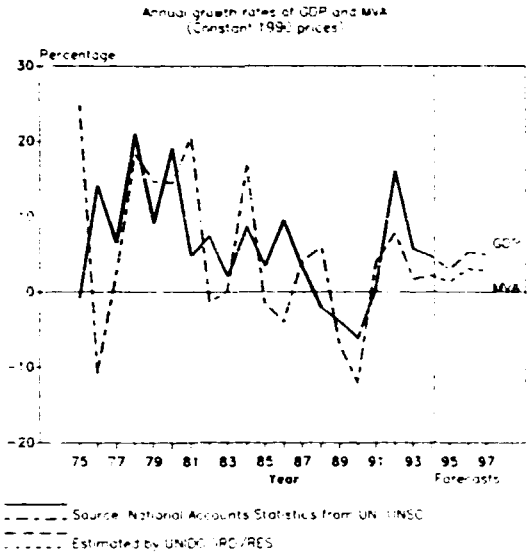
For sources, footnotes and comments see "Technical notes" at the beginning of this Annex



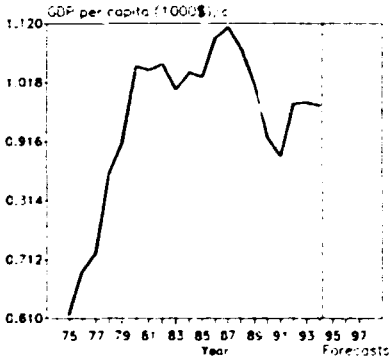



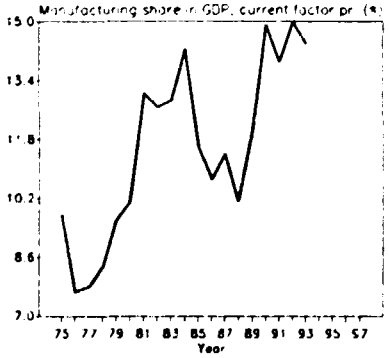


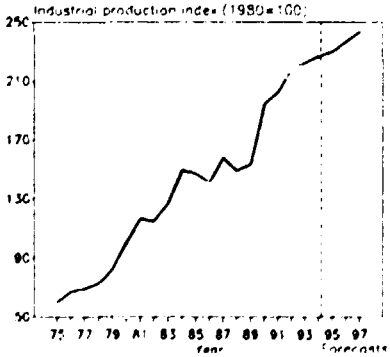




| | 1980 | 1985 | 1990 | 1993 |
|---|---|---|---|---|
| **GDP[88] (millions of 1990-dollars)** | 3 057 | 3 940 | 3 934 | 4 853 |
| **Per capita[88] (1990-dollars)** | 1 046 | 1 028 | 924 | 983 |
| **Manufacturing share[88] (%) (current factor prices)** | 10.1 | 11.6 | 14.9 | *14.4* |
| **MANUFACTURING:** | | | | |
| **Value added[88] (millions of 1990-dollars)** | 441 | 603 | 520 | 592 |
| **Industrial production index (1980=100)** | 100 | 147 | 194 | 222 |
| **Value added (millions of dollars)** | *406* | *581* | 583 | *719* |
| **Gross output (millions of dollars)** | 917 | 1 997 | 1 846 | *1 997* |
| **Employment (thousands)** | 25 | 42 | 44 | *66* |
| **-PROFITABILITY:(in percent of gross output)** | | | | |
| **Intermediate input (%)** | 56 | 71 | 68 | *64* |
| **Wages and salaries including supplements (%)** | 12 | 9 | 8 | *11* |
| **Gross operating surplus and net taxes (%)** | 32 | 20 | 24 | *25* |
| **-PRODUCTIVITY:(dollars)** | | | | |
| **Gross output per worker** | 26 708 | 38 671 | 33 065 | *25 297* |
| **Value added per worker** | 11 819 | 11 243 | 10 437 | *9 111* |
| **Average wage (including supplements)** | 4 418 | 4 326 | 3 175 | *3 224* |
| **-STRUCTURAL INDICES:** | | | | |
| **Structural change θ (5-year average in degrees)** | 12.80 | 6.91 | 13.92 | *16.45* |
| **as a percentage of average θ in 1970-1975** | 87 | 47 | 94 | *111* |
| **MVA growth rate / θ** | 1.23 | 1.16 | 0.20 | -0.22 |
| **Degree of specialization** | 19.5 | 21.1 | 15.3 | 18.3 |
| **-VALUE ADDED:(millions of dollars)** | | | | |
| 311/2 Food products | 24 | 48 | 58 | *120* |
| 313 Beverages | 20 | 27 | 28 | *13* |
| 314 Tobacco products | 50 | 92 | 75 | *14* |
| 321 Textiles | 10 | 14 | 20 | *27* |
| 322 Wearing apparel | 8 | 10 | 13 | *11* |
| 323 Leather and fur products | 2 | 2 | 4 | *2* |
| 324 Footwear | 8 | 8 | 3 | *3* |
| 331 Wood and wood products | 7 | 7 | 4 | *5* |
| 332 Furniture and fixtures | 11 | 11 | 14 | *26* |
| 341 Paper and paper products | 9 | 9 | 20 | *29* |
| 342 Printing and publishing | *7* | 11 | 12 | *30* |
| 351 Industrial chemicals | 10 | 14 | 44 | *49* |
| 352 Other chemical products | 20 | 28 | 42 | *98* |
| 353 Petroleum refineries | 53 | 87 | 55 | *44* |
| 354 Miscellaneous petroleum and coal products | - | - | - | - |
| 355 Rubber products | - | - | 1 | - |
| 356 Plastic products | 12 | 13 | 17 | *41* |
| 361 Pottery, china and earthenware | 2 | 3 | 3 | *5* |
| 362 Glass and glass products | 2 | 3 | 3 | *5* |
| 369 Other non-metal mineral products | 98 | 123 | 85 | *97* |
| 371 Iron and steel | *11* | 8 | 24 | *18* |
| 372 Non-ferrous metals | 5 | 4 | 9 | *4* |
| 381 Metal products | *27* | 31 | 23 | *53* |
| 382 Non-electrical machinery | *2* | 4 | 9 | *15* |
| 383 Electrical machinery | 2 | 2 | 11 | *9* |
| 384 Transport equipment | - | 1 | 1 | *1* |
| 385 Professional and scientific equipment | - | - | 2 | *1* |
| 390 Other manufacturing industries | 7 | 23 | 2 | - |

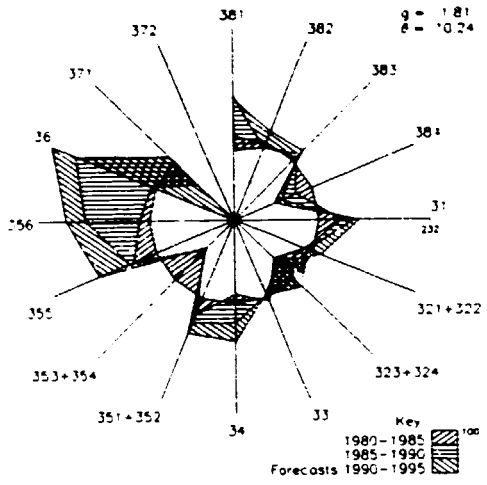
For sources, footnotes and comments see "Technical notes" at the beginning of this Annex.



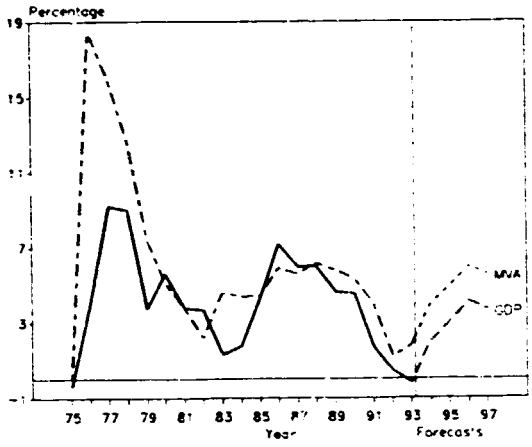



Industrial structural change
(Index of value added 1980=100)




Annual growth rates of GDP and MVA
(Constant 1990 prices)

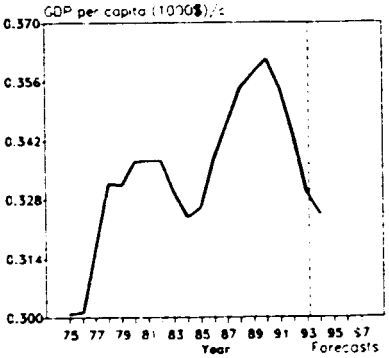



Source: National Accounts Statistics from UN/UNSO
Estimated by UNIDO/IRD/RES

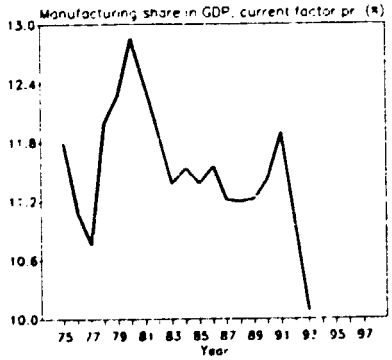
| | 1980 | 1985 | 1990 | 1993 |
|---|---|---|---|---|
| **GDP:**[a,b] (millions of 1990-dollars) | 5 605 | 6 485 | 8 532 | 8 695 |
| **Per capita**[a,b] (1990-dollars) | 337 | 326 | 361 | 329 |
| **Manufacturing share**[a,b] (%) (current factor prices) | 12.9 | 11.4 | 11.4 | 10.1 |
| **MANUFACTURING:** | | | | |
| Value added[a,b] (millions of 1990-dollars) | 540 | 652 | 862 | 923 |
| Industrial production index (1980=100) | 100 | 111 | 141 | 145 |
| Value added (millions of dollars) | *744* | *670* | 921 | 809 |
| Gross output (millions of dollars) | 3 656 | 4 301 | 7 767 | *7 534* |
| Employment (thousands) | *143* | 163 | 192 | *195* |
| **-PROFITABILITY:**(in percent of gross output) | | | | |
| Intermediate input (%) | 80 | 84 | 88 | 89 |
| Wages and salaries including supplements (%) | 9 | 7 | 5 | *4* |
| Gross operating surplus and net taxes (%) | 11 | 9 | 7 | *7* |
| **-PRODUCTIVITY:**(dollars) | | | | |
| Gross output per worker | *25 544* | 26 428 | 40 520 | *38 547* |
| Value added per worker | *5 197* | 4 115 | 4 804 | *4 141* |
| Average wage (including supplements) | *2 269* | 1 795 | 2 054 | *1 625* |
| **-STRUCTURAL INDICES:** | | | | |
| Structural change θ (5-year average in degrees) | 7.07 | 4.87 | 3.23 | *2.33* |
| as a percentage of average θ in 1970-1975 | 88 | 61 | 40 | *29* |
| MVA growth rate / θ | 0.67 | 0.28 | 1.00 | -0.10 |
| Degree of specialization | 15.8 | 18.7 | 18.0 | 17.8 |
| **-VALUE ADDED:**(millions of dollars) | | | | |
| 311/2 Food products | 177 | 185 | 252 | *212* |
| 313 Beverages | 65 | 72 | 90 | *86* |
| 314 Tobacco products | 10 | 13 | 12 | *13* |
| 321 Textiles | 59 | 40 | 55 | *53* |
| 322 Wearing apparel | 17 | 19 | 16 | *14* |
| 323 Leather and fur products | 6 | 3 | 4 | *3* |
| 324 Footwear | 9 | 6 | 13 | *7* |
| 331 Wood and wood products | 20 | 17 | 17 | *14* |
| 332 Furniture and fixtures | 9 | 8 | 11 | *8* |
| 341 Paper and paper products | 34 | 23 | 42 | *38* |
| 342 Printing and publishing | 22 | 19 | 27 | *27* |
| 351 Industrial chemicals | 25 | 16 | 17 | *16* |
| 352 Other chemical products | 39 | 50 | 67 | *61* |
| 353 Petroleum refineries | 15 | 6 | 7 | *6* |
| 354 Miscellaneous petroleum and coal products | - | - | - | - |
| 355 Rubber products | 25 | 27 | 33 | *36* |
| 356 Plastic products | 14 | 13 | 24 | *23* |
| 361 Pottery, china and earthenware | 1 | .. | 1 | *1* |
| 362 Glass and glass products | 3 | 4 | 5 | *4* |
| 369 Other non-metal mineral products | 20 | 17 | 42 | *41* |
| 371 Iron and steel | *12* [e] | *6* [e] | *12* [e] | .. |
| 372 Non-ferrous metals | .. | .. | .. | .. |
| 381 Metal products | 44 | 31 | 64 | *51* |
| 382 Non-electrical machinery | 6 | 4 | 5 | *5* |
| 383 Electrical machinery | 40 | 36 | 44 | *41* |
| 384 Transport equipment | 64 | 43 | 39 | *31* |
| 385 Professional and scientific equipment | 1 | 1 | 4 | *2* |
| 390 Other manufacturing industries | 6 | 8 | *17* | *13* |

For sources, footnotes and comments see "Technical notes" at the beginning of this Annex

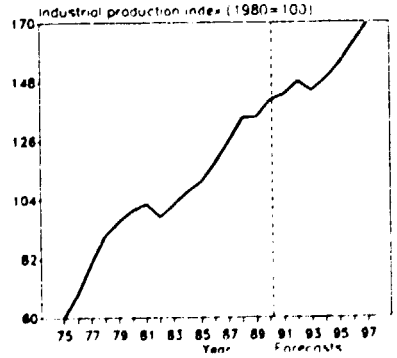
GDP per capita (1000$)/a

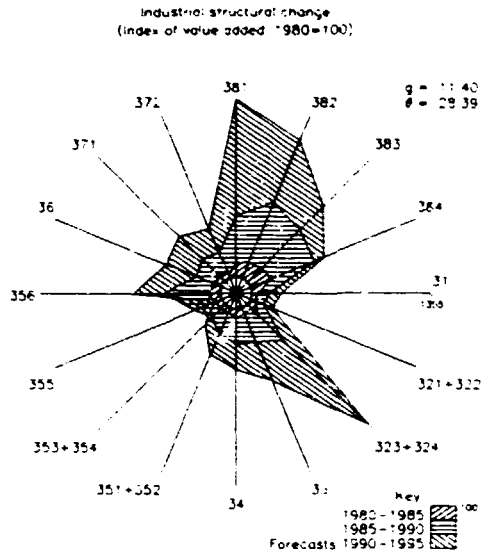


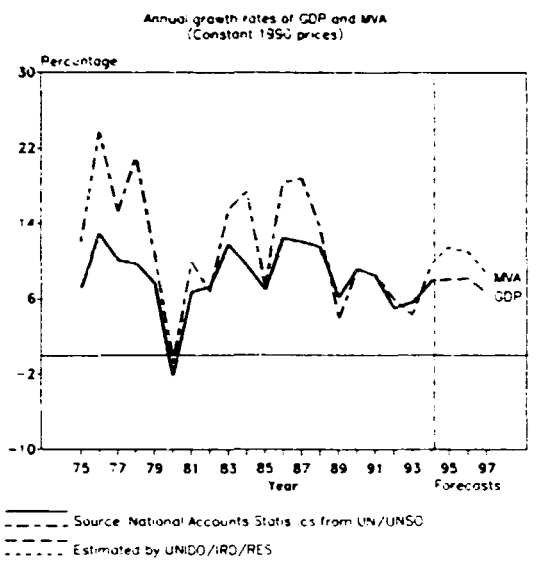

Manufacturing share in GDP, current factor pr (%)




Industrial production index (1980=100)

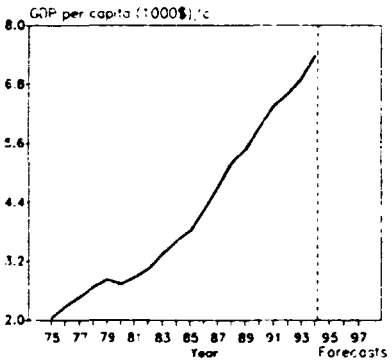


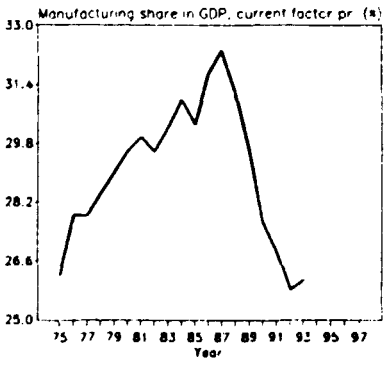


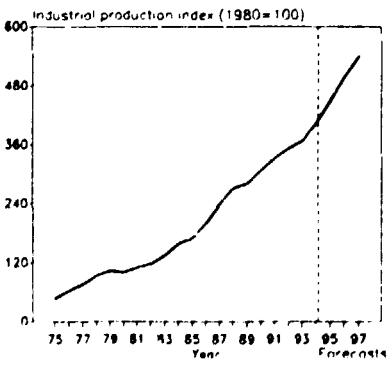




| | 1980 | 1985 | 1990 | 1993 |
|---|---|---|---|---|
| **GDP:[RS] (millions of 1990-dollars)** | 104 146 | 155 956 | 253 672 | 304 988 |
| **Per capita[RS] (1990-dollars)** | 2 732 | 3 822 | 5 917 | 6 911 |
| **Manufacturing share[RS] (%) (current factor prices)** | 29.6 | 30.3 | 27.7 | *26 1* |
| **MANUFACTURING:** | | | | |
| **Value added[RS] (millions of 1990-dollars)** | 23 000 | 39 109 | 70 494 | 84 386 |
| **Industrial production index (1980=100)** | 100 | 170 | 306 | 367 |
| **Value added (millions of dollars)** | 19 520 | 30 731 | 100 209 | *133 564* |
| **Gross output (millions of dollars)** | 59 725 | 88 541 | 250 519 | *316 193* |
| **Employment (thousands)** | 2 015 | 2 395 | 2 958 | *2 925* |
| **-PROFITABILITY:(in percent of gross output)** | | | | |
| **Intermediate input (%)** | 67 | 65 | 60 | *58* |
| **Wages and salaries including supplements (%)** | 10 | 9 | 11 | *11* |
| **Gross operating surplus and net taxes (%)** | 23 | 25 | 29 | *31* |
| **-PRODUCTIVITY:(dollars)** | | | | |
| **Gross output per worker** | 29 206 | 36 314 | 82 959 | *104 072* |
| **Value added per worker** | 9 545 | 12 604 | 33 184 | *43 961* |
| **Average wage (including supplements)** | 2 837 | 3 476 | 9 353 | *12 269* |
| **-STRUCTURAL INDICES:** | | | | |
| **Structural change θ (5-year average in degrees)** | 7.55 | 4.81 | 4.33 | *5 08* |
| **as a percentage of average θ in 1970-1975** | 80 | 51 | 46 | *54* |
| **MVA growth rate / θ** | 1.58 | 2.16 | 3.60 | 1.94 |
| **Degree of specialization** | 9.1 | 9.5 | 10.4 | 10.2 |
| **-VALUE ADDED:(millions of dollars)** | | | | |
| 311/2 Food products | 1 526 | 2 048 | 6 047 | *8 352* |
| 313 Beverages | 571 | 764 | 1 889 | *2 143* |
| 314 Tobacco products | 1 143 | 1 442 | 2 794 | *3 286* |
| 321 Textiles | 2 649 | 3 295 | 6 833 | *8 722* |
| 322 Wearing apparel | 905 | 1 293 | 3 401 | *4 431* |
| 323 Leather and fur products | 138 | 270 | 1 144 | *1 156* |
| 324 Footwear | 112 | 211 | 594 | *3 105* |
| 331 Wood and wood products | 239 | 262 | 876 | *1 082* |
| 332 Furniture and fixtures | 100 | 203 | 972 | *1 910* |
| 341 Paper and paper products | 426 | 682 | 2 123 | *3 076* |
| 342 Printing and publishing | 440 | 732 | 2 531 | *3 018* |
| 351 Industrial chemicals | 998 | 1 275 | 4 181 | *7 037* |
| 352 Other chemical products | 1 016 | 1 422 | 4 926 | *5 577* |
| 353 Petroleum refineries | 757 | 1 079 | 2 865 | *3 375* |
| 354 Miscellaneous petroleum and coal products | 211 | 291 | 517 | *565* |
| 355 Rubber products | 657 | 910 | 3 063 | *1 505* |
| 356 Plastic products | 359 | 709 | 2 734 | *3 355* |
| 361 Pottery, china and earthenware | 89 | 107 | 275 | *341* |
| 362 Glass and glass products | 198 | 307 | 991 | *1 412* |
| 369 Other non-metal mineral products | 838 | 1 065 | 3 697 | *5 016* |
| 371 Iron and steel | 1 256 | 2 040 | 6 187 | *9 734* |
| 372 Non-ferrous metals | 265 | 335 | 1 201 | *1 681* |
| 381 Metal products | 635 | 1 237 | 5 145 | *11 264* |
| 382 Non-electrical machinery | 672 | 1 453 | 7 004 | *10 226* |
| 383 Electrical machinery | 1 587 | 3 621 | 15 066 | *17 969* |
| 384 Transport equipment | 1 152 | 2 790 | 10 242 | *10 086* |
| 385 Professional and scientific equipment | 214 | 290 | 1 144 | *1 391* |
| 390 Other manufacturing industries | 367 | 596 | 1 769 | *1 749* |

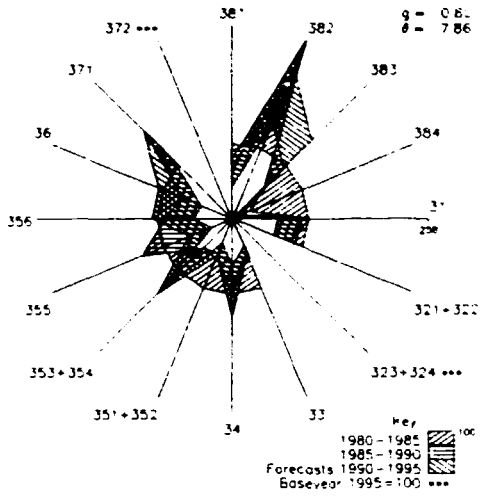
For sources, footnotes and comments see "Technical notes" at the beginning of this Annex.



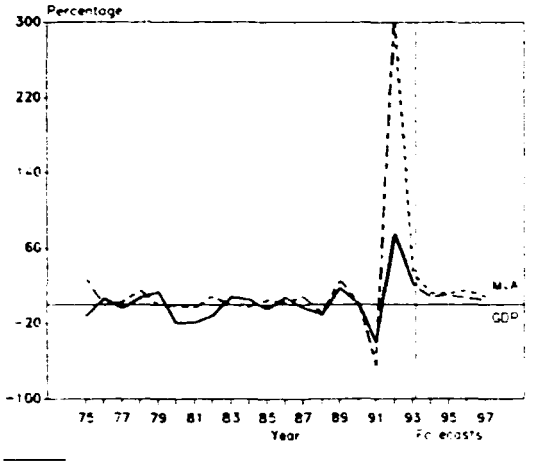



Industrial structural change
(Index of value added: 1980=100)




Annual growth rates of GDP and MVA
(Constant 1990 prices)

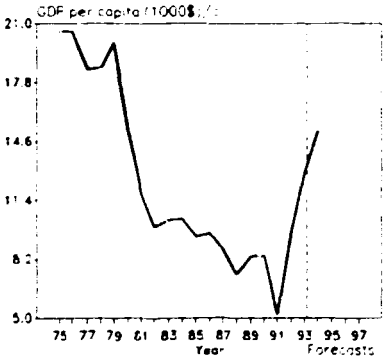



Source: National Accounts Statistics from UN/UNSO
Estimated by UNIDO/IRD/PES

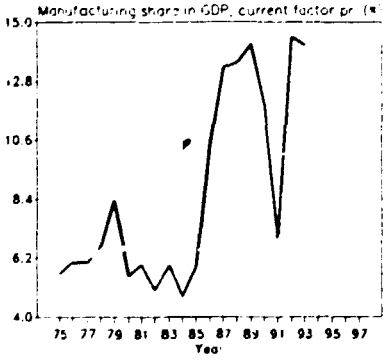
| | 1980 | 1985 | 1990 | 1993 |
|---|---|---|---|---|
| **GDP:[88] (millions of 1990-dollars)** | 20 913 | 16 270 | 17 969 | 22 924 |
| **Per capita[88] (1990-dollars)** | 15 209 | 9 459 | 8 385 | 12 915 |
| **Manufacturing share[88] (%) (current factor prices)** | 5.6 | 5.9 | 11.9 | *14 1* |
| **MANUFACTURING:** | | | | |
| **Value added[88] (millions of 1990-dollars)** | 1 607 | 1 717 | 2 151 | *4 026* |
| **Industrial production index (1980=100)** | 100 | 139 | 168 | *314* |
| **Value added (millions of dollars)** | 1 752 | 1 275 | 2 179 | *2 215* |
| **Gross output (millions of dollars)** | 6 218 | 7 436 | 5 531 | .. |
| **Employment (thousands)** | 43 | 46 | 56 | *60* |
| **-PROFITABILITY:(in percent of gross output)** | | | | |
| **Intermediate input (%)** | 72 | 83 | 61 | .. |
| **Wages and salaries including supplements (%)** | *7* | 8 | *8* | .. |
| **Gross operating surplus and net taxes (%)** | *21* | 9 | *31* | .. |
| **-PRODUCTIVITY:(dollars)** | | | | |
| **Gross output per worker** | 144 813 | 151 545 | 94 963 | .. |
| **Value added per worker** | 40 798 | 25 991 | 37 394 | *35 688* |
| **Average wage (including supplements)** | *9 811* | 13 000 | *8 124* | .. |
| **-STRUCTURAL INDICES:** | | | | |
| **Structural change θ (5-year average in degrees)** | 6.80 | 17.44 | 4.23 | *4 48* |
| **as a percentage of average θ in 1970-1975** | 54 | 138 | 33 | *36* |
| **MVA growth rate / θ** | 2.84 | -0.35 | 3.31 | 0.85 |
| **Degree of specialization** | 39.7 | 31.3 | 61.5 | 49.9 |
| **-VALUE ADDED:(millions of dollars)** | | | | |
| **311/2 Food products** | 96 | 101 | 69 | *93* |
| **313 Beverages** | 20 | 31 | 21 | *28* |
| **314 Tobacco products** | - | - | - | - |
| **321 Textiles** | 7 | 8 | 16 | *21* |
| **322 Wearing apparel** | 84 | 75 | 54 | *72* |
| **323 Leather and fur products** | - | - | - | - |
| **324 Footwear** | - | - | - | - |
| **331 Wood and wood products** | 40 | 14 | 10 | *13* |
| **332 Furniture and fixtures** | 41 | 31 | 30 | *39* |
| **341 Paper and paper products** | 5 | 12 | 31 | *40* |
| **342 Printing and publishing** | 40 | 52 | 5 | *10* |
| **351 Industrial chemicals** | 118 | 56 | 43 | *58* |
| **352 Other chemical products** | 13 | 16 | 15 | *20* |
| **353 Petroleum refineries** | 915 | 561 | 1 652 | *1 432* |
| **354 Miscellaneous petroleum and coal products** | 1 | 1 | - | *1* |
| **355 Rubber products** | 5 | 7 | 2 | *3* |
| **356 Plastic products** | 24 | 24 | 16 | *28* |
| **361 Pottery, china and earthenware** | 2 | - | - | *4* |
| **362 Glass and glass products** | 2 | *4* | 12 | *16* |
| **369 Other non-metal mineral products** | 143 | 115 | 72 | *158* |
| **371 Iron and steel** | 7 | 14 | 11 | *14* |
| **372 Non-ferrous metals** | - | - | - | - |
| **381 Metal products** | 99 | 88 | 54 | *76* |
| **382 Non-electrical machinery** | 10 | 30 | 12 | *25* |
| **383 Electrical machinery** | 22 | 15 | 27 | *37* |
| **384 Transport equipment** | 45 | 12 | 2 | *4* |
| **385 Professional and scientific equipment** | 5 | *2* | *1* | *1* |
| **390 Other manufacturing industries** | 7 | 5 | 17 | *22* |

For sources, footnotes and comments see "Technical notes" at the beginning of this Annex.

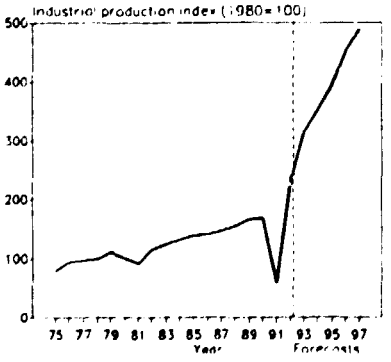
GDP per capita (1000$)

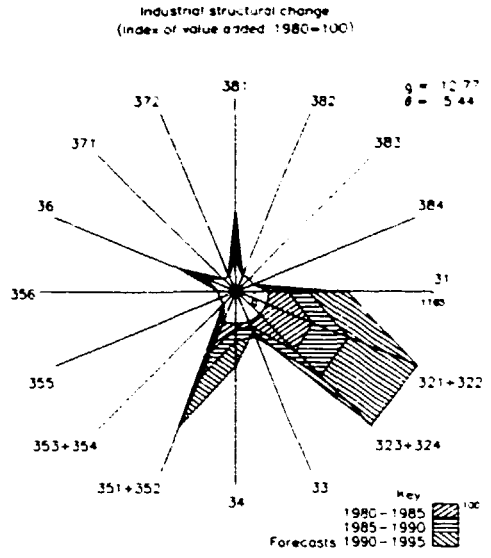


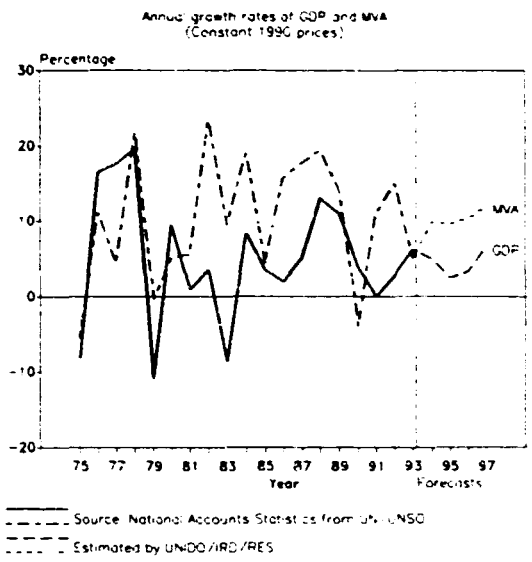

Manufacturing share in GDP, current factor pr




Industrial production index (1980=100)

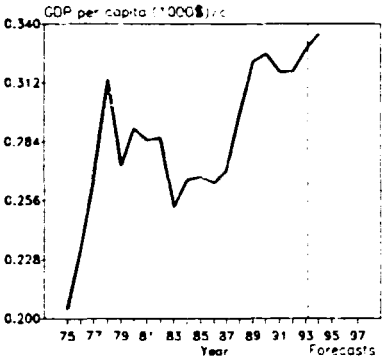


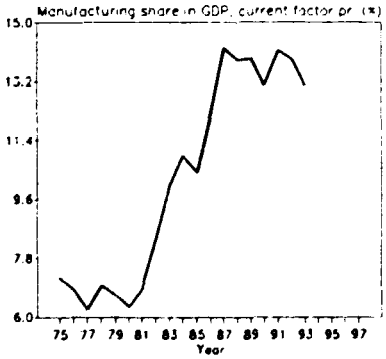


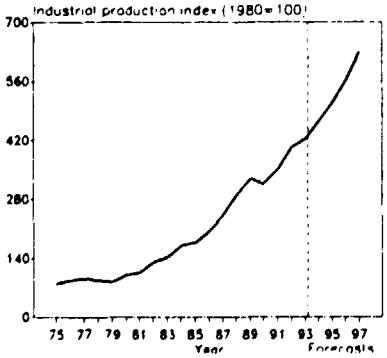




| | 1980 | 1985 | 1990 | 1993 |
|---|---|---|---|---|
| **GDP:[a] (millions of 1990-dollars)** | **389** | **417** | **584** | **637** |
| Per capita[a] (1990-dollars) | 290 | 267 | 326 | 328 |
| Manufacturing share[a] (%) (current factor prices) | 6.3 | 10.4 | 13.1 | *13.0* |
| **MANUFACTURING:** | | | | |
| Value added[a] (millions of 1990-dollars) | 20 | 36 | 64 | 86 |
| Industrial production index (1980=100) | 100 | 177 | 315 | 423 |
| Value added (millions of dollars) | *14* | *22* | *68* | *114* |
| Gross output (millions of dollars) | *57* | *66* | *189* | *306* |
| Employment (thousands) | *6* | *7* | *19* | *15* |
| **-PROFITABILITY:**(in percent of gross output) | | | | |
| Intermediate input (%) | 75 | 67 | *64* | *63* |
| Wages and salaries including supplements (%) | *6* | *9* | *11* | *7* |
| Gross operating surplus and net taxes (%) | *18* | *24* | *26* | *30* |
| **-PRODUCTIVITY:**(dollars) | | | | |
| Gross output per worker | *10 232* | 9 779 | *10 158* | *20 813* |
| Value added per worker | *3 183* | 3 234 | *3 668* | *8 386* |
| Average wage (including supplements) | *855* | *1 178* | *1 070* | *1 533* |
| **-STRUCTURAL INDICES:** | | | | |
| Structural change θ (5-year average in degrees) | *1.36* | *5.84* | *0.52* | *0.92* |
| as a percentage of average θ in 1970-1975 | *167* | *717* | *63* | *113* |
| MVA growth rate / θ | 3.93 | 3.43 | 19.42 | 7.91 |
| Degree of specialization | 33.4 | 33.9 | 34.0 | 34.6 |
| **-VALUE ADDED:**(millions of dollars) | | | | |
| 311/2 Food products | *6* | *8* | *25* | *40* |
| 313 Beverages | *4* | *7* | *24* | *42* |
| 314 Tobacco products | .. | .. | .. | .. |
| 321 Textiles | *1* | *2* | *7* | *11* |
| 322 Wearing apparel | - | *1* | *2* | *3* |
| 323 Leather and fur products | - | - | - | - |
| 324 Footwear | - | - | *1* | *1* |
| 331 Wood and wood products | .. | .. | .. | .. |
| 332 Furniture and fixtures | - | - | *1* | *1* |
| 341 Paper and paper products | .. | .. | .. | .. |
| 342 Printing and publishing | - | - | *1* | *2* |
| 351 Industrial chemicals | .. | .. | .. | .. |
| 352 Other chemical products | 1 | 1 | *4* | *7* |
| 353 Petroleum refineries | .. | .. | .. | .. |
| 354 Miscellaneous petroleum and coal products | .. | .. | .. | .. |
| 355 Rubber products | .. | .. | .. | .. |
| 356 Plastic products | .. | .. | .. | .. |
| 361 Pottery, china and earthenware | .. | .. | .. | .. |
| 362 Glass and glass products | .. | .. | .. | .. |
| 369 Other non-metal mineral products | - | - | *1* | *2* |
| 371 Iron and steel | .. | .. | .. | .. |
| 372 Non-ferrous metals | .. | .. | .. | .. |
| 381 Metal products | 1 | 1 | *2* | *3* |
| 382 Non-electrical machinery | .. | .. | .. | .. |
| 383 Electrical machinery | .. | .. | .. | .. |
| 384 Transport equipment | .. | .. | .. | .. |
| 385 Professional and scientific equipment | .. | .. | .. | .. |
| 390 Other manufacturing industries | - | - | *1* | *1* |

For sources, footnotes and comments see "Technical notes" at the beginning of this Annex.



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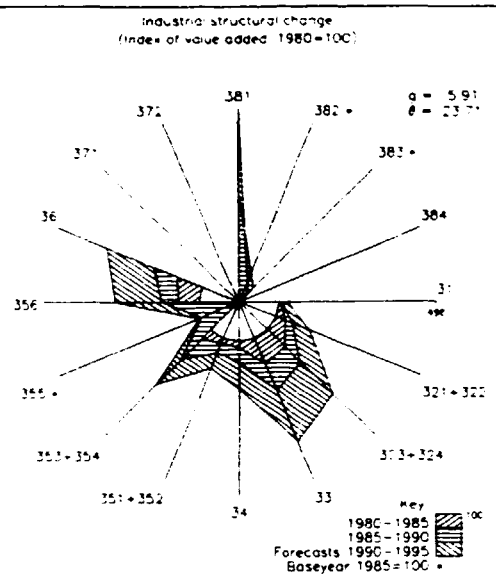
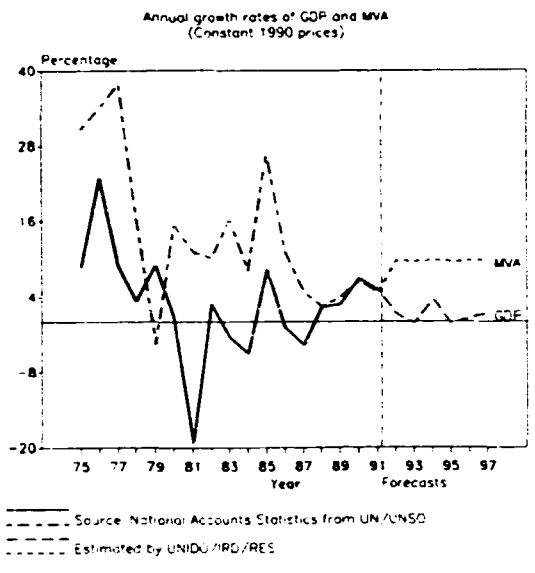
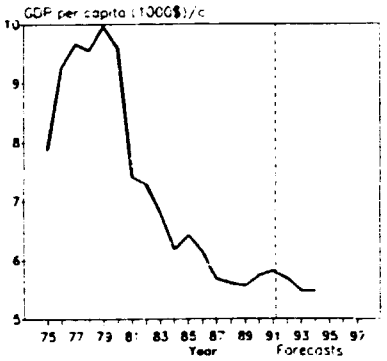
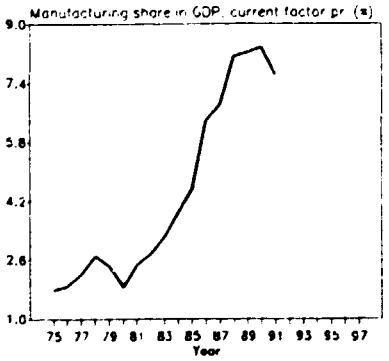


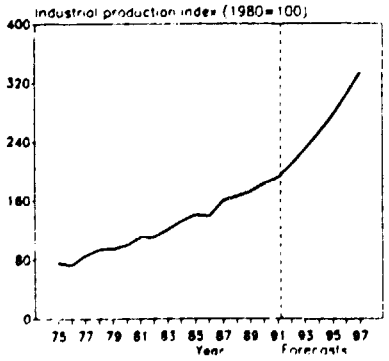




| | 1980 | 1985 | 1990 | 1993 |
|---|---|---|---|---|
| **GDP:[as]** (millions of 1990-dollars) | 29 196 | 24 333 | 26 078 | *27 646* |
| **Per capita[as]** (1990-dollars) | 9 594 | 6 427 | 5 738 | *5 477* |
| **Manufacturing share[as]** (%) (current factor prices) | 1.9 | 4.5 | *8 4* | .. |
| **MANUFACTURING:** | | | | |
| **Value added[as]** (millions of 1990-dollars) | 855 | 1 662 | 2 185 | *2 744* |
| **Industrial production index** (1980=100) | 100 | 141 | 183 | *230* |
| **Value added** (millions of dollars) | 358 | *538* | *731* | .. |
| **Gross output** (millions of dollars) | 1 177 | *1 747* | *2 459* | .. |
| **Employment** (thousands) | 18 | *23* | *27* | *31* |
| **-PROFITABILITY:**(in percent of gross output) | | | | |
| **Intermediate input** (%) | 70 | *69* | *70* | .. |
| **Wages and salaries including supplements** (%) | 13 | *12* | *11* | .. |
| **Gross operating surplus and net taxes** (%) | 17 | *19* | *18* | .. |
| **-PRODUCTIVITY:**(dollars) | | | | |
| **Gross output per worker** | *64 186* | *76 411* | *88 279* | .. |
| **Value added per worker** | *19 577* | *24 491* | *28 519* | .. |
| **Average wage** (including supplements) | *8 327* | *9 338* | *10 098* | .. |
| **-STRUCTURAL INDICES:** | | | | |
| **Structural change θ** (5-year average in degrees) | *12 51* | *3 36* | *2 40* | *1 78* |
| as a percentage of average θ in 1970-1975 | *173* | *47* | *33* | *25* |
| **MVA growth rate / θ** | 0.44 | 1.59 | 2.30 | 3.30 |
| **Degree of specialization** | 18.9 | 23.6 | 25.4 | 25.4 |
| **-VALUE ADDED:**(millions of dollars) | | | | |
| 311/2 Food products | 35 | *37* | *40* | .. |
| 313 Beverages | 17 | *18* | *21* | .. |
| 314 Tobacco products | 55 | *74* | *79* | .. |
| 321 Textiles | 14 | *22* | *27* | .. |
| 322 Wearing apparel | 5 | *5* | *6* | .. |
| 323 Leather and fur products | 7 | *15* | *22* | .. |
| 324 Footwear | 14 | *25* | *34* | .. |
| 331 Wood and wood products | *3* | *6* | *9* | .. |
| 332 Furniture and fixtures | *2* | *4* | *6* | .. |
| 341 Paper and paper products | 3 | *3* | *3* | .. |
| 342 Printing and publishing | - | *1* | *2* | .. |
| 351 Industrial chemicals | 35 | *41* | *52* | .. |
| 352 Other chemical products | 21 | *34* | *43* | .. |
| 353 Petroleum refineries | 81 | *124* | *200* | .. |
| 354 Miscellaneous petroleum and coal products | - | - | - | - |
| 355 Rubber products | - | - | *1* | .. |
| 356 Plastic products | 2 | *4* | 5 | .. |
| 361 Pottery, china and earthenware | 1 | *2* | *2* | .. |
| 362 Glass and glass products | - | - | - | - |
| 369 Other non-metal mineral products | 51 | *99* | *142* | .. |
| 371 Iron and steel | - | - | - | - |
| 372 Non-ferrous metals | - | - | - | - |
| 381 Metal products | 3 | *7* | *12* | .. |
| 382 Non-electrical machinery | - | - | - | - |
| 383 Electrical machinery | - | - | - | - |
| 384 Transport equipment | - | - | - | - |
| 385 Professional and scientific equipment | - | - | - | - |
| 390 Other manufacturing industries | 9 | *18* | *26* | .. |

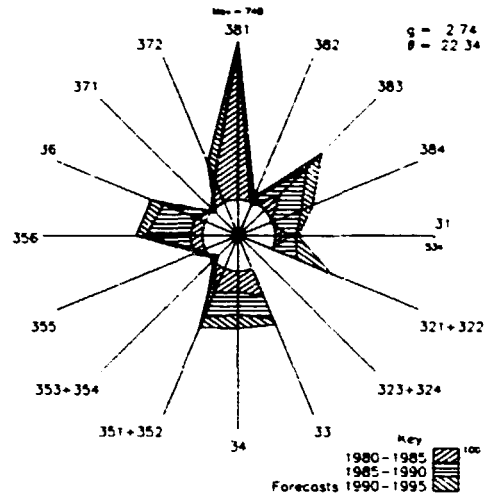
For sources, footnotes and comments see "Technical notes" at the beginning of this Annex.



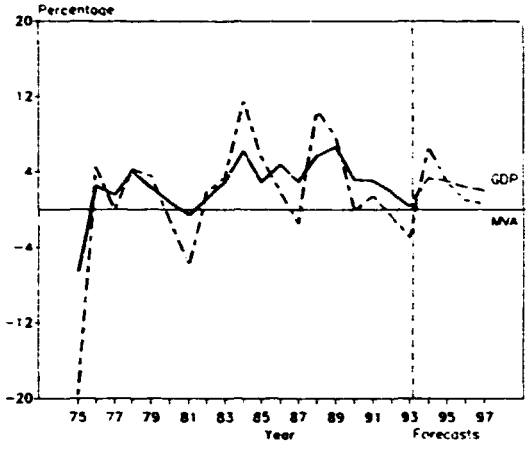



Industrial structural change
(index of value added 1980=100)




Annual growth rates of GDP and MVA
(Constant 1990 prices)

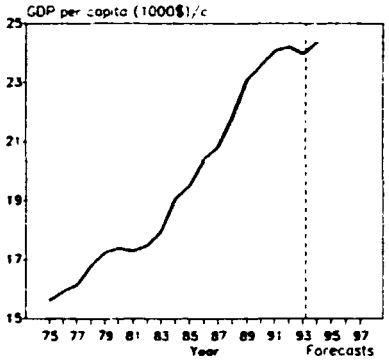



Source National Accounts Statistics from UN/UNSO
Estimated by UNIDO/IRD/RES

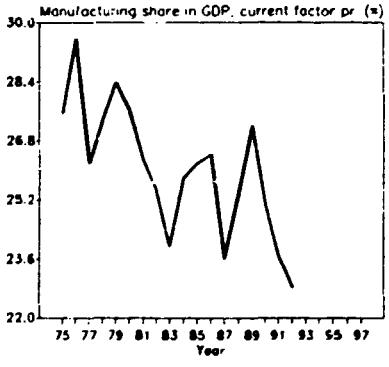
| | 1980 | 1985 | 1990 | 1993 |
|---|---|---|---|---|
| **GDP:[as] (millions of 1990-dollars)** | 6 329 | 7 164 | 8 989 | 9 463 |
| **Per capita[as] (1990-dollars)** | 17 386 | 19 520 | 23 394 | 23 957 |
| **Manufacturing share[as] (%) (current factor prices)** | 27.6 | 26.2 | 25.1 | .. |
| **MANUFACTURING:** | | | | |
| **Value added[as] (millions of 1990-dollars)** | 1 670 | 1 946 | 2 316 | 2 258 |
| **Industrial production index (1980=100)** | 100 | 115 | 138 | 139 |
| **Value added (millions of dollars)** | 1 168 | 981 | 2 219 | *2 306* |
| **Gross output (millions of dollars)** | 3 269 | 2 948 | 6 065 | 7 008 |
| **Employment (thousands)** | 38 | 37 | 36 | *35* |
| **-PROFITABILITY:(in percent of gross output)** | | | | |
| **Intermediate input (%)** | 71 | 71 | 68 | *71* |
| **Wages and salaries including supplements (%)** | *25* | *18* | *19* | *19* |
| **Gross operating surplus and net taxes (%)** | *4* | *11* | *13* | *10* |
| **-PRODUCTIVITY:(dollars)** | | | | |
| **Gross output per worker** | 89 590 | 79 134 | 171 512 | *195 537* |
| **Value added per worker** | 29 807 | 24 961 | 58 641 | *63 013* |
| **Average wage (including supplements)** | *23 389* | *15 423* | *35 600* | *42 083* |
| **-STRUCTURAL INDICES:** | | | | |
| **Structural change θ (5-year average in degrees)** | *3.06* | *3.24* | *4.02* | *2.57* |
| **as a percentage of average θ in 1970-1975** | *112* | *118* | *146* | *94* |
| **MVA growth rate / θ** | -0.77 | 1.47 | 0.61 | 0.15 |
| **Degree of specialization** | 37.5 | 31.0 | 23.5 | 20.5 |
| **-VALUE ADDED:(millions of dollars)** | | | | |
| 311/2 **Food products** | 31 | 36 | 77 | *76* |
| 313 **Beverages** | *24* | *18* | *45* | *50* |
| 314 **Tobacco products** | *17* | *14* | *33* | *35* |
| 321 **Textiles** | 24 | 15[h] | 64[h] | *92* |
| 322 **Wearing apparel** | 5 | 3 | 6 | *7* |
| 323 **Leather and fur products** | - | [h] | [h] | .. |
| 324 **Footwear** | - | [h] | [h] | .. |
| 331 **Wood and wood products** | *2* | *2* | *6* | *6* |
| 332 **Furniture and fixtures** | *2* | *4* | *10* | *11* |
| 341 **Paper and paper products** | *14* | *15* | *43* | *50* |
| 342 **Printing and publishing** | *18* | *17* | *50* | *58* |
| 351 **Industrial chemicals** | *41* | *43* | *126* | *127* |
| 352 **Other chemical products** | 3 | 8 | 23 | *27* |
| 353 **Petroleum refineries** | - | - | - | . |
| 354 **Miscellaneous petroleum and coal products** | *1* | *1* | *2* | *2* |
| 355 **Rubber products** | *113* | *102* | *171* | *176* |
| 356 **Plastic products** | *18* | *16* | *62* | *63* |
| 361 **Pottery, china and earthenware** | *10* | *6* | *15* | *14* |
| 362 **Glass and glass products** | *11* | *14* | *50* | *52* |
| 369 **Other non-metal mineral products** | *49* | *40* | *147* | *168* |
| 371 **Iron and steel** | 592 | 415 | 761 | *678* |
| 372 **Non-ferrous metals** | 32 | 36 | 75 | *89* |
| 381 **Metal products** | 24 | 86 | 203 | *240* |
| 382 **Non-electrical machinery** | 96 | 59 | 143 | *159* |
| 383 **Electrical machinery** | 19 | *21* | *69* | *81* |
| 384 **Transport equipment** | 7 | 5 | 19 | *22* |
| 385 **Professional and scientific equipment** | 10 | *7* | *19* | *20* |
| 390 **Other manufacturing industries** | *1* | *1* | *2* | *2* |

For sources, footnotes and comments see "Technical notes" at the beginning of this Annex.

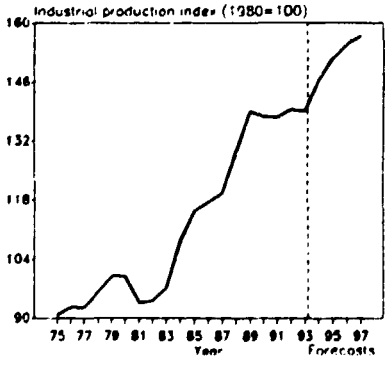
GDP per capita (1000$1/c

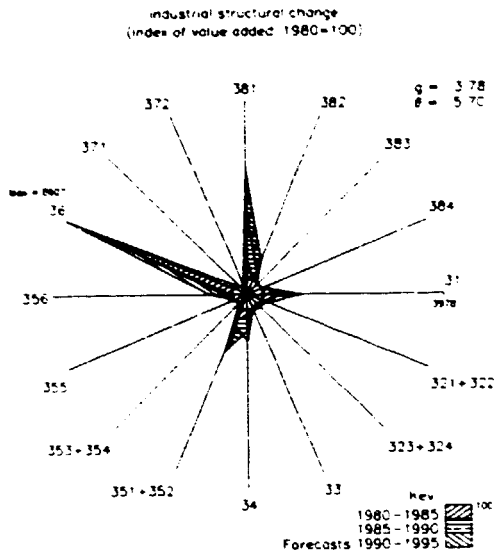


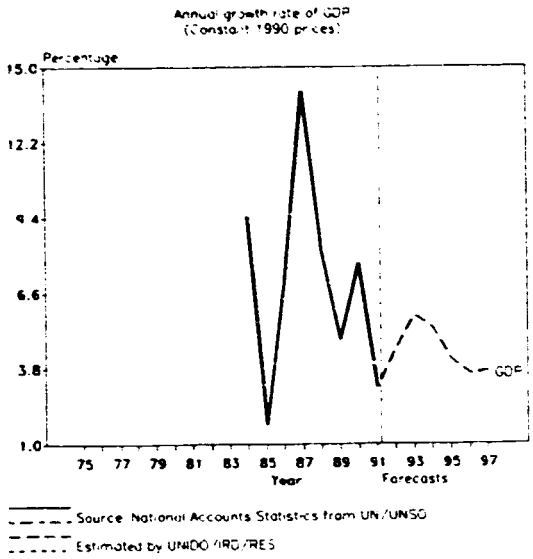

Manufacturing share in GDP, current factor pr (%)



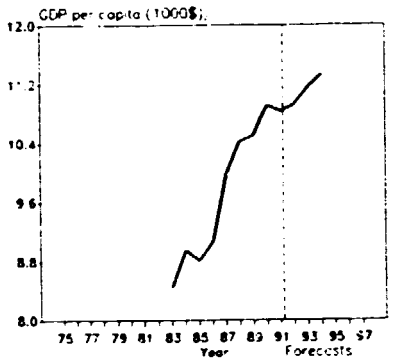

Industrial production index (1980=100)

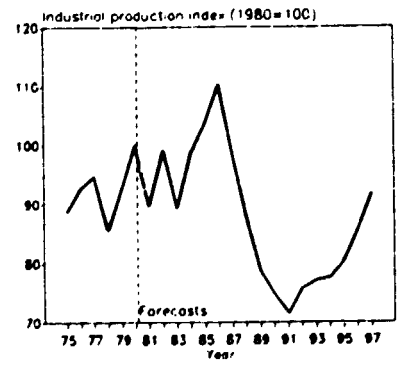




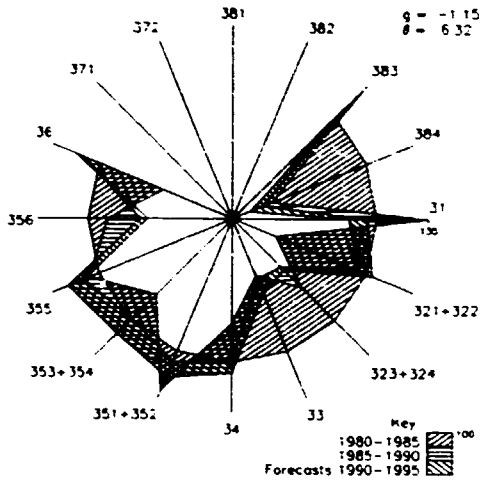

| | 1980 | 1985 | 1990 | 1993 |
|---|---|---|---|---|
| GDP[a,c] (millions of 1990-dollars) | .. | 2 502 | 3 731 | *4 250* |
| Per capita[a,c] (1990-dollars) | .. | 8 810 | 10 909 | *11 155* |
| Manufacturing share[a,c] (%) (current factor prices) | .. | .. | .. | .. |
| **MANUFACTURING:** | | | | |
| Value added[a,c] (millions of 1990-dollars) | .. | .. | .. | .. |
| Industrial production index (1980=100) | 100 | *104* | *75* | *77* |
| Value added (millions of dollars) | .. | 225 | 470 | *516* |
| Gross output (millions of dollars) | .. | 759 | 1 625 | *1 687* |
| Employment (thousands) | 46 | 59 | 63 | *51* |
| **-PROFITABILITY:**(in percent of gross output) | | | | |
| Intermediate input (%) | .. | 70 | 71 | *69* |
| Wages and salaries including supplements (%) | .. | 17 | 16 | *16* |
| Gross operating surplus and net taxes (%) | .. | 13 | 13 | *15* |
| **-PRODUCTIVITY:**(dollars) | | | | |
| Gross output per worker | .. | 12 557 | 25 090 | *31 553* |
| Value added per worker | .. | 3 723 | 7 263 | *9 602* |
| Average wage (including supplements) | .. | 2 113 | 4 155 | *5 076* |
| **-STRUCTURAL INDICES:** | | | | |
| Structural change θ (5-year average in degrees) | 4.01 | 2.94 | *3.93* | *3.21* |
| as a percentage of average θ in 1970-1975 | 125 | 92 | *122* | *100* |
| MVA growth rate / θ | -0.81 | 0.78 | 2.72 | -0.30 |
| Degree of specialization | 45.2 | 44.9 | 45.7 | 51.0 |
| **-VALUE ADDED:**(millions of dollars) | | | | |
| 311/2 Food products | .. | 3 | 6 | *6* |
| 313 Beverages | .. | 1 | 4 | *3* |
| 314 Tobacco products | .. | - | - | - |
| 321 Textiles | .. | 43 | 92 | *118* |
| 322 Wearing apparel | .. | 99 | 231 | *288* |
| 323 Leather and fur products | .. | 4 | 8 | *5* |
| 324 Footwear | .. | 1 | 5 | *4* |
| 331 Wood and wood products | .. | 1 | 2 | *1* |
| 332 Furniture and fixtures | .. | 2 | 5 | *4* |
| 341 Paper and paper products | .. | 2 | 4 | *4* |
| 342 Printing and publishing | .. | 3 | 9 | *15* |
| 351 Industrial chemicals | - | - | - | - |
| 352 Other chemical products | .. | 1 | 6 | *4* |
| 353 Petroleum refineries | - | - | - | - |
| 354 Miscellaneous petroleum and coal products | - | - | - | - |
| 355 Rubber products | .. | - | - | - |
| 356 Plastic products | .. | 1 | 3 | *6* |
| 361 Pottery, china and earthenware | - | 2 | 3 | *1* |
| 362 Glass and glass products | .. | - | - | - |
| 369 Other non-metal mineral products | .. | - | - | *3* |
| 371 Iron and steel | - | - | - | - |
| 372 Non-ferrous metals | - | - | - | - |
| 381 Metal products | .. | 1 | 8 | *8* |
| 382 Non-electrical machinery | .. | - | 1 | *1* |
| 383 Electrical machinery | .. | 8 | 7 | *7* |
| 384 Transport equipment | .. | 2 | 4 | *5* |
| 385 Professional and scientific equipment | .. | 3 | 4 | *4* |
| 390 Other manufacturing industries | .. | 46 | 68 | *29* |



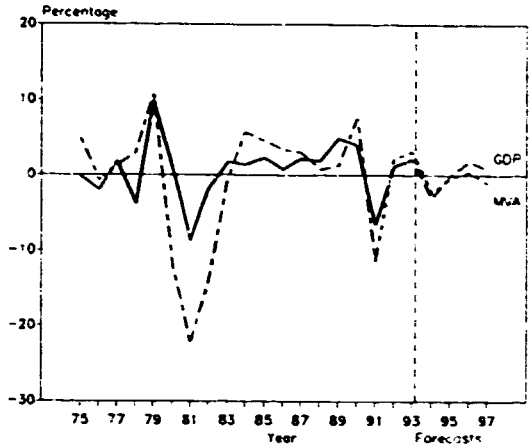




For sources, footnotes and comments see "Technical notes" at the beginning of this Annex

Industrial structural change
(Index of value added 1980=100)




Annual growth rates of GDP and MVA
(Constant 1990 prices)

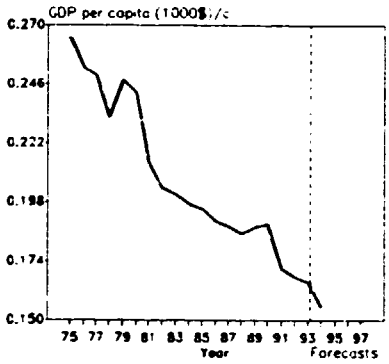



Source: National Accounts Statistics from UN/UNSO
Estimated by UNIDO/IRD/RES

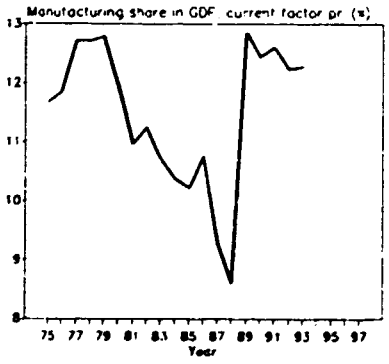
| | 1980 | 1985 | 1990 | 1993 |
|---|---|---|---|---|
| GDP[A,S] (millions of 1990-dollars) | 2 194 | 2 076 | 2 376 | 2 293 |
| Per capita[A,S] (1990-dollars) | 242 | 195 | 189 | 166 |
| Manufacturing share[A,S] (%) (current factor prices) | *11.9* | *10.2* | 12.4 | 12.3 |
| **MANUFACTURING:** | | | | |
| Value added[A,S] (millions of 1990-dollars) | 335 | 244 | 285 | *266* |
| Industrial production index (1980=100) | 100 | 83 | 105 | *98* |
| Value added (millions of dollars) | 221 | *132* | *150* | *150* |
| Gross output (millions of dollars) | 569 | 328 | *359* | *363* |
| Employment (thousands) | 41 | 47 | *46* | *47* |
| **-PROFITABILITY:**(in percent of gross output) | | | | |
| Intermediate input (%) | 61 | 60 | *58* | *59* |
| Wages and salaries including supplements (%) | 15 | 16 | *13* | *13* |
| Gross operating surplus and net taxes (%) | 24 | 25 | *29* | *29* |
| **-PRODUCTIVITY:**(dollars) | | | | |
| Gross output per worker | 14 005 | 6 872 | *7 357* | *7 280* |
| Value added per worker | 5 439 | 2 782 | *3 107* | *3 041* |
| Average wage (including supplements) | 2 083 | 1 099 | *979* | *984* |
| **-STRUCTURAL INDICES:** | | | | |
| Structural change θ (5-year average in degrees) | 7.69 | 14.31 | *10.20* | *0.85* |
| as a percentage of average θ in 1970-1975 | 106 | 197 | *140* | *12* |
| MVA growth rate / θ | 0.15 | -0.34 | 0.46 | 1.72 |
| Degree of specialization | 22.4 | 24.2 | 31.1 | 31.0 |
| **-VALUE ADDED:**(millions of dollars) | | | | |
| 311/2 Food products | 23 | 45 | *22* | *22* |
| 313 Beverages | 34 | 16 | *16* | *15* |
| 314 Tobacco products | 3 | 3 | *2* | *2* |
| 321 Textiles | 67 | 16 | *60* | *61* |
| 322 Wearing apparel | 19 | 6 | *4* | *4* |
| 323 Leather and fur products | 3 | 1 | *1* | *1* |
| 324 Footwear | 8 | 5 | *3* | *3* |
| 331 Wood and wood products | 2 | 1 | *1* | *1* |
| 332 Furniture and fixtures | 2 | - | *1* | *1* |
| 341 Paper and paper products | 4 | 3 | 5 | 5 |
| 342 Printing and publishing | 6 | 2 | *2* | *2* |
| 351 Industrial chemicals | 1 | 1 | *1* | *1* |
| 352 Other chemical products | 10 | 11 | 9 | 9 |
| 353 Petroleum refineries | *11* | *7* | 9 | *10* |
| 354 Miscellaneous petroleum and coal products | . | . | . | . |
| 355 Rubber products | 1 | 1 | *1* | *1* |
| 356 Plastic products | 3 | 2 | *1* | *2* |
| 361 Pottery, china and earthenware | . | . | . | . |
| 362 Glass and glass products | 2 | . | *1* | *1* |
| 369 Other non-metal mineral products | 2 | 1 | *3* | *3* |
| 371 Iron and steel | . | . | . | . |
| 372 Non-ferrous metals | . | . | . | . |
| 381 Metal products | 9 | 5 | 4 | 4 |
| 382 Non-electrical machinery | . | . | . | . |
| 383 Electrical machinery | 3 | 3 | *3* | *3* |
| 384 Transport equipment | 7 | 2 | *1* | *1* |
| 385 Professional and scientific equipment | . | . | . | . |
| 390 Other manufacturing industries | 2 | 1 | . | . |

For sources, footnotes and comments see "Technical notes" at the beginning of this Annex.

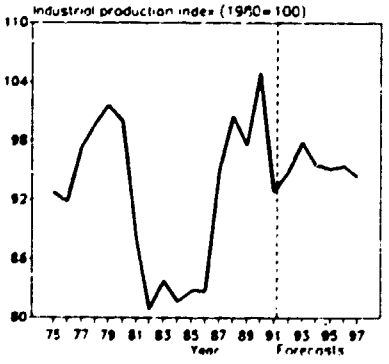
GDP per capita (1000$/c



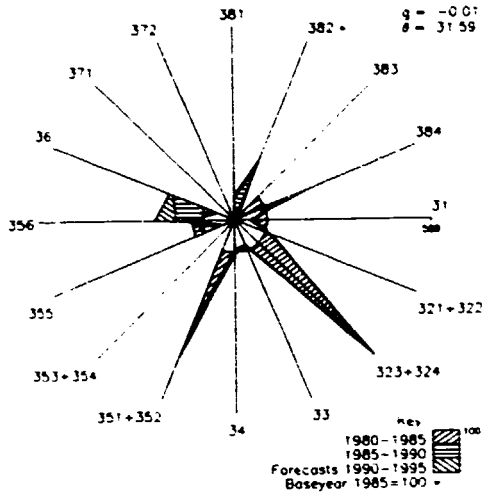

Manufacturing share in GDP current factor pr (%)



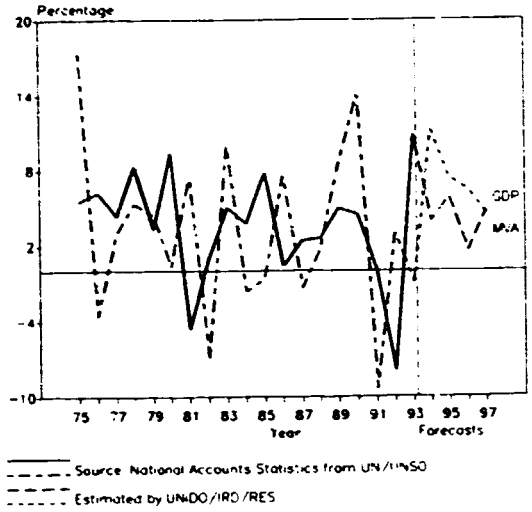

Industrial production index (1980=100)



Industrial structural change
(Index of value added 1980=100)



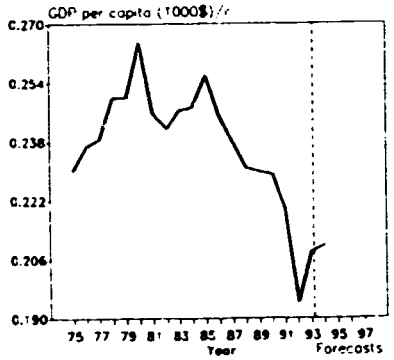

Annual growth rates of GDP and MVA
(Constant 1990 prices)



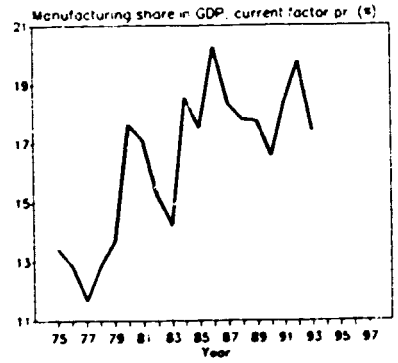

| | 1980 | 1985 | 1990 | 1993 |
|---|---|---|---|---|
| GDP[a/b] (millions of 1990-dollars) | 1 638 | 1 855 | 2 145 | 2 188 |
| Per capita[a/b] (1990-dollars) | 265 | 256 | 229 | 208 |
| Manufacturing share[a/b] (%) (current factor prices) | 17.6 | 17.5 | 16.6 | 17.4 |
| **MANUFACTURING:** | | | | |
| Value added[a/b] (millions of 1990-dollars) | 220 | 236 | 315 | 291 |
| Industrial production index (1980=100) | 100 | 116 | 155 | 164 |
| Value added (millions of dollars) | 123 | 90 | 133 | 133 |
| Gross output (millions of dollars) | 340 | 330 | 586 | 609 |
| Employment (thousands) | 39 | 31 | 40 | 49 |
| **-PROFITABILITY:**(in percent of gross output) | | | | |
| Intermediate input (%) | 64 | 73 | 77 | 78 |
| Wages and salaries including supplements (%) | 12 | 10 | 10 | 10 |
| Gross operating surplus (%) | 24 | 18 | 13 | 11 |
| **-PRODUCTIVITY:**(dollars) | | | | |
| Gross output per worker | 8 783 | 10 745 | 12 793 | 12 535 |
| Value added per worker | 3 174 | 2 923 | 2 944 | 2 780 |
| Average wage (including supplements) | 1 046 | 1 035 | 1 283 | 1 312 |
| **-STRUCTURAL INDICES:** | | | | |
| Structural change θ (5-year average in degrees) | 10.25 | 14.12 | 5.07 | 2.98 |
| as a percentage of average θ in 1970-1975 | 125 | 172 | 62 | 36 |
| MVA growth rate / θ | 1.26 | -0.07 | 0.20 | 1.34 |
| Degree of specialization | 27.7 | 16.7 | 17.8 | 18.0 |
| **-VALUE ADDED:**(millions of dollars) | | | | |
| 311/2 Food products | 54 | 14 | 27 | 25 |
| 313 Beverages | 8 | 7 | 12 | 11 |
| 314 Tobacco products | 9 | 5 | 8 | 7 |
| 321 Textiles | 12 | 14 | 18 | 17 |
| 322 Wearing apparel | 2 | 1 | 1 | 1 |
| 323 Leather and fur products | - | - | - | - |
| 324 Footwear | 1 | 3 | 4 | 4 |
| 331 Wood and wood products | 2 | 2 | 2 | 2 |
| 332 Furniture and fixtures | 1 | 1 | 1 | 1 |
| 341 Paper and paper products | 2 | 2 | 1 | 1 |
| 342 Printing and publishing | 8 | 6 | 9 | 9 |
| 351 Industrial chemicals | 2 | 8 | 7 | 8 |
| 352 Other chemical products | 5 | 14 | 21 | 24 |
| 353 Petroleum refineries | - | - | - | - |
| 354 Miscellaneous petroleum and coal products | - | - | - | - |
| 355 Rubber products | 1 | 1 | - | - |
| 356 Plastic products | 2 | 2 | 5 | 6 |
| 361 Pottery, china and earthenware | - | - | - | - |
| 362 Glass and glass products | - | - | - | - |
| 369 Other non-metal mineral products | 3 | 1 | 8 | 8 |
| 371 Iron and steel | - | - | - | - |
| 372 Non-ferrous metals | - | - | - | - |
| 381 Metal products | 6 | 6 | 5 | 4 |
| 382 Non-electrical machinery | - | 1 | 3 | 3 |
| 383 Electrical machinery | 5 | 1 | 1 | 1 |
| 384 Transport equipment | 1 | 1 | 1 | 1 |
| 385 Professional and scientific equipment | - | - | - | - |
| 390 Other manufacturing industries | - | - | - | - |

For sources, footnotes and comments see "Technical notes" at the beginning of this Annex.

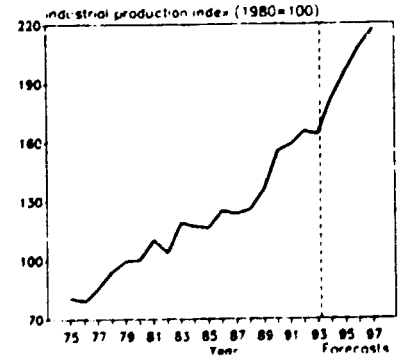
GDP per capita (1000$)/c

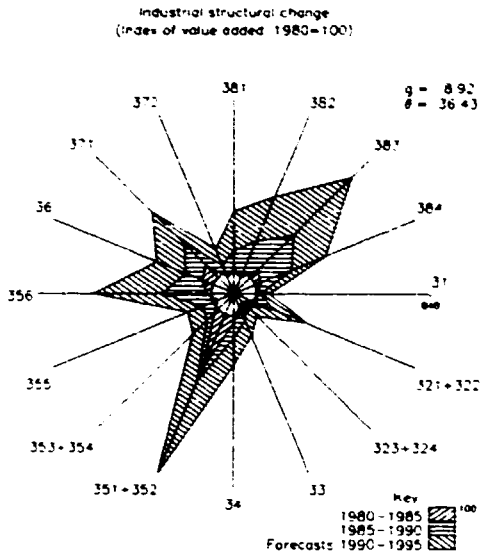


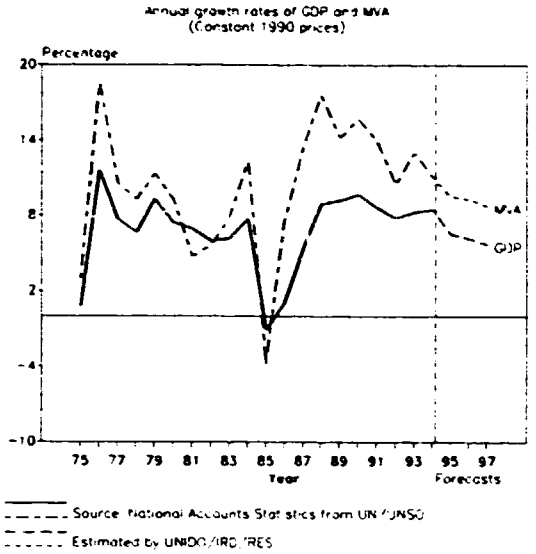

Manufacturing share in GDP, current factor pr. (%)




Industrial production index (1980=100)

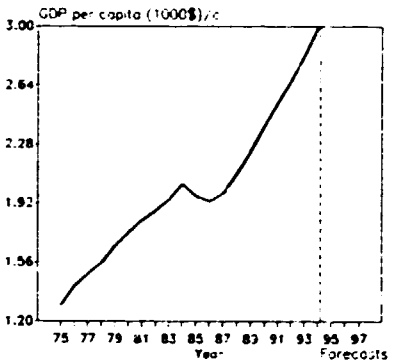


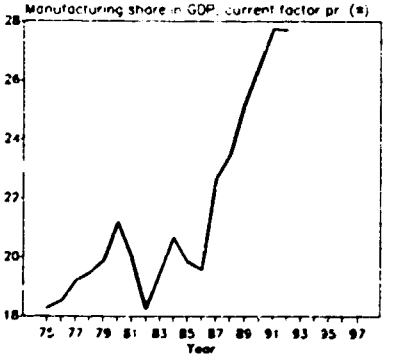


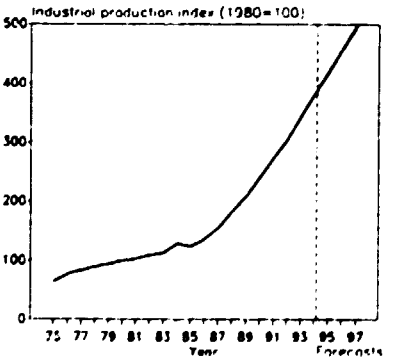




| | 1980 | 1985 | 1990 | 1993 |
|---|---|---|---|---|
| **GDP:[88] (millions of 1990-dollars)** | 23 997 | 30 794 | 42 822 | 54 318 |
| **Per capita[88] (1990-dollars)** | 1 744 | 1 964 | 2 393 | 2 822 |
| **Manufacturing share[88] (%) (current factor prices)** | 21.2 | 19.9 | 26.5 | .. |
| **MANUFACTURING:** | | | | |
| **Value added[88] (millions of 1990-dollars)** | 4 708 | 6 066 | 11 493 | 16 346 |
| **Industrial production index (1980=100)** | 100 | 124 | 242 | 344 |
| **Value added (millions of dollars)** | *3 711* | 4 879 | 9 068 | *15 625* |
| **Gross output (millions of dollars)** | *13 526* | 18 359 | 35 422 | *59 703* |
| **Employment (thousands)** | *463* | 473 | 831 | *1 107* |
| **-PROFITABILITY:(in percent of gross output)** | | | | |
| **Intermediate input (%)** | *73* | 73 | 74 | *74* |
| **Wages and salaries including supplements (%)** | *8* | 9 | 8 | *8* |
| **Gross operating surplus (%)** | *20* | 18 | 18 | *18* |
| **-PRODUCTIVITY:(dollars)** | | | | |
| **Gross output per worker** | *28 919* | 38 561 | 42 503 | *53 881* |
| **Value added per worker** | *8 198* | 10 249 | 10 881 | *14 400* |
| **Average wage (including supplements)** | *2 257* | 3 375 | 3 240 | *4 148* |
| **-STRUCTURAL INDICES:** | | | | |
| **Structural change θ (5-year average in degrees)** | *4 98* | 8.14 | 6.84 | *5 24* |
| **as a percentage of average θ in 1970-1975** | *51* | 84 | 71 | *54* |
| **MVA growth rate / θ** | 3.10 | 0.47 | 1.73 | 3.00 |
| **Degree of specialization** | 15.7 | 15.3 | 14.8 | 16.4 |
| **-VALUE ADDED:(millions of dollars)** | | | | |
| 311/2 Food products | *682* | 703 | 865 | *1 289* |
| 313 Beverages | *108* | 122 | 201 | *176* |
| 314 Tobacco products | *95* | 205 | 127 | *166* |
| 321 Textiles | *188* | 133 | 297 | *572* |
| 322 Wearing apparel | *68* | 100 | 280 | *419* |
| 323 Leather and fur products | *3* | 2 | 6 | *15* |
| 324 Footwear | *11* | 5 | 4 | *8* |
| 331 Wood and wood products | *405* | 263 | 584 | *863* |
| 332 Furniture and fixtures | *35* | 40 | 70 | *153* |
| 341 Paper and paper products | *35* | 55 | 155 | *258* |
| 342 Printing and publishing | *147* | 197 | 266 | *417* |
| 351 Industrial chemicals | *81* | 616 | 748 | *1 561* |
| 352 Other chemical products | *119* | 153 | 232 | *401* |
| 353 Petroleum refineries | *117* | 136 | 199 | *301* |
| 354 Miscellaneous petroleum and coal products | *2* | 21 | 32 | *51* |
| 355 Rubber products | *302* | 250 | 528 | *818* |
| 356 Plastic products | *70* | 92 | 261 | *489* |
| 361 Pottery, china and earthenware | *10* | 13 | 36 | *58* |
| 362 Glass and glass products | *24* | 23 | 73 | *117* |
| 369 Other non-metal mineral products | *172* | 297 | 441 | *710* |
| 371 Iron and steel | *80* | 153 | 287 | *461* |
| 372 Non-ferrous metals | *40* | 35 | 63 | *100* |
| 381 Metal products | *141* | 147 | 316 | *590* |
| 382 Non-electrical machinery | *119* | 99 | 348 | *631* |
| 383 Electrical machinery | *455* | 738 | 1 945 | *3 773* |
| 384 Transport equipment | *156* | 211 | 494 | *779* |
| 385 Professional and scientific equipment | *26* | 30 | 97 | *233* |
| 390 Other manufacturing industries | *23* | 39 | 111 | *217* |

For sources, footnotes and comments see "Technical notes" at the beginning of this Annex.

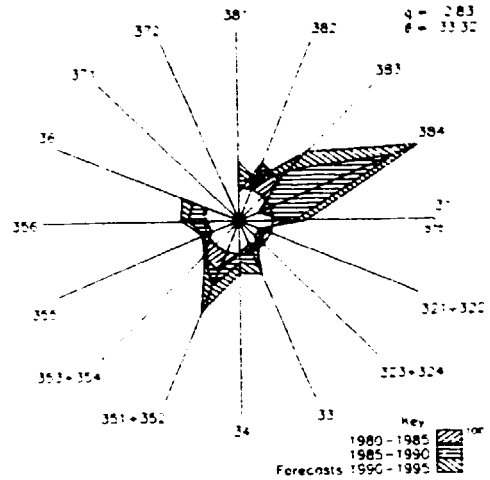


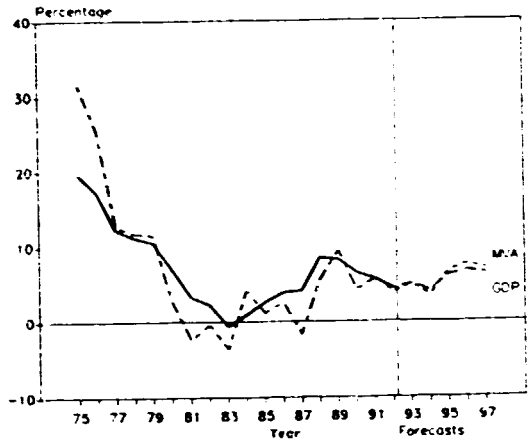



## MALTA

Industrial structural change
(Index of value added 1980=100)




Annual growth rates of GDP and MVA
(Constant 1990 prices)

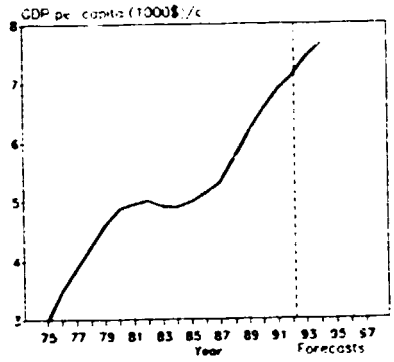



Source: National Accounts Statistics from UN/UNSD
Estimated by UNIDO/IRD/RES

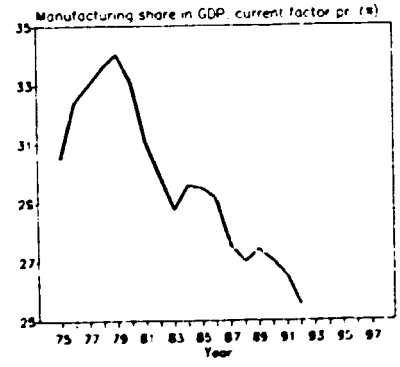
| | 1980 | 1985 | 1990 | 1993 |
|---|---|---|---|---|
| **GDP:[as]** (millions of 1990-dollars) | 1 578 | 1 716 | 2 318 | *2 682* |
| **Per capita[as]** (1990-dollars) | 4 871 | 4 989 | 6 547 | *7 428* |
| **Manufacturing share[as]** (%) (current factor prices) | 33.1 | 29.5 | 27.0 | .. |
| **MANUFACTURING:** | | | | |
| **Value added[as]** (millions of 1990-dollars) | 464 | 458 | 554 | *638* |
| **Industrial production index** (1980=100) | 100 | 111 | 184 | *226* |
| **Value added** (millions of dollars) | 302 | 265 | 526 | *523* |
| **Gross output** (millions of dollars) | 706 | 650 | 1 665 | *1 651* |
| **Employment** (thousands) | 29 | 26 | 29 | *30* |
| **-PROFITABILITY:**(in percent of gross output) | | | | |
| **Intermediate input** (%) | 57 | 59 | 68 | *68* |
| **Wages and salaries including supplements** (%) | *23* | 22 | *17* | *17* |
| **Gross operating surplus and net taxes** (%) | *20* | 19 | *15* | *15* |
| **-PRODUCTIVITY:**(dollars) | | | | |
| **Gross output per worker** | 23 285 | 24 271 | 57 247 | *54 132* |
| **Value added per worker** | 9 945 | 9 914 | 18 257 | *17 418* |
| **Average wage** (including supplements) | 5 652 | 5 561 | *9 781* | *9 305* |
| **-STRUCTURAL INDICES:** | | | | |
| **Structural change θ** (5-year average in degrees) | 5.54 | 5.83 | *8.75* | *4.72* |
| **as a percentage of average θ in 1970-1975** | 39 | 40 | *62* | *34* |
| **MVA growth rate / θ** | 2.43 | 0.12 | 0.53 | 0.73 |
| **Degree of specialization** | 18.3 | 17.7 | 13.6 | 13.3 |
| **-VALUE ADDED:**(millions of dollars) | | | | |
| 311/2 **Food products** | 20 | 25 | 56 | *58* |
| 313 **Beverages** | 20 | 22 | 42 | *44* |
| 314 **Tobacco products** | 8 | 8 | 9 | *9* |
| 321 **Textiles** | 17 | 8 | 17 | *14* |
| 322 **Wearing apparel** | 88 | 65 | 80 | *67* |
| 323 **Leather and fur products** | 4 | 1 | 2 | *2* |
| 324 **Footwear** | 8 | 9 | 12 | *9* |
| 331 **Wood and wood products** | 2 | 1 | *3* | *5* |
| 332 **Furniture and fixtures** | 14 | 9 | *26* | *26* |
| 341 **Paper and paper products** | 2 | 3 | *7* | *7* |
| 342 **Printing and publishing** | 22 | 17 | *34* | *35* |
| 351 **Industrial chemicals** | 1 | 2 | *5* | *5* |
| 352 **Other chemical products** | 5 | 6 | *12* | *14* |
| 353 **Petroleum refineries** | - | - | - | - |
| 354 **Miscellaneous petroleum and coal products** | - | - | - | - |
| 355 **Rubber products** | 10 | 7 | *15* | *14* |
| 356 **Plastic products** | 6 | 4 | 11 | *11* |
| 361 **Pottery, china and earthenware** | 1 | - | *1* | *1* |
| 362 **Glass and glass products** | 2 | 1 | *2* | *2* |
| 369 **Other non-metal mineral products** | 6 | 7 | *15* | *15* |
| 371 **Iron and steel** | - | - | - | - |
| 372 **Non-ferrous metals** | - | - | - | - |
| 381 **Metal products** | 14 | 10 | 26 | *27* |
| 382 **Non-electrical machinery** | 5 | 8 | *8* | *8* |
| 383 **Electrical machinery** | 22 | 31 | *62* | *67* |
| 384 **Transport equipment** | 6 | 3 | 43 | *42* |
| 385 **Professional and scientific equipment** | 12 | 12 | 29 | *31* |
| 390 **Other manufacturing industries** | 8 | 5 | *10* | *12* |

For sources, footnotes and comments see "Technical notes" at the beginning of this Annex.

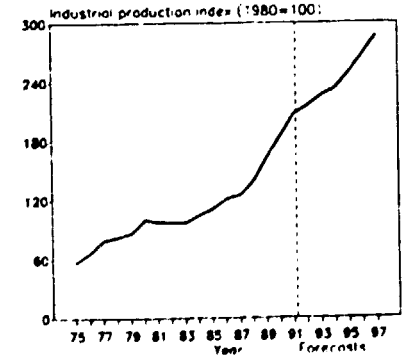
GDP per capita (1000$/c

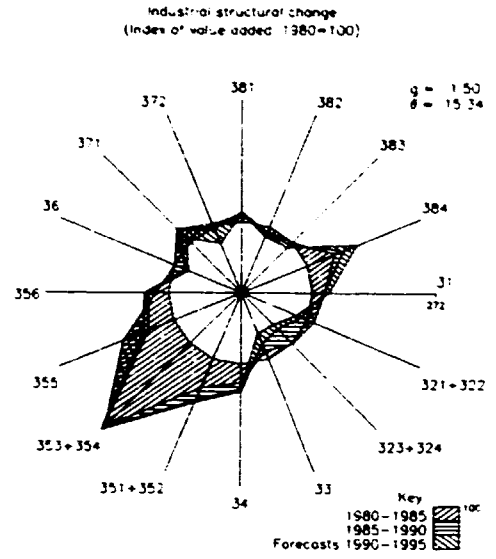


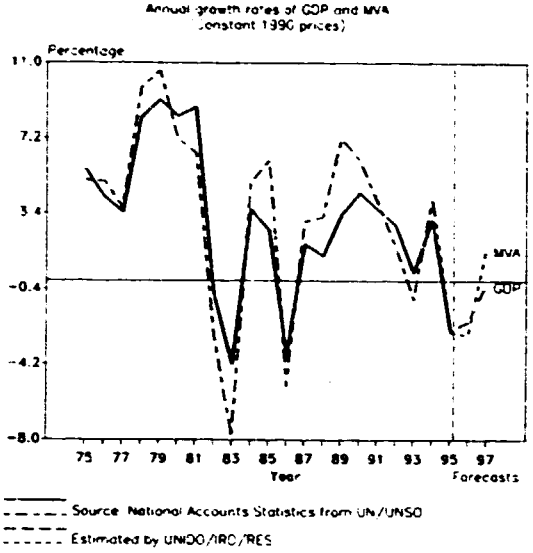

Manufacturing share in GDP, current factor pr (%)




Industrial production index (1980=100)

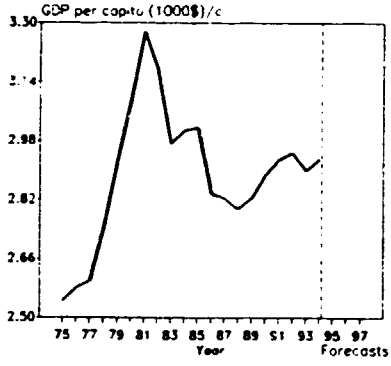


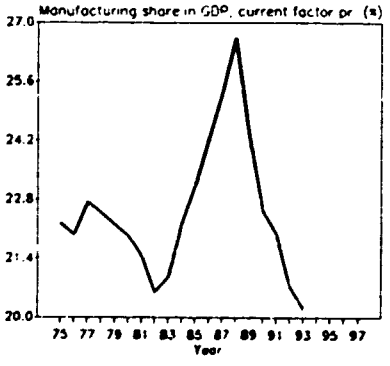


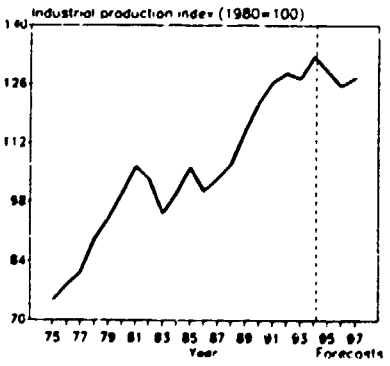




| | 1980 | 1986 | 1990 | 1993 |
|---|---|---|---|---|
| **GDP:[a0] (millions of 1990-dollars)** | 206 925 | 227 752 | 244 047 | 261 103 |
| **Per capita[a0] (1990-dollars)** | 3 086 | 3 016 | 2 888 | 2 900 |
| **Manufacturing share[a0] (%) (current factor prices)** | 21.9 | 23.1 | 22.5 | 20 2 |
| **MANUFACTURING:** | | | | |
| **Value added[a0] (millions of 1990-dollars)** | 45 704 | 48 586 | 55 593 | 58 221 |
| **Industrial production index (1980=100)** | 100 | 106 | 122 | 127 |
| **Value added (millions of dollars)** | 43 048 | *46 373* | *57 482* | *79 874* |
| **Gross output (millions of dollars)** | 102 047 | *106 972* | *132 792* | *184 414* |
| **Employment (thousands)** | 2 417 | *2 314* | *2 145* | *2 047* |
| **-PROFITABILITY:(in percent of gross output)** | | | | |
| **Intermediate input (%)** | 58 | *57* | *57* | *57* |
| **Wages and salaries including supplements (%)** | 14 | *9* | *9* | *8* |
| **Gross operating surplus and net taxes (%)** | 28 | *34* | *35* | *35* |
| **-PRODUCTIVITY:(dollars)** | | | | |
| **Gross output per worker** | 42 221 | *46 227* | *61 903* | *89 395* |
| **Value added per worker** | 17 811 | *20 040* | *26 796* | *38 791* |
| **Average wage (including supplements)** | 5 846 | *4 192* | *5 373* | *7 563* |
| **-STRUCTURAL INDICES:** | | | | |
| **Structural change θ (5-year average in degrees)** | 3.56 | *5 63* | *3 90* | *2 28* |
| **as a percentage of average θ in 1970-1975** | 112 | *177* | *122* | *72* |
| **MVA growth rate / θ** | 1.79 | 0.85 | 0.0* | -0.10 |
| **Degree of specialization** | 8.9 | 9.6 | 10.4 | 10.9 |
| **-VALUE ADDED:(millions of dollars)** | | | | |
| **311/2 Food products** | 6 989 | *7 015* | *8 661* | *12 315* |
| **313 Beverages** | 2 723 | *2 589* | *3 299* | *5 155* |
| **314 Tobacco products** | 623 | *740* | *793* | *1 362* |
| **321 Textiles** | 3 173 | *3 099* | *3 075* | *3 880* |
| **322 Wearing apparel** | 1 277 | *1 094* | *1 198* | *1 603* |
| **323 Leather and fur products** | 366 | *397* | *347* | *480* |
| **324 Footwear** | 845 | *658* | *575* | *726* |
| **331 Wood and wood products** | 919 | *786* | *845* | *962* |
| **332 Furniture and fixtures** | 784 | *498* | *565* | *711* |
| **341 Paper and paper products** | 1 189 | *1 180* | *1 660* | *2 179* |
| **342 Printing and publishing** | 1 050 | *1 250* | *1 654* | *2 278* |
| **351 Industrial chemicals** | 2 235 | *2 982* | *3 801* | *5 068* |
| **352 Other chemical products** | 2 235 | *2 562* | *4 124* | *5 708* |
| **353 Petroleum refineries** | 1 917 | *4 341* | *5 533* | *7 592* |
| **354 Miscellaneous petroleum and coal products** | 222 | *529* | *679* | *925* |
| **355 Rubber products** | 767 | *1 164* | *1 201* | *1 576* |
| **356 Plastic products** | 754 | *787* | *1 074* | *1 429* |
| **361 Pottery, china and earthenware** | 383 | *420* | *398* | *542* |
| **362 Glass and glass products** | 566 | *529* | *709* | *1 007* |
| **369 Other non-metal mineral products** | 1 464 | *1 113* | *1 044* | *1 46* |
| **371 Iron and steel** | 2 070 | *2 227* | *2 713* | *3 322* |
| **372 Non-ferrous metals** | 562 | *506* | *597* | *626* |
| **381 Metal products** | 1 961 | *1 849* | *2 384* | *3 237* |
| **382 Non-electrical machinery** | 2 074 | *1 643* | *2 030* | *2 634* |
| **383 Electrical machinery** | 1 900 | *1 635* | *1 907* | *2 548* |
| **384 Transport equipment** | 2 980 | *3 621* | *4 915* | *7 714* |
| **385 Professional and scientific equipment** | 306 | *381* | *674* | *1 306* |
| **390 Other manufacturing industries** | 754 | *796* | *1 024* | *1 525* |

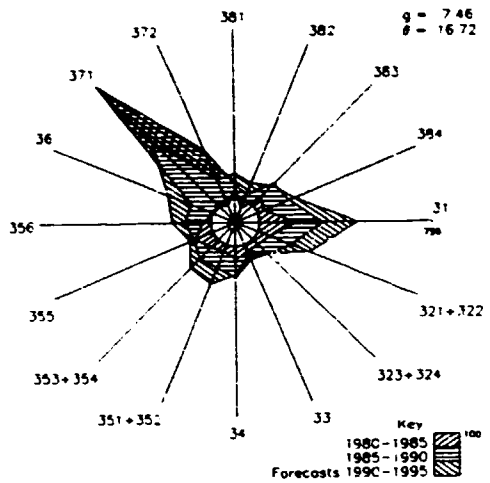
For sources, footnotes and comments see "Technical notes" at the beginning of this Annex.



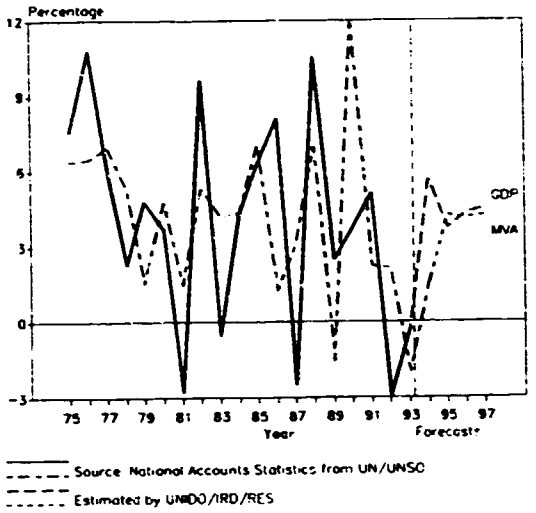



Industrial structural change
(Index of value added 1980=100)




Annual growth rates of GDP and MVA
(Constant 1990 prices)

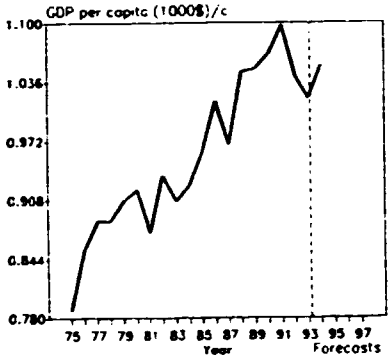



Source National Accounts Statistics from UN/UNSO
Estimated by UNIDO/IRD/RES

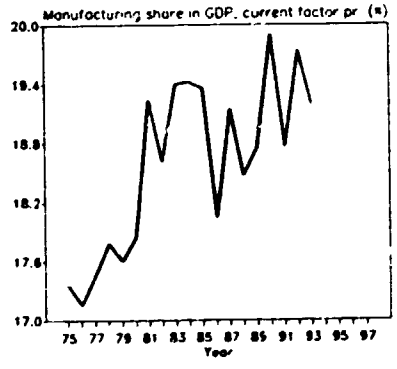
| | 1980 | 1985 | 1990 | 1993 |
|---|---|---|---|---|
| GDP:[RS] (millions of 1990-dollars) | 17 812 | 20 942 | 25 940 | 26 408 |
| Per capita[RS] (1990-dollars) | 919 | 960 | 1 066 | 1 018 |
| Manufacturing share[RS] (%) (current factor prices) | 17.8 | 19.4 | 19.9 | 19.2 |
| **MANUFACTURING:** | | | | |
| Value added[RS] (millions of 1990-dollars) | 3 197 | 3 973 | 4 886 | 4 998 |
| Industrial production index (1980=100) | 100 | 104 | 120 | 125 |
| Value added (millions of dollars) | 1 485 | *1 391* | *3 303* | *4 122* |
| Gross output (millions of dollars) | 6 239 | 4 698 | 11 263 | *11 412* |
| Employment (thousands) | 176 | 227 | 307 | 385 |
| **-PROFITABILITY:(in percent of gross output)** | | | | |
| Intermediate input (%) | 77 | *71* | *72* | 65 |
| Wages and salaries including supplements (%) | 13 | *12* | *11* | *12* |
| Gross operating surplus and net taxes (%) | 10 | *16* | *18* | *23* |
| **-PRODUCTIVITY:(dollars)** | | | | |
| Gross output per worker | 33 920 | 19 786 | 35 325 | *28 460* |
| Value added per worker | 7 801 | 5 693 | *10 029* | 9 955 |
| Average wage (including supplements) | 4 363 | *2 434* | *3 774* | *3 539* |
| **-STRUCTURAL INDICES:** | | | | |
| Structural change θ (5-year average in degrees) | *7.35* | *7.77* | *12.15* | *6.28* |
| as a percentage of average θ in 1970-1975 | *317* | *335* | *524* | *271* |
| MVA growth rate / θ | 0.49 | 1.12 | 0.76 | 0.65 |
| Degree of specialization | 12.8 | 15.3 | 14.5 | 16.7 |
| **-VALUE ADDED:(millions of dollars)** | | | | |
| 311/2 Food products | 130 | 110 | 144 | *267* |
| 313 Beverages | 62 | *154* | *416* | *520* |
| 314 Tobacco products | 38 | 89 | *216* | *268* |
| 321 Textiles | 202 | 172 | 315 | *390* |
| 322 Wearing apparel | 32 | 45 | 228 | *309* |
| 323 Leather and fur products | 15 | *11* | *24* | *24* |
| 324 Footwear | 24 | *20* | *44* | *43* |
| 331 Wood and wood products | 30 | *34* | 65 | *61* |
| 332 Furniture and fixtures | 19 | *7* | *14* | *13* |
| 341 Paper and paper products | 64 | 64 | 151 | *132* |
| 342 Printing and publishing | 26 | 19 | 43 | *47* |
| 351 Industrial chemicals | 127 | 166 | 403 | *560* |
| 352 Other chemical products | 97 | 13 | 30 | *26* |
| 353 Petroleum refineries | *114* | *102* | *225* | *287* |
| 354 Miscellaneous petroleum and coal products | .. | .. | .. | .. |
| 355 Rubber products | 34 | *38* | *60* | *66* |
| 356 Plastic products | 20 | *17* | *40* | *48* |
| 361 Pottery, china and earthenware | 6 | *3* | *7* | *7* |
| 362 Glass and glass products | 10 | *5* | *7* | *7* |
| 369 Other non-metal mineral products | 154 | *98* | *306* | *428* |
| 371 Iron and steel | 7 | *4* | *56* | *43* |
| 372 Non-ferrous metals | 8 | *4* | *25* | *20* |
| 381 Metal products | 110 | 96 | 166 | *217* |
| 382 Non-electrical machinery | 30 | *12* | *35* | *56* |
| 383 Electrical machinery | 61 | 56 | 132 | *117* |
| 384 Transport equipment | 62 | 49 | 140 | *157* |
| 385 Professional and scientific equipment | 1 | *3* | 7 | *7* |
| 390 Other manufacturing industries | 2 | 1 | 4 | 5 |

For sources, footnotes and comments see "Technical notes" at the beginning of this Annex.

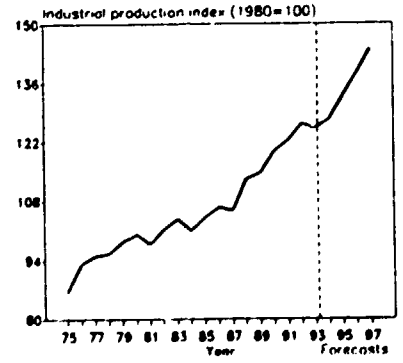
GDP per capita (1000$)/c

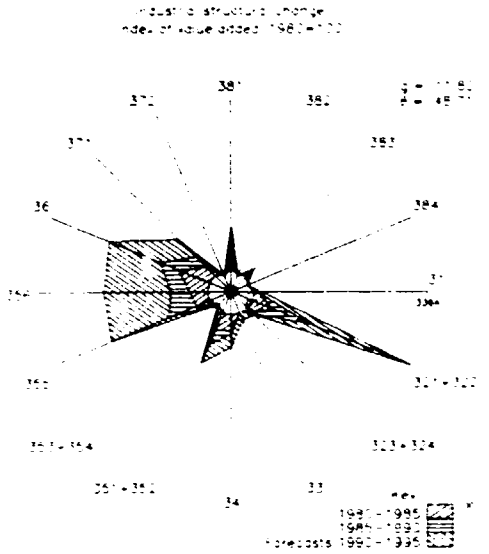


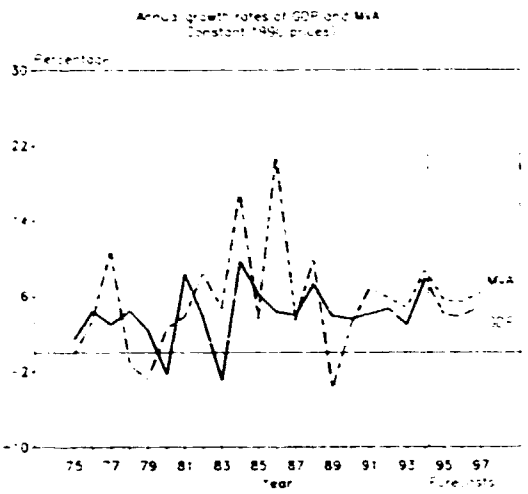

Manufacturing share in GDP, current factor pr (%)




Industrial production index (1980=100)

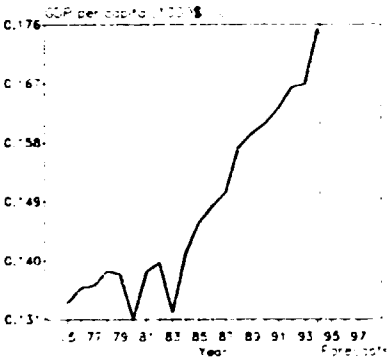


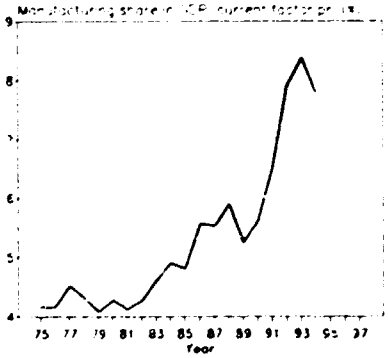


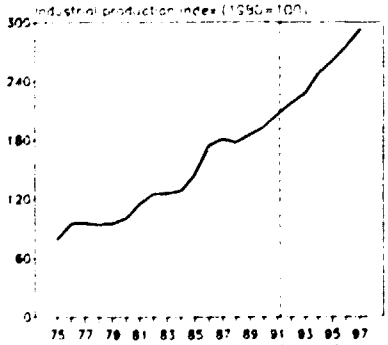



| | 1980 | 1985 | 1990 | 1993 |
|---|---|---|---|---|
| **GDP:[a]** (millions of 1990-dollars) | 1 950 | 2 477 | 3 099 | 3 474 |
| **Per capita[a]** (1990-dollars) | 131 | 146 | 161 | 167 |
| **Manufacturing share[a]** (%) (current factor prices) | 4.3 | 4.8 | 5.6 | 8.4 |
| **MANUFACTURING:** | | | | |
| **Value added[a]** (millions of 1990-dollars) | 74 | 106 | 143 | 169 |
| **Industrial production index (1980=100)** | 100 | 145 | 193 | 228 |
| **Value added (millions of dollars)** | 90 | 179 | 269 | 398 |
| **Gross output (millions of dollars)** | 500 | 653 | 656 | 923 |
| **Employment (thousands)** | 61 | 127 | 156 | 235 |
| **-PROFITABILITY:(in percent of gross output)** | | | | |
| **Intermediate input (%)** | 82 | 73 | 59 | 57 |
| **Wages and salaries including supplements (%)** | 4 | 6 | 10 | 11 |
| **Gross operating surplus and net taxes (%)** | 14 | 21 | 31 | 33 |
| **-PRODUCTIVITY:(dollars)** | | | | |
| **Gross output per worker** | 7 290 | 4 692 | 4 068 | 3 760 |
| **Value added per worker** | 1 319 | 1 288 | 1 666 | 1 623 |
| **Average wage (including supplements)** | 301 | 313 | 400 | 416 |
| **-STRUCTURAL INDICES:** | | | | |
| **Structural change θ (5-year average in degrees)** | 2 13 | 5 09 | 11.96 | 7 05 |
| **as a percentage of average θ in 1970-1975** | 262 | 624 | 1 466 | 864 |
| **MVA growth rate / θ** | 2.49 | 2.93 | 0.65 | 2.75 |
| **Degree of specialization** | 33.9 | 26.2 | 20.5 | 23.8 |
| **-VALUE ADDED:(millions of dollars)** | | | | |
| **311/2 Food products** | 38 | 59 | 38 | 53 |
| **313 Beverages** | 1 | 5 | 23 | 25 |
| **314 Tobacco products** | 17 | 26 | 40 | 40 |
| **321 Textiles** | 5 | 23 | 54 | 119 |
| **322 Wearing apparel** | 1 | 7 | 24 | 35 |
| **323 Leather and fur products** | 2 | 3 | 4 | 3 |
| **324 Footwear** | - | 1 | 1 | 2 |
| **331 Wood and wood products** | 2 | 4 | 3 | 7 |
| **332 Furniture and fixtures** | 4 | 3 | 2 | 5 |
| **341 Paper and paper products** | - | 1 | 3 | 3 |
| **342 Printing and publishing** | 1 | 3 | 2 | 2 |
| **351 Industrial chemicals** | - | - | - | - |
| **352 Other chemical products** | 2 | 8 | 13 | 15 |
| **353 Petroleum refineries** | - | - | - | - |
| **354 Miscelleneous petroleum and coal products** | - | - | - | - |
| **355 Rubber products** | - | 1 | 2 | 4 |
| **356 Plastic products** | - | 2 | 3 | 6 |
| **361 Pottery, china and earthenware** | - | - | - | - |
| **362 Glass and glass products** | .. | .. | .. | .. |
| **369 Other non-metal mineral products** | 3 | 22 | 34 | 49 |
| **371 Iron and steel** | 1 | 4 | 8 | 11 |
| **372 Non-ferrous metals** | - | - | - | - |
| **381 Metal products** | 2 | 5 | 8 | 12 |
| **382 Non-electrical machinery** | - | - | - | - |
| **383 Electrical machinery** | 2 | 3 | 4 | 6 |
| **384 Transport equipment** | - | - | - | - |
| **385 Professional and scientific equipment** | - | - | - | - |
| **390 Other manufacturing industries** | 10 | 1 | 3 | 1 |

For sources, footnotes and comments see "Technical notes" at the beginning of this Annex.

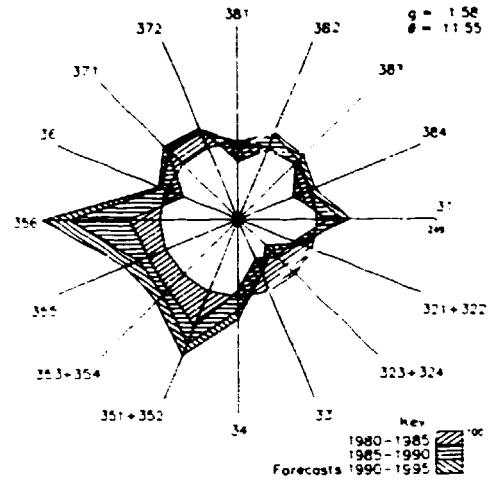


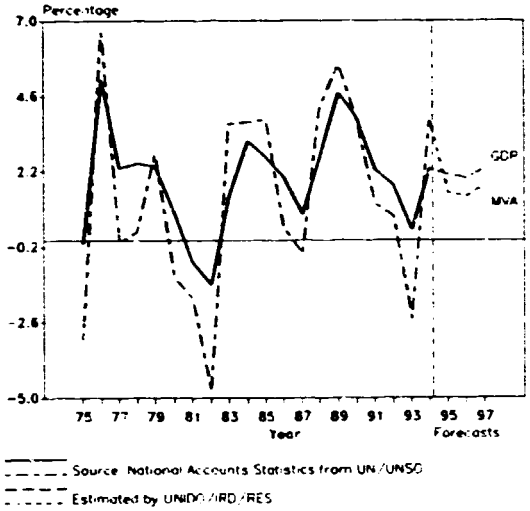



## NETHERLANDS

Industrial structural change
(Index of value added 1980=100)




Annual growth rates of GDP and MVA
(Constant 1990 prices)



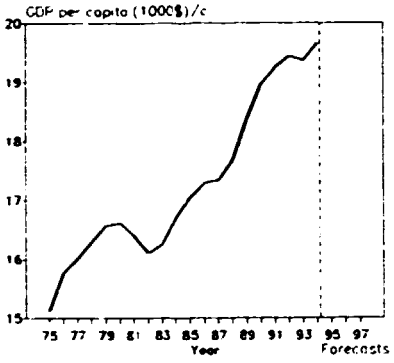

Source National Accounts Statistics from UN/UNSO

Estimated by UNIDO/IRD/RES

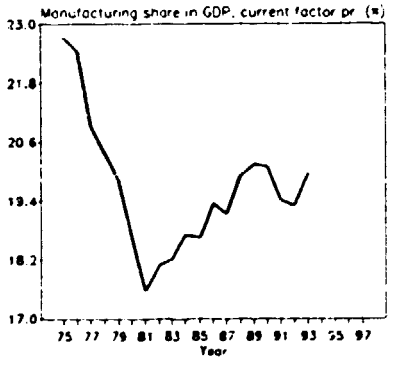
| | 1980 | 1985 | 1990 | 1993 |
|---|---|---|---|---|
| **GDP:[as]** (millions of 1990-dollars) | 234 973 | 246 975 | 283 525 | 295 971 |
| **Per capita[as]** (1990-dollars) | 16 613 | 17 042 | 18 962 | 19 364 |
| **Manufacturing share[as]** (%) (current factor prices) | 18.7 | 18.6 | 20.1 | *20 0* |
| **MANUFACTURING:** | | | | |
| **Value added[as]** (millions of 1990-dollars) | 45 186 | 47 167 | 53 804 | 53 461 |
| **Industrial production index (1980=100)** | 100 | 104 | 119 | 118 |
| **Value added (millions of dollars)** | *29 080* | 20 714 | 47 539 | *52 035* |
| **Gross output (millions of dollars)** | 109 618 | 80 068 | 161 098 | 169 062 |
| **Employment (thousands)** | 944 | 797 | 845 | *833* |
| **-PROFITABILITY:(in percent of gross output)** | | | | |
| **Intermediate input (%)** | 73 | 74 | 70 | *69* |
| **Wages and salaries including supplements (%)** | *20* | *21* | 22 | *24* |
| **Gross operating surplus and net taxes (%)** | *7* | 5 | *7* | *7* |
| **-PRODUCTIVITY:(dollars)** | | | | |
| **Gross output per worker** | 109 968 | 87 795 | 165 199 | *201 089* |
| **Value added per worker** | 29 285 | 23 459 | 49 365 | *65 132* |
| **Average wage (including supplements)** | *23 135* | *21 037* | *42 133* | *47 870* |
| **-STRUCTURAL INDICES:** | | | | |
| **Structural change θ (5-year average in degrees)** | 2.76 | 6.01 | 4.82 | *2 37* |
| **as a percentage of average θ in 1970-1975** | 74 | 161 | 129 | *63* |
| **MVA growth rate / θ** | -0.45 | 0.04 | 0.72 | 0.33 |
| **Degree of specialization** | 15.0 | 15.2 | 14.8 | 15.0 |
| **-VALUE ADDED:(millions of dollars)** | | | | |
| 311/2 **Food products** | 4 562 | 2 896 | 6 373 | *7 158* |
| 313 **Beverages** | 654 | 737 | 1 512 | *1 685* |
| 314 **Tobacco products** | 282 | 775 | 1 848 | *1 959* |
| 321 **Textiles** | 734 | 463 | 1 046 | *1 093* |
| 322 **Wearing apparel** | 372 | *130* | *279* | *268* |
| 323 **Leather and fur products** | 68 | *38* | *61* | *57* |
| 324 **Footwear** | 118 | 51 | 85 | *86* |
| 331 **Wood and wood products** | 594 | 234 | 590 | *653* |
| 332 **Furniture and fixtures** | 418 | 184 | 459 | *463* |
| 341 **Paper and paper products** | 805 | 660 | 1 660 | *1 875* |
| 342 **Printing and publishing** | 2 480 | 1 446 | 3 588 | *4 014* |
| 351 **Industrial chemicals** | 2 263 | 2 436 | 5 610 | *6 180* |
| 352 **Other chemical products** | 913 | 902 | 1 903 | *2 104* |
| 353 **Petroleum refineries** | 533 | 521 | 1 057 | *1 166* |
| 354 **Miscellaneous petroleum and coal products** | 101 | 55 | 134 | *146* |
| 355 **Rubber products** | 156 | 139 | 296 | *326* |
| 356 **Plastic products** | 472 | 466 | 1 389 | *1 591* |
| 361 **Pottery, china and earthenware** | 134 | 77 | *196* | *215* |
| 362 **Glass and glass products** | 245 | *133* | 370 | *404* |
| 369 **Other non-metal mineral products** | 893 | *477* | *1 272* | *1 383* |
| 371 **Iron and steel** | 882 | *798* | *1 513* | *1 670* |
| 372 **Non-ferrous metals** | 371 | *329* | *611* | *669* |
| 381 **Metal products** | 2 456 | 1 293 | 3 375 | *3 335* |
| 382 **Non-electrical machinery** | 2 369 | 1 628 | 3 848 | *4 163* |
| 383 **Electrical machinery** | 3 687 | 2 656 | 5 407 | *5 973* |
| 384 **Transport equipment** | 1 927 | 1 015 | 2 571 | *2 861* |
| 385 **Professional and scientific equipment** | 237 | 146 | 349 | *413* |
| 390 **Other manufacturing industries** | 356 | 49 | 135 | *116* |

For sources, footnotes and comments see "Technical notes" at the beginning of this Annex.

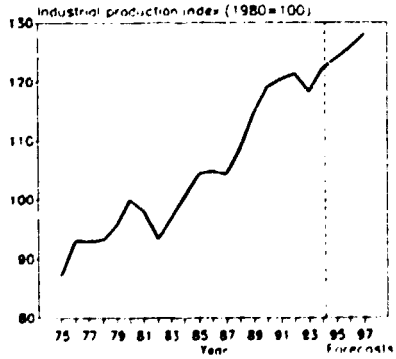
GDP per capita (1000$)/c

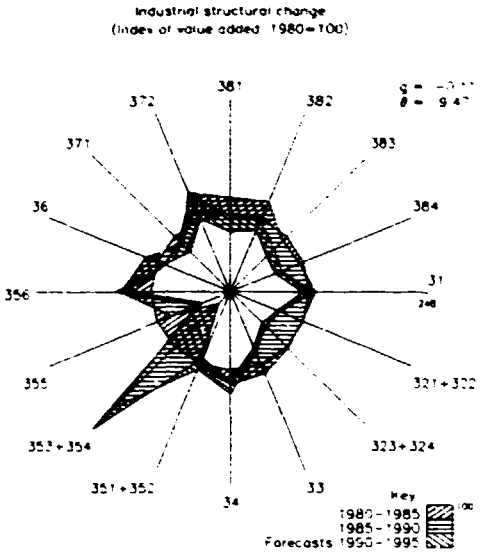


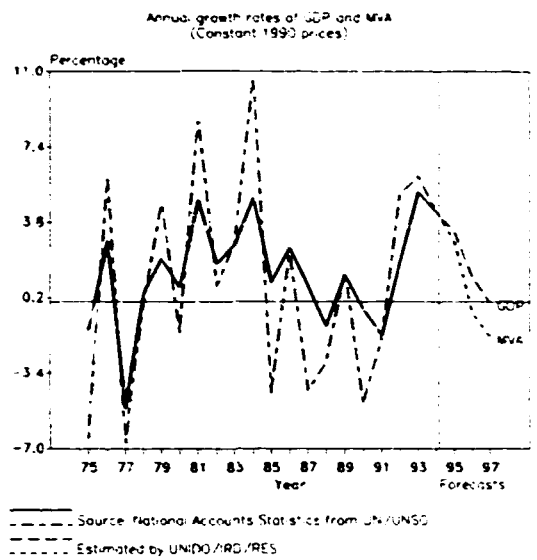

Manufacturing share in GDP, current factor pr (%)




Industrial production index (1980=100)

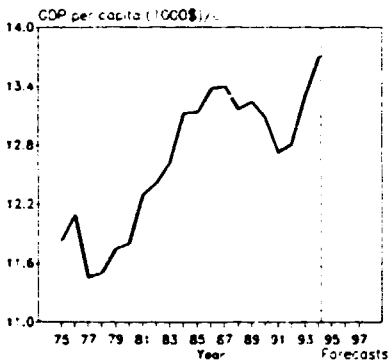


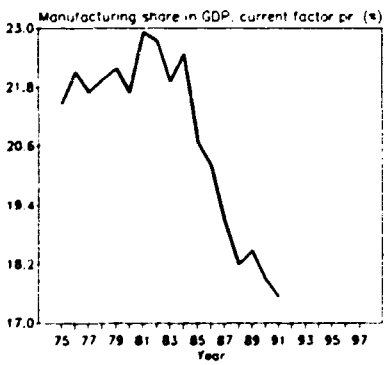


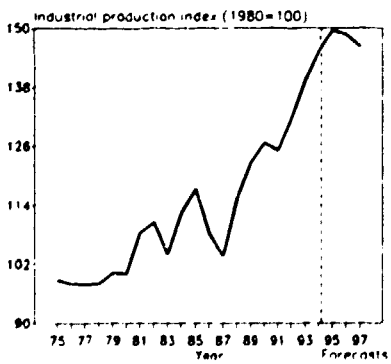




| | 1980 | 1985 | 1990 | 1993 |
|---|---|---|---|---|
| **GDP:[aa] (millions of 1990-dollars)** | 36 725 | 42 647 | 43 941 | 46 367 |
| **Per capita[aa] (1990-dollars)** | 11 797 | 13 134 | 13 078 | 13 305 |
| **Manufacturing share[aa] (%) (current factor prices)** | 21.7 | 20.7 | 17.9 | .. |
| **MANUFACTURING:** | | | | |
| **Value added[aa] (millions of 1990-dollars)** | 6 996 | 8 323 | 7 636 | 8 356 |
| **Industrial production index (1980=100)** | 100 | 117 | 127 | 139 |
| **Value added (millions of dollars)** | *4 756* | *4 657* | *6 928* | *6 995* |
| **Gross output (millions of dollars)** | 14 790 | 15 399 | 23 457 | *23 685* |
| **Employment (thousands)** | *285* | 278 | 222 | *215* |
| **-PROFITABILITY:(in percent of gross output)** | | | | |
| **Intermediate input (%)** | 68 | 70 | 70 | *70* |
| **Wages and salaries including supplements (%)** | *22* | *18* | *17* | *18* |
| **Gross operating surplus and net taxes (%)** | *10* | *12* | *12* | *12* |
| **-PRODUCTIVITY:(dollars)** | | | | |
| **Gross output per worker** | *51 964* | 50 964 | 98 140 | *104 519* |
| **Value added per worker** | *16 711* | 15 414 | 28 989 | *31 707* |
| **Average wage (including supplements)** | *11 356* | *10 180* | *18 421* | *19 419* |
| **-STRUCTURAL INDICES:** | | | | |
| **Structural change θ (5-year average in degrees)** | *2 08* | 2.29 | 5.52 | *2 30* |
| **as a percentage of average θ in 1970-1975** | *39* | 43 | 104 | *43* |
| **MVA growth rate / θ** | 0.65 | 0.75 | -0.80 | 0.01 |
| **Degree of specialization** | 14.6 | 14.7 | 15.3 | 15.3 |
| **-VALUE ADDED:(millions of dollars)** | | | | |
| 311/2 Food products | 1 096 | 1 062 | 1 676 | *1 687* |
| 313 Beverages | 110 | 93 | 216 | *212* |
| 314 Tobacco products | 30 | 19 | 45 | *43* |
| 321 Textiles | 222 | 193 | 232 | *224* |
| 322 Wearing apparel | 185 | 170 | 202 | *204* |
| 323 Leather and fur products | 45 | 46 | 54 | *58* |
| 324 Footwear | 55 | 46 | 41 | *38* |
| 331 Wood and wood products | 253 | 257 | 323 | *313* |
| 332 Furniture and fixtures | 92 | 95 | 126 | *125* |
| 341 Paper and paper products | 266 | 276 | 553 | *549* |
| 342 Printing and publishing | 294 | 326 | 537 | *540* |
| 351 Industrial chemicals | 140 | 134 | 249 | *252* |
| 352 Other chemical products | 156 | 142 | 211 | *214* |
| 353 Petroleum refineries | 26 | -1 | 137 | *137* |
| 354 Miscellaneous petroleum and coal products | 9 | 7 | 9 | 9 |
| 355 Rubber products | 96 | 70 | 62 | *65* |
| 356 Plastic products | 110 | 138 | 229 | *233* |
| 361 Pottery, china and earthenware | 13 | 11 | 17 | *17* |
| 362 Glass and glass products | 44 | 41 | 63 | *58* |
| 369 Other non-metal mineral products | 114 | 127 | 181 | *164* |
| 371 Iron and steel | 93 | 71 | 113 | *118* |
| 372 Non-ferrous metals | 82 | 102 | 139 | *146* |
| 381 Metal products | 371 | 404 | 480 | *522* |
| 382 Non-electrical machinery | 235 | 264 | 340 | *347* |
| 383 Electrical machinery | 239 | 200 | 280 | *276* |
| 384 Transport equipment | 318 | 274 | 322 | *331* |
| 385 Professional and scientific equipment | 14 | 20 | 24 | *25* |
| 390 Other manufacturing industries | *45* | 46 | 83 | *89* |

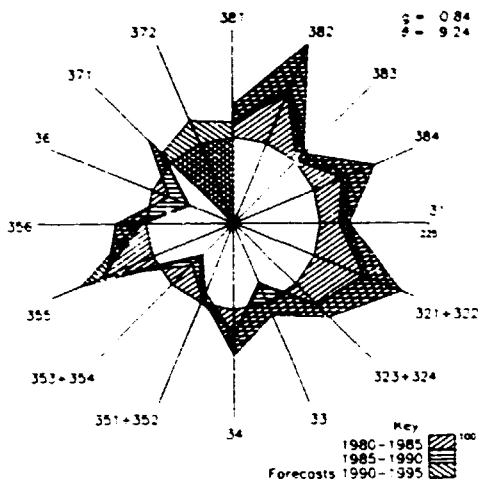
For sources, footnotes and comments see "Technical notes" at the beginning of this Annex.



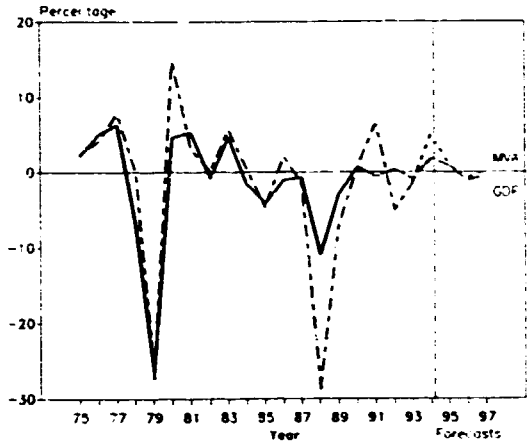



Industrial structural change
(Index of value added 1980=100)




Annual growth rates of GDP and MVA
(Constant 1990 prices)

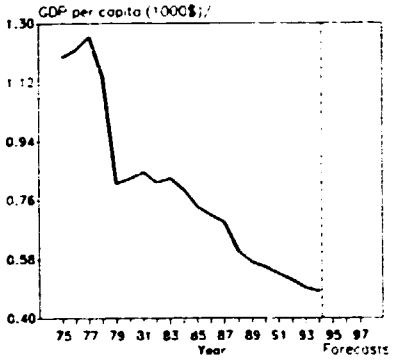



Source: National Accounts Statistics from UN/UNSO
Estimated by : NIDC/IRD/RES

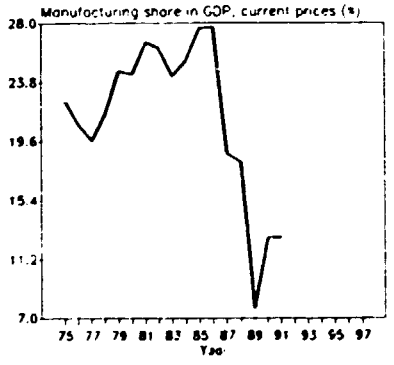
| | 1980 | 1985 | 1990 | 1993 |
|---|---|---|---|---|
| **GDP:[00] (millions of 1990-dollars)** | 2 315 | 2 389 | 2 045 | 2 023 |
| **Per capita[00] (1990-dollars)** | 826 | 740 | 556 | 492 |
| **Manufacturing share[00] (%) (current factor prices)** | 24.4 | 27.6 | 12.7 | .. |
| **MANUFACTURING:** | | | | |
| **Value added[00] (millions of 1990-dollars)** | 374 | 389 | 260 | 259 |
| **Industrial production index (1980=100)** | 100 | *120* | *122* | 123 |
| **Value added (millions of dollars)** | 242 | 982 | *1 602* | .. |
| **Gross output (millions of dollars)** | 612 | 1 587 | *2 423* | .. |
| **Employment (thousands)** | 34 | 39 | *47* | 53 |
| **-PROFITABILITY:(in percent of gross output)** | | | | |
| **Intermediate input (%)** | 60 | 38 | *34* | .. |
| **Wages and salaries including supplements (%)** | 12 | 10 | *11* | .. |
| **Gross operating surplus and net taxes (%)** | 28 | 52 | *55* | .. |
| **-PRODUCTIVITY:(dollars)** | | | | |
| **Gross output per worker** | 18 017 | 38 009 | *48 335* | .. |
| **Value added per worker** | 7 131 | 23 515 | *31 946* | .. |
| **Average wage (including supplements)** | 2 078 | 4 152 | *5 793* | .. |
| **-STRUCTURAL INDICES:** | | | | |
| **Structural change θ (5-year average in degrees)** | *7 80* | 12.88 | *2 34* | *2 16* |
| **as a percentage of average θ in 1970-1975** | *175* | *289* | *52* | *49* |
| **MVA growth rate / θ** | -1.09 | 0.38 | -1.09 | -0.24 |
| **Degree of specialization** | 27.7 | 29.6 | 31.4 | 32.4 |
| **-VALUE ADDED:(millions of dollars)** | | | | |
| **311/2 Food products** | 52 | 268 | *393* | .. |
| **313 Beverages** | 48 | 227 | *445* | .. |
| **314 Tobacco products** | 28 | 64 | *118* | .. |
| **321 Textiles** | 9 | 70 | *102* | .. |
| **322 Wearing apparel** | 4 | 23 | *33* | .. |
| **323 Leather and fur products** | 2 | 6 | *12* | .. |
| **324 Footwear** | 4 | 27 | *43* | .. |
| **331 Wood and wood products** | 3 | 10 | *14* | .. |
| **332 Furniture and fixtures** | 1 | 4 | *4* | .. |
| **341 Paper and paper products** | 1 | 3 | *3* | .. |
| **342 Printing and publishing** | 4 | 22 | *37* | .. |
| **351 Industrial chemicals** | 11 | 23 | *31* | .. |
| **352 Other chemical products** | 14 | 56 | *107* | .. |
| **353 Petroleum refineries** | 35 | 78 | *111* | .. |
| **354 Miscellaneous petroleum and coal products** | - | 1 | *2* | .. |
| **355 Rubber products** | 1 | 6 | *11* | .. |
| **356 Plastic products** | 4 | 20 | *29* | .. |
| **361 Pottery, china and earthenware** | - | 2 | - | .. |
| **362 Glass and glass products** | - | 1 | *1* | .. |
| **369 Other non-metal mineral products** | 7 | 17 | *24* | .. |
| **371 Iron and steel** | - | 1 | *2* | .. |
| **372 Non-ferrous metals** | - | - | - | .. |
| **381 Metal products** | 9 | 40 | *62* | .. |
| **382 Non-electrical machinery** | - | 3 | *4* | .. |
| **383 Electrical machinery** | 1 | 5 | *8* | .. |
| **384 Transport equipment** | 1 | 3 | *4* | .. |
| **385 Professional and scientific equipment** | 1 | - | - | .. |
| **390 Other manufacturing industries** | - | 2 | *2* | .. |

For sources, footnotes and comments see "Technical notes" at the beginning of this Annex.

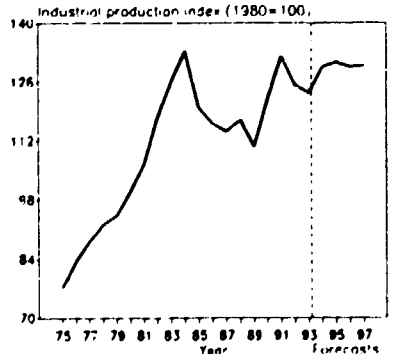
GDP per capita (1000$)



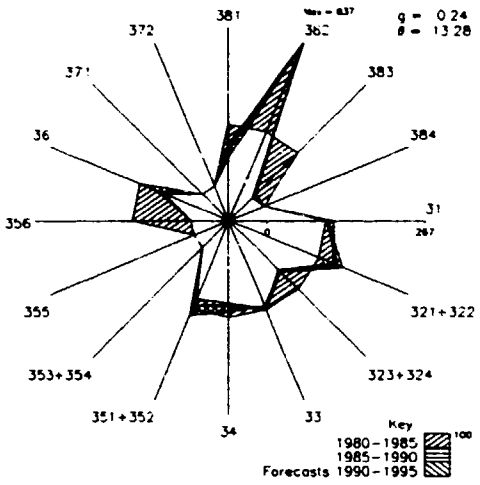

Manufacturing share in GDP, current prices (%)



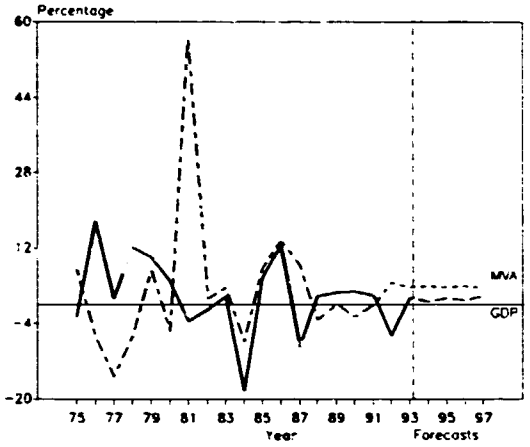

Industrial production index (1980=100)



Industrial structural change
(Index of value added 1980=100)




Annual growth rates of GDP and MVA
(Constant 1990 prices)



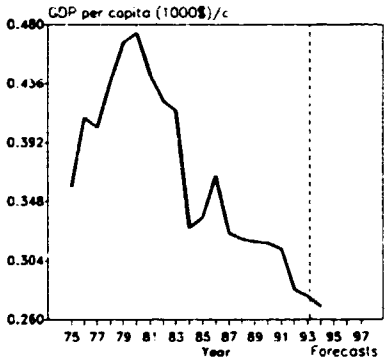

Source National Accounts Statistics from UN/UNSO

Estimated by UNIDO/IRD/RES

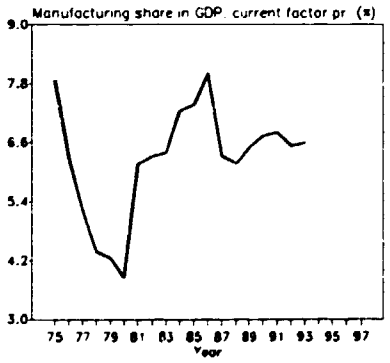
| | 1980 | 1985 | 1990 | 1993 |
|---|---|---|---|---|
| **GDP[a] (millions of 1990-dollars)** | 2 646 | 2 223 | 2 449 | 2 369 |
| **Per capita[a] (1990-dollars)** | 474 | 336 | 317 | 277 |
| **Manufacturing share[a] (%) (current factor prices)** | 3.8 | 7.4 | 6.7 | 6.6 |
| **MANUFACTURING:** | | | | |
| **Value added[a] (millions of 1990-dollars)** | 87 | 141 | 163 | 177 |
| **Industrial production index (1980=100)** | 100 | 109 | 132 | 143 |
| **Value added (millions of dollars)** | 31 | 20 | 29 | 25 |
| **Gross output (millions of dollars)** | 90 | 59 | 93 | 80 |
| **Employment (thousands)** | 2 | 3 | 3 | 3 |
| **-PROFITABILITY:(in percent of gross output)** | | | | |
| **Intermediate input (%)** | 65 | 64 | 66 | 67 |
| **Wages and salaries including supplements (%)** | 15 | 14 | 15 | 15 |
| **Gross operating surplus and net taxes (%)** | 19 | 22 | 19 | 19 |
| **-PRODUCTIVITY:(dollars)** | | | | |
| **Gross output per worker** | 43 657 | 21 195 | 30 800 | 24 380 |
| **Value added per worker** | 15 103 | 7 641 | 10 344 | 8 234 |
| **Average wage (including supplements)** | 6 534 | 2 981 | 4 404 | 3 481 |
| **-STRUCTURAL INDICES:** | | | | |
| **Structural change θ (5-year average in degrees)** | 5.69 | 3.83 | 2.50 | 2.16 |
| **as a percentage of average θ in 1970-1975** | 283 | 191 | 125 | 108 |
| **MVA growth rate / θ** | 1.39 | -0.22 | 0.19 | 0.10 |
| **Degree of specialization** | 18.6 | 23.0 | 21.2 | 21.1 |
| **-VALUE ADDED:(millions of dollars)** | | | | |
| 311/2 Food products | 2 | 1 | 1 | 1 |
| 313 Beverages | 7 | 6 | 8 | 6 |
| 314 Tobacco products | .. | .. | .. | .. |
| 321 Textiles | 6 | 5 | 8 | 7 |
| 322 Wearing apparel | 1 | 1 | 1 | 1 |
| 323 Leather and fur products | 1 | - | 1 | 1 |
| 324 Footwear | 1 | .. | .. | .. |
| 331 Wood and wood products | - | - | - | - |
| 332 Furniture and fixtures | - | - | - | - |
| 341 Paper and paper products | - | - | - | - |
| 342 Printing and publishing | 2 | 1 | 1 | 1 |
| 351 Industrial chemicals | 2 | .. | .. | .. |
| 352 Other chemical products | 3 | 3 | 4 | 4 |
| 353 Petroleum refineries | .. | .. | .. | .. |
| 354 Miscellaneous petroleum and coal products | .. | .. | .. | .. |
| 355 Rubber products | .. | .. | .. | .. |
| 356 Plastic products | 1 | .. | .. | .. |
| 361 Pottery, china and earthenware | . | .. | .. | .. |
| 362 Glass and glass products | . | .. | .. | .. |
| 369 Other non-metal mineral products | 2 | 1 | 2 | 1 |
| 371 Iron and steel | .. | .. | .. | .. |
| 372 Non-ferrous metals | .. | .. | .. | .. |
| 381 Metal products | 3 | 1 | 2 | 1 |
| 382 Non-electrical machinery | - | 1 | 1 | 1 |
| 383 Electrical machinery | - | - | - | - |
| 384 Transport equipment | .. | .. | .. | .. |
| 385 Professional and scientific equipment | .. | .. | .. | .. |
| 390 Other manufacturing industries | .. | .. | .. | .. |

For sources, footnotes and comments see "Technical notes" at the beginning of this Annex.

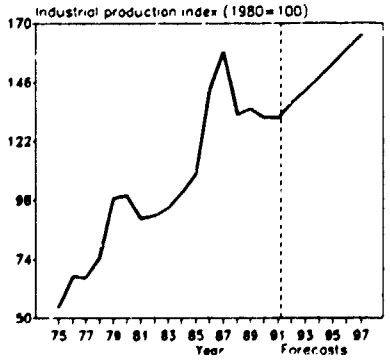
GDP per capita (1000$)/c

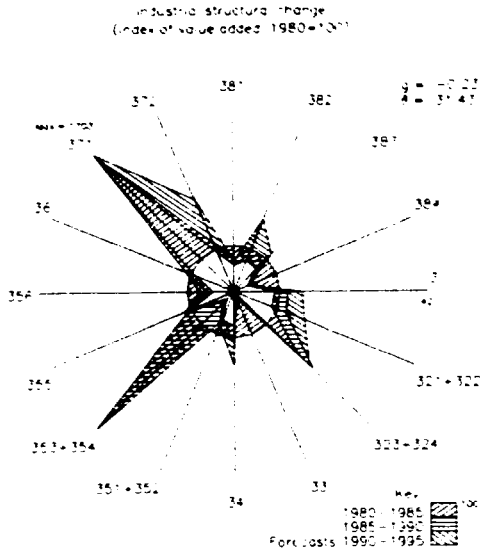


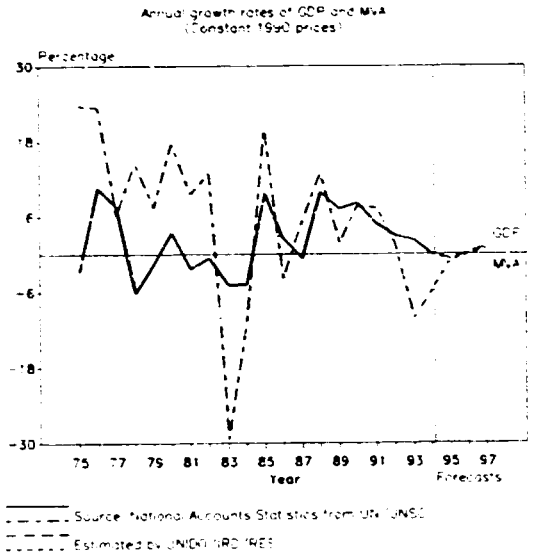

Manufacturing share in GDP current factor pr (%)



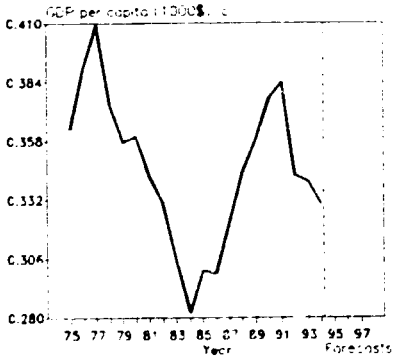

Industrial production index (1980=100)

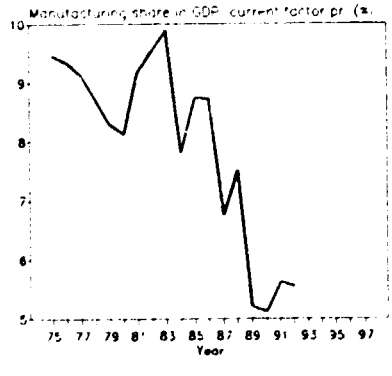




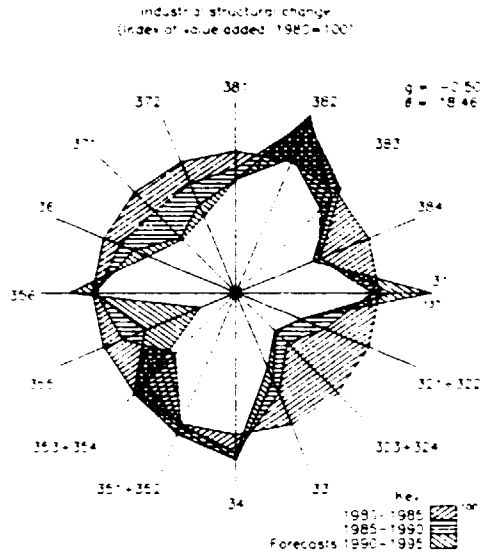

| | 1980 | 1985 | 1990 | 1993 |
|---|---|---|---|---|
| **GDP[88] (millions of 1990-dollars)** | **25 929** | **24 989** | **32 426** | **35 791** |
| **Per capita[88] (1990-dollars)** | **360** | **301** | *377* | **340** |
| **Manufacturing share[88] (%) (current factor prices)** | **8.1** | **8.7** | **5.1** | .. |
| **MANUFACTURING:** | | | | |
| **Value added[88] (millions of 1990-dollars)** | **1 537** | **1 427** | **1 779** | **1 742** |
| **Industrial production index (1980=100)** | **100** | **89** | *92* | *95* |
| **Value added (millions of dollars)** | *2 422* | **1 737** | *3 022* | *3 168* |
| **Gross output (millions of dollars)** | **4 740** | **3 534** | *6 107* | *5 944* |
| **Employment (thousands)** | **432** | **336** | *416* | *457* |
| **-PROFITABILITY:(in percent of gross output)** | | | | |
| **Intermediate input (%)** | **49** | **51** | *51* | *47* |
| **Wages and salaries including supplements (%)** | *11* | *10* | *10* | *10* |
| **Gross operating surplus and net taxes (%)** | *40* | *39* | *40* | *44* |
| **-PRODUCTIVITY:(dollars)** | | | | |
| **Gross output per worker** | **10 273** | **9 947** | *14 044* | *12 449* |
| **Value added per worker** | **5 260** | **4 904** | *7 140* | *6 859* |
| **Average wage (including supplements)** | *1 226* | *1 043* | *1 443* | *1 239* |
| **-STRUCTURAL INDICES:** | | | | |
| **Structural change θ (5-year average in degrees)** | *16.37* | *25.41* | *3.05* | *2.35* |
| **as a percentage of average θ in 1970-1975** | *135* | *209* | *25* | *19* |
| **MVA growth rate / θ** | **1.19** | **-0.26** | **1.82** | **2.28** |
| **Degree of specialization** | **18.6** | **18.4** | **20.8** | **21.8** |
| **-VALUE ADDED:(millions of dollars)** | | | | |
| **311/2 Food products** | **149** | **251** | *479* | *561* |
| **313 Beverages** | **267** | **205** | *359* | *376* |
| **314 Tobacco products** | **96** | **63** | *69* | *57* |
| **321 Textiles** | **231** | **233** | *435* | *495* |
| **322 Wearing apparel** | **3** | **1** | *1* | *1* |
| **323 Leather and fur products** | **12** | **23** | *36* | *31* |
| **324 Footwear** | **12** | **28** | *49* | *45* |
| **331 Wood and wood products** | **88** | **14** | *12* | *9* |
| **332 Furniture and fixtures** | **56** | **14** | *12* | *9* |
| **341 Paper and paper products** | **38** | **51** | *107* | *136* |
| **342 Printing and publishing** | **75** | **45** | *79* | *80* |
| **351 Industrial chemicals** | **30** | **9** | *11* | *9* |
| **352 Other chemical products** | **265** | **213** | *365* | *333* |
| **353 Petroleum refineries** | **72** | *-7* | *36* | *29* |
| **354 Miscellaneous petroleum and coal products** | *6* | *-1* | *2* | *2* |
| **355 Rubber products** | **26** | **31** | *46* | *42* |
| **356 Plastic products** | **96** | **49** | *90* | *92* |
| **361 Pottery, china and earthenware** | - | **2** | *2* | *3* |
| **362 Glass and glass products** | **24** | **7** | *12* | *17* |
| **369 Other non-metal mineral products** | **87** | **106** | *171* | *148* |
| **371 Iron and steel** | **3** | **17** | *39* | *52* |
| **372 Non-ferrous metals** | **33** | *34* | *57* | *79* |
| **381 Metal products** | **140** | **92** | *149* | *138* |
| **382 Non-electrical machinery** | **23** | **19** | *35* | *45* |
| **383 Electrical machinery** | **46** | **36** | *69* | *72* |
| **384 Transport equipment** | **526** | **193** | *295* | *302* |
| **385 Professional and scientific equipment** | - | - | - | - |
| **390 Other manufacturing industries** | **13** | **6** | *6* | **5** |

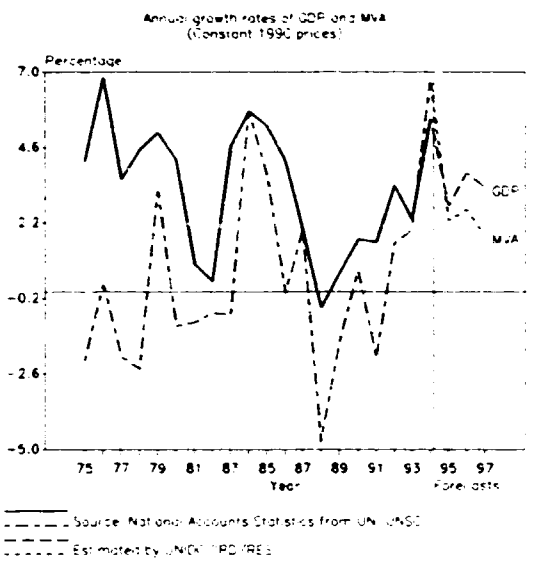




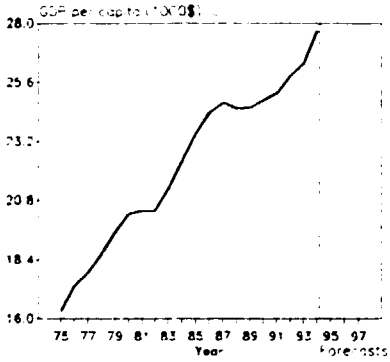
For sources, footnotes and comments see "Technical notes" at the beginning of this Annex.

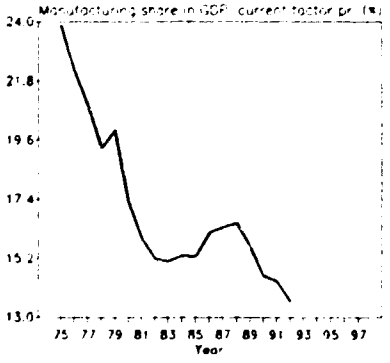


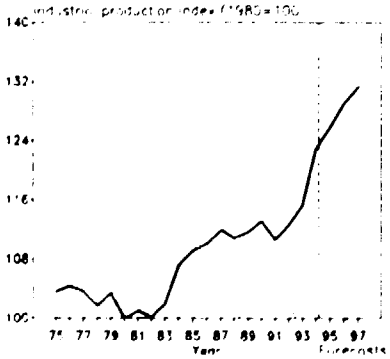




| | 1980 | 1985 | 1990 | 1993 |
|---|---|---|---|---|
| **GDP:[88] (millions of 1990-dollars)** | 82 790 | 97 604 | 105 524 | 113 368 |
| **Per capita[88] (1990-dollars)** | 20 262 | 23 502 | 24 882 | 26 371 |
| **Manufacturing share[88] (%) (current factor prices)** | 17.3 | 15.3 | 14.6 | .. |
| **MANUFACTURING:** | | | | |
| **Value added[88] (millions of 1990-dollars)** | 14 041 | 15 022 | 14 437 | 14 633 |
| **Industrial production index (1980=100)** | 100 | 109 | 113 | 115 |
| **Value added (millions of dollars)** | 9 339 | 7 660 | 13 504 | *12 466* |
| **Gross output (millions of dollars)** | 31 936 | 28 186 | 50 107 | 45 097 |
| **Employment (thousands)** | 354 | 312 | 271 | *245* |
| **-PROFITABILITY:(in percent of gross output)** | | | | |
| **Intermediate input (%)** | 71 | 73 | 73 | *73* |
| **Wages and salaries including supplements (%)** | 21 | 20 | 19 | *23* |
| **Gross operating surplus and net taxes (%)** | 8 | 7 | 8 | *3* |
| **-PRODUCTIVITY:(dollars)** | | | | |
| **Gross output per worker** | 89 656 | 89 751 | 184 292 | *179 224* |
| **Value added per worker** | 26 217 | 24 391 | 49 684 | *51 318* |
| **Average wage (including supplements)** | 19 129 | 17 852 | 35 540 | *43 278* |
| **-STRUCTURAL INDICES:** | | | | |
| **Structural change θ (5-year average in degrees)** | 5.11 | 7.64 | 7.08 | *5.37* |
| **as a percentage of average θ in 1970-1975** | 84 | 126 | 116 | *88* |
| **MVA growth rate / θ** | -0.19 | -0.18 | -0.14 | -0.51 |
| **Degree of specialization** | 12.2 | 13.2 | 12.9 | 14.7 |
| **-VALUE ADDED:(millions of dollars)** | | | | |
| 311/2 Food products | 908 | 633 | 1 307 | *1 665* |
| 313 Beverages | 292 | 296 | 660 | *583* |
| 314 Tobacco products | 168 | 220 | 478 | *474* |
| 321 Textiles | 213 | 126 | 191 | *186* |
| 322 Wearing apparel | 101 | 59 | 58 | *54* |
| 323 Leather and fur products | 18 | 9 | 16 | *15* |
| 324 Footwear | 24 | 10 | 11 | *11* |
| 331 Wood and wood products | 587 | 366 | 619 | *408* |
| 332 Furniture and fixtures | 196 | 165 | 236 | *209* |
| 341 Paper and paper products | 452 | 400 | 787 | *554* |
| 342 Printing and publishing | 668 | 717 | 1 381 | *1 271* |
| 351 Industrial chemicals | 452 | 422 | 811 | *586* |
| 352 Other chemical products | 227 | 183 | 393 | *427* |
| 353 Petroleum refineries | 103 | 24 | 195 | *136* |
| 354 Miscellaneous petroleum and coal products | 53 | 59 | 63 | *53* |
| 355 Rubber products | 51 | 39 | 58 | *21* |
| 356 Plastic products | 170 | 147 | 278 | *272* |
| 361 Pottery, china and earthenware | 26 | 18 | 27 | *24* |
| 362 Glass and glass products | 55 | 50 | 77 | *67* |
| 369 Other non-metal mineral products | 281 | 215 | 361 | *246* |
| 371 Iron and steel | 386 | 276 | 347 | *292* |
| 372 Non-ferrous metals | 743 | 550 | 826 | *618* |
| 381 Metal products | 595 | 465 | 784 | *701* |
| 382 Non-electrical machinery | 933 | 1 079 | 1 560 | *1 753* |
| 383 Electrical machinery | 547 | 498 | 751 | *721* |
| 384 Transport equipment | 1 000 | 566 | 1 028 | *915* |
| 385 Professional and scientific equipment | 32 | 39 | 82 | *103* |
| 390 Other manufacturing industries | 59 | 42 | 89 | *104* |

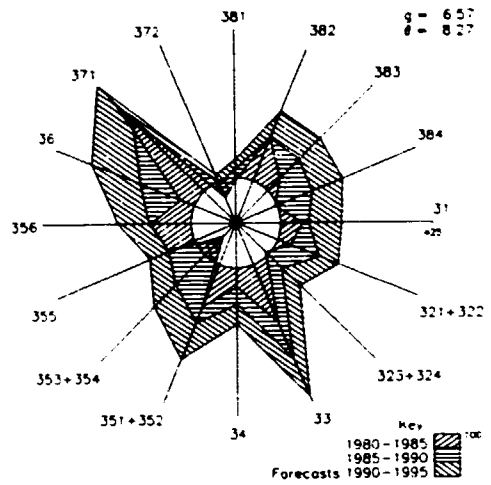
For sources, footnotes and comments see "Technical notes" at the beginning of this Annex.



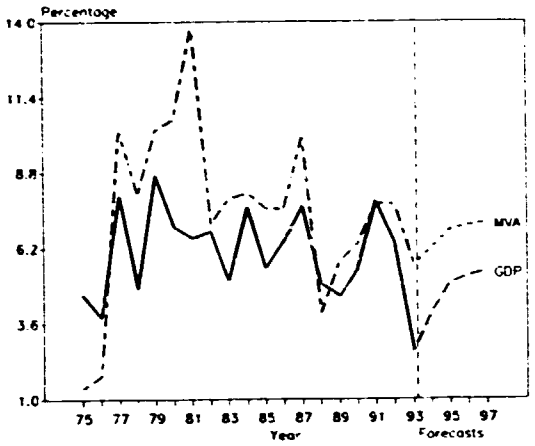



Industrial structural change
(Index of value added 1980=100)




Annual growth rates of GDP and MVA
(Constant 1990 prices)

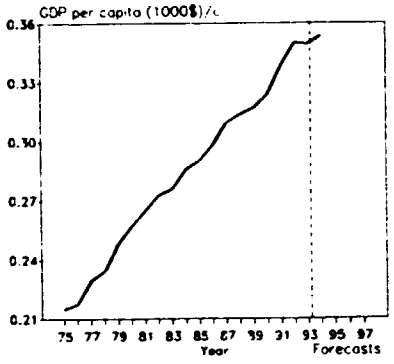



Source National Accounts Statistics from UN/UNSO
Estimated by UNIDO/IRD /RES

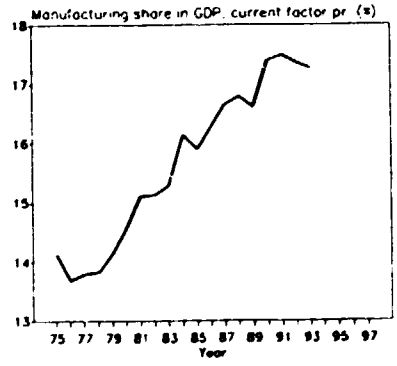
| | 1980 | 1985 | 1990 | 1993 |
|---|---|---|---|---|
| GDP[RS] (millions of 1990-dollars) | 21 941 | 29 767 | 39 464 | 46 442 |
| Per capita[RS] (1990-dollars) | 257 | 290 | 324 | 349 |
| Manufacturing share[RS] (%) (current factor prices) | 14.6 | 15.9 | 17.4 | 17.3 |
| **MANUFACTURING:** | | | | |
| Value added[RS] (millions of 1990-dollars) | 2 889 | 4 411 | 6 096 | 7 468 |
| Industrial production index (1980=100) | 100 | 133 | 150 | 185 |
| Value added (millions of dollars) | 2 423 | 3 236 | *4 299* | *5 308* |
| Gross output (millions of dollars) | 7 144 | 10 132 | *13 354* | *16 523* |
| Employment (thousands) | 452 | 493 | *533* | 569 |
| **-PROFITABILITY:**(in percent of gross output) | | | | |
| Intermediate input (%) | 66 | 68 | *68* | *68* |
| Wages and salaries including supplements (%) | 7 | 6 | *7* | *7* |
| Gross operating surplus and net taxes (%) | 27 | 26 | *25* | *25* |
| **-PRODUCTIVITY:**(dollars) | | | | |
| Gross output per worker | 14 606 | 20 484 | *24 989* | *28 957* |
| Value added per worker | 4 953 | 6 545 | *8 047* | *9 315* |
| Average wage (including supplements) | 1 122 | 1 323 | *1 769* | *2 030* |
| **-STRUCTURAL INDICES:** | | | | |
| Structural change θ (5-year average in degrees) | 6.88 | 8.30 | *8.76* | *1 66* |
| as a percentage of average θ in 1970-1975 | 102 | 123 | *130* | *25* |
| MVA growth rate / θ | 0.74 | 0.94 | 0.66 | 2.98 |
| Degree of specialization | 23.2 | 23.5 | 20.5 | 20.4 |
| **-VALUE ADDED:**(millions of dollars) | | | | |
| 311/2 Food products | 431 | 580 | *606* | *802* |
| 313 Beverages | 45 | 74 | *79* | *99* |
| 314 Tobacco products | 300 | 372 | *453* | *567* |
| 321 Textiles | 483 | 562 | *816* | *924* |
| 322 Wearing apparel | 7 | 18 | *70* | *99* |
| 323 Leather and fur products | 41 | 35 | *27* | *32* |
| 324 Footwear | 4 | 3 | *32* | *42* |
| 331 Wood and wood products | 4 | 9 | *15* | *18* |
| 332 Furniture and fixtures | 3 | 6 | *5* | *6* |
| 341 Paper and paper products | 29 | 33 | *47* | *56* |
| 342 Printing and publishing | 24 | 36 | *41* | *48* |
| 351 Industrial chemicals | 127 | 281 | *299* | *358* |
| 352 Other chemical products | 156 | 230 | *318* | *391* |
| 353 Petroleum refineries | 158 | 45 | *259* | *322* |
| 354 Miscellaneous petroleum and coal products | 9 | 17 | *32* | *40* |
| 355 Rubber products | 28 | 41 | *41* | *49* |
| 356 Plastic products | 12 | 21 | *21* | *27* |
| 361 Pottery, china and earthenware | 5 | 8 | *15* | *17* |
| 362 Glass and glass products | 11 | 17 | *31* | *40* |
| 369 Other non-metal mineral products | 171 | 199 | *347* | *454* |
| 371 Iron and steel | 99 | 342 | *292* | *362* |
| 372 Non-ferrous metals | 1 | 1 | *1* | *1* |
| 381 Metal products | 38 | 33 | *43* | *48* |
| 382 Non-electrical machinery | 43 | 80 | 80 | 99 |
| 383 Electrical machinery | 78 | 98 | *141* | *172* |
| 384 Transport equipment | 97 | 83 | *160* | *203* |
| 385 Professional and scientific equipment | 6 | 6 | *11* | *13* |
| 390 Other manufacturing industries | 11 | 11 | *17* | *18* |

For sources, footnotes and comments see "Technical notes" at the beginning of this Annex.

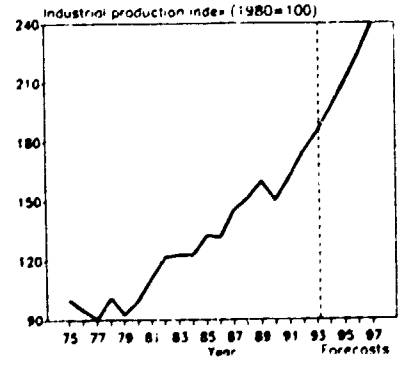
GDP per capita (1000$)/c

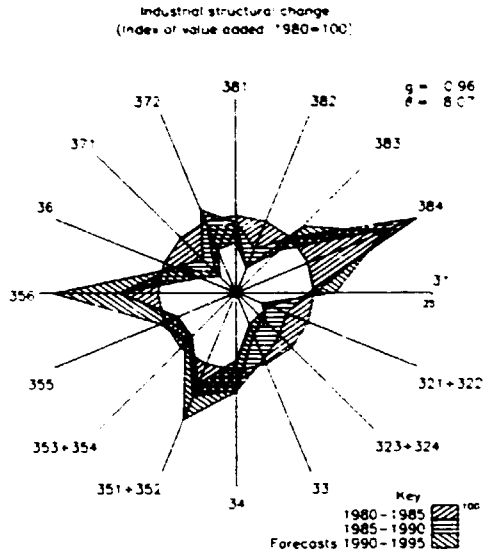


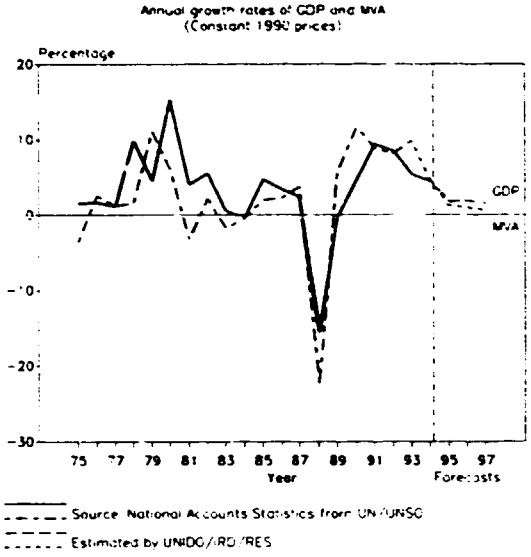

Manufacturing share in GDP, current factor pr (%)




Industrial production index (1980=100)

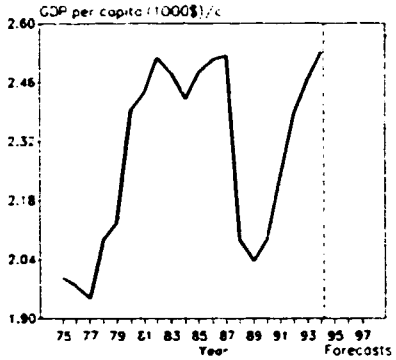


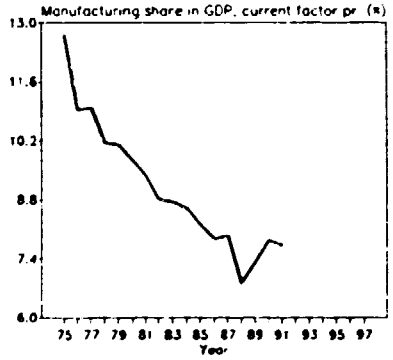


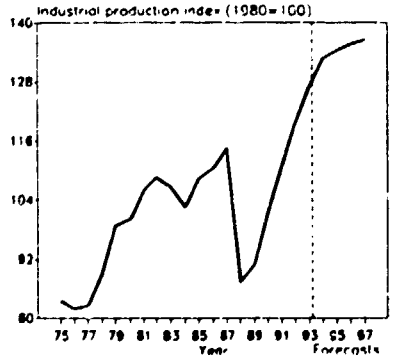




| | 1980 | 1985 | 1990 | 1993 |
|---|---|---|---|---|
| **GDP:[88] (millions of 1990-dollars)** | 4 672 | 5 382 | 5 009 | 6 264 |
| **Per capita[88] (1990-dollars)** | 2 396 | 2 484 | 2 089 | 2 468 |
| **Manufacturing share[88] (%) (current factor prices)** | 9.7 | 8.2 | 7.8 | .. |
| **MANUFACTURING:** | | | | |
| **Value added[88] (millions of 1990-dollars)** | 428 | 421 | 407 | 526 |
| **Industrial production index (1980=100)** | 100 | 108 | 102 | 127 |
| **Value added (millions of dollars)** | 477 | 553 | 515 | 641 |
| **Gross output (millions of dollars)** | 1 473 | 1 773 | 1 617 | 2 141 |
| **Employment (thousands)** | 31 | 36 | 33 | 39 |
| **-PROFITABILITY:(in percent of gross output)** | | | | |
| **Intermediate input (%)** | 68 | 69 | 68 | 70 |
| **Wages and salaries including supplements (%)** | 9 | 13 | 13 | 13 |
| **Gross operating surplus and net taxes (%)** | 23 | 18 | 19 | 17 |
| **-PRODUCTIVITY:(dollars)** | | | | |
| **Gross output per worker** | 46 756 | 48 876 | 48 583 | 54 034 |
| **Value added per worker** | 15 159 | 15 246 | 15 501 | 16 369 |
| **Average wage (including supplements)** | 4 236 | 6 270 | 6 300 | 6 827 |
| **-STRUCTURAL INDICES:** | | | | |
| **Structural change θ (5-year average in degrees)** | 5.56 | 4.54 | 4 15 | 2 12 |
| **as a percentage of average θ in 1970-1975** | 85 | 70 | 64 | 33 |
| **MVA growth rate / θ** | 0.74 | 0.01 | -0.22 | 2.30 |
| **Degree of specialization** | 24.2 | 23.0 | 29.7 | 28.8 |
| **-VALUE ADDED:(millions of dollars)** | | | | |
| **311/2 Food products** | 155 | 171 | 196 | 234 |
| **313 Beverages** | 52 | 53 | 67 | 80 |
| **314 Tobacco products** | 26 | 30 | 22 | 32 |
| **321 Textiles** | 4 | 3 | 5 | 5 |
| **322 Wearing apparel** | 31 | 26 | 14 | 11 |
| **323 Leather and fur products** | 4 | 1 | 2 | 3 |
| **324 Footwear** | 7 | 9 | 4 | 4 |
| **331 Wood and wood products** | 8 | 7 | 3 | 5 |
| **332 Furniture and fixtures** | 8 | 11 | 5 | 7 |
| **341 Paper and paper products** | 20 | 33 | 26 | 35 |
| **342 Printing and publishing** | 22 | 29 | 18 | 26 |
| **351 Industrial chemicals** | 4 | 9 | 9 | 12 |
| **352 Other chemical products** | 26 | 42 | 36 | 50 |
| **353 Petroleum refineries** | 27 | 25 | 25 | 27 |
| **354 Miscellaneous petroleum and coal products** | - | 2 | 1 | 2 |
| **355 Rubber products** | 2 | 2 | 2 | 2 |
| **356 Plastic products** | 12 | 21 | 22 | 31 |
| **361 Pottery, china and earthenware** | - | - | - | - |
| **362 Glass and glass products** | 1 | 7 | 3 | 4 |
| **369 Other non-metal mineral products** | 31 | 26 | 16 | 25 |
| **371 Iron and steel** | 5 | 4 | 2 | 3 |
| **372 Non-ferrous metals** | 2 | 3 | 2 | 3 |
| **381 Metal products** | 19 | 20 | 15 | 21 |
| **382 Non-electrical machinery** | 1 | 1 | - | - |
| **383 Electrical machinery** | 3 | 4 | 3 | 4 |
| **384 Transport equipment** | 4 | 13 | 11 | 11 |
| **385 Professional and scientific equipment** | 1 | 2 | 3 | 4 |
| **390 Other manufacturing industries** | 2 | 2 | 2 | 3 |

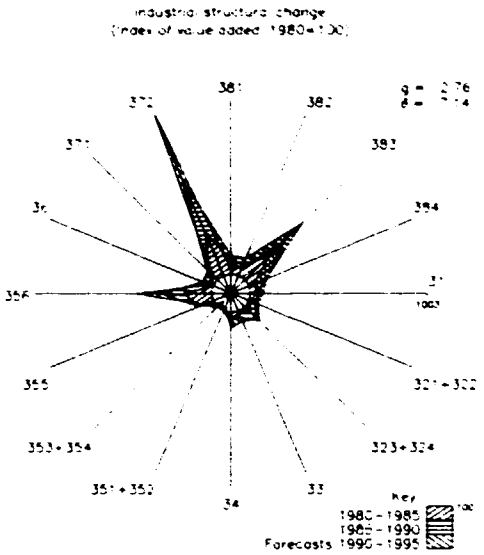
For sources, footnotes and comments see "Technical notes" at the beginning of this Annex.

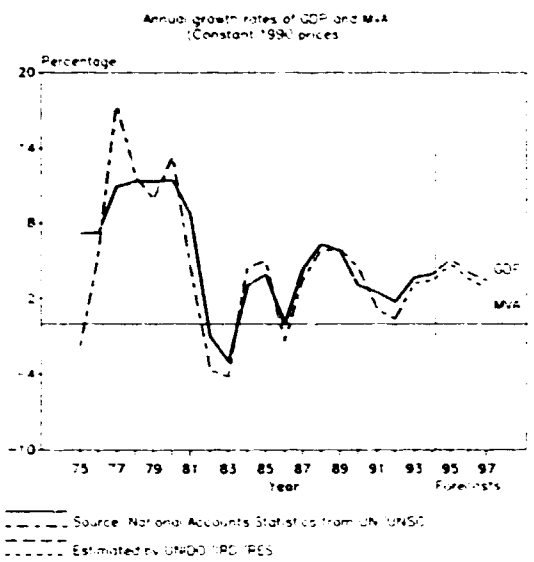


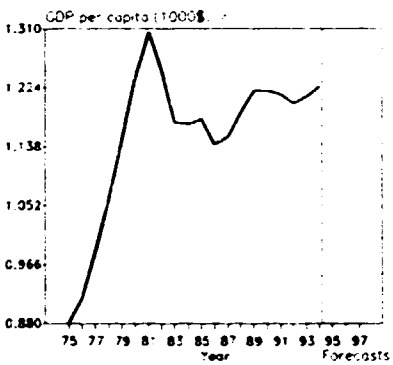



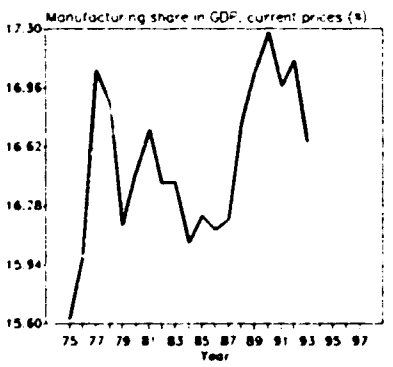
## PARAGUAY

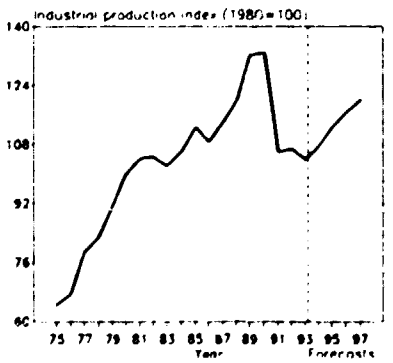



| | 1980 | 1985 | 1990 | 1993 |
|---|---|---|---|---|
| **GDP:[a0] (millions of 1990-dollars)** | **3 889** | **4 352** | **5 265** | **5 696** |
| **Per capita[a0] (1990-dollars)** | **1 240** | **1 178** | **1 220** | **1 212** |
| **Manufacturing share[a0] (%) (current factor prices)** | **16.5** | **16.2** | **17.3** | *16.6* |
| **MANUFACTURING:** | | | | |
| **Value added[a0] (millions of 1990-dollars)** | **721** | **761** | **910** | *953* |
| **Industrial production index (1980=100)** | **100** | **113** | **133** | *104* |
| **Value added (millions of dollars)** | **575** | *666* | *774* | *789* |
| **Gross output (millions of dollars)** | **1 312** | **1 395** | **1 408** | *1 614* |
| **Employment (thousands)** | *146* | *129* | *158* | *160* |
| **-PROFITABILITY:(in percent of gross output)** | | | | |
| **Intermediate input (%)** | **55** | *61* | *53* | *63* |
| **Wages and salaries including supplements (%)** | .. | .. | .. | .. |
| **Gross operating surplus and net taxes (%)** | .. | .. | .. | .. |
| **-PRODUCTIVITY:(dollars)** | | | | |
| **Gross output per worker** | *8 989* | *10 803* | *8 935* | *9 915* |
| **Value added per worker** | *4 081* | *5 178* | *5 000* | *4 901* |
| **Average wage (including supplements)** | .. | .. | .. | .. |
| **-STRUCTURAL INDICES:** | | | | |
| **Structural change θ (5-year average in degrees)** | **7.33** | *5.17* | *3.61* | *3.42* |
| **as a percentage of average θ in 1970-1975** | **137** | *97* | *68* | *64* |
| **MVA growth rate / θ** | **1.19** | **0.66** | **1.80** | **-0.68** |
| **Degree of specialization** | **31.7** | **28.9** | **27.9** | **27.5** |
| **-VALUE ADDED:(millions of dollars)** | | | | |
| **311/2 Food products** | **170** | *219* | *235* | *217* |
| **313 Beverages** | **43** | *56* | *62* | *70* |
| **314 Tobacco products** | **6** | *7* | *7* | *6* |
| **321 Textiles** | **44** | *42* | *54* | *54* |
| **322 Wearing apparel** | **2** | *3* | *3* | *2* |
| **323 Leather and fur products** | **7** | *14* | *16* | *18* |
| **324 Footwear** | **18** | *20* | *25* | *25* |
| **331 Wood and wood products** | **95** | *96* | *106* | *130* |
| **332 Furniture and fixtures** | **6** | *8* | *9* | *12* |
| **341 Paper and paper products** | **-** | *1* | *1* | **-** |
| **342 Printing and publishing** | **24** | *36* | *26* | *35* |
| **351 Industrial chemicals** | **4** | *5* | *5* | *6* |
| **352 Other chemical products** | **10** | *9* | *7* | *6* |
| **353 Petroleum refineries** | **94** | *62* | *76* | *86* |
| **354 Miscellaneous petroleum and coal products** | **-** | **-** | **-** | **-** |
| **355 Rubber products** | **-** | **-** | **-** | **-** |
| **356 Plastic products** | **6** | *13* | *17* | *22* |
| **361 Pottery, china and earthenware** | **-** | **-** | **-** | **-** |
| **362 Glass and glass products** | **1** | *2* | *3* | *4* |
| **369 Other non-metal mineral products** | **26** | *23* | *31* | *25* |
| **371 Iron and steel** | **-** | **-** | **-** | **-** |
| **372 Non-ferrous metals** | **1** | *4* | *6* | *8* |
| **381 Metal products** | **9** | *15* | *15* | *11* |
| **382 Non-electrical machinery** | **1** | *1* | *2* | *1* |
| **383 Electrical machinery** | **-** | *1* | *1* | *1* |
| **384 Transport equipment** | **5** | *10* | *8* | *6* |
| **385 Professional and scientific equipment** | **1** | *1* | *1* | *1* |
| **390 Other manufacturing industries** | **2** | *17* | *58* | *42* |

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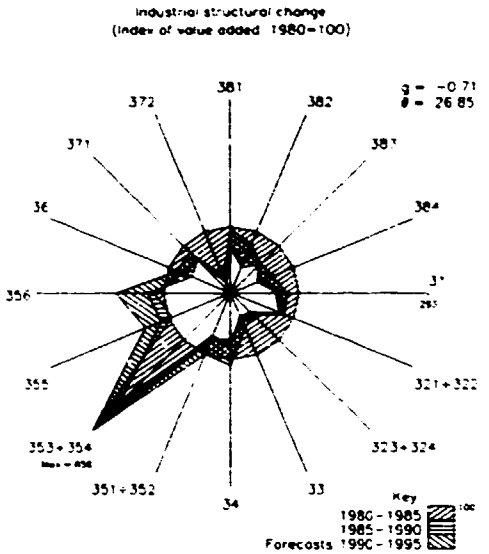
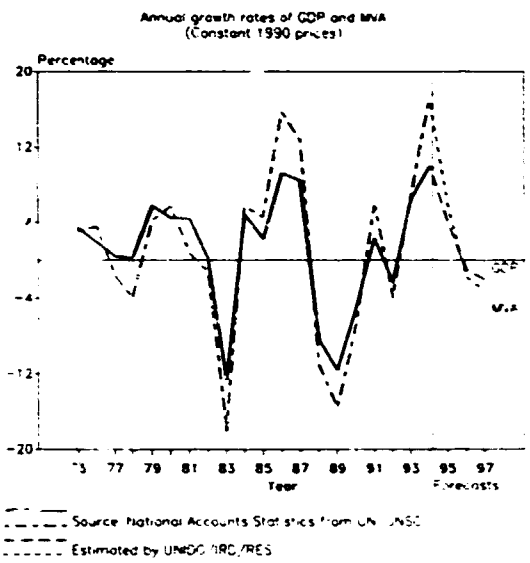
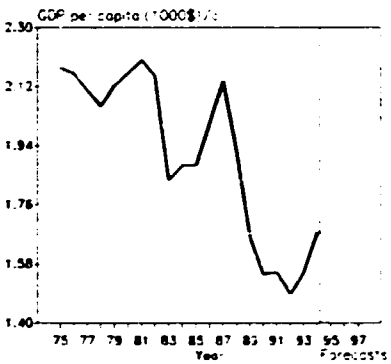
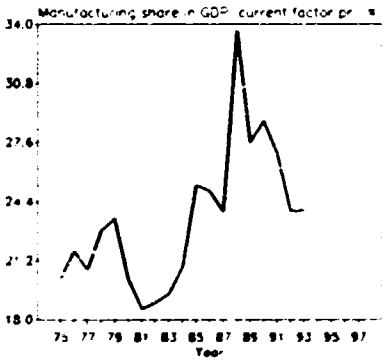


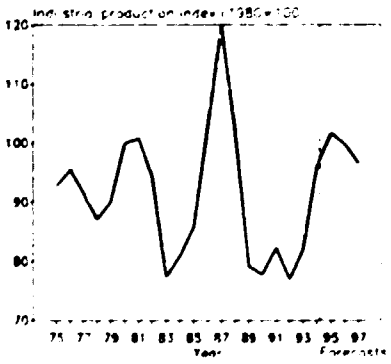



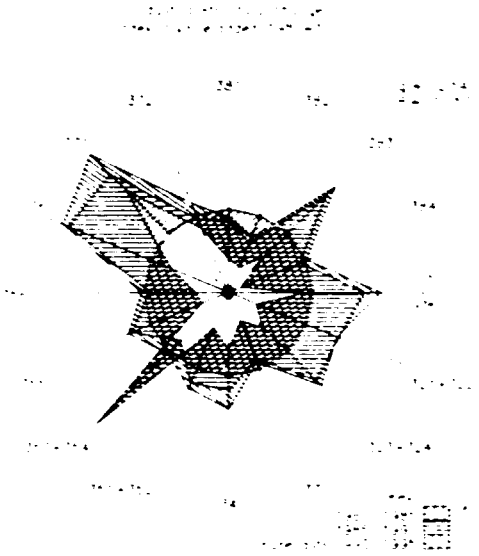

| | 1980 | 1985 | 1990 | 1993 |
|---|---|---|---|---|
| **GDP:[a]** (millions of 1990-dollars) | 37 452 | 36 703 | 33 427 | 35 555 |
| Per capita[a] (1990-dollars) | 2 162 | 1 880 | 1 548 | 1 554 |
| Manufacturing share[a] (%) (current factor prices) | 20.2 | 25.3 | 28.8 | 23 9 |
| **MANUFACTURING:** | | | | |
| Value added[a] (millions of 1990-dollars) | 12 493 | 11 240 | 10 217 | 11 057 |
| Industrial production index (1980=100) | 100 | 86 | 78 | 82 |
| Value added (millions of dollars) | 4 984 | 3 918 | 11 842 | 15 686 |
| Gross output (millions of dollars) | 12 977 | 9 573 | 23 253 | 30 801 |
| Employment (thousands) | 273 | 263 | 295 | 312 |
| **-PROFITABILITY:**(in percent of gross output) | | | | |
| Intermediate input (%) | 62 | 59 | 49 | 49 |
| Wages and salaries including supplements (%) | 7 | 6 | 9 | 8 |
| Gross operating surplus and net taxes (%) | 32 | 35 | 42 | 43 |
| **-PRODUCTIVITY:**(dollars) | | | | |
| Gross output per worker | 47 484 | 36 350 | 78 615 | 98 041 |
| Value added per worker | 18 238 | 14 877 | 40 081 | 50 213 |
| Average wage (including supplements) | 3 178 | 2 154 | 6 995 | 7 440 |
| **-STRUCTURAL INDICES:** | | | | |
| Structural change θ (5-year average in degrees) | 10.22 | 16.82 | 9 53 | 2 54 |
| as a percentage of average θ in 1970-1975 | 150 | 246 | 140 | 37 |
| MVA growth rate / θ | 0.32 | -0 03 | -0.44 | -1.37 |
| Degree of specialization | 12.7 | 21.3 | 13.8 | 13.8 |
| **-VALUE ADDED:**(millions of dollars) | | | | |
| 311/2 Food products | 767 | 402 | 1 691 | 2 058 |
| 313 Beverages | 379 | 303 | 988 | 1 368 |
| 314 Tobacco products | 84 | 61 | 155 | 191 |
| 321 Textiles | 466 | 352 | 1 158 | 1 237 |
| 322 Wearing apparel | 65 | 52 | 289 | 333 |
| 323 Leather and fur products | 56 | 20 | 61 | 85 |
| 324 Footwear | 41 | 20 | 76 | 77 |
| 331 Wood and wood products | 81 | 32 | 86 | 141 |
| 332 Furniture and fixtures | 40 | 19 | 75 | 95 |
| 341 Paper and paper products | 156 | 77 | 341 | 473 |
| 342 Printing and publishing | 100 | 80 | 369 | 491 |
| 351 Industrial chemicals | 215 | 158 | 486 | 673 |
| 352 Other chemical products | 289 | 193 | 728 | 1 071 |
| 353 Petroleum refineries | 192 | 1 154 | 1 633 | 2 489 |
| 354 Miscellaneous petroleum and coal products | 6 | 1 | 2 | 2 |
| 355 Rubber products | 62 | 52 | 242 | 299 |
| 356 Plastic products | 89 | 90 | 387 | 535 |
| 361 Pottery, china and earthenware | 15 | 8 | 12 | 16 |
| 362 Glass and glass products | 47 | 15 | 90 | 126 |
| 369 Other non-metal mineral products | 129 | 113 | 323 | 445 |
| 371 Iron and steel | 192 | 123 | 467 | 597 |
| 372 Non-ferrous metals | 604 | 172 | 345 | 487 |
| 381 Metal products | 188 | 113 | 430 | 614 |
| 382 Non-electrical machinery | 156 | 58 | 351 | 440 |
| 383 Electrical machinery | 211 | 111 | 435 | 450 |
| 384 Transport equipment | 278 | 106 | 454 | 632 |
| 385 Professional and scientific equipment | 14 | 10 | 49 | 75 |
| 390 Other manufacturing industries | 58 | 25 | 129 | 167 |

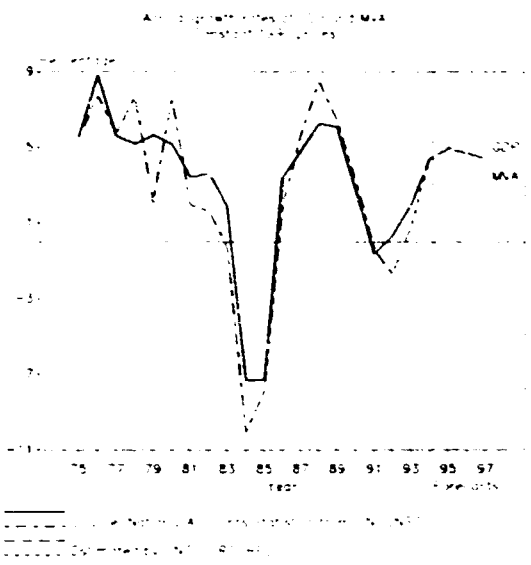
For sources, footnotes and comments see "Technical notes" at the beginning of this Annex



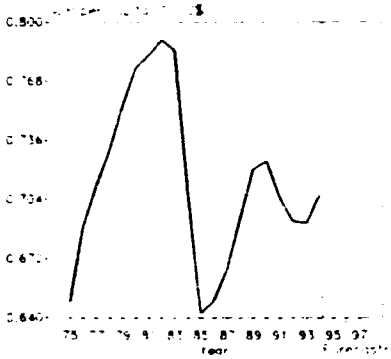



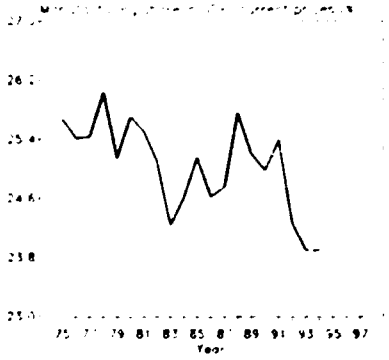





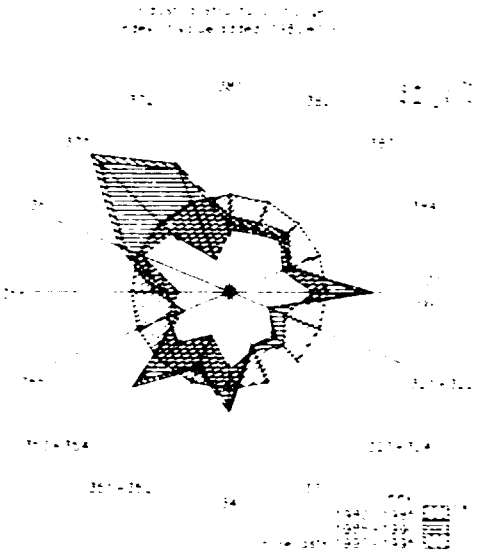


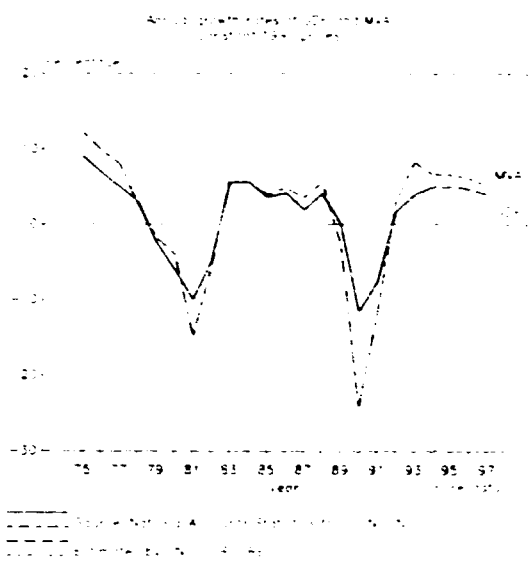
| | 1980 | 1985 | 1990 | 1993 |
|---|---|---|---|---|
| GDP:[20] (millions of 1990-dollars) | 37 449 | 35 122 | 44 050 | 44 777 |
| Per capita[20] (1990-dollars) | 775 | 642 | 725 | 691 |
| Manufacturing share[20] (%) (current factor prices) | 25.7 | 25.2 | 25.0 | 23.9 |
| **MANUFACTURING:** | | | | |
| Value added[20] (millions of 1990-dollars) | 10 067 | 8 605 | 11 003 | 10 845 |
| Industrial production index (1980=100) | 100 | 74 | 133 | 135 |
| Value added (millions of dollars) | 4 861 | 3 448 | 6 997 | 8 715 |
| Gross output (millions of dollars) | 17 369 | 12 081 | 22 444 | 28 441 |
| Employment (thousands) | 949 | 619 | 945 | 976 |
| **-PROFITABILITY:**(in percent of gross output) | | | | |
| Intermediate input (%) | 72 | 71 | 69 | 69 |
| Wages and salaries including supplements (%) | 6 | 6 | 8 | 8 |
| Gross operating surplus and net taxes (%) | 22 | 22 | 23 | 22 |
| **-PRODUCTIVITY:**(dollars) | | | | |
| Gross output per worker | 16 263 | 19 369 | 23 477 | 28 918 |
| Value added per worker | 4 552 | 5 528 | 7 318 | 8 936 |
| Average wage (including supplements) | 1 127 | 1 257 | 1 968 | 2 433 |
| **-STRUCTURAL INDICES:** | | | | |
| Structural change θ (5-year average in degrees) | 12.12 | 17.96 | 10 48 | 3 49 |
| as a percentage of average θ in 1970-1975 | 107 | 159 | 93 | 31 |
| MVA growth rate / θ | 0.39 | -0.21 | 1.25 | 0.94 |
| Degree of specialization | 14.4 | 22.0 | 16.3 | 16.6 |
| **-VALUE ADDED:**(millions of dollars) | | | | |
| 311/2 Food products | 989 | 658 | 1 253 | 1 539 |
| 313 Beverages | 195 | 423 | 923 | 1 295 |
| 314 Tobacco products | 302 | 209 | 405 | 492 |
| 321 Textiles | 395 | 109 | 339 | 316 |
| 322 Wearing apparel | 205 | 105 | 583 | 726 |
| 323 Leather and fur products | 8 | 3 | 18 | 21 |
| 324 Footwear | 13 | 9 | 16 | 19 |
| 331 Wood and wood products | 229 | 86 | 202 | 247 |
| 332 Furniture and fixtures | 75 | 22 | 82 | 100 |
| 341 Paper and paper products | 128 | 97 | 173 | 210 |
| 342 Printing and publishing | 89 | 46 | 102 | 161 |
| 351 Industrial chemicals | 298 | 101 | 204 | 247 |
| 352 Other chemical products | 389 | 205 | 665 | 810 |
| 353 Petroleum refineries | 328 | 715 | 289 | 371 |
| 354 Miscellaneous petroleum and coal products | 2 | 3 | 1 | 2 |
| 355 Rubber products | 103 | 34 | 140 | 171 |
| 356 Plastic products | 85 | 32 | 86 | 104 |
| 361 Pottery, china and earthenware | 33 | 9 | 24 | 29 |
| 362 Glass and glass products | 42 | 28 | 86 | 105 |
| 369 Other non-metal mineral products | 63 | 60 | 197 | 241 |
| 371 Iron and steel | 98 | 164 | 213 | 269 |
| 372 Non-ferrous metals | 35 | 28 | 35 | 47 |
| 381 Metal products | 127 | 49 | 117 | 148 |
| 382 Non-electrical machinery | 98 | 31 | 69 | 83 |
| 383 Electrical machinery | 280 | 156 | 460 | 574 |
| 384 Transport equipment | 234 | 35 | 234 | 300 |
| 385 Professional and scientific equipment | 5 | 5 | 18 | 25 |
| 390 Other manufacturing industries | 49 | 28 | 51 | 64 |



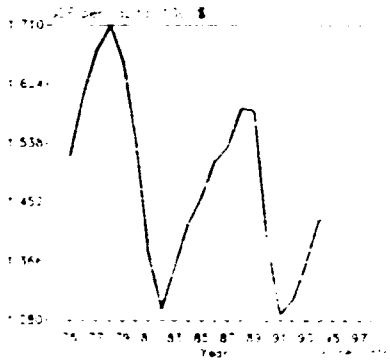


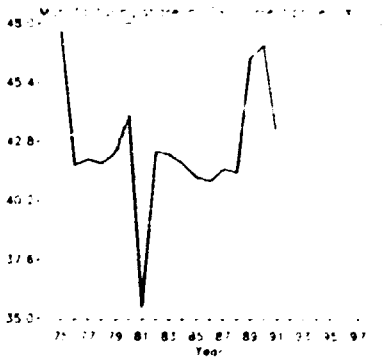
For sources, footnotes and comments see "Technical notes" at the beginning of this Annex.

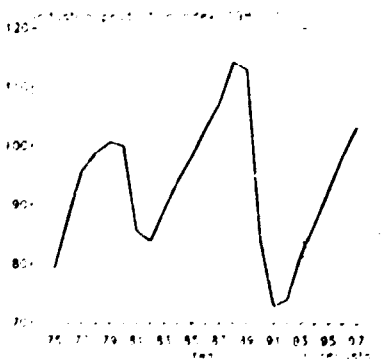




| | 1990 | 1985 | 1980 | 1963 |
|---|---|---|---|---|
| GDP[a0] (millions of 1990-dollars) | 54 856 | 54 357 | 53 290 | 52 123 |
| Per capita[a0] (1990-dollars) | 1 542 | 1 461 | 1 398 | 1 361 |
| Manufacturing share[a0] (%) (current factor prices) | 44.0 | 41.2 | 47.0 | .. |
| **MANUFACTURING:** | | | | |
| Value added[a0] (millions of 1990-dollars) | 31 971 | 29 768 | 25 072 | 24 586 |
| Industrial production index (1980=100) | 100 | 98 | 84 | 81 |
| Value added (millions of dollars) | 22 833 | 24 432 | 23 017 | *40 111* |
| Gross output (millions of dollars) | *1 597* | *1 683* | 48 838 | *1 916* |
| Employment (thousands) | 4 063 | 3 578 | 3 014 | *2 290* |
| **-PROFITABILITY:**(in percent of gross output) | | | | |
| Intermediate input (%) | *49* | *38* | 53 | *43* |
| Wages and salaries including supplements (%) | *23* | *21* | 8 | *16* |
| Gross operating surplus and net taxes (%) | *28* | *41* | 39 | *41* |
| **-PRODUCTIVITY:**(dollars) | | | | |
| Gross output per worker | *5 360* | *5 292* | *16 204* | *11 115* |
| Value added per worker | 5 321 | 6 052 | 7 637 | *17 361* |
| Average wage (including supplements) | 1 575 | 1 627 | 1 257 | *2 160* |
| **-STRUCTURAL INDICES:** | | | | |
| Structural change θ (5-year average in degrees) | 6.03 | 14.02 | 11.51 | *10 41* |
| as a percentage of average θ in 1970-1975 | 118 | 275 | 226 | *204* |
| MVA growth rate / θ | 0.06 | -0.48 | 0.61 | 0.02 |
| Degree of specialization | 11.7 | 14.4 | 11.3 | 11.1 |
| **-VALUE ADDED:**(millions of dollars) | | | | |
| 311/2 Food products | - 889 | 144 | 2 595 | *3 820* |
| 313 Beverages | 3 062 | 3 562 | 1 838 | *3 590* |
| 314 Tobacco products | 636 | 74 | 379 | 820 |
| 321 Textiles | 2 795 | 2 444 | 1 222 | *1 855* |
| 322 Wearing apparel | 572 | 801 | 432 | *781* |
| 323 Leather and fur products | 122 | 221 | 120 | *193* |
| 324 Footwear | 403 | 430 | 263 | *473* |
| 331 Wood and wood products | 423 | 434 | 325 | *518* |
| 332 Furniture and fixtures | 491 | 500 | 307 | *554* |
| 341 Paper and paper products | 224 | 269 | 348 | *619* |
| 342 Printing and publishing | 154 | 208 | 166 | *299* |
| 351 Industrial chemicals | 837 | 734 | 1 056 | *1 874* |
| 352 Other chemical products | 961 | 544 | 649 | *1 087* |
| 353 Petroleum refineries | 1 058 | 1 239 | 1 419 | *2 512* |
| 354 Miscellaneous petroleum and coal products | 54 | 60 | 249 | *443* |
| 355 Rubber products | 317 | 341 | 209 | *327* |
| 356 Plastic products | 380 | 296 | 274 | *494* |
| 361 Pottery, china and earthenware | 97 | 146 | 107 | *194* |
| 362 Glass and glass products | 269 | 282 | 227 | *406* |
| 369 Other non-metal mineral products | 335 | 634 | 602 | *1 070* |
| 371 Iron and steel | 868 | 1 161 | 1 887 | *3 354* |
| 372 Non-ferrous metals | 602 | 336 | 951 | *1 683* |
| 381 Metal products | 1 343 | 1 347 | 1 081 | *2 002* |
| 382 Non-electrical machinery | 3 263 | 3 380 | 2 604 | *4 687* |
| 383 Electrical machinery | 1 558 | 1 801 | 1 420 | *2 535* |
| 384 Transport equipment | 2 436 | 2 256 | 1 855 | *3 145* |
| 385 Professional and scientific equipment | 244 | 251 | 173 | *314* |
| 390 Other manufacturing industries | 237 | 438 | 258 | *462* |

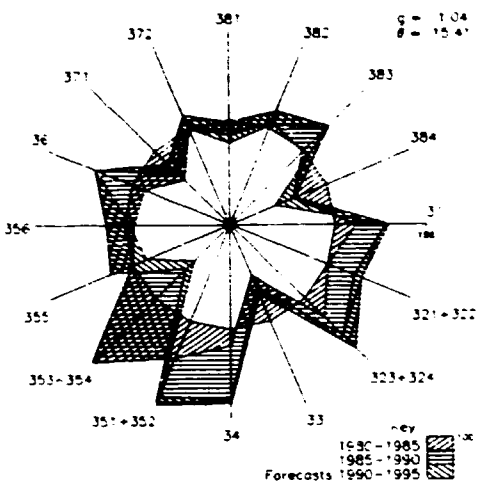




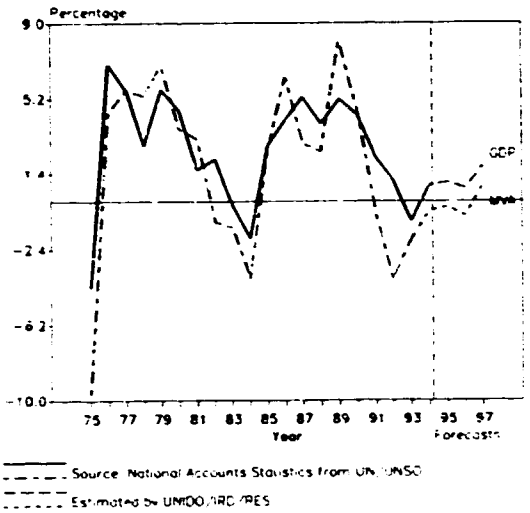


For sources, footnotes and comments see "Technical notes" at the beginning of this Annex.

Industrial structural change
(Index of value added 1980=100)



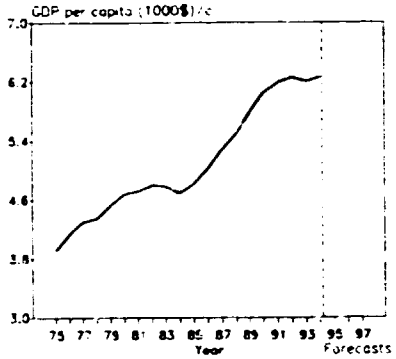

Annual growth rates of GDP and MVA
(Constant 1990 prices)



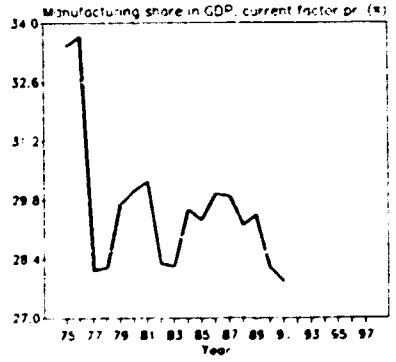

| | 1980 | 1986 | 1990 | 1993 |
|---|---|---|---|---|
| **GDP[a6] (millions of 1990-dollars)** | 45 675 | 47 737 | 59 680 | 61 011 |
| **Per capita[a6] (1990-dollars)** | 4 677 | 4 820 | 6 048 | 6 202 |
| **Manufacturing share[a6] (%) (current factor prices)** | 30.0 | 29.3 | 28.2 | .. |
| **MANUFACTURING:** | | | | |
| **Value added[a6] (millions of 1990-dollars)** | 13 249 | 13 144 | 16 647 | 15 569 |
| **Industrial production index (1980=100)** | 100 | 103 | 125 | 117 |
| **Value added (millions of dollars)** | 5 602 | 4 114 | *12 910* | *14 113* |
| **Gross output (millions of dollars)** | 17 932 | 15 534 | *37 078* | 39 655 |
| **Employment (thousands)** | 680 | 622 | *616* | 583 |
| **-PROFITABILITY:(in percent of gross output)** | | | | |
| **Intermediate input (%)** | 69 | 74 | *65* | *64* |
| **Wages and salaries including supplements (%)** | 17 | 14 | *17* | *18* |
| **Gross operating surplus and net taxes (%)** | 14 | 13 | *18* | *18* |
| **-PRODUCTIVITY:(dollars)** | | | | |
| **Gross output per worker** | 25 885 | 24 565 | *59 180* | *67 755* |
| **Value added per worker** | 8 087 | 6 507 | *22 074* | *30 946* |
| **Average wage (including supplements)** | 4 541 | 3 490 | *10 237* | *11 999* |
| **-STRUCTURAL INDICES:** | | | | |
| **Structural change θ (5-year average in degrees)** | 5.31 | 6.94 | *3.00* | *1.55* |
| **as a percentage of average θ in 1970-1975** | 83 | 109 | *47* | *24* |
| **MVA growth rate / θ** | 1.44 | -0.21 | 2.10 | 1.08 |
| **Degree of specialization** | 11.2 | 10.3 | 11.5 | 11.9 |
| **-VALUE ADDED:(millions of dollars)** | | | | |
| **311/2 Food products** | 544 | 475 | *1 430* | *1 644* |
| **313 Beverages** | 135 | 133 | *391* | *412* |
| **314 Tobacco products** | 64 | 93 | *238* | *285* |
| **321 Textiles** | 905 | 679 | *2 082* | *2 235* |
| **322 Wearing apparel** | 186 | 182 | *606* | *706* |
| **323 Leather and fur products** | 41 | 41 | *134* | *133* |
| **324 Footwear** | 86 | 86 | *257* | *280* |
| **331 Wood and wood products** | 325 | 150 | *450* | *485* |
| **332 Furniture and fixtures** | 106 | 30 | *118* | *124* |
| **341 Paper and paper products** | 274 | 276 | *957* | *1 101* |
| **342 Printing and publishing** | 180 | 140 | *464* | *534* |
| **351 Industrial chemicals** | 147 | 215 | *622* | *721* |
| **352 Other chemical products** | 224 | 190 | *643* | *660* |
| **353 Petroleum refineries** | *219* | *-18* | *239* | *237* |
| **354 Miscellaneous petroleum and coal products** | . | . | . | . |
| **355 Rubber products** | 58 | *46* | *149* | *111* |
| **356 Plastic products** | 128 | *93* | *274* | *282* |
| **361 Pottery, china and earthenware** | 80 | 67 | *261* | *303* |
| **362 Glass and glass products** | 87 | 53 | *196* | *210* |
| **369 Other non-metal mineral products** | 295 | 200 | *706* | *817* |
| **371 Iron and steel** | 207 | 98 | *311* | *320* |
| **372 Non-ferrous metals** | 33 | 28 | *69* | *72* |
| **381 Metal products** | 323 | 219 | *584* | *570* |
| **382 Non-electrical machinery** | 170 | 143 | *367* | *382* |
| **383 Electrical machinery** | 319 | 247 | *778* | *692* |
| **384 Transport equipment** | 428 | 222 | *527* | *511* |
| **385 Professional and scientific equipment** | 15 | 16 | *47* | *55* |
| **390 Other manufacturing industries** | 20 | 11 | *29* | *29* |

For sources, footnotes and comments see "Technical notes" at the beginning of this Annex.

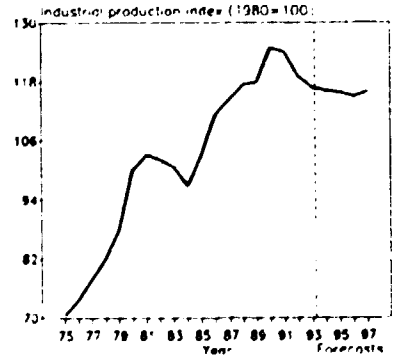
GDP per capita (1000$)/c

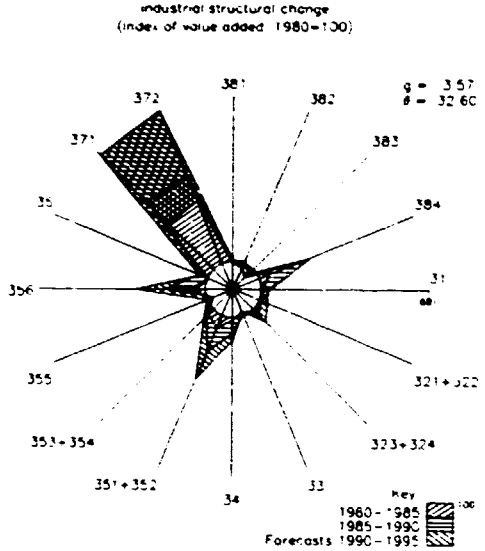


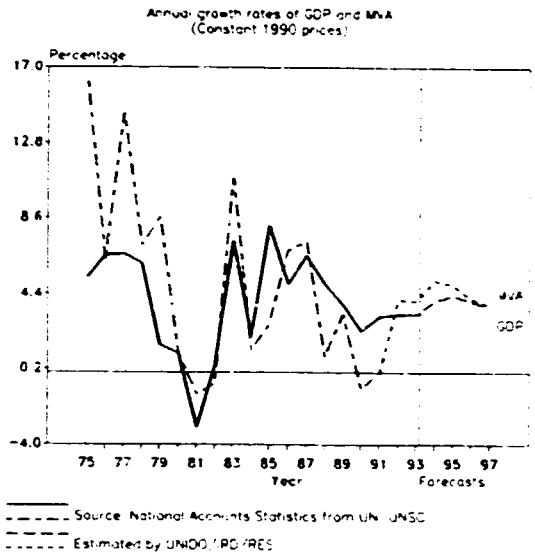

Manufacturing share in GDP, current factor pr (%)




Industrial production index (1980=100)

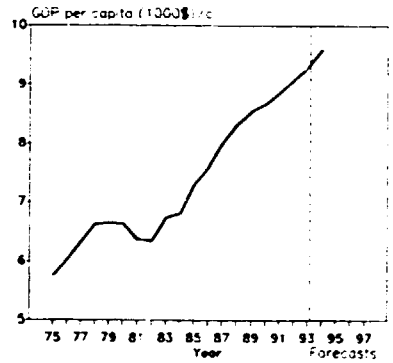


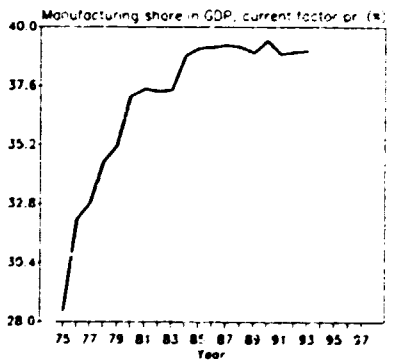


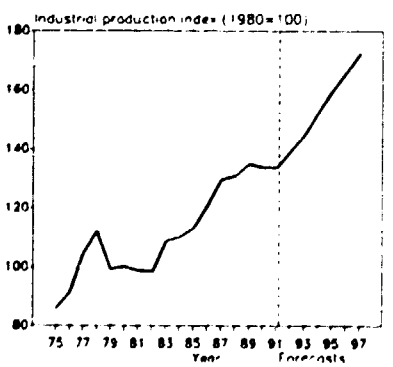




| | 1980 | 1985 | 1990 | 1993 |
|---|---|---|---|---|
| **GDP[88] (millions of 1990-dollars)** | **21 294** | **24 575** | **30 604** | **33 637** |
| **Per capita[88] (1990-dollars)** | **6 642** | **7 301** | **8 857** | **9 297** |
| **Manufacturing share[88] (%) (current factor prices)** | **37.2** | **39.2** | **39.5** | **39.0** |
| **MANUFACTURING:** | | | | |
| **Value added[88] (millions of 1990-dollars)** | **9 068** | **10 255** | **12 126** | *13 115* |
| **Industrial production index (1980=100)** | **100** | **113** | **134** | *145* |
| **Value added (millions of dollars)** | *6 162* | **7 968** | **12 129** | .. |
| **Gross output (millions of dollars)** | .. | .. | .. | .. |
| **Employment (thousands)** | **155** | **149** | **158** | *161* |
| **-PROFITABILITY:(in percent of gross output)** | | | | |
| **Intermediate input (%)** | .. | .. | .. | .. |
| **Wages and salaries including supplements (%)** | .. | .. | .. | .. |
| **Gross operating surplus and net taxes (%)** | .. | .. | .. | .. |
| **-PRODUCTIVITY:(dollars)** | | | | |
| **Gross output per worker** | .. | .. | .. | .. |
| **Value added per worker** | *39 846* | **53 554** | *76 524* | .. |
| **Average wage (including supplements)** | *8 762* | **13 625** | *16 905* | .. |
| **-STRUCTURAL INDICES:** | | | | |
| **Structural change θ (5-year average in degrees)** | *3.70* | *3.72* | **2.68** | **2.73** |
| **as a percentage of average θ in 1970-1975** | *125* | *126* | **91** | **93** |
| **MVA growth rate / θ** | **0.97** | **0.57** | **2.13** | **0.84** |
| **Degree of specialization** | **29.8** | **32.1** | **37.0** | **41.4** |
| **-VALUE ADDED:(millions of dollars)** | | | | |
| **311/2 Food products** | *433* | **485** | *674* | .. |
| **313 Beverages** | *559* | **714** | **1 117** | .. |
| **314 Tobacco products** | *123* | **143** | **171** | .. |
| **321 Textiles** | *34* | **34** | **42** | .. |
| **322 Wearing apparel** | *337* | **437** | **486** | .. |
| **323 Leather and fur products** | *16* | **21** | **36** | .. |
| **324 Footwear** | *51* | **67** | **78** | .. |
| **331 Wood and wood products** | *7* | **7** | **9** | .. |
| **332 Furniture and fixtures** | *38* | **38** | **50** | .. |
| **341 Paper and paper products** | *55* | **56** | **66** | .. |
| **342 Printing and publishing** | *56* | **86** | **164** | .. |
| **351 Industrial chemicals** | *35* | **58** | **39** | .. |
| **352 Other chemical products** | *1 650* | **2 849** | **5 334** | .. |
| **353 Petroleum refineries** | *50* | *74* | *84* | .. |
| **354 Miscellaneous petroleum and coal products** | *65* | *91* | *121* | .. |
| **355 Rubber products** | *47* | **50** | **47** | .. |
| **356 Plastic products** | *36* | **63** | **116** | .. |
| **361 Pottery, china and earthenware** | *19* | *21* | *33* | .. |
| **362 Glass and glass products** | *25* | *28* | *44* | .. |
| **369 Other non-metal mineral products** | *57* | *65* | *101* | .. |
| **371 Iron and steel** | *2* | *10* | *17* | .. |
| **372 Non-ferrous metals** | *4* | *21* | *38* | .. |
| **381 Metal products** | **84** | **93** | **116** | .. |
| **382 Non-electrical machinery** | *454* | **502** | **668** | .. |
| **383 Electrical machinery** | *1 348* | **1 246** | **1 409** | .. |
| **384 Transport equipment** | *18* | **29** | **68** | .. |
| **385 Professional and scientific equipment** | *452* | **582** | **889** | .. |
| **390 Other manufacturing industries** | *107* | **96** | **113** | .. |

For sources, footnotes and comments see "Technical notes" at the beginning of this Annex.

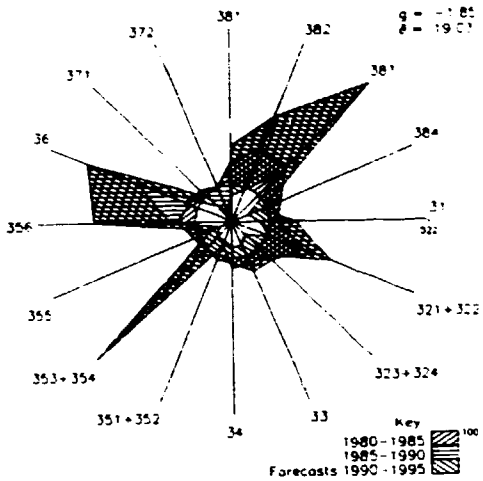


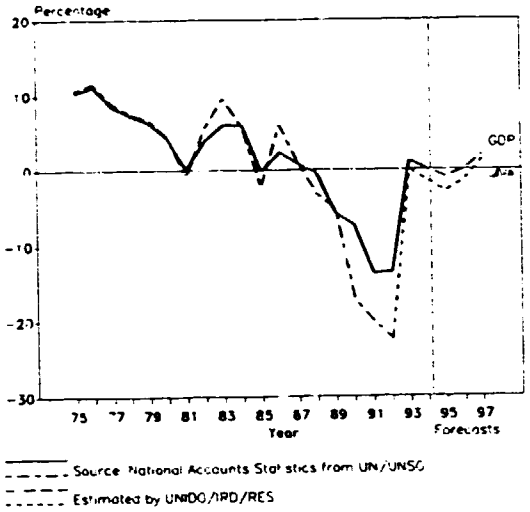



## ROMANIA

Industrial structural change
(Index of value added 1980=100)




Annual growth rates of GDP and MVA
(Constant 1990 prices)

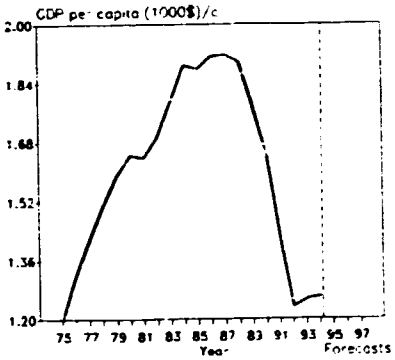



Source National Accounts Statistics from UN/UNSO
Estimated by UNIDO/IRD/RES

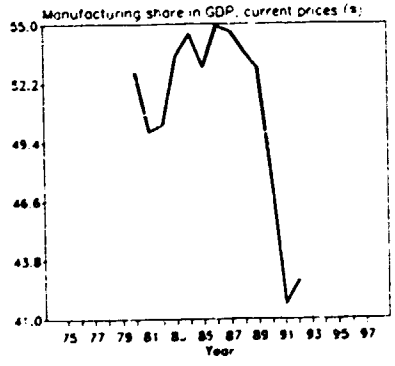
| | 1980 | 1985 | 1990 | 1993 |
|---|---|---|---|---|
| GDP[a,b] (millions of 1990-dollars) | 36 527 | 42 674 | 38 244 | 28 886 |
| Per capita[a,b] (1990-dollars) | 1 645 | 1 878 | 1 648 | 1 255 |
| Manufacturing share[a,b] (%) (current factor prices) | 52.7 | 53.0 | 47.4 | .. |
| **MANUFACTURING:** | | | | |
| Value added[a] (millions of 1990-dollars) | 18 912 | 22 369 | 18 135 | 11 205 |
| Industrial production index (1980=100) | 100 | 123 | 115 | 71 |
| Value added (millions of dollars) | 7 822 | 15 119 | 14 132 | 9 095 |
| Gross output (millions of dollars) | 45 445 | 59 157 | 48 114 | 34 387 |
| Employment (thousands) | 2 877 | 3 051 | 3 451 | 2 761 |
| **-PROFITABILITY:(in percent of gross output)** | | | | |
| Intermediate input (%) | 83 | 74 | 71 | 73 |
| Wages and salaries including supplements (%) | 8 | 9 | 12 | 9 |
| Gross operating surplus and net taxes (%) | 9 | 16 | 17 | 18 |
| **-PRODUCTIVITY:(dollars)** | | | | |
| Gross output per worker | 15 796 | 19 389 | 13 268 | 11 659 |
| Value added per worker | 2 814 | 5 036 | 3 897 | 3 135 |
| Average wage (including supplements) | 1 300 | 1 796 | 1 725 | 1 079 |
| **-STRUCTURAL INDICES:** | | | | |
| Structural change θ (5-year average in degrees) | 3 08 | 3 17 | 8 82 | 10 35 |
| as a percentage of average θ in 1970-1975 | 126 | 129 | 359 | 422 |
| MVA growth rate / θ | 3.08 | 2.46 | 0.29 | -1.49 |
| Degree of specialization | 9.0 | 9.0 | 11 9 | 8.7 |
| **-VALUE ADDED:(millions of dollars)** | | | | |
| 311/2 Food products | 1 110 | 1 620 | 1 645 | 1 078 |
| 313 Beverages | 309 | 663 | 642 | 426 |
| 314 Tobacco products | 15 | 26 | 415 | 126 |
| 321 Textiles | 452 | 1 194 | 1 449 | 823 |
| 322 Wearing apparel | 220 | 628 | 691 | 313 |
| 323 Leather and fur products | 112 | 243 | 67 | 34 |
| 324 Footwear | 186 | 337 | 366 | 201 |
| 331 Wood and wood products | 239 | 547 | 397 | 305 |
| 332 Furniture and fixtures | 278 | 449 | 321 | 236 |
| 341 Paper and paper products | 168 | 259 | 169 | 158 |
| 342 Printing and publishing | 54 | 72 | 143 | 69 |
| 351 Industrial chemicals | 388 | 539 | 116 | 232 |
| 352 Other chemical products | 334 | 526 | 441 | 349 |
| 353 Petroleum refineries | 354 | 485 | - 134 | 310 |
| 354 Miscellaneous petroleum and coal products | 43 | 65 | 36 | 38 |
| 355 Rubber products | 188 | 281 | 129 | 120 |
| 356 Plastic products | 96 | 189 | 397 | 235 |
| 361 Pottery, china and earthenware | 104 | 126 | 571 | 528 |
| 362 Glass and glass products | 51 | 131 | 120 | 80 |
| 369 Other non-metal mineral products | .. | .. | 40 | .. |
| 371 Iron and steel | 597 | 957 | 655 | 535 |
| 372 Non-ferrous metals | 278 | 374 | 22 | 129 |
| 381 Metal products | 376 | 819 | 869 | 445 |
| 382 Non-electrical machinery | 583 | 1 623 | 2 006 | 864 |
| 383 Electrical machinery | 204 | 546 | 1 208 | 592 |
| 384 Transport equipment | 737 | 1 371 | 709 | 544 |
| 385 Professional and scientific equipment | 134 | 353 | 428 | 231 |
| 390 Other manufacturing industries | 212 | 698 | 214 | 92 |

For sources, footnotes and comments see "Technical notes" at the beginning of this Annex.

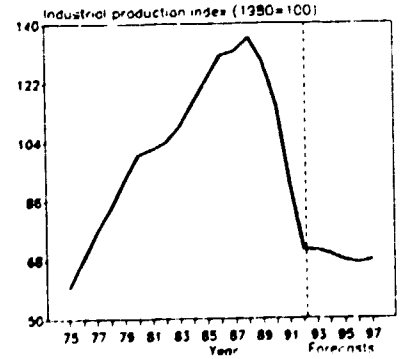
GDP per capita (1000$)/c



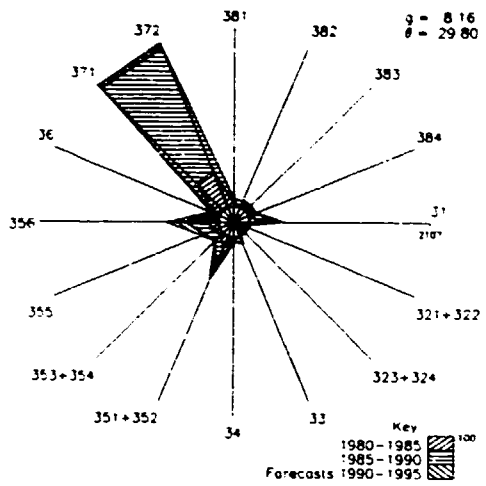

Manufacturing share in GDP, current prices (%)



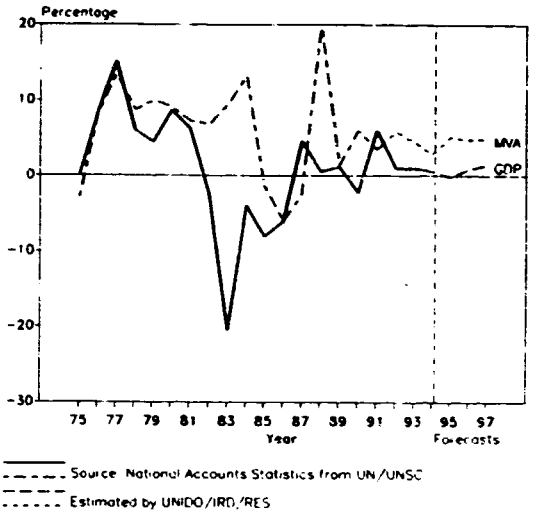

Industrial production index (1980=100)



Industrial structural change
(Index of value added: 1980=100)




Annual growth rates of GDP and MVA
(Constant 1990 prices)

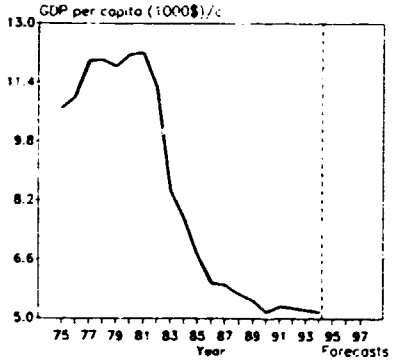



Source: National Accounts Statistics from UN/UNSC
Estimated by UNIDO/IRD/RES

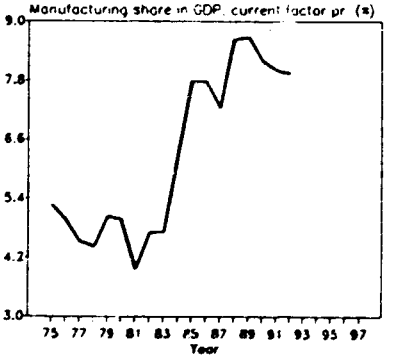
| | 1980 | 1985 | 1990 | 1993 |
|---|---|---|---|---|
| **GDP:[as]** (millions of 1990-dollars) | 116 723 | 84 895 | 82 997 | 89 766 |
| **Per capita[as]** (1990-dollars) | 12 154 | 6 712 | 5 172 | 5 244 |
| **Manufacturing share[as]** (%) (current factor prices) | 5.0 | 7.8 | 8.2 | .. |
| **MANUFACTURING:** | | | | |
| **Value added[as]** (millions of 1990-dollars) | 4 085 | 5 715 | 6 730 | *7 713* |
| **Industrial production index** (1980=100) | 100 | 181 | 260 | *299* |
| **Value added** (millions of dollars) | *2 230* | *3 242* | *5 207* | *6 161* |
| **Gross output** (millions of dollars) | *9 270* | *13 764* | *17 738* | *23 844* |
| **Employment** (thousands) | *1* | *2* | *3* | *5* |
| **-PROFITABILITY:**(in percent of gross output) | | | | |
| **Intermediate input** (%) | .. | .. | .. | .. |
| **Wages and salaries including supplements** (%) | .. | .. | .. | .. |
| **Gross operating surplus and net taxes** (%) | .. | .. | .. | .. |
| **-PRODUCTIVITY:**(dollars) | | | | |
| **Gross output per worker** | *175 585* | *209 697* | *157 709* | *136 614* |
| **Value added per worker** | *23 107* | *19 934* | *10 037* | *6 833* |
| **Average wage (including supplements)** | .. | .. | .. | .. |
| **-STRUCTURAL INDICES:** | | | | |
| **Structural change** $\theta$ (5-year average in degrees) | *5.58* | *3.46* | *4.46* | *2.22* |
| **as a percentage of average** $\theta$ **in 1970-1975** | *139* | *85* | *109* | *54* |
| **MVA growth rate / $\theta$** | 1.09 | 2.83 | 2.55 | 2.75 |
| **Degree of specialization** | 28.8 | 31.0 | 33.8 | 35.7 |
| **-VALUE ADDED:**(millions of dollars) | | | | |
| 311/2 **Food products** | *88* | *167* | 353 | *422* |
| 313 **Beverages** | *16* | *24* | *35* | *41* |
| 314 **Tobacco products** | *15* | *21* | *26* | *32* |
| 321 **Textiles** | 86 | *57* | *18* | *20* |
| 322 **Wearing apparel** | *3* | *3* | *4* | *5* |
| 323 **Leather and fur products** | 26 | *17* | *4* | *5* |
| 324 **Footwear** | *1* | *1* | *1* | *1* |
| 331 **Wood and wood products** | *5* | *5* | *8* | *9* |
| 332 **Furniture and fixtures** | *19* | *20* | *32* | *33* |
| 341 **Paper and paper products** | *77* | *86* | *94* | *106* |
| 342 **Printing and publishing** | *39* | *44* | *48* | *54* |
| 351 **Industrial chemicals** | 447 | *932* | 1 868 | *2 414* |
| 352 **Other chemical products** | *56* | *91* | *152* | *153* |
| 353 **Petroleum refineries** | 433 | *558* | *844* | *843* |
| 354 **Miscellaneous petroleum and coal products** | *37* | *57* | *118* | *116* |
| 355 **Rubber products** | *3* | *4* | *7* | *8* |
| 356 **Plastic products** | *34* | *69* | *145* | *187* |
| 361 **Pottery, china and earthenware** | *9* | *13* | *26* | *31* |
| 362 **Glass and glass products** | *9* | *13* | *19* | *27* |
| 369 **Other non-metal mineral products** | 505 | *613* | 619 | *824* |
| 371 **Iron and steel** | *17* | *81* | *302* | *317* |
| 372 **Non-ferrous metals** | *1* | *4* | *15* | *16* |
| 381 **Metal products** | 184 | *193* | *258* | *268* |
| 382 **Non-electrical machinery** | 36 | *43* | *55* | *60* |
| 383 **Electrical machinery** | 59 | *72* | *92* | *99* |
| 384 **Transport equipment** | 18 | *21* | *27* | *29* |
| 385 **Professional and scientific equipment** | 2 | *2* | *3* | *4* |
| 390 **Other manufacturing industries** | 29 | *31* | *32* | *37* |

For sources, footnotes and comments see "Technical notes" at the beginning of this Annex.

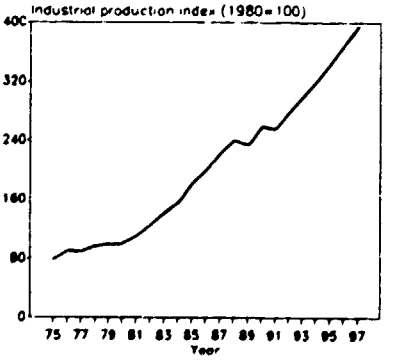
GDP per capita (1000$)/c

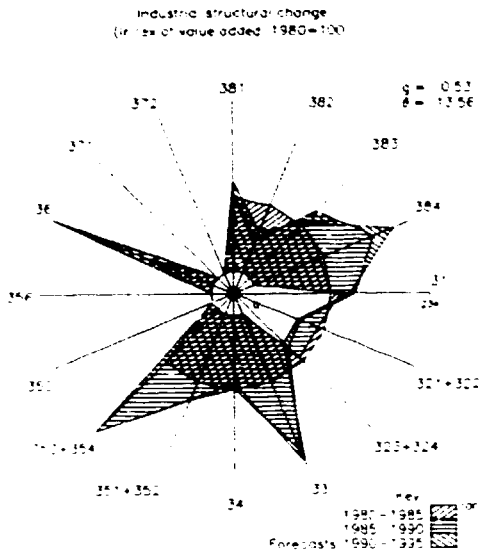


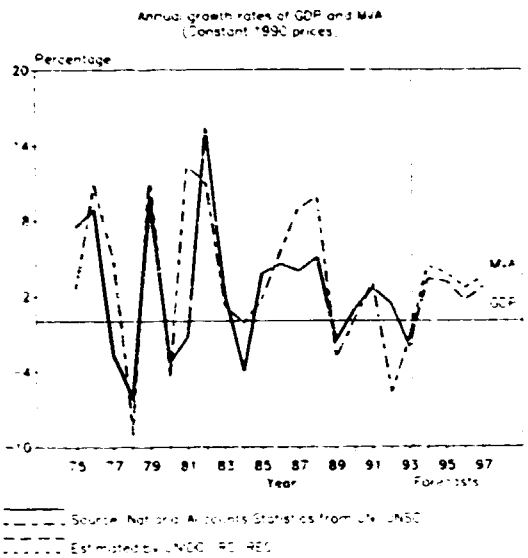

Manufacturing share in GDP, current factor pr (%)




Industrial production index (1980=100)

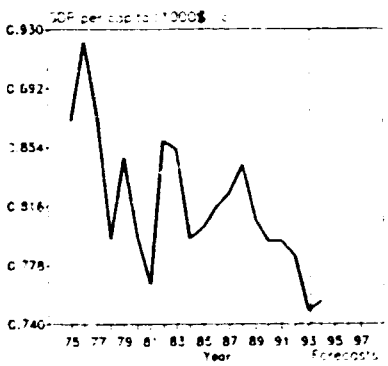


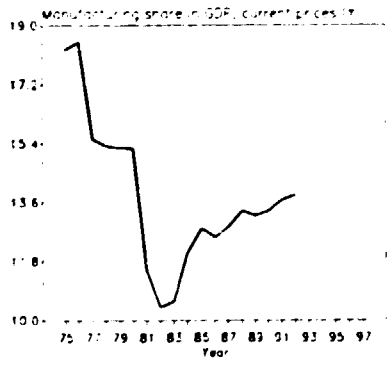


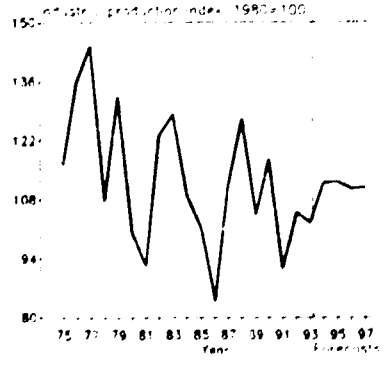



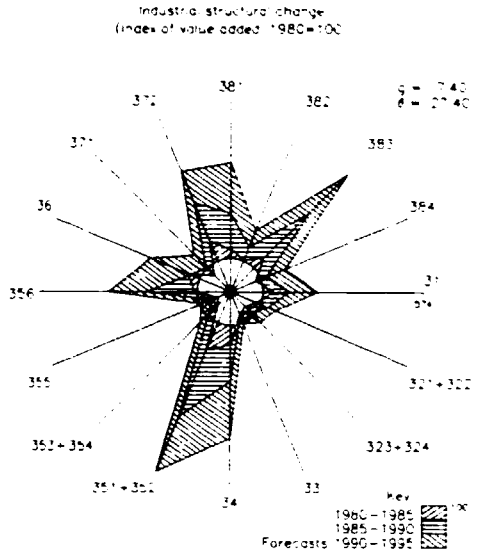

| | 1980 | 1985 | 1990 | 1993 |
|---|---|---|---|---|
| **GDP[a,c] (millions of 1990-dollars)** | 4 411 | 5 117 | 5 814 | 5 920 |
| **Per capita[a,c] (1990-dollars)** | 796 | 803 | 794 | 749 |
| **Manufacturing share[a,c] (%) (current factor prices)** | 15.3 | 12.8 | 13.3 | .. |
| **MANUFACTURING:** | | | | |
| **Value added[a,c] (millions of 1990-dollars)** | 493 | 631 | 775 | 742 |
| **Industrial production index (1980=100)** | 100 | 101 | 117 | 102 |
| **Value added (millions of dollars)** | *266* | *288* | *366* | *334* |
| **Gross output (millions of dollars)** | 1 070 | 926 | *1 564* | *1 408* |
| **Employment (thousands)** | 32 | 30 | *35* | *35* |
| **-PROFITABILITY:(in percent of gross output)** | | | | |
| **Intermediate input (%)** | 75 | 71 | *76* | *76* |
| **Wages and salaries including supplements (%)** | *10* | *11* | *12* | *12* |
| **Gross operating surplus and net taxes (%)** | *14* | *18* | *12* | *12* |
| **-PRODUCTIVITY:(dollars)** | | | | |
| **Gross output per worker** | 33 812 | 22 546 | *43 529* | *39 850* |
| **Value added per worker** | 8 400 | 6 528 | *10 444* | *9 817* |
| **Average wage (including supplements)** | *3 508* | *3 240* | *5 156* | *4 968* |
| **-STRUCTURAL INDICES:** | | | | |
| **Structural change θ (5-year average in degrees)** | 7.40 | 13.63 | *15.99* | *13.57* |
| **as a percentage of average θ in 1970-1975** | 151 | 278 | *326* | *276* |
| **MVA growth rate / θ** | -0.31 | 0.49 | -0.12 | -0.56 |
| **Degree of specialization** | 26.8 | 36.6 | 34.3 | 35.4 |
| **-VALUE ADDED:(millions of dollars)** | | | | |
| 311/2 Food products | 113 | *101* | *200* | *181* |
| 313 Beverages | 12 | *8* | *15* | *10* |
| 314 Tobacco products | 7 | *7* | *10* | *7* |
| 321 Textiles | 33 | *23* | *29* | *24* |
| 322 Wearing apparel | 10 | *7* | *8* | *7* |
| 323 Leather and fur products | 5 | *4* | *5* | *5* |
| 324 Footwear | 2 | *1* | *1* | *1* |
| 331 Wood and wood products | 2 | [p] | *10* | *9* |
| 332 Furniture and fixtures | 2 | [p] | - | - |
| 341 Paper and paper products | 4 | [p] | *3* | *2* |
| 342 Printing and publishing | 6 | [p] | *9* | *9* |
| 351 Industrial chemicals | 16 | [p] | *13* | *12* |
| 352 Other chemical products | 5 | [p] | *21* | *18* |
| 353 Petroleum refineries | 18 | [p] | *-16* | *-10* |
| 354 Miscellaneous petroleum and coal products | - | [p] | .. | .. |
| 355 Rubber products | - | [p] | .. | .. |
| 356 Plastic products | - | [p] | .. | .. |
| 361 Pottery, china and earthenware | - | [p] | .. | .. |
| 362 Glass and glass products | - | [p] | .. | .. |
| 369 Other non-metal mineral products | 12 | [p] | *29* | *31* |
| 371 Iron and steel | - | [p] | .. | .. |
| 372 Non-ferrous metals | - | [p] | .. | .. |
| 381 Metal products | 10 | [p] | *13* | *14* |
| 382 Non-electrical machinery | 3 | [p] | *2* | *2* |
| 383 Electrical machinery | 1 | [p] | *2* | *1* |
| 384 Transport equipment | 5 | [p] | *11* | *11* |
| 385 Professional and scientific equipment | - | [p] | .. | .. |
| 390 Other manufacturing industries | - | 117 | *1* | *1* |

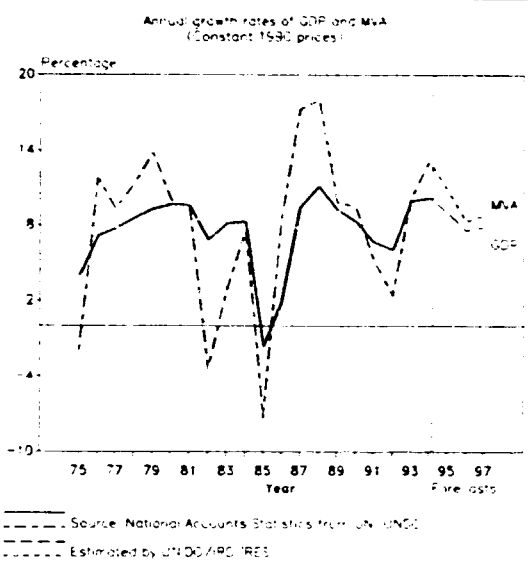
For sources, footnotes and comments see "Technical notes" at the beginning of this Annex.



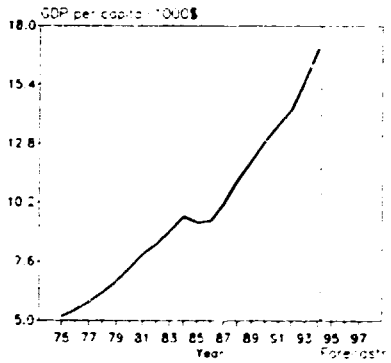



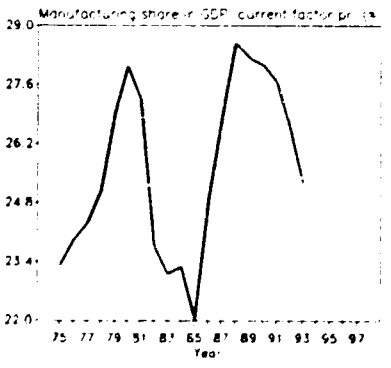



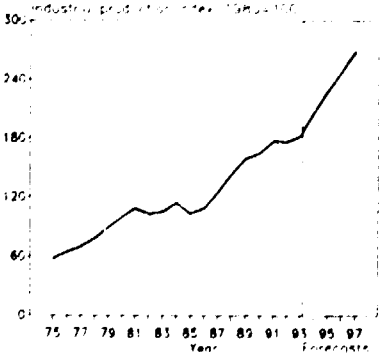



| | 1980 | 1985 | 1990 | 1993 |
|---|---|---|---|---|
| **GDP:[as] (millions of 1990-dollars)** | **17 677** | **23 864** | **34 991** | **43 528** |
| **Per capita[as] (1990-dollars)** | **7 320** | **9 329** | **12 936** | **15 585** |
| **Manufacturing share[as] (%) (current factor prices)** | **28.0** | **22.0** | **28.0** | *25.1* |
| **MANUFACTURING:** | | | | |
| **Value added[as] (millions of 1990-dollars)** | **5 309** | **5 736** | **10 343** | **12 280** |
| **Industrial production index (1980=100)** | **100** | **104** | **165** | **182** |
| **Value added (millions of dollars)** | **4 004** | **4 861** | **11 922** | *17 406* |
| **Gross output (millions of dollars)** | **15 278** | **17 575** | **39 414** | *54 023* |
| **Employment (thousands)** | **287** | **254** | **352** | *376* |
| **-PROFITABILITY:(in percent of gross output)** | | | | |
| **Intermediate input (%)** | **74** | **72** | **70** | *68* |
| **Wages and salaries including supplements (%)** | **8** | **10** | **10** | *11* |
| **Gross operating surplus (%)** | **18** | **17** | **21** | *21* |
| **-PRODUCTIVITY:(dollars)** | | | | |
| **Gross output per worker** | **53 564** | **69 711** | **112 574** | *144 121* |
| **Value added per worker** | **13 942** | **19 137** | **33 886** | *46 254* |
| **Average wage (including supplements)** | **4 168** | **7 290** | **10 800** | *15 393* |
| **-STRUCTURAL INDICES:** | | | | |
| **Structural change θ (5-year average in degrees)** | **5.01** | **7.80** | **3.97** | *2.42* |
| **as a percentage of average θ in 1970-1975** | **46** | **72** | **36** | *22* |
| **MVA growth rate / θ** | **3.18** | **0.19** | **3.28** | **2.63** |
| **Degree of specialization** | **22.3** | **24.2** | **29.9** | **30.2** |
| **-VALUE ADDED:(millions of dollars)** | | | | |
| **311/2 Food products** | **121** | **180** | **322** | *466* |
| **313 Beverages** | **52** | **75** | **139** | *198* |
| **314 Tobacco products** | **25** | **35** | **64** | *110* |
| **321 Textiles** | **70** | **28** | **72** | *75* |
| **322 Wearing apparel** | **127** | **157** | **294** | *354* |
| **323 Leather and fur products** | **7** | **5** | **11** | *19* |
| **324 Footwear** | **9** | **5** | **9** | *10* |
| **331 Wood and wood products** | **84** | **43** | **55** | *56* |
| **332 Furniture and fixtures** | **40** | **61** | **89** | *132* |
| **341 Paper and paper products** | **45** | **82** | **189** | *250* |
| **342 Printing and publishing** | **128** | **229** | **514** | *363* |
| **351 Industrial chemicals** | **52** | **138** | **584** | *590* |
| **352 Other chemical products** | **143** | **267** | **600** | *1 064* |
| **353 Petroleum refineries** | *674* | *389* | *894* | *1 225* |
| **354 Miscellaneous petroleum and coal products** | *12* | *8* | *23* | *33* |
| **355 Rubber products** | **44** | **21** | **39** | *60* |
| **356 Plastic products** | **84** | **102** | **327** | *453* |
| **361 Pottery, china and earthenware** | *1* | - | *2* | *5* |
| **362 Glass and glass products** | *10* | *5* | *31* | *61* |
| **369 Other non-metal mineral products** | **82** | **140** | **149** | *300* |
| **371 Iron and steel** | **62** | **48** | **97** | *142* |
| **372 Non-ferrous metals** | **9** | **17** | **41** | *54* |
| **381 Metal products** | **206** | **296** | **730** | *1 175* |
| **382 Non-electrical machinery** | **319** | **370** | **699** | *930* |
| **383 Electrical machinery** | **950** | **1 538** | **4 744** | *6 973* |
| **384 Transport equipment** | **500** | **470** | **890** | *1 310* |
| **385 Professional and scientific equipment** | **80** | **89** | **200** | *335* |
| **390 Other manufacturing industries** | **69** | **58** | **114** | *162* |

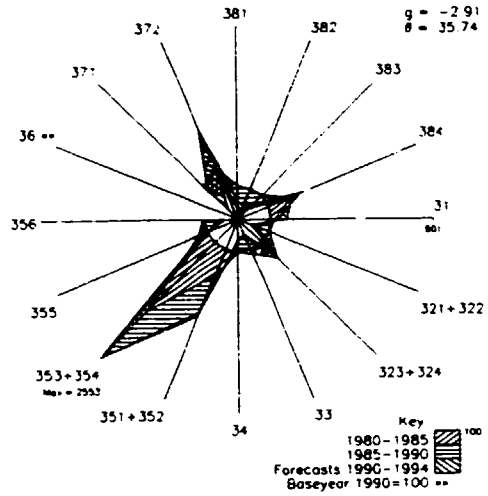


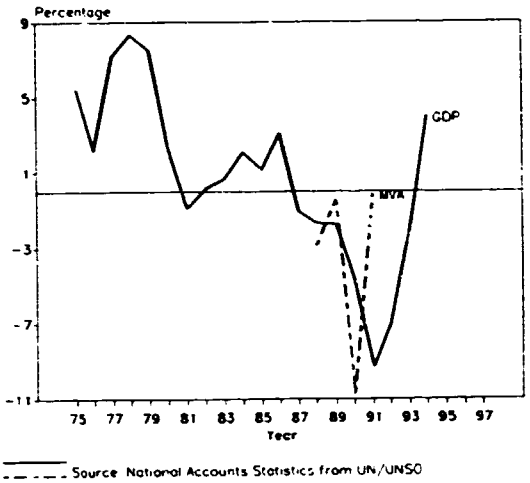




For sources, footnotes and comments see "Technical notes" at the beginning of this Annex.

Industrial structural change
(Index of value added 1980=100)



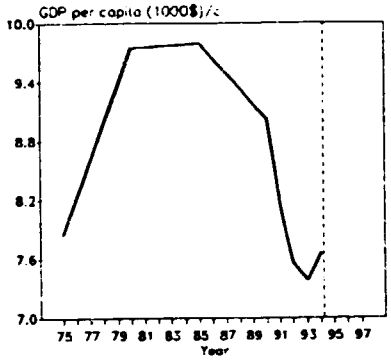

Annual growth rates of GDP and MVA
(Constant 1990 prices)




Source National Accounts Statistics from UN/UNSO
Estimated by UNIDO/IRD/RES

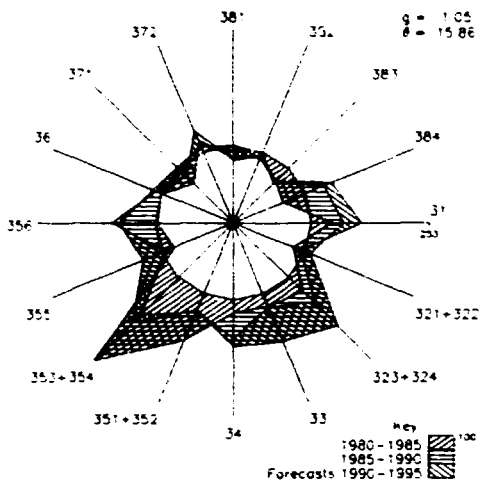
| | 1980 | 1985 | 1990 | 1993 |
|---|---|---|---|---|
| **GDP:[88] (millions of 1990-dollars)** | 17 859 | 18 424 | 17 304 | 14 302 |
| **Per capita[88] (1990-dollars)** | 9 748 | 9 795 | 9 022 | 7 383 |
| **Manufacturing share[88] (%) (current factor prices)** | .. | .. | .. | .. |
| **MANUFACTURING:** | | | | |
| **Value added[88] (millions of 1990-dollars)** | .. | .. | 5 628 | .. |
| **Industrial production index (1980=100)** | .. | .. | .. | .. |
| **Value added (millions of dollars)** | *3 416* | *2 390* | 4 952 | *3 300* |
| **Gross output (millions of dollars)** | *16 976* | *9 695* | 14 603 | *9 577* |
| **Employment (thousands)** | *329* | *341* | 343 | *267* |
| **-PROFITABILITY:(in percent of gross output)** | | | | |
| **Intermediate input (%)** | *80* | *75* | 67 | *66* |
| **Wages and salaries including supplements (%)** | *19* | *17* | 25 | *27* |
| **Gross operating surplus and net taxes (%)** | *1* | *8* | 8 | *7* |
| **-PRODUCTIVITY:(dollars)** | | | | |
| **Gross output per worker** | *41 756* | *25 403* | 39 532 | *35 183* |
| **Value added per worker** | *8 663* | *6 350* | 12 972 | *12 730* |
| **Average wage (including supplements)** | *9 705* | *4 856* | 10 668 | *9 829* |
| **-STRUCTURAL INDICES:** | | | | |
| **Structural change θ (5-year average in degrees)** | *0 95* | *1 03* | *7 87* | *10 87* |
| **as a percentage of average θ in 1970-1975** | *91* | *99* | *756* | *1 045* |
| **MVA growth rate / θ** | 7.48 | 2.15 | -0.44 | -1.21 |
| **Degree of specialization** | 17.8 | 14.7 | 9.3 | 9.1 |
| **-VALUE ADDED:(millions of dollars)** | | | | |
| **311/2 Food products** | *217* | *153* | 405 | *327* |
| **313 Beverages** | *68* | *42* | 111 | *113* |
| **314 Tobacco products** | *1* | *3* | 70 | *156* |
| **321 Textiles** | *581* | *371* | 579 | *386* |
| **322 Wearing apparel** | *12* | *8* | 9 | *2* |
| **323 Leather and fur products** | *36* | *33* | 75 | *17* |
| **324 Footwear** | *19* | *26* | 67 | *39* |
| **331 Wood and wood products** | *131* | *107* | 179 | *91* |
| **332 Furniture and fixtures** | *150* | *97* | 107 | *27* |
| **341 Paper and paper products** | *178* | *114* | 149 | *15* |
| **342 Printing and publishing** | *121* | *'6* | 169 | *65* |
| **351 Industrial chemicals** | *70* | *67* | 186 | *17* |
| **352 Other chemical products** | *20* | *39* | 300 | *'51* |
| **353 Petroleum refineries** | *1* | *2* | 10 | *33* |
| **354 Miscellaneous petroleum and coal products** | .. | .. | .. | .. |
| **355 Rubber products** | *49* | *39* | 72 | *84* |
| **356 Plastic products** | *92* | *60* | 101 | *56* |
| **361 Pottery, china and earthenware** | .. | .. | 242 | .. |
| **362 Glass and glass products** | .. | .. | *160* | .. |
| **369 Other non-metal mineral products** | .. | .. | .. | .. |
| **371 Iron and steel** | *99* | *90* | 208 | *59* |
| **372 Non-ferrous metals** | *23* | *24* | 118 | *51* |
| **381 Metal products** | *403* | *266* | 375 | *212* |
| **382 Non-electrical machinery** | *493* | *315* | 388 | *256* |
| **383 Electrical machinery** | *460* | *297* | 500 | *330* |
| **384 Transport equipment** | *80* | *89* | 287 | *194* |
| **385 Professional and scientific equipment** | *20* | *13* | 21 | *14* |
| **390 Other manufacturing industries** | *91* | *57* | 66 | *34* |

GDP per capita (1000$)/c

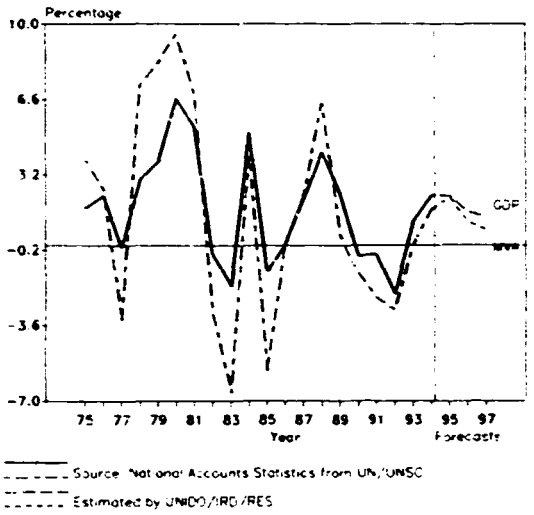



For sources, footnotes and comments see "Technical notes" at the beginning of this Annex.

Industrial structural change
(Index of value added 1980=100)




Annual growth rates of GDP and MVA
(Constant 1990 prices)



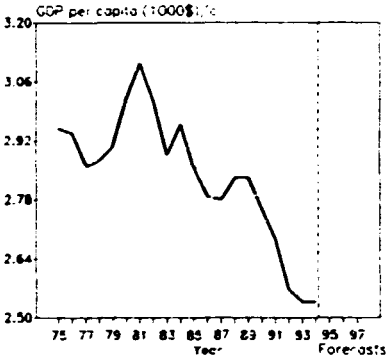

Source: National Accounts Statistics from UN/UNSO

Estimated by UNIDO/IRD/RES

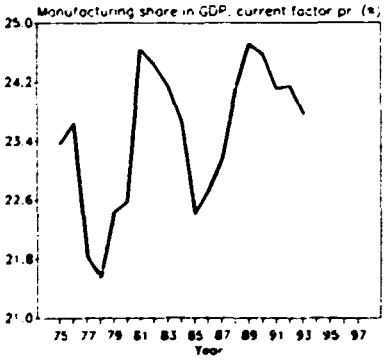
| | 1980 | 1985 | 1990 | 1993 |
|---|---|---|---|---|
| **GDP:[88] (millions of 1980-dollars)** | **88 156** | **94 292** | **102 167** | **100 627** |
| **Per capita[88] (1980-dollars)** | **3 022** | **2 854** | **2 756** | **2 537** |
| **Manufacturing share[88] (%) (current factor prices)** | **22.6** | **22.4** | **24.6** | *23 8* |
| **MANUFACTURING:** | | | | |
| **Value added[88] (millions of 1980-dollars)** | **22 709** | **21 534** | **23 181** | **21 971** |
| **Industrial production index (1980=100)** | **100** | **103** | **115** | **105** |
| **Value added (millions of dollars)** | **17 886** | *12 409* | **23 181** | *24 751* |
| **Gross output (millions of dollars)** | *53 686* | **36 059** | **68 770** | *66 863* |
| **Employment (thousands)** | **1 392** | **1 422** | **1 525** | *1 445* |
| **-PROFITABILITY:(in percent of gross output)** | | | | |
| **Intermediate input (%)** | *67* | **66** | **66** | *63* |
| **Wages and salaries including supplements (%)** | *16* | **18** | *17* | *20* |
| **Gross operating surplus (%)** | *17* | **17** | *17* | *17* |
| **-PRODUCTIVITY:(dollars)** | | | | |
| **Gross output per worker** | *38 568* | **24 980** | **45 095** | *46 279* |
| **Value added per worker** | **12 835** | **8 632** | **15 201** | *17 138* |
| **Average wage (including supplements)** | *6 119* | **4 465** | *7 706* | *9 088* |
| **-STRUCTURAL INDICES:** | | | | |
| **Structural change θ (5-year average in degrees)** | *4 09* | **6.51** | **8.72** | *5 14* |
| **as a percentage of average θ in 1970-1975** | *133* | **212** | **283** | *167* |
| **MVA growth rate / θ** | **1.29** | **0.24** | **0.29** | **-0.12** |
| **Degree of specialization** | **10.7** | **9.2** | **8.4** | **8.7** |
| **-VALUE ADDED:(millions of dollars)** | | | | |
| **311/2 Food products** | **1 626** | **1 277** | **2 220** | *2 654* |
| **313 Beverages** | **458** | **418** | **1 055** | *1 463* |
| **314 Tobacco products** | **111** | **108** | **83** | *116* |
| **321 Textiles** | **886** | **408** | **851** | *823* |
| **322 Wearing apparel** | **477** | **334** | **701** | *749* |
| **323 Leather and fur products** | **40** | **44** | **75** | *97* |
| **324 Footwear** | **152** | **113** | **316** | *245* |
| **331 Wood and wood products** | **213** | **190** | **469** | *347* |
| **332 Furniture and fixtures** | **219** | **138** | **307** | *274* |
| **341 Paper and paper products** | **591** | **471** | **1 208** | *1 160* |
| **342 Printing and publishing** | **549** | **392** | **763** | *873* |
| **351 Industrial chemicals** | **1 006** | **717** | **932** | *1 218* |
| **352 Other chemical products** | **639** | **1 047** | **1 255** | *1 227* |
| **353 Petroleum refineries** | **634** | **1 038** | **1 244** | *1 218* |
| **354 Miscellaneous petroleum and coal products** | **111** | **182** | **217** | *213* |
| **355 Rubber products** | **297** | **157** | **401** | *344* |
| **356 Plastic products** | **355** | **225** | **560** | *615* |
| **361 Pottery, china and earthenware** | **28** | **24** | **42** | *43* |
| **362 Glass and glass products** | **154** | **102** | **292** | *325* |
| **369 Other non-metal mineral products** | **754** | **481** | **794** | *860* |
| **371 Iron and steel** | **2 135** | **986** | **2 343** | *2 206* |
| **372 Non-ferrous metals** | **565** | **418** | **642** | *826* |
| **381 Metal products** | **1 576** | **860** | **1 697** | *1 537* |
| **382 Non-electrical machinery** | **1 351** | **805** | **1 432** | *1 509* |
| **383 Electrical machinery** | **1 229** | **607** | **970** | *1 137* |
| **384 Transport equipment** | **1 256** | **586** | **1 705** | *2 008* |
| **386 Professional and scientific equipment** | **49** | **54** | **160** | *250* |
| **390 Other manufacturing industries** | **415** | **246** | **448** | *415* |

For sources, footnotes and comments see "Technical notes" at the beginning of this Annex.

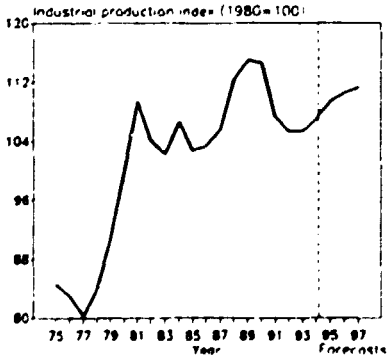
GDP per capita (1000$1/c

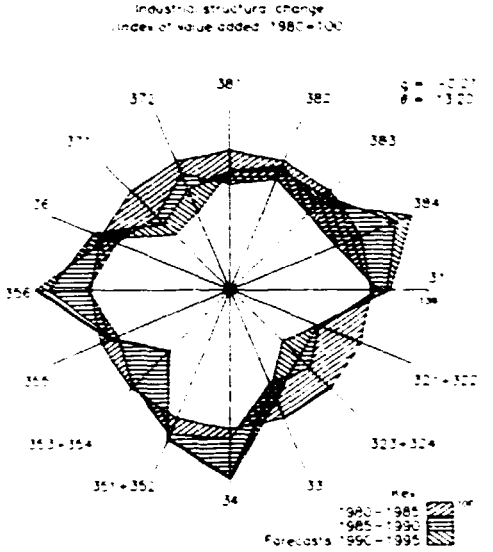


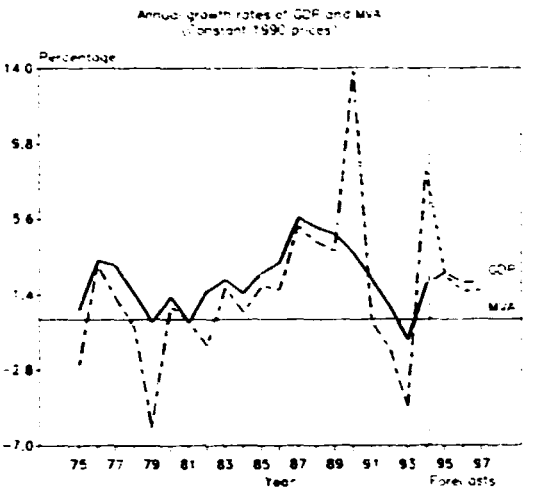

Manufacturing share in GDP, current factor pr (%)




Industrial production index (1980=100)

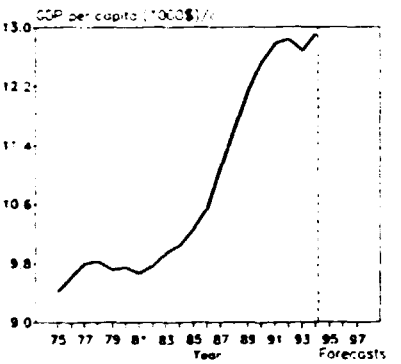


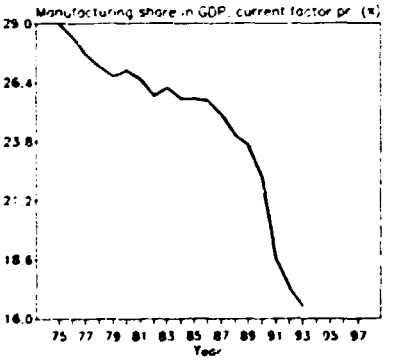


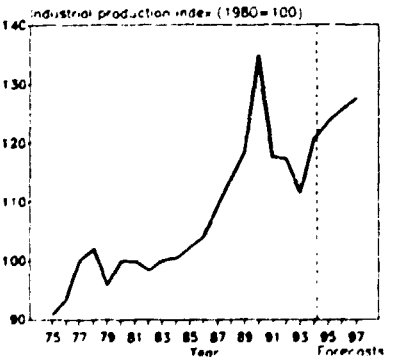


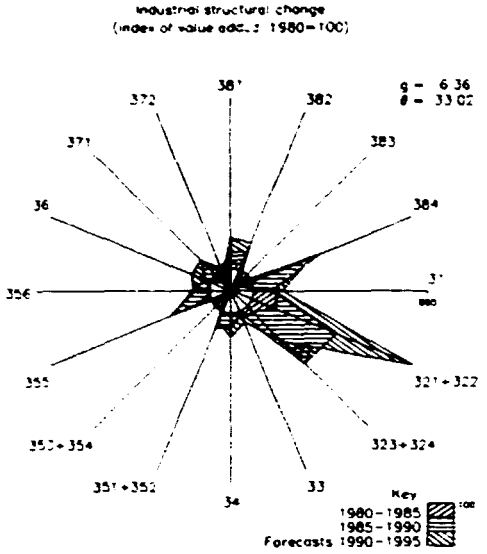

| | 1980 | 1985 | 1990 | 1993 |
|---|---|---|---|---|
| **GDP:[88] (millions of 1980-dollars)** | 365 983 | 394 924 | 491 758 | 500 931 |
| **Per capita[88] (1980-dollars)** | 9 749 | 10 285 | 12 522 | 12 678 |
| **Manufacturing share[82] (%) (current factor prices)** | 27.0 | 25.7 | 22.2 | *16.6* |
| **MANUFACTURING:** | | | | |
| **Value added[88] (millions of 1980-dollars)** | 81 846 | 83 753 | 110 292 | 102 973 |
| **Industrial production index (1980=100)** | 100 | 102 | 135 | 112 |
| **Value added (millions of dollars)** | 51 944 | 33 139 | 87 679 | *74 915* |
| **Gross output (millions of dollars)** | 149 786 | 104 594 | 259 945 | 220 466 |
| **Employment (thousands)** | 2 383 | 1 793 | 1 907 | *1 792* |
| **-PROFITABILITY:(in percent of gross output)** | | | | |
| **Intermediate input (%)** | 65 | 68 | 66 | *66* |
| **Wages and salaries including supplements (%)** | 20 | 17 | 18 | *18* |
| **Gross operating surplus (%)** | 14 | 15 | 16 | *16* |
| **-PRODUCTIVITY:(dollars)** | | | | |
| **Gross output per worker** | 59 041 | 53 985 | 127 029 | *114 712* |
| **Value added per worker** | 20 475 | 17 112 | 42 847 | *38 980* |
| **Average wage (including supplements)** | 12 852 | 9 694 | 24 205 | *22 647* |
| **-STRUCTURAL INDICES:** | | | | |
| **Structural change θ (5-year average in degrees)** | 5.46 | 3.43 | 5.24 | *2.39* |
| **as a percentage of average θ in 1970-1975** | 95 | 60 | 92 | *42* |
| **MVA growth rate / θ** | 1.76 | -0.70 | 0.42 | -0.71 |
| **Degree of specialization** | 8.4 | 8.5 | 10.1 | 11.0 |
| **-VALUE ADDED:(millions of dollars)** | | | | |
| 311/2 Food products | 5 865 | 4 193 | 10 773 | *9 251* |
| 313 Beverages | 1 932 | 1 576 | 4 014 | *3 448* |
| 314 Tobacco products | 649 | 471 | 912 | *909* |
| 321 Textiles | 3 289 | 1 613 | 3 314 | *2 700* |
| 322 Wearing apparel | 1 502 | 753 | 2 242 | *1 940* |
| 323 Leather and fur products | 375 | 268 | 614 | *471* |
| 324 Footwear | 810 | 415 | 781 | *579* |
| 331 Wood and wood products | 1 258 | 707 | 2 164 | *1 802* |
| 332 Furniture and fixtures | 1 262 | 617 | 1 534 | *1 259* |
| 341 Paper and paper products | 1 278 | 947 | 2 101 | *1 634* |
| 342 Printing and publishing | 1 506 | 1 196 | 4 403 | *3 973* |
| 351 Industrial chemicals | 2 006 | 1 737 | 3 427 | *2 601* |
| 352 Other chemical products | 2 506 | 1 923 | 5 609 | *5 057* |
| 353 Petroleum refineries | 1 409 | 989 | 1 348 | *1 032* |
| 354 Miscellaneous petroleum and coal products | 229 | 191 | 383 | *448* |
| 355 Rubber products | 955 | 597 | 1 490 | *1 327* |
| 356 Plastic products | 1 098 | 814 | 2 452 | *2 207* |
| 361 Pottery, china and earthenware | 346 | 174 | 432 | *307* |
| 362 Glass and glass products | 640 | 442 | 1 128 | *893* |
| 369 Other non-metal mineral products | 2 522 | 1 617 | 4 797 | *3 931* |
| 371 Iron and steel | 3 256 | 1 756 | 3 762 | *2 587* |
| 372 Non-ferrous metals | 948 | 616 | 1 275 | *803* |
| 381 Metal products | 3 720 | 2 044 | 5 437 | *4 531* |
| 382 Non-electrical machinery | 3 595 | 2 226 | 5 745 | *5 218* |
| 383 Electrical machinery | 3 669 | 2 084 | 5 978 | *4 875* |
| 384 Transport equipment | 4 743 | 2 776 | 10 320 | *10 089* |
| 385 Professional and scientific equipment | 206 | 122 | 375 | *308* |
| 390 Other manufacturing industries | 573 | 316 | 870 | *736* |

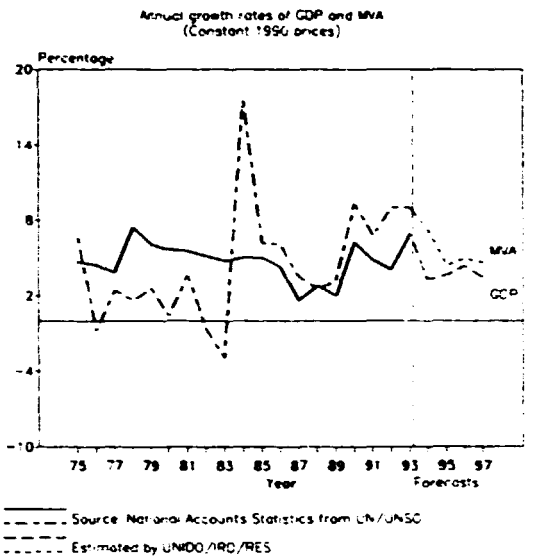
For sources, footnotes and comments see "Technical notes" at the beginning of this Annex.



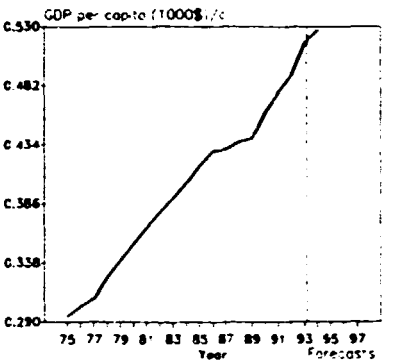



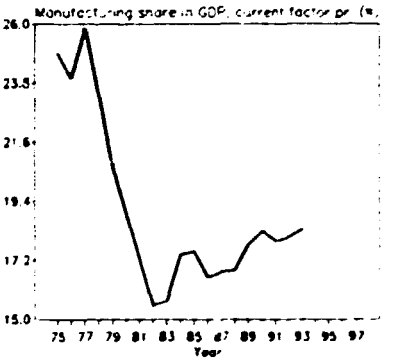


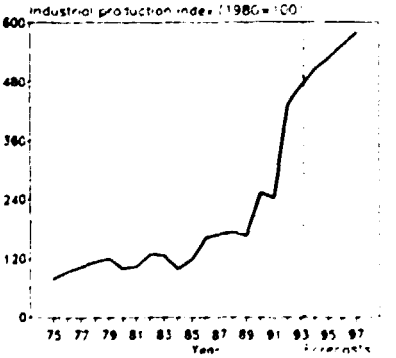



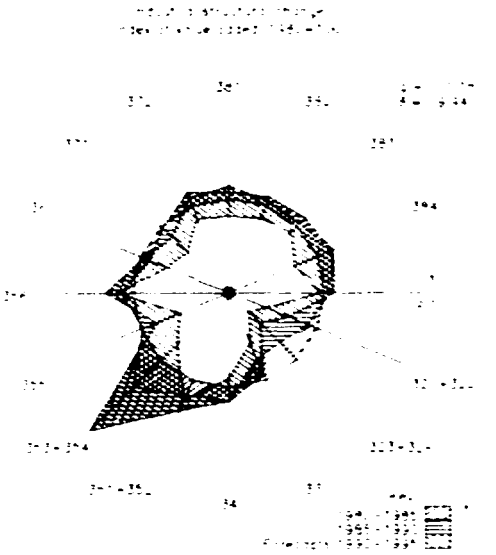

| | 1980 | 1985 | 1990 | 1993 |
|---|---|---|---|---|
| **GDP:[a]** (millions of 1990-dollars) | 5 242 | 6 725 | 7 935 | 9 255 |
| Per capita[a] (1990-dollars) | 354 | 417 | 461 | 517 |
| Manufacturing share[a] (%) (current factor prices) | 19.0 | 17.5 | 18.3 | *18.4* |
| **MANUFACTURING:** | | | | |
| Value added[a] (millions of 1990-dollars) | 868 | 1 081 | 1 371 | 1 739 |
| Industrial production index (1980=100) | 100 | *118* | 253 | 471 |
| Value added (millions of dollars) | *376* | *620* | 930 | *1 311* |
| Gross output (millions of dollars) | 1 279 | 1 815 | 2 314 | *3 175* |
| Employment (thousands) | *195* | 211 | 273 | *312* |
| **-PROFITABILITY:**(in percent of gross output) | | | | |
| Intermediate input (%) | *71* | *66* | 60 | *59* |
| Wages and salaries including supplements (%) | 6 | 6 | 7 | *7* |
| Gross operating surplus and net taxes (%) | *23* | *28* | 33 | *34* |
| **-PRODUCTIVITY:**(dollars) | | | | |
| Gross output per worker | *6 569* | *8 599* | *8 476* | *10 053* |
| Value added per worker | *1 930* | *2 929* | *3 405* | *4 166* |
| Average wage (including supplements) | *406* | 529 | 604 | *738* |
| **-STRUCTURAL INDICES:** | | | | |
| Structural change θ (5-year average in degrees) | *7.91* | *10.39* | *11.10* | *8.09* |
| as a percentage of average θ in 1970-1975 | *115* | *151* | *161* | *118* |
| MVA growth rate / θ | 2.13 | 1.16 | 0.39 | 0.76 |
| Degree of specialization | 23.6 | 30.4 | 22.7 | 27.2 |
| **-VALUE ADDED:**(millions of dollars) | | | | |
| 311/2 Food products | *90* | *178* | 175 | *244* |
| 313 Beverages | 8 | *34* | 44 | *37* |
| 314 Tobacco products | 63 | *150* | 156 | *238* |
| 321 Textiles | 27 | *49* | 82 | *130* |
| 322 Wearing apparel | 12 | *39* | 170 | *296* |
| 323 Leather and fur products | 1 | *2* | 1 | *1* |
| 324 Footwear | 2 | *4* | 20 | *18* |
| 331 Wood and wood products | 5 | *8* | 9 | *14* |
| 332 Furniture and fixtures | *2* | *1* | 1 | *1* |
| 341 Paper and paper products | 8 | *10* | 18 | *24* |
| 342 Printing and publishing | 8 | *7* | 15 | *20* |
| 351 Industrial chemicals | 6 | *4* | 11 | *12* |
| 352 Other chemical products | 12 | *18* | 32 | *33* |
| 353 Petroleum refineries | 55 | *23* | 20 | *26* |
| 354 Miscellaneous petroleum and coal products | *1* | *1* | . | *1* |
| 355 Rubber products | 14 | *26* | 50 | *51* |
| 356 Plastic products | 4 | *4* | 9 | *10* |
| 361 Pottery, china and earthenware | 4 | *6* | 13 | *21* |
| 362 Glass and glass products | 2 | *2* | 3 | *4* |
| 369 Other non-metal mineral products | 21 | *28* | 28 | *42* |
| 371 Iron and steel | 3 | *2* | 8 | *8* |
| 372 Non-ferrous metals | 2 | *1* | 3 | *3* |
| 381 Metal products | 7 | *9* | 15 | *22* |
| 382 Non-electrical machinery | 4 | *5* | 9 | *13* |
| 383 Electrical machinery | 10 | *3* | 7 | *7* |
| 384 Transport equipment | 4 | *2* | 21 | *22* |
| 385 Professional and scientific equipment | 1 | . | . | . |
| 390 Other manufacturing industries | 1 | *5* | 10 | *14* |

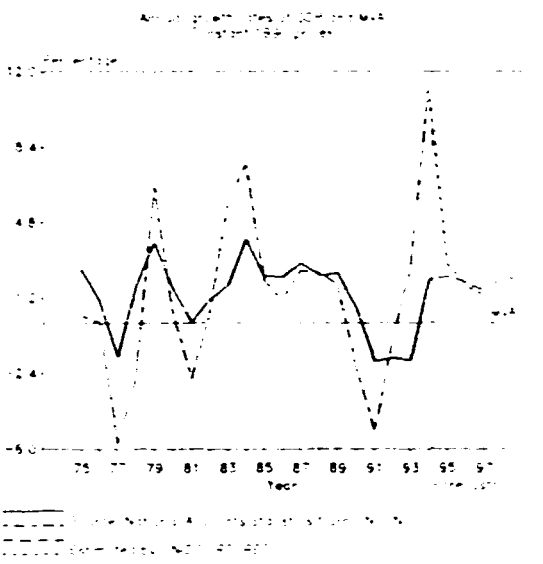
For sources, footnotes and comments see "Technical notes" at the beginning of this Annex.



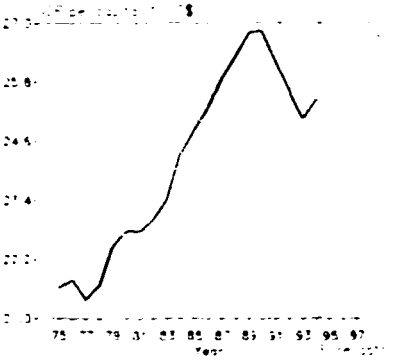



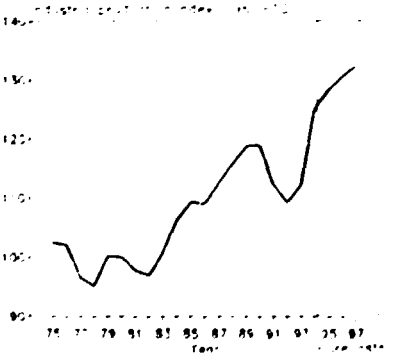





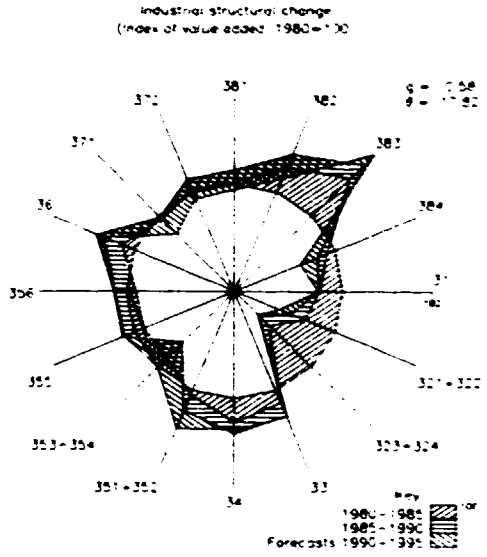


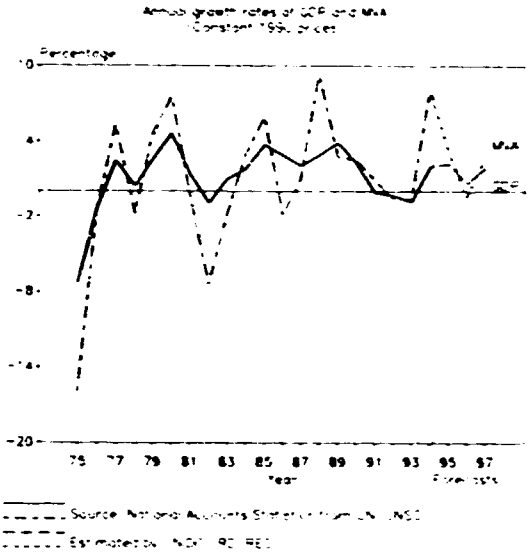
| | 1980 | 1985 | 1990 | 1993 |
|---|---|---|---|---|
| GDP[2] (millions of 1990-dollars) | 189 312 | 207 212 | 229 748 | 217 818 |
| Per capita[2] (1990-dollars) | 22 781 | 24 816 | 26 843 | 25 054 |
| Manufacturing share[2] (%) (current factor prices) | 23.0 | 23.7 | 21.4 | 21.9 |
| **MANUFACTURING:** | | | | |
| Value added[2] (millions of 1990-dollars) | 37 770 | 42 805 | 45 202 | 43 609 |
| Industrial production index (1980=100) | 100 | 109 | 119 | 112 |
| Value added (millions of dollars) | 30 905 | 24 486 | 51 429 | 31 573 |
| Gross output (millions of dollars) | 73 194 | 60 328 | 115 467 | 102 823 |
| Employment (thousands) | 853 | 788 | 719 | 651 |
| **-PROFITABILITY:(in percent of gross output)** | | | | |
| Intermediate input (%) | 58 | 59 | 55 | 69 |
| Wages and salaries including supplements (%) | 18 | 15 | 16 | 15 |
| Gross operating surplus (%) | 24 | 26 | 29 | 16 |
| **-PRODUCTIVITY:(dollars)** | | | | |
| Gross output per worker | 85 747 | 76 429 | 160 549 | 157 926 |
| Value added per worker | 36 206 | 31 833 | 71 509 | 53 371 |
| Average wage (including supplements) | 15 835 | 11 689 | 24 892 | 23 465 |
| **-STRUCTURAL INDICES:** | | | | |
| Structural change θ (5-year average in degrees) | 3.84 | 4 04 | 3.48 | 4 13 |
| as a percentage of average θ in 1970-1975 | 74 | 78 | 67 | 80 |
| MVA growth rate / θ | -0.45 | 0.37 | 0.20 | -1.65 |
| Degree of specialization | 15.4 | 16.1 | 15.5 | 16.4 |
| **-VALUE ADDED:(millions of dollars)** | | | | |
| 311/2 Food products | 2 719 | 2 107 | 4 249 | 2 946 |
| 313 Beverages | 338 | 250 | 743 | 453 |
| 314 Tobacco products | 104 | 108 | 257 | 193 |
| 321 Textiles | 534 | 378 | 620 | 372 |
| 322 Wearing apparel | 274 | 157 | 199 | 94 |
| 323 Leather and fur products | 54 | 40 | 52 | 30 |
| 324 Footwear | 61 | 24 | 27 | 17 |
| 331 Wood and wood products | 2 102 | 1 154 | 3 046 | 1 429 |
| 332 Furniture and fixtures | 452 | 285 | 551 | 340 |
| 341 Paper and paper products | 2 596 | 2 230 | 4 524 | 2 637 |
| 342 Printing and publishing | 1 842 | 1 517 | 3 158 | 2 047 |
| 351 Industrial chemicals | 986 | 840 | 1 963 | 1 230 |
| 352 Other chemical products | 1 246 | 1 091 | 2 544 | 2 093 |
| 353 Petroleum refineries | 359 | 396 | 1 325 | 312 |
| 354 Miscellaneous petroleum and coal products | 137 | 122 | 218 | 100 |
| 355 Rubber products | 314 | 225 | 387 | 232 |
| 356 Plastic products | 402 | 334 | 786 | 537 |
| 361 Pottery, china and earthenware | 87 | 71 | 123 | 69 |
| 362 Glass and glass products | 175 | 124 | 294 | 150 |
| 369 Other non-metal mineral products | 801 | 510 | 1 129 | 695 |
| 371 Iron and steel | 1 650 | 1 185 | 2 097 | 1 149 |
| 372 Non-ferrous metals | 390 | 331 | 640 | 438 |
| 381 Metal products | 2 586 | 2 049 | 4 448 | 2 735 |
| 382 Non-electrical machinery | 3 936 | 3 186 | 6 226 | 4 314 |
| 383 Electrical machinery | 2 570 | 2 132 | 4 021 | 2 728 |
| 384 Transport equipment | 3 662 | 3 153 | 6 459 | 3 388 |
| 385 Professional and scientific equipment | 371 | 401 | 1 168 | 746 |
| 390 Other manufacturing industries | 154 | 86 | 157 | 100 |





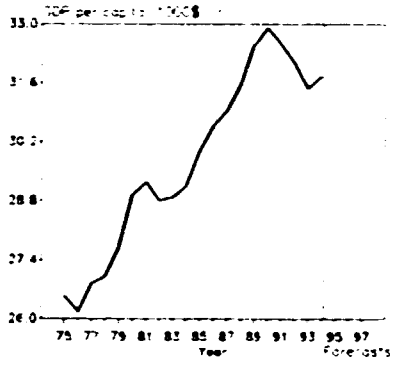
For sources, footnotes and comments see "Technical notes" at the beginning of this Annex

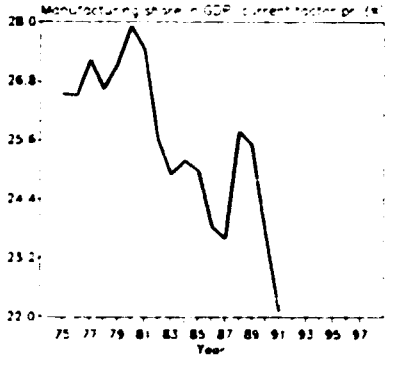


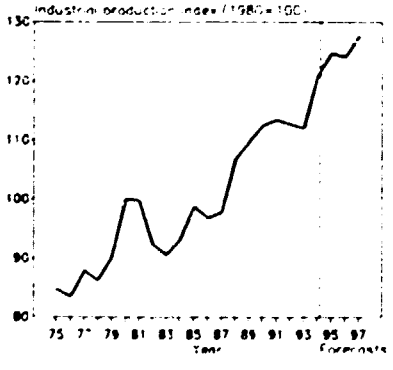



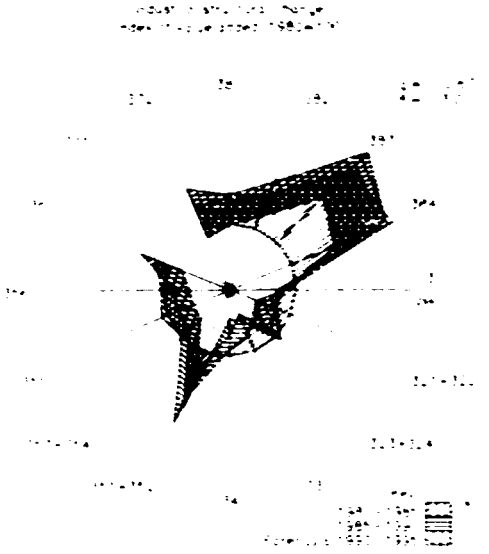

| | 1980 | 1985 | 1990 | 1993 |
|---|---|---|---|---|
| **GDP:[2nd] (millions of 1990-dollars)** | 182 924 | 195 978 | 224 878 | 222 080 |
| **Per capita[2nd] (1990-dollars)** | 28 948 | 29 984 | 32 906 | 31 471 |
| **Manufacturing share[2nd] (%) (current factor prices)** | 27.9 | 25.0 | 23.7 | .. |
| **MANUFACTURING:** | | | | |
| **Value added[2nd] (millions of 1990-dollars)** | 50 585 | 49 938 | 56 894 | 56 683 |
| **Industrial product..n index (1980=100)** | 100 | 99 | 112 | 112 |
| **Value added (millions of dollars)** | *27 438* | *24 337* | 54 296 | 51 838 |
| **Gross output (millions of dollars)** | *68 548* | *59 979* | 141 237 | 132 716 |
| **Employment (thousands)** | *918* | *873* | 880 | 801 |
| **-PROFITABILITY:(in percent of gross output)** | | | | |
| **Intermediate input (%)** | .. | .. | .. | .. |
| **Wages and salaries including supplements (%)** | .. | .. | .. | .. |
| **Gross operating surplus and net taxes (%)** | .. | .. | .. | .. |
| **-PRODUCTIVITY:(dollars)** | | | | |
| **Gross output per worker** | *72 814* | *67 914* | 150 971 | 155 263 |
| **Value added per worker** | 40 009 | *37 076* | 61 665 | 64 741 |
| **Average wage (including supplements)** | .. | .. | .. | .. |
| **-STRUCTURAL INDICES:** | | | | |
| **Structural change θ (5-year average in degrees)** | *5 08* | *3 76* | *2 61* | *2 65* |
| **as a percentage of average θ in 1970-1975** | *76* | *56* | *39* | *40* |
| **MVA growth rate / θ** | 0.77 | 0.21 | 0.55 | -0.45 |
| **Degree of specialization** | 11.6 | 15.0 | 16.1 | 15.6 |
| **-VALUE ADDED:(millions of dollars)** | | | | |
| **311/2 Food products** | 2 905 | *1 931* | *4 004* | *4 056* |
| **313 Beverages** | 499 | *332* | 688 | 697 |
| **314 Tobacco products** | 292 | *194* | *402* | 408 |
| **321 Textiles** | 972 | 795 | 1 410 | 1 023 |
| **322 Wearing apparel** | 864 | *307* | *406* | *493* |
| **323 Leather and fur products** | 124 | *54* | *104* | *130* |
| **324 Footwear** | 324 | *117* | *140* | *144* |
| **331 Wood and wood products** | 1 079 | *1 042* | *2 419* | *2 290* |
| **332 Furniture and fixtures** | 707 | *674* | *1 586* | *1 502* |
| **341 Paper and paper products** | 624 | *519* | 1 081 | 985 |
| **342 Printing and publishing** | 1 471 | *1 678* | 3 893 | 3 745 |
| **351 Industrial chemicals** | 1 529 | *1 391* | *3 387* | *3 628* |
| **352 Other chemical products** | 1 331 | *1 173* | *2 766* | *2 901* |
| **353 Petroleum refineries** | 584 | *433* | *700* | *1 019* |
| **354 Miscellaneous petroleum and coal products** | 98 | *79* | *115* | *79* |
| **355 Rubber products** | 225 | *175* | *449* | *425* |
| **356 Plastic products** | 625 | *484* | *1 245* | *1 178* |
| **361 Pottery, china and earthenware** | 136 | *138* | *365* | *356* |
| **362 Glass and glass products** | 187 | *190* | *502* | *489* |
| **369 Other non-metal mineral products** | 651 | *612* | *1 529* | *1 412* |
| **371 Iron and steel** | 454 | *368* | *789* | *649* |
| **372 Non-ferrous metals** | 583 | *512* | *1 179* | *1 028* |
| **381 Metal products** | 1 921 | *1 685* | *3 885* | *3 390* |
| **382 Non-electrical machinery** | 3 775 | *4 056* | 9 357 | 8 169 |
| **383 Electrical machinery** | 2 859 | *3 656* | 8 488 | 8 121 |
| **384 Transport equipment** | 508 | *395* | *739* | *629* |
| **385 Professional and scientific equipment** | 1 976 | *1 243* | 2 446 | 2 685 |
| **390 Other manufacturing industries** | 138 | *102* | *222* | *211* |

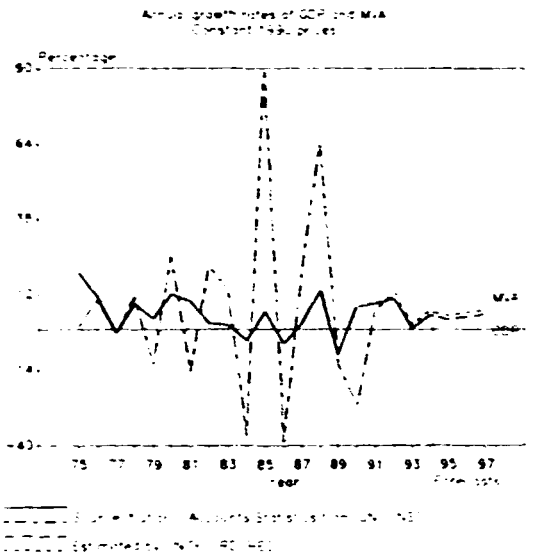
For sources, footnotes and comments see "Technical notes" at the beginning of this Annex.



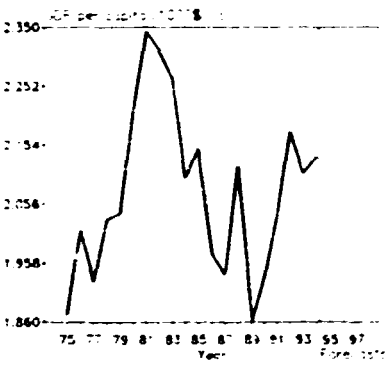



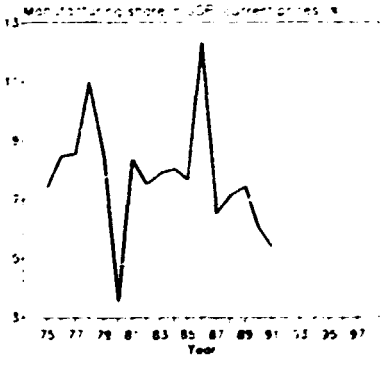


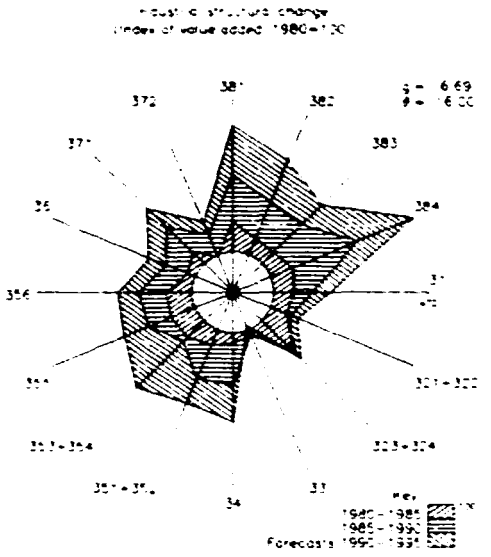


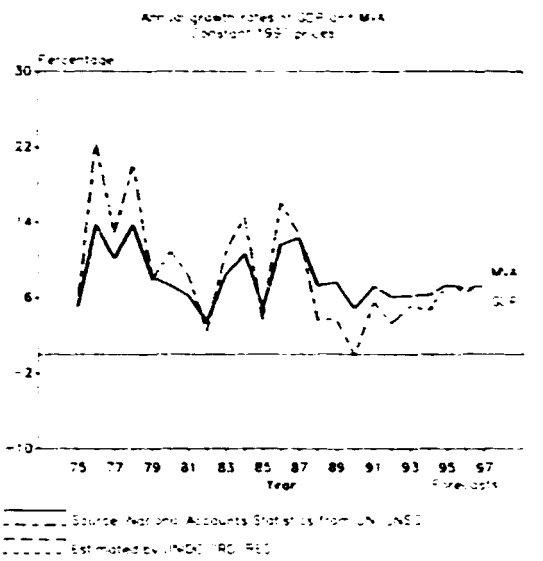

| | 1980 | 1985 | 1990 | 1993 |
|---|---|---|---|---|
| **GDP:[a] (millions of 1980-dollars)** | 19 254 | 22 232 | 23 904 | 28 856 |
| Per capita[a] (1980-dollars) | 2 212 | 2 148 | 1 936 | 2 107 |
| Manufacturing share[a] (%) (current factor prices) | 3.6 | 7.7 | 6.0 | .. |
| **MANUFACTURING:** | | | | |
| Value added[a] (millions of 1980-dollars) | 1 343 | 1 883 | 1 441 | *1 748* |
| Industrial production index (1980=100) | 100 | 143 | *121* | *149* |
| Value added (millions of dollars) | *1 256* | *1 435* | *1 833* | *2 555* |
| Gross output (millions of dollars) | 3 382 | 5 914 | 9 058 | *13 072* |
| Employment (thousands) | 195 | *182* | 125 | *128* |
| **-PROFITABILITY:(in percent of gross output)** | | | | |
| Intermediate input (%) | 63 | 76 | 80 | 80 |
| Wages and salaries including supplements (%) | *10* | *8* | 5 | *6* |
| Gross operating surplus and net taxes (%) | *27* | *16* | 15 | *14* |
| **-PRODUCTIVITY:(dollars)** | | | | |
| Gross output per worker | 17 278 | *32 511* | 72 252 | *102 502* |
| Value added per worker | 6 452 | *7 892* | 14 617 | *20 032* |
| Average wage (including supplements) | *1 788* | *2 736* | 3 843 | 5 853 |
| **-STRUCTURAL INDICES:** | | | | |
| Structural change θ (5-year average in degrees) | 6.56 | 12.80 | 8.30 | *4 84* |
| as a percentage of average θ in 1970-1975 | 142 | 273 | 180 | *105* |
| MVA growth rate / θ | 1.17 | -0.17 | -0.24 | 0.53 |
| Degree of specialization | 20.0 | 14.7 | 19.1 | 16.2 |
| **-VALUE ADDED:(millions of dollars)** | | | | |
| 311/2 Food products | 214 | 235 | 325 | *340* |
| 313 Beverages | 37 | 42 | 58 | *62* |
| 314 Tobacco products | 146 | 163 | 225 | *220* |
| 321 Textiles | 273 | 154 | 369 | *499* |
| 322 Wearing apparel | 14 | 9 | 21 | *30* |
| 323 Leather and fur products | 26 | 19 | 45 | *67* |
| 324 Footwear | 43 | 28 | 67 | *98* |
| 331 Wood and wood products | 29 | 27 | 21 | *34* |
| 332 Furniture and fixtures | 74 | 69 | 55 | *85* |
| 341 Paper and paper products | 6 | 8 | 8 | *7* |
| 342 Printing and publishing | 14 | 16 | 18 | *14* |
| 351 Industrial chemicals | 3 | 7 | 7 | *13* |
| 352 Other chemical products | 31 | 73 | 75 | *150* |
| 353 Petroleum refineries | 100 | 112 | 115 | *226* |
| 354 Miscellaneous petroleum and coal products | 4 | 4 | 4 | *8* |
| 355 Rubber products | 15 | 16 | 16 | *35* |
| 356 Plastic products | 13 | 14 | 14 | *28* |
| 361 Pottery, china and earthenware | 7 | 13 | 10 | *18* |
| 362 Glass and glass products | 13 | 24 | 18 | *33* |
| 369 Other non-metal mineral products | 72 | 135 | 103 | *180* |
| 371 Iron and steel | . | . | . | . |
| 372 Non-ferrous metals | 13 | 28 | 20 | *39* |
| 381 Metal products | 53 | 100 | 97 | *182* |
| 382 Non-electrical machinery | 18 | 42 | 41 | *59* |
| 383 Electrical machinery | 16 | 62 | 60 | *90* |
| 384 Transport equipment | 3 | 11 | 11 | *19* |
| 385 Professional and scientific equipment | . | . | . | . |
| 390 Other manufacturing industries | 19 | 23 | 26 | *36* |

For sources, footnotes and comments see "Technical notes" at the beginning of this Annex.






| | 1980 | 1985 | 1990 | 1993 |
|---|---|---|---|---|
| GDP:[20] (millions of 1990-dollars) | 76 787 | 106 273 | 161 330 | 194 872 |
| Per capita[20] (1990-dollars) | 4 313 | 5 518 | 7 936 | 9 280 |
| Manufacturing share[20] (%) (current factor prices) | 36.2 | 36.9 | 33.0 | .. |
| **MANUFACTURING:** | | | | |
| Value added[20] (millions of 1990-dollars) | 27 102 | 39 515 | 55 424 | *63 374* |
| Industrial production index (1980=100) | 100 | 135 | 189 | *216* |
| Value added (millions of dollars) | *14 907* | *23 557* | *55 424* | *73 835* |
| Gross output (millions of dollars) | 55 343 | 77 001 | 173 961 | *210 228* |
| Employment (thousands) | 1 997 | 2 458 | 2 260 | *2 205* |
| **-PROFITABILITY:(in percent of gross output)** | | | | |
| Intermediate input (%) | 73 | 69 | 68 | 65 |
| Wages and salaries including supplements (%) | 10 | 12 | 13 | *15* |
| Gross operating surplus and net taxes (%) | 17 | 18 | 19 | *20* |
| **-PRODUCTIVITY:(dollars)** | | | | |
| Gross output per worker | 27 719 | 31 314 | 76 970 | *95 276* |
| Value added per worker | 7 466 | 9 580 | 24 523 | *33 462* |
| Average wage (including supplements) | 2 678 | 3 862 | 10 168 | *14 017* |
| **-STRUCTURAL INDICES:** | | | | |
| Structural change θ (5-year average in degrees) | 5.29 | 3.38 | 5.68 | *4 52* |
| as a percentage of average θ in 1970-1975 | 113 | 72 | 121 | *96* |
| MVA growth rate / θ | 2.74 | 2.23 | 1.34 | 0.75 |
| Degree of specialization | 10.0 | 9.7 | 10.4 | 10.7 |
| **-VALUE ADDED:(millions of dollars)** | | | | |
| 311/2 Food products | 1 103 | 1 510 | 3 175 | *3 966* |
| 313 Beverages | 315 | 784 | 1 711 | *2 195* |
| 314 Tobacco products | 419 | 685 | 1 429 | *1 980* |
| 321 Textiles | 1 719 | 2 434 | 3 845 | *5 100* |
| 322 Wearing apparel | 504 | 999 | 2 288 | *2 318* |
| 323 Leather and fur products | 158 | 262 | 231 | *194* |
| 324 Footwear | 65 | 263 | 579 | *739* |
| 331 Wood and wood products | 316 | 394 | 547 | *492* |
| 332 Furniture and fixtures | 119 | 146 | 325 | *348* |
| 341 Paper and paper products | 424 | 647 | 1 950 | *2 577* |
| 342 Printing and publishing | 263 | 294 | 880 | *1 415* |
| 351 Industrial chemicals | 884 | 1 389 | 3 711 | *4 561* |
| 352 Other chemical products | 280 | 409 | 1 152 | *1 812* |
| 353 Petroleum refineries | 890 | 1 542 | 2 747 | *5 536* |
| 354 Miscellaneous petroleum and coal products | 19 | 23 | 38 | *49* |
| 355 Rubber products | 198 | 349 | 781 | *1 045* |
| 356 Plastic products | 870 | 1 535 | 3 570 | *4 455* |
| 361 Pottery, china and earthenware | 85 | 138 | 380 | *595* |
| 362 Glass and glass products | 113 | 167 | 491 | *496* |
| 369 Other non-metal mineral products | 484 | 580 | 1 285 | *1 763* |
| 371 Iron and steel | 828 | 1 242 | 3 392 | *4 325* |
| 372 Non-ferrous metals | 139 | 146 | 386 | *488* |
| 381 Metal products | 584 | 1 115 | 3 057 | *4 323* |
| 382 Non-electrical machinery | 524 | 827 | 2 263 | *3 367* |
| 383 Electrical machinery | 1 890 | 2 882 | 8 071 | *10 303* |
| 384 Transport equipment | 606 | 1 182 | 4 050 | *5 878* |
| 385 Professional and scientific equipment | 254 | 388 | 728 | *996* |
| 390 Other manufacturing industries | 774 | 1 216 | 2 431 | *2 521* |

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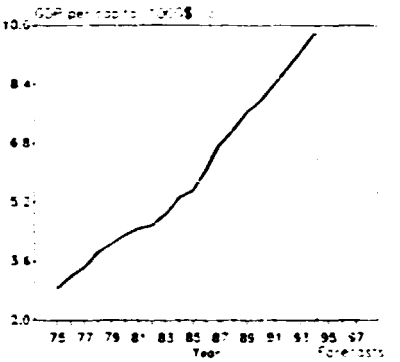
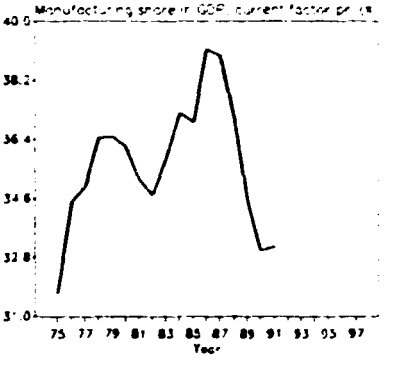
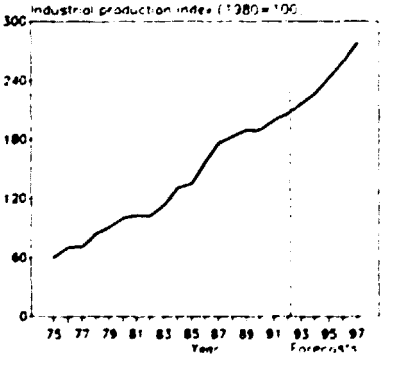
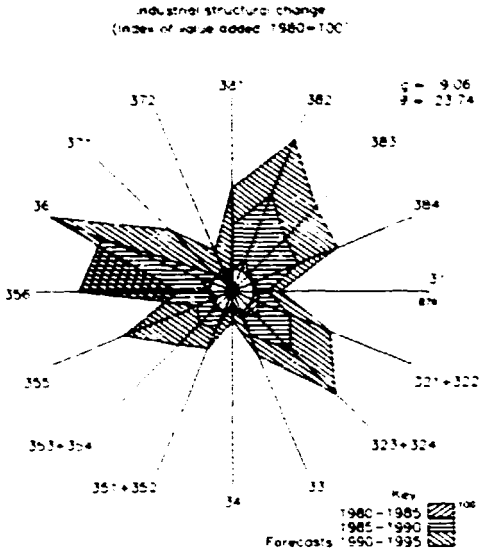
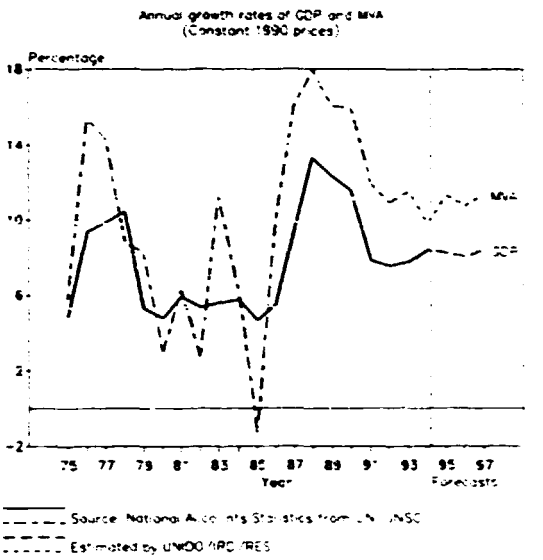


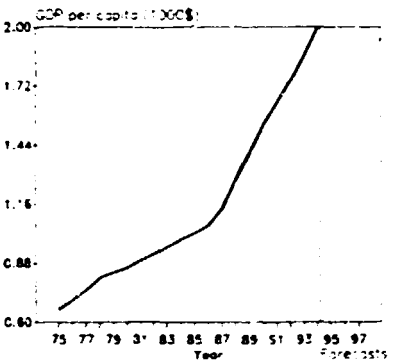



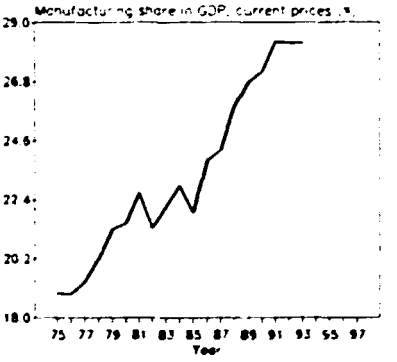



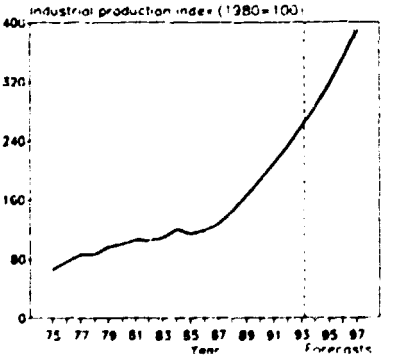


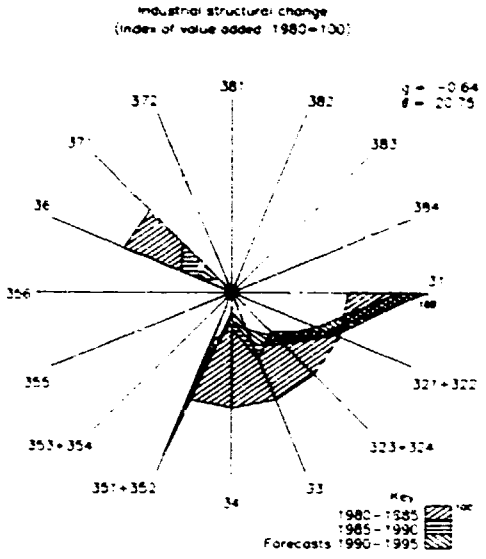

| | 1980 | 1985 | 1990 | 1995 |
|---|---|---|---|---|
| **GDP[2/]** (millions of 1990-dollars) | 40 042 | 52 204 | 85 640 | 107 130 |
| Per capita[3/] (1990-dollars) | 857 | 1 021 | 1 541 | 1 860 |
| Manufacturing share[2/] (%) (current factor prices) | 21.5 | 21.9 | 27.2 | 28.2 |
| **MANUFACTURING:** | | | | |
| Value added[2/] (millions of 1990-dollars) | 9 065 | 11 518 | 23 290 | 32 232 |
| Industrial production index (1980=100) | 100 | 114 | 188 | 260 |
| Value added (millions of dollars) | *9 028* | *10 078* | *26 659* | *41 571* |
| Gross output (millions of dollars) | *25 476* | *29 388* | *80 938* | *121 430* |
| Employment (thousands) | *731* | *1 084* | *1 720* | *1 759* |
| **-PROFITABILITY:(in percent of gross output)** | | | | |
| Intermediate input (%) | 65 | 66 | 67 | 66 |
| Wages and salaries including supplements (%) | *7* | *9* | *7* | *7* |
| Gross operating surplus and net taxes (%) | *28* | *25* | *25* | *27* |
| **-PRODUCTIVITY:(dollars)** | | | | |
| Gross output per worker | *15 689* | *15 174* | *40 420* | *49 092* |
| Value added per worker | *5 675* | *5 418* | *13 613* | *17 184* |
| Average wage (including supplements) | *2 543* | *2 422* | *3 523* | *4 661* |
| **-STRUCTURAL INDICES:** | | | | |
| Structural change θ (5-year average in degrees) | *6.56* | *3.26* | *11.25* | *10.30* |
| as a percentage of average θ in 1970-1975 | 52 | 26 | 89 | 82 |
| MVA growth rate / θ | 1.30 | 0.96 | 1.34 | 1.40 |
| Degree of specialization | 15.8 | 16.8 | 16.2 | 13.6 |
| **-VALUE ADDED:(millions of dollars)** | | | | |
| 311/2 Food products | *2 039* | *2 274* | *4 077* | *5 658* |
| 313 Beverages | *682* | *786* | *1 409* | *1 971* |
| 314 Tobacco products | *375* | *470* | *843* | *1 202* |
| 321 Textiles | *1 118* | *1 044* | *3 099* | *5 130* |
| 322 Wearing apparel | *591* | *1 025* | *3 043* | *5 034* |
| 323 Leather and fur products | *38* | *85* | *252* | *420* |
| 324 Footwear | *47* | *54* | *160* | *264* |
| 331 Wood and wood products | *244* | *180* | *528* | *747* |
| 332 Furniture and fixtures | *132* | *173* | *508* | *742* |
| 341 Paper and paper products | *213* | *120* | *8* | *216* |
| 342 Printing and publishing | *110* | *161* | *203* | *326* |
| 351 Industrial chemicals | *94* | *83* | *154* | *152* |
| 352 Other chemical products | *245* | *238* | *665* | *1 054* |
| 353 Petroleum refineries | *537* | *683* | *1 466* | *2 369* |
| 354 Miscellaneous petroleum and coal products | *27* | *21* | *10* | *17* |
| 355 Rubber products | *221* | *147* | *473* | *1 385* |
| 356 Plastic products | *102* | *103* | *892* | *293* |
| 361 Pottery, china and earthenware | *35* | *48* | *59* | *244* |
| 362 Glass and glass products | *64* | *54* | *92* | *559* |
| 369 Other non-metal mineral products | *267* | *424* | *2 769* | *3 084* |
| 371 Iron and steel | *316* | *236* | *430* | *1 524* |
| 372 Non-ferrous metals | *118* | *74* | *11* | *346* |
| 381 Metal products | *226* | *208* | *868* | *1 295* |
| 382 Non-electrical machinery | *168* | *243* | *1 014* | *1 514* |
| 383 Electrical machinery | *340* | *356* | *1 484* | *2 217* |
| 384 Transport equipment | *338* | *337* | *1 409* | *2 113* |
| 385 Professional and scientific equipment | *26* | *56* | *235* | *353* |
| 390 Other manufacturing industries | *314* | *414* | *898* | *1 341* |

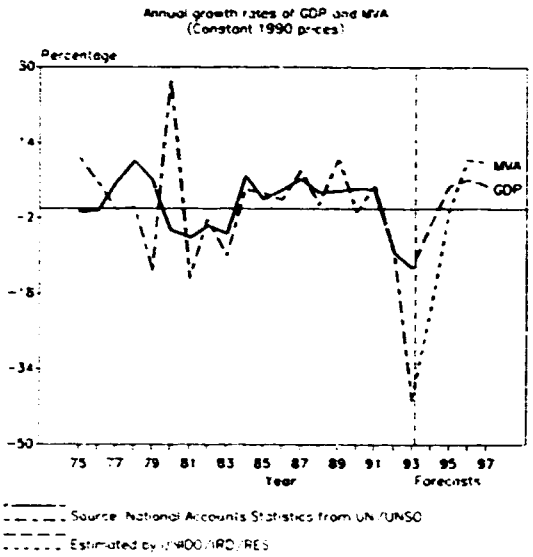


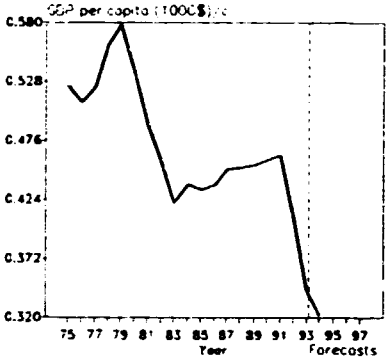

For sources, footnotes and comments see "Technical notes" at the beginning of this Annex.

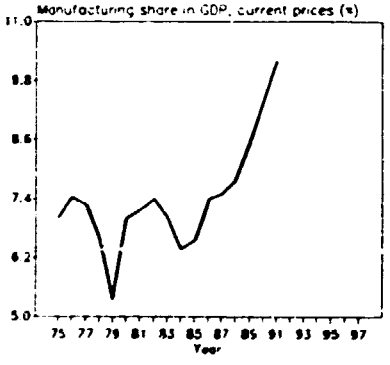


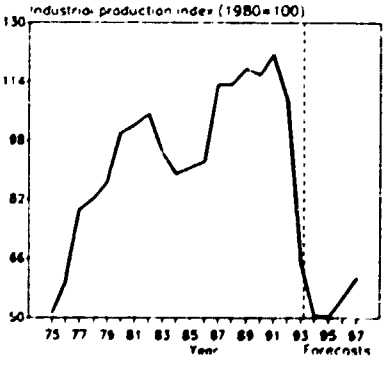




| | 1980 | 1985 | 1990 | 1993 |
|---|---|---|---|---|
| **GDP:[95] (millions of 1980-dollars)** | 1 403 | 1 311 | 1 622 | 1 336 |
| **Per capita[95] (1980-dollars)** | 537 | 433 | 459 | 344 |
| **Manufacturing share[95] (%) (current factor prices)** | 7.0 | 6.6 | 9.4 | .. |
| **MANUFACTURING:** | | | | |
| **Value added[95] (millions of 1980-dollars)** | 155 | 126 | 152 | 85 |
| **Industrial production index (1980=100)** | 100 | 91 | 116 | 65 |
| **Value added (millions of dollars)** | *51* | *38* | *72* | *63* |
| **Gross output (millions of dollars)** | *148* | *94* | *226* | *248* |
| **Employment (thousands)** | 5 | 5 | 5 | *4* |
| **-PROFITABILITY:(in percent of gross output)** | | | | |
| **Intermediate input (%)** | *65* | *75* | *83* | *75* |
| **Wages and salaries including supplements (%)** | *12* | *10* | *10* | *13* |
| **Gross operating surplus and net taxes (%)** | *23* | *16* | *6* | *12* |
| **-PRODUCTIVITY:(dollars)** | | | | |
| **Gross output per worker** | *27 286* | *21 743* | *53 948* | *53 932* |
| **Value added per worker** | *9 519* | *7 720* | *15 507* | *13 903* |
| **Average wage (including supplements)** | *3 186* | *2 876* | *8 151* | *7 460* |
| **-STRUCTURAL INDICES:** | | | | |
| **Structural change θ (5-year average in degrees)** | *8.97* | *27.66* | *3.65* | *2.39* |
| **as a percentage of average θ in 1970-1975** | *79* | *245* | *32* | *21* |
| **MVA growth rate / θ** | 1.08 | 0.09 | 0.03 | -0.70 |
| **Degree of specialization** | 24.7 | 37.9 | 40.1 | 38.3 |
| **-VALUE ADDED:(millions of dollars)** | | | | |
| 311/2 **Food products** | 4 | *11* | *12* | *11* |
| 313 **Beverages** | 16 | *14* | *34* | *28* |
| 314 **Tobacco products** | .. | .. | .. | .. |
| 321 **Textiles** | 8 | 5 | *10* | 9 |
| 322 **Wearing apparel** | - | - | - | - |
| 323 **Leather and fur products** | - | - | - | - |
| 324 **Footwear** | 6 | 2 | 5 | *4* |
| 331 **Wood and wood products** | 1 | - | - | - |
| 332 **Furniture and fixtures** | - | - | - | - |
| 341 **Paper and paper products** | - | - | - | - |
| 342 **Printing and publishing** | 3 | *1* | *1* | *1* |
| 351 **Industrial chemicals** | 3 | *1* | *4* | *6* |
| 352 **Other chemical products** | .. | .. | .. | .. |
| 353 **Petroleum refineries** | .. | .. | .. | .. |
| 354 **Miscellaneous petroleum and coal products** | .. | .. | .. | .. |
| 355 **Rubber products** | .. | .. | .. | .. |
| 356 **Plastic products** | .. | .. | .. | .. |
| 361 **Pottery, china and earthenware** | - | - | - | *1* |
| 362 **Glass and glass products** | *1* | - | *1* | *1* |
| 369 **Other non-metal mineral products** | 6 | *2* | *2* | *2* |
| 371 **Iron and steel** | 2 | *1* | *1* | *1* |
| 372 **Non-ferrous metals** | .. | .. | .. | .. |
| 381 **Metal products** | 1 | - | - | - |
| 382 **Non-electrical machinery** | .. | .. | .. | .. |
| 383 **Electrical machinery** | .. | .. | .. | .. |
| 384 **Transport equipment** | .. | .. | .. | .. |
| 385 **Professional and scientific equipment** | .. | .. | .. | .. |
| 390 **Other manufacturing industries** | - | - | *1* | *1* |

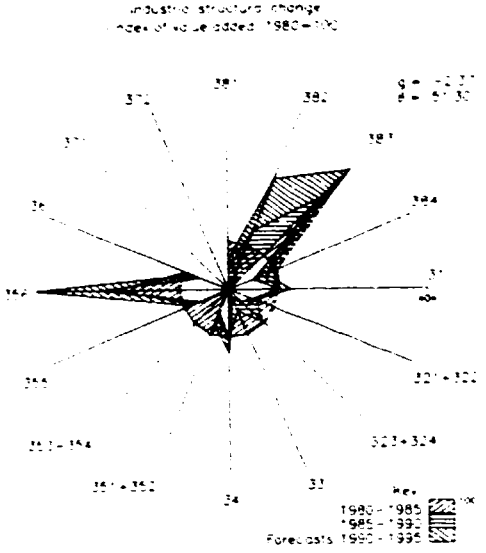
For sources, footnotes and comments see "Technical notes" at the beginning of this Annex.

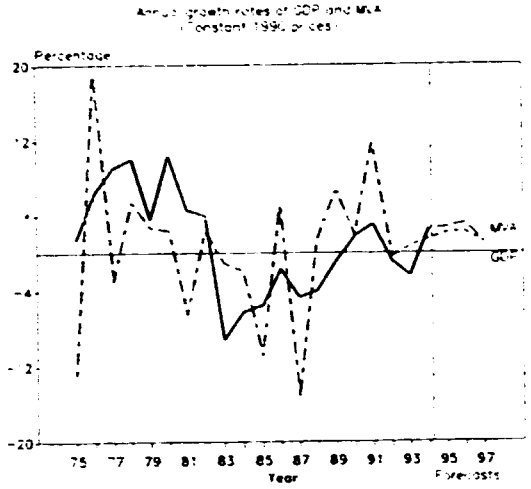


## TRINIDAD AND TOBAGO

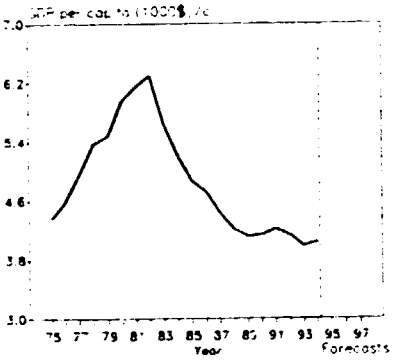


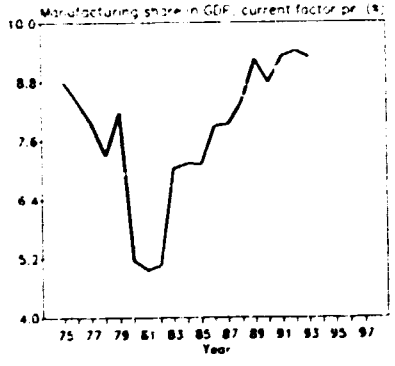


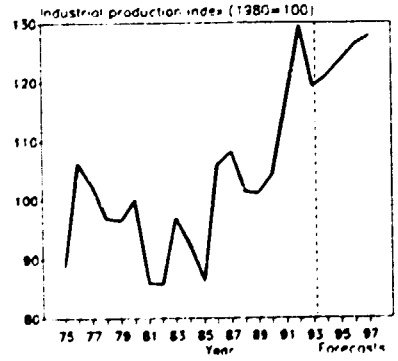

Source: National Accounts Statistics from UN (UNSO)

Estimated by UNIDO/IRD/RES

| | 1980 | 1985 | 1990 | 1993 |
|---|---|---|---|---|
| GDP:[88] (millions of 1990-dollars) | 6 448 | 5 641 | 5 115 | 5 095 |
| Per capita[88] (1990-dollars) | 5 980 | 4 863 | 4 139 | 3 987 |
| Manufacturing share[88] (%) (current factor prices) | 5.2 | 7.1 | 8.8 | 9.3 |
| **MANUFACTURING:** | | | | |
| Value added[88] (millions of 1990-dollars) | 548 | 452 | 442 | 495 |
| Industrial production index (1980=100) | 100 | 86 | 104 | 119 |
| Value added (millions of dollars) | 492 | 387 | 471 | 524 |
| Gross output (millions of dollars) | 1 609 | 1 765 | 1 805 | 1 745 |
| Employment (thousands) | 44 | 34 | 35 | 36 |
| **-PROFITABILITY:**(in percent of gross output) | | | | |
| Intermediate input (%) | 69 | 78 | 74 | 70 |
| Wages and salaries including supplements (%) | 17 | 18 | 17 | 17 |
| Gross operating surplus and net taxes (%) | 14 | 4 | 9 | 13 |
| **-PRODUCTIVITY:**(dollars) | | | | |
| Gross output per worker | 36 321 | 52 667 | 51 633 | 48 054 |
| Value added per worker | 11 099 | 11 715 | 13 456 | 15 042 |
| Average wage (including supplements) | 6 010 | 9 488 | 8 660 | 8 447 |
| **-STRUCTURAL INDICES:** | | | | |
| Structural change θ (5-year average in degrees) | 2 62 | 20.14 | 7 35 | 2 27 |
| as a percentage of average θ in 1970-1975 | 111 | 856 | 313 | 97 |
| MVA growth rate / θ | 0.74 | -0.52 | -0.12 | 1.54 |
| Degree of specialization | 28.3 | 18.0 | 19.6 | 19.3 |
| **-VALUE ADDED:**(millions of dollars) | | | | |
| 311/2 Food products | 67 | 95 | 130 | 140 |
| 313 Beverages | 27 | 34 | 39 | 42 |
| 314 Tobacco products | 14 | 35 | 32 | 35 |
| 321 Textiles | 1 | 2 | 2 | 2 |
| 322 Wearing apparel | 16 | 13 | 14 | 14 |
| 323 Leather and fur products | - | - | - | - |
| 324 Footwear | 4 | 5 | 2 | 3 |
| 331 Wood and wood products | 6 | 4 | 4 | 4 |
| 332 Furniture and fixtures | 9 | 7 | 1 | 1 |
| 341 Paper and paper products | 9 | 14 | 23 | 26 |
| 342 Printing and publishing | 13 | 19 | 20 | 22 |
| 351 Industrial chemicals | 5 | 6 | 4 | 5 |
| 352 Other chemical products | 12 | 10 | 12 | 15 |
| 353 Petroleum refineries | 190 | 17 | 35 | 33 |
| 354 Miscellaneous petroleum and coal products | 2 | . | . | . |
| 355 Rubber products | 9 | 10 | 10 | 11 |
| 356 Plastic products | 2 | 8 | 11 | 14 |
| 361 Pottery, china and earthenware | - | - | - | - |
| 362 Glass and glass products | 3 | 4 | 3 | 3 |
| 369 Other non-metal mineral products | 23 | 31 | 26 | 28 |
| 371 Iron and steel | - | - | - | - |
| 372 Non-ferrous metals | - | - | - | - |
| 381 Metal products | 26 | 11 | 20 | 25 |
| 382 Non-electrical machinery | 13 | - | 31 | 44 |
| 383 Electrical machinery | 3 | 13 | 13 | 14 |
| 384 Transport equipment | 28 | 43 | 27 | 34 |
| 385 Professional and scientific equipment | - | - | - | - |
| 390 Other manufacturing industries | 8 | 6 | 8 | 10 |

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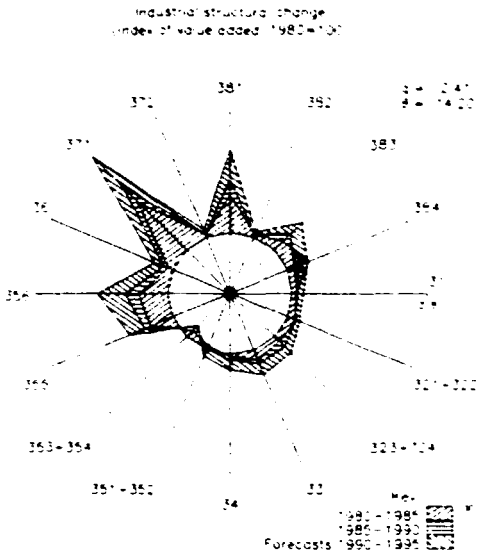
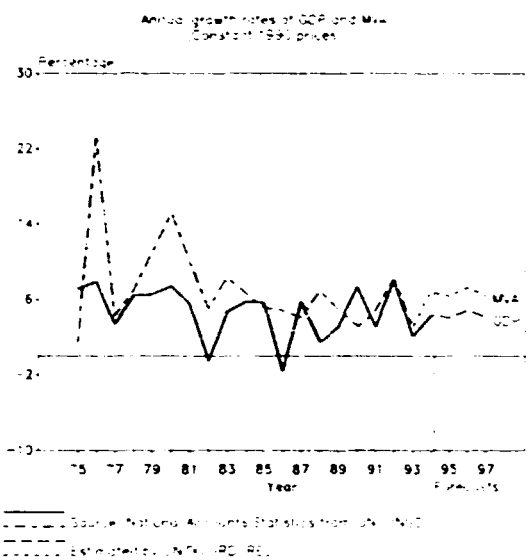
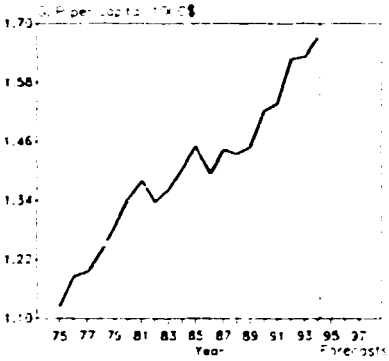
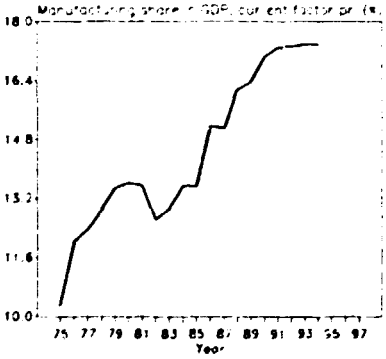
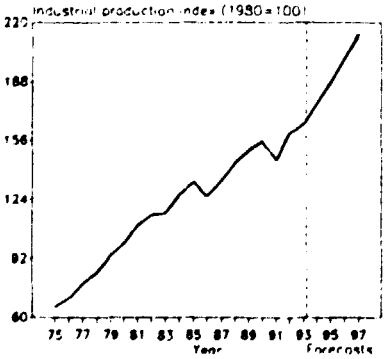




| | 1980 | 1985 | 1990 | 1993 |
|---|---|---|---|---|
| **GDP:[a6] (millions of 1990-dollars)** | **8 574** | **10 530** | **12 304** | **13 978** |
| **Per capita[a6] (1990-dollars)** | **1 343** | **1 450** | **1 523** | **1 631** |
| **Manufacturing share[a6] (%) (current factor prices)** | **13.6** | **13.5** | **17.1** | **17.4** |
| **MANUFACTURING:** | | | | |
| **Value added[a6] (millions of 1990-dollars)** | **1 052** | **1 473** | **1 857** | **2 167** |
| **Industrial production index (1980=100)** | **100** | **133** | **155** | **165** |
| **Value added (millions of dollars)** | **939** | *843* | *1 198* | *1 267* |
| **Gross output (millions of dollars)** | **3 579** | *3 440* | *5 438* | *6 455* |
| **Employment (thousands)** | **125** | *159* | *192* | *214* |
| **-PROFITABILITY:(in percent of gross output)** | | | | |
| **Intermediate input (%)** | **74** | *75* | *78* | *80* |
| **Wages and salaries including supplements (%)** | **12** | *13* | *12* | *12* |
| **Gross operating surplus and net taxes (%)** | **14** | *12* | *10* | *8* |
| **-PRODUCTIVITY:(dollars)** | | | | |
| **Gross output per worker** | **28 669** | *21 546* | *28 291* | *30 144* |
| **Value added per worker** | **7 525** | *5 356* | *6 453* | *6 183* |
| **Average wage (including supplements)** | **3 499** | *2 711* | *3 538* | *3 611* |
| **-STRUCTURAL INDICES:** | | | | |
| **Structural change θ (5-year average in degrees)** | *9 45* | *3 66* | *1 73* | *1 73* |
| **as a percentage of average θ in 1970-1975** | *84* | *33* | *15* | *15* |
| **MVA growth rate / θ** | **1.58** | **0.91** | **0.66** | **0.38** |
| **Degree of specialization** | **13.9** | **13.6** | **13.8** | **13.5** |
| **-VALUE ADDED:(millions of dollars)** | | | | |
| **311/2 Food products** | **96** | *69* | *89* | *91* |
| **313 Beverages** | **49** | *48* | *71* | *76* |
| **314 Tobacco products** | **22** | *20* | *28* | *30* |
| **321 Textiles** | **55** | *53* | *75* | *80* |
| **322 Wearing apparel** | **92** | *77* | *97* | *88* |
| **323 Leather and fur products** | **6** | *5* | *8* | *8* |
| **324 Footwear** | **21** | *18* | *28* | *29* |
| **331 Wood and wood products** | **12** | *11* | *15* | *16* |
| **332 Furniture and fixtures** | **13** | *12* | *18* | *20* |
| **341 Paper and paper products** | **24** | *18* | *26* | *28* |
| **342 Printing and publishing** | **17** | *14* | *20* | *21* |
| **351 Industrial chemicals** | *42* | *30* | *41* | *43* |
| **352 Other chemical products** | *95* | *69* | *100* | *108* |
| **353 Petroleum refineries** | **13** | *9* | *11* | *10* |
| **354 Miscellaneous petroleum and coal products** | **-** | *-* | *-* | *-* |
| **355 Rubber products** | **8** | *9* | *13* | *14* |
| **356 Plastic products** | **18** | *20* | *31* | *35* |
| **361 Pottery, china and earthenware** | **11** | *8* | *12* | *13* |
| **362 Glass and glass products** | **7** | *5* | *6* | *7* |
| **369 Other non-metal mineral products** | **156** | *132* | *191* | *188* |
| **371 Iron and steel** | **45** | *73* | *114* | *134* |
| **372 Non-ferrous metals** | **8** | *6* | *8* | *9* |
| **381 Metal products** | **53** | *66* | *102* | *115* |
| **382 Non-electrical machinery** | **2** | *2* | *2* | *2* |
| **383 Electrical machinery** | **36** | *32* | *49* | *54* |
| **384 Transport equipment** | **30** | *31* | *34* | *38* |
| **385 Professional and scientific equipment** | **1** | *1* | *1* | *1* |
| **390 Other manufacturing industries** | **5** | *5* | *8* | *9* |







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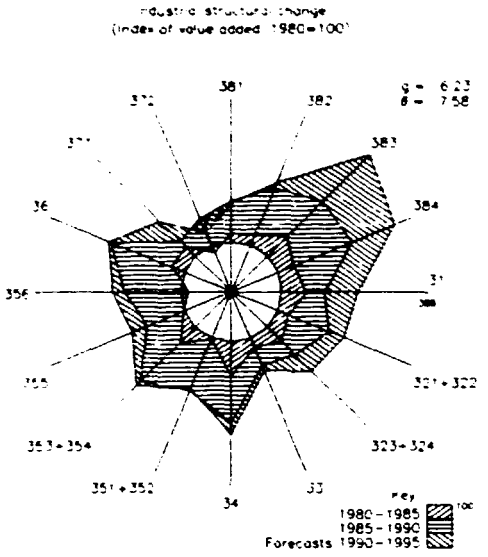
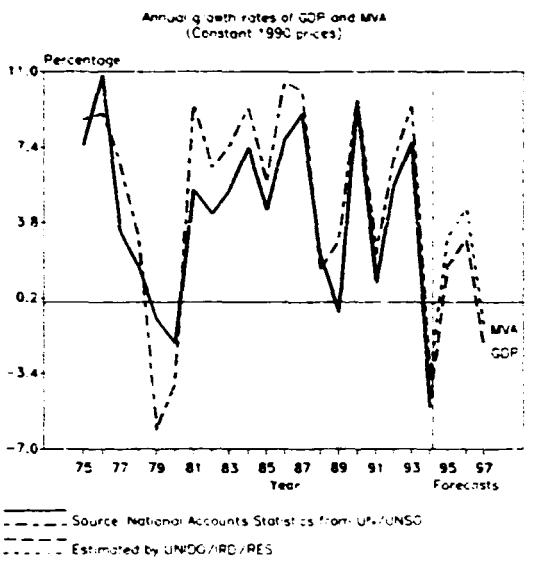
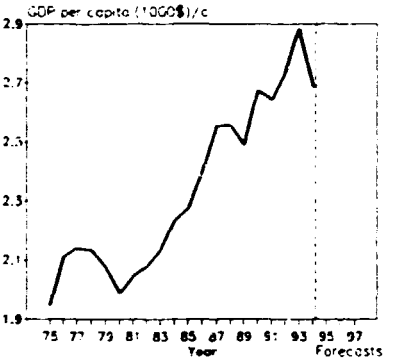
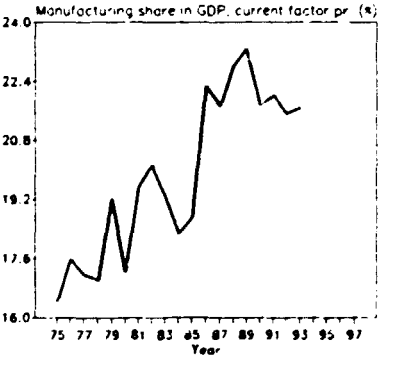


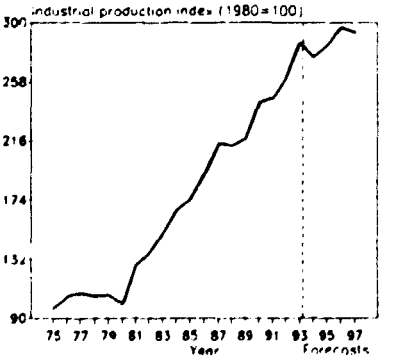



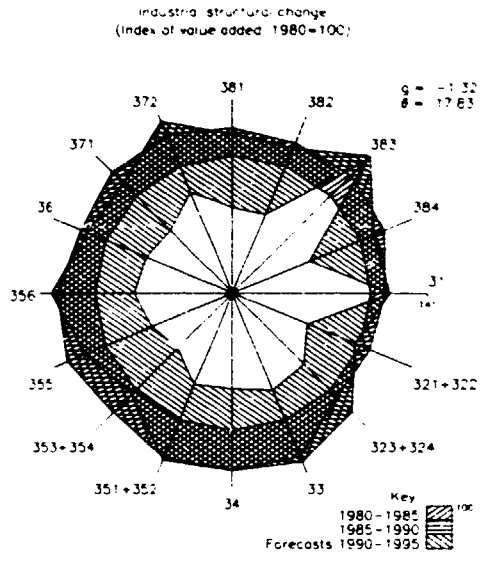

| | 1980 | 1985 | 1990 | 1993 |
|---|---|---|---|---|
| **GDP[38] (millions of 1990-dollars)** | 88 366 | 114 593 | 149 972 | 171 898 |
| **Per capita[38] (1990-dollars)** | 1 989 | 2 276 | 2 673 | 2 884 |
| **Manufacturing share[38] (%) (current factor prices)** | 17.2 | 18.7 | 21.7 | *21 7* |
| **MANUFACTURING:** | | | | |
| **Value added[38] (millions of 1990-dollars)** | 16 039 | 23 180 | 32 312 | 38 586 |
| **Industrial production index (1980=100)** | 100 | 174 | 243 | 286 |
| **Value added (millions of dollars)** | 10 837 | 10 448 | 28 958 | *37 797* |
| **Gross output (millions of dollars)** | 29 413 | 32 470 | 73 064 | 91 879 |
| **Employment (thousands)** | 787 | 844 | 975 | *948* |
| **-PROFITABILITY:(in percent of gross output)** | | | | |
| **Intermediate input (%)** | 63 | 68 | 60 | *59* |
| **Wages and salaries including supplements (%)** | 16 | 10 | 12 | *14* |
| **Gross operating surplus and net taxes (%)** | 20 | 23 | 28 | *27* |
| **-PRODUCTIVITY:(dollars)** | | | | |
| **Gross output per worker** | 36 960 | 38 378 | 74 819 | *96 414* |
| **Value added per worker** | 13 617 | 12 349 | 29 656 | *44 560* |
| **Average wage (including supplements)** | 6 142 | 3 717 | 9 029 | *13 712* |
| **-STRUCTURAL INDICES:** | | | | |
| **Structural change θ (5-year average in degrees)** | 14.36 | 11.89 | 13.44 | *5 79* |
| **as a percentage of average θ in 1970-1975** | 155 | 129 | 145 | *63* |
| **MVA growth rate / θ** | 0.38 | 0.53 | 0.80 | *0.89* |
| **Degree of specialization** | 14.3 | 13.8 | 12.4 | 13.1 |
| **-VALUE ADDED:(millions of dollars)** | | | | |
| 311/2 Food products | 1 [illegible]5 | 973 | 2 541 | *3 960* |
| 313 Beverages | 335 | 330 | 893 | *1 367* |
| 314 Tobacco products | 467 | 877 | 1 168 | *1 590* |
| 321 Textiles | 1 535 | 1 289 | 3 222 | *4 145* |
| 322 Wearing apparel | 60 | 146 | 947 | *1 291* |
| 323 Leather and fur products | 25 | 37 | 60 | *68* |
| 324 Footwear | 33 | 22 | 69 | *119* |
| 331 Wood and wood products | 118 | 64 | 187 | *225* |
| 332 Furniture and fixtures | 16 | 55 | 81 | *107* |
| 341 Paper and paper products | 205 | 241 | 559 | *693* |
| 342 Printing and publishing | 97 | 133 | 434 | *533* |
| 351 Industrial chemicals | 719 | 457 | 1 517 | *1 395* |
| 352 Other chemical products | 387 | 394 | 1 449 | *1 873* |
| 353 Petroleum refineries | 1 352 | 1 514 | 4 525 | *5 468* |
| 354 Miscellaneous petroleum and coal products | 222 | 152 | 458 | *473* |
| 355 Rubber products | 201 | 151 | 452 | *602* |
| 356 Plastic products | 125 | 76 | 328 | *412* |
| 361 Pottery, china and earthenware | 93 | 102 | 466 | *618* |
| 362 Glass and glass products | 110 | 167 | 531 | *559* |
| 369 Other non-metal mineral products | 535 | 428 | 1 365 | *1 610* |
| 371 Iron and steel | 783 | 734 | 1 403 | *2 249* |
| 372 Non-ferrous metals | 292 | 181 | 580 | *538* |
| 381 Metal products | 395 | 344 | 904 | *963* |
| 382 Non-electrical machinery | 506 | 456 | 1 423 | *1 725* |
| 383 Electrical machinery | 463 | 531 | 1 482 | *2 394* |
| 384 Transport equipment | 541 | 534 | 1 743 | *2 610* |
| 385 Professional and scientific equipment | 8 | 9 | 87 | *116* |
| 390 Other manufacturing industries | 28 | 48 | 83 | *94* |

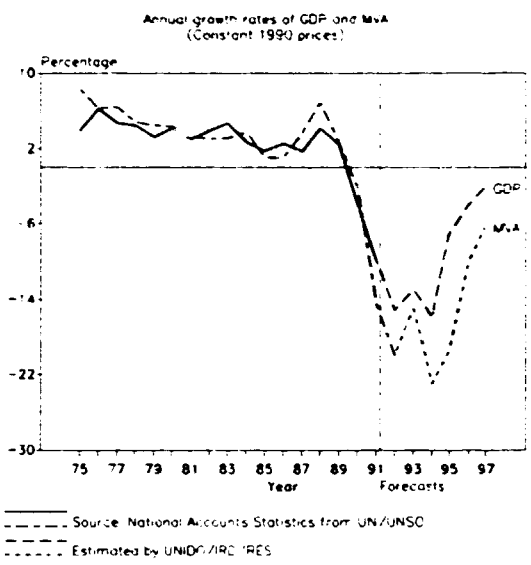
For sources, footnotes and comments see "Technical notes" at the beginning of this Annex.



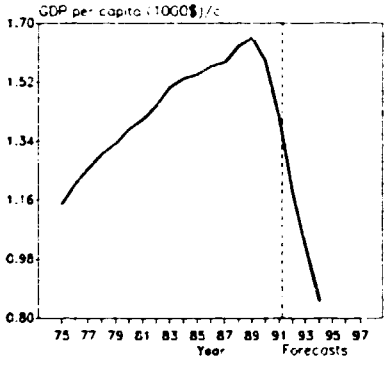



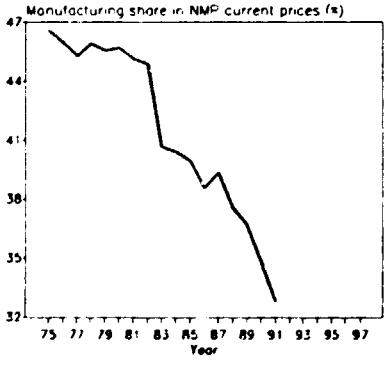


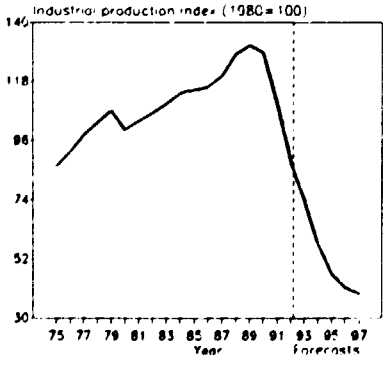



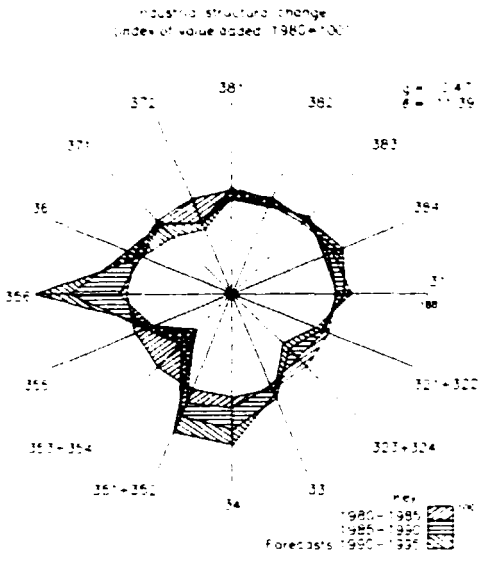

| | 1980 | 1985 | 1990 | 1993 |
|---|---|---|---|---|
| **GDP:[RS] (millions of 1990-dollars)** | 365 168 | 427 267 | 456 500 | *302 982* |
| **Per capita[RS] (1990-dollars)** | 1 378 | 1 544 | 1 583 | *1 022* |
| **Manufacturing share[RS] (%) (current factor prices)** | 45.7 | 40.0 | 34.9 | .. |
| **MANUFACTURING:** | | | | |
| **Value added[RS] (millions of 1990-dollars)** | 123 710 | 142 065 | 159 239 | *92 372* |
| **Industrial production index (1980=100)** | 100 | 115 | 129 | *75* |
| **Value added (millions of dollars)** | 362 424 | *?77 289* | *225 474* | .. |
| **Gross output (millions of dollars)** | 834 089 | 867 602 | 517 936 | .. |
| **Employment (thousands)** | 31 464 | 32 794 | 30 352 | *26 979* |
| **-PROFITABILITY:(in percent of gross output)** | | | | |
| **Intermediate input (%)** | 57 | 57 | 56 | .. |
| **Wages and salaries including supplements (%)** | 12 | 11 | 13 | .. |
| **Gross operating surplus and net taxes (%)** | 31 | 32 | 31 | .. |
| **-PRODUCTIVITY:(dollars)** | | | | |
| **Gross output per worker** | 26 509 | 26 456 | 17 064 | .. |
| **Value added per worker** | 11 519 | 11 505 | 7 429 | .. |
| **Average wage (including supplements)** | 3 247 | 3 002 | 2 147 | .. |
| **-STRUCTURAL INDICES:** | | | | |
| **Structural change θ (5-year average in degrees)** | 1.32 | 1.49 | 1.87 | *2.81* |
| **as a percentage of average θ in 1970-1975** | 100 | 113 | 141 | *213* |
| **MVA growth rate / θ** | 2.75 | 2.20 | 0.04 | -2.31 |
| **Degree of specialization** | 16.6 | 16.0 | 16.6 | 19.5 |
| **-VALUE ADDED:(millions of dollars)** | | | | |
| **311/2 Food products** | 66 053 | 66 335 | 42 968 | .. |
| **313 Beverages** | 10 336 | 8 110 | 3 395 | .. |
| **314 Tobacco products** | 2 032 | 2 643 | 1 310 | .. |
| **321 Textiles** | 32 553 | 31 880 | 17 439 | .. |
| **322 Wearing apparel** | 19 633 | 17 956 | 9 107 | .. |
| **323 Leather and fur products** | 2 443 | 2 047 | 1 797 | .. |
| **324 Footwear** | 3 892 | 3 937 | 2 312 | .. |
| **331 Wood and wood products** | 4 628 | 5 252 | 3 054 | .. |
| **332 Furniture and fixtures** | 3 761 | 4 307 | 2 868 | .. |
| **341 Paper and paper products** | 4 330 | 4 988 | 2 902 | .. |
| **342 Printing and publishing** | 1 067 | 1 162 | 795 | .. |
| **351 Industrial chemicals** | 17 184 | 19 764 | 11 630 | .. |
| **352 Other chemical products** | 5 104 | 5 850 | 3 934 | .. |
| **353 Petroleum refineries** | 12 334 | 13 314 | 6 477 | .. |
| **354 Miscellaneous petroleum and coal products** | 4 159 | 4 669 | 2 616 | .. |
| **355 Rubber products** | 4 533 | 5 214 | 2 788 | .. |
| **356 Plastic products** | 1 167 | 1 318 | 818 | .. |
| **361 Pottery, china and earthenware** | 538 | 508 | 342 | .. |
| **362 Glass and glass products** | 2 680 | 2 625 | 1 541 | .. |
| **369 Other non-metal mineral products** | 13 768 | 14 867 | 8 408 | .. |
| **371 Iron and steel** | 13 331 | 14 680 | 8 017 | .. |
| **372 Non-ferrous metals** | 8 803 | 9 733 | 6 316 | .. |
| **381 Metal products** | 4 815 | 5 124 | 2 980 | .. |
| **382 Non-electrical machinery** | 54 571 | 57 101 | 33 137 | .. |
| **383 Electrical machinery** | 27 146 | 29 148 | 20 380 | .. |
| **384 Transport equipment** | 26 518 | 28 087 | 15 602 | .. |
| **385 Professional and scientific equipment** | 3 838 | 4 042 | 2 821 | .. |
| **390 Other manufacturing industries** | 11 210 | 12 671 | 9 739 | .. |

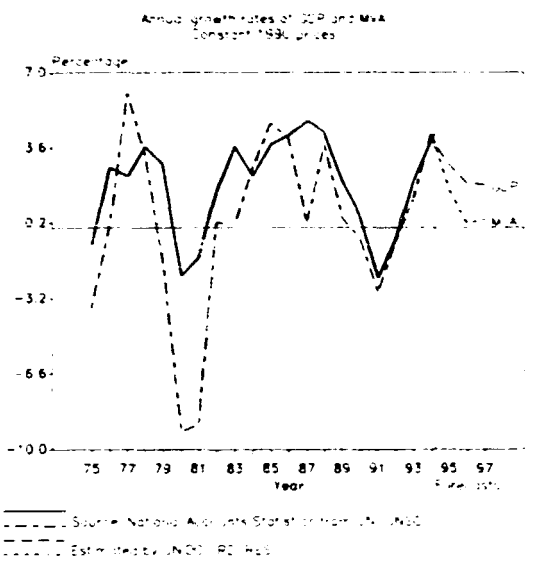
For sources, footnotes and comments see "Technical notes" at the beginning of this Annex.



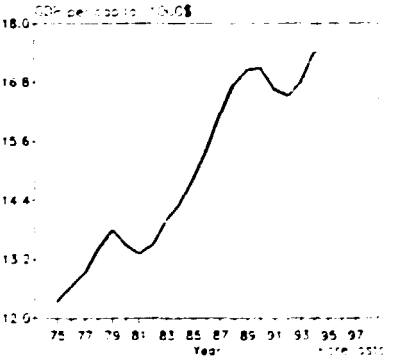



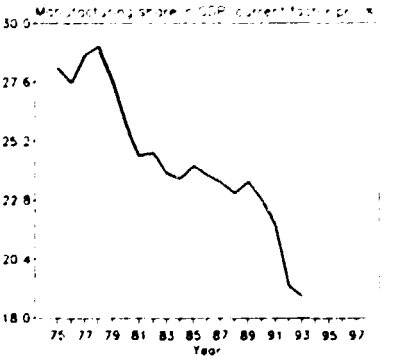



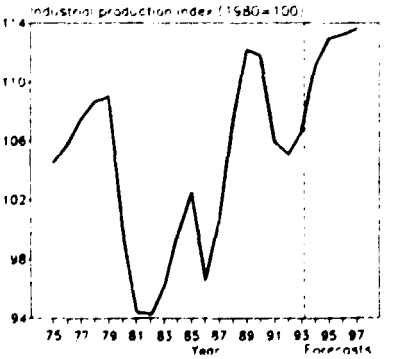


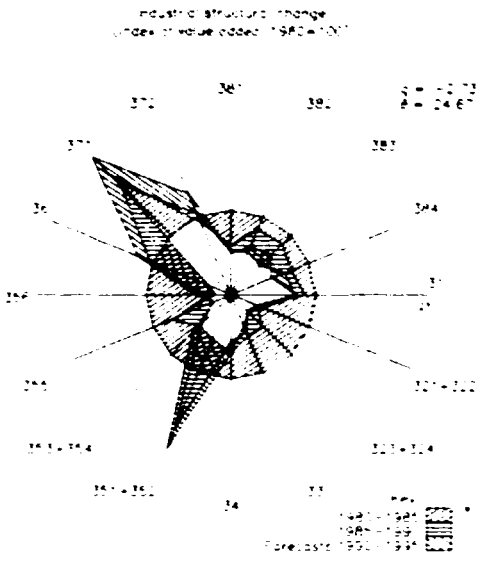

| | 1980 | 1985 | 1990 | 1993 |
|---|---|---|---|---|
| **GDP[PR] (millions of 1990-dollars)** | **760 010** | **839 360** | **961 046** | **973 795** |
| **Per capita[PR] (1990-dollars)** | **13 492** | **14 825** | **17 068** | **16 812** |
| **Manufacturing share[PR] (%) (current factor prices)** | **25.9** | **24.2** | **22.8** | *18.9* |
| **MANUFACTURING:** | | | | |
| **Value added[PR] (millions of 1990-dollars)** | **179 989** | **176 842** | **190 976** | **186 560** |
| **Industrial production index (1980=100)** | **100** | **103** | **112** | **107** |
| **Value added (millions of dollars)** | **163 790** | **124 384** | **254 946** | *222 325* |
| **Gross output (millions of dollars)** | **400 930** | **306 225** | **579 854** | **522 111** |
| **Employment (thousands)** | **6 462** | **4 935** | **4 798** | *4 202* |
| **-PROFITABILITY:(in percent of gross output)** | | | | |
| **Intermediate input (%)** | **59** | **59** | **56** | *57* |
| **Wages and salaries including supplements (%)** | **23** | **20** | **21** | *21* |
| **Gross operating surplus (%)** | **17** | **20** | **23** | *22* |
| **-PRODUCTIVITY:(dollars)** | | | | |
| **Gross output per worker** | **61 483** | **61 368** | **119 558** | *121 556* |
| **Value added per worker** | **25 117** | **24 927** | **52 653** | *52 081* |
| **Average wage (including supplements)** | **14 579** | **12 520** | **25 249** | *25 776* |
| **-STRUCTURAL INDICES:** | | | | |
| **Structural change ∂ (5-year average in degrees)** | **3.83** | **2.57** | **2.27** | *2.48* |
| **as a percentage of average θ in 1970-1975** | **109** | **73** | **65** | *71* |
| **MVA growth rate / θ** | **-0.20** | **-0.15** | **0.93** | **-0.77** |
| **Degree of specialization** | **11.1** | **11.9** | **12.2** | **12.6** |
| **-VALUE ADDED:(millions of dollars)** | | | | |
| **311/2 Food products** | **14 744** | **12 192** | **25 143** | *23 704* |
| **313 Beverages** | **5 419** | **3 554** | **6 643** | *6 402* |
| **314 Tobacco products** | **1 814** | **1 479** | **2 375** | *2 124* |
| **321 Textiles** | **5 419** | **3 917** | **7 036** | *6 049* |
| **322 Wearing apparel** | **3 395** | **2 633** | **4 679** | *3 996* |
| **323 Leather and fur products** | **558** | **376** | **536** | *456* |
| **324 Footwear** | **1 093** | **752** | **1 268** | *1 083* |
| **331 Wood and wood products** | **2 349** | **1 556** | **3 214** | *2 476* |
| **332 Furniture and fixtures** | **2 558** | **2 101** | **4 554** | *3 958* |
| **341 Paper and paper products** | **4 860** | **3 813** | **8 036** | *7 488* |
| **342 Printing and publishing** | **9 814** | **8 807** | **19 643** | *19 403* |
| **351 Industrial chemicals** | **8 233** | **7 328** | **14 179** | *12 573* |
| **352 Other chemical products** | **7 512** | **6 641** | **14 893** | *15 884* |
| **353 Petroleum refineries** | **4 512** | **1 712** | **4 429** | *2 308* |
| **354 Miscellaneous petroleum and coal products** | **721** | **428** | **750** | *626* |
| **355 Rubber products** | **2 349** | **1 505** | **3 018** | *2 536* |
| **356 Plastic products** | **3 696** | **3 087** | **8 250** | *8 395* |
| **361 Pottery, china and earthenware** | **977** | **765** | **1 464** | *1 265* |
| **362 Glass and glass products** | **1 442** | **960** | **2 089** | *1 804* |
| **369 Other non-metal mineral products** | **5 696** | **4 202** | **9 036** | *6 429* |
| **371 Iron and steel** | **5 860** | **4 345** | **8 089** | *6 022* |
| **372 Non-ferrous metals** | **2 581** | **1 505** | **2 786** | *2 242* |
| **381 Metal products** | **10 140** | **7 211** | **15 018** | *12 020* |
| **382 Non-electrical machinery** | **21 326** | **15 097** | **30 071** | *24 901* |
| **383 Electrical machinery** | **15 209** | **12 387** | **22 357** | *18 880* |
| **384 Transport equipment** | **17 512** | **12 931** | **28 946** | *23 189* |
| **385 Professional and scientific equipment** | **2 209** | **1 803** | **3 661** | *3 556* |
| **390 Other manufacturing industries** | **1 791** | **1 297** | **2 786** | *2 555* |

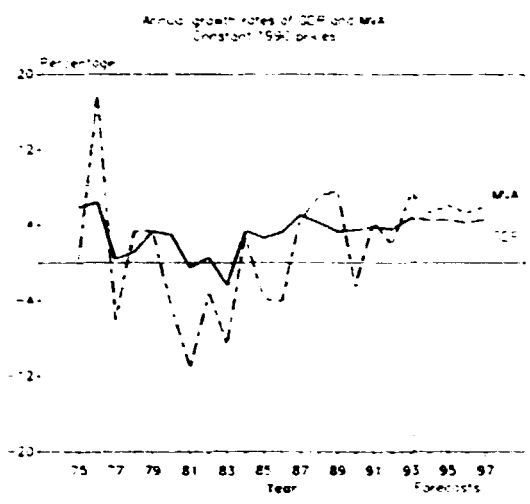


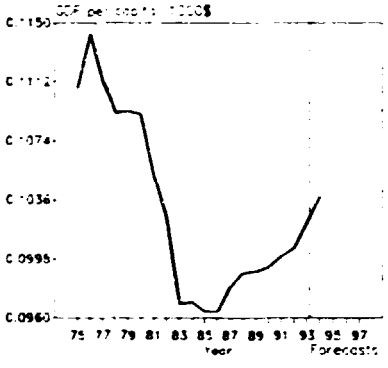

For sources, footnotes and comments see "Technical notes" at the beginning of this Annex.

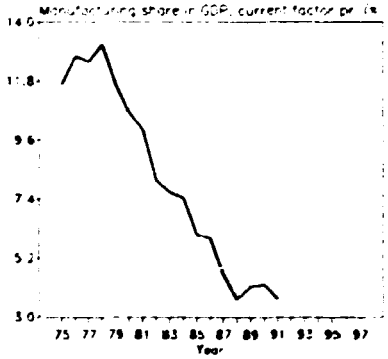


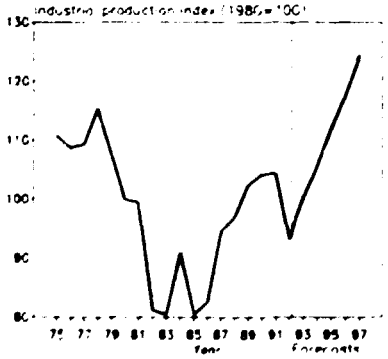



| | 1980 | 1985 | 1990 | 1993 |
|---|---|---|---|---|
| **GDP:[a]** (millions of 1990-dollars) | 2 027 | 2 102 | 2 542 | 2 885 |
| **Per capita[a]** (1990-dollars) | 109 | 96 | 99 | 102 |
| **Manufacturing share[a]** (%) (current factor prices) | 10.7 | 6.1 | 4.2 | .. |
| **MANUFACTURING:** | | | | |
| **Value added[a]** (millions of 1990-dollars) | 108 | 83 | 94 | *107* |
| **Industrial production index** (1980=100) | 100 | 81 | 104 | *100* |
| **Value added** (millions of dollars) | *361* | 278 | *87* | *74* |
| **Gross output** (millions of dollars) | 1 266 | 1 145 | *404* | *349* |
| **Employment** (thousands) | 101 | 94 | *124* | *143* |
| **-PROFITABILITY:**(in percent of gross output) | | | | |
| **Intermediate input** (%) | 71 | 76 | *78* | *79* |
| **Wages and salaries including supplements** (%) | 9 | 9 | 5 | *6* |
| **Gross operating surplus** (%) | 19 | 16 | *16* | *15* |
| **-PRODUCTIVITY:**(dollars) | | | | |
| **Gross output per worker** | 12 457 | 12 141 | *3 248* | *2 440* |
| **Value added per worker** | 3 555 | 2 952 | *703* | *527* |
| **Average wage** (including supplements) | 1 174 | 1 042 | *178* | *159* |
| **-STRUCTURAL INDICES:** | | | | |
| **Structural change** $\theta$ (5-year average in degrees) | *5.70* | 9.82 | *11.97* | *2.31* |
| **as a percentage of average** $\theta$ **in 1970-1975** | *83* | 143 | *174* | *34* |
| **MVA growth rate / $\theta$** | 1.38 | -1.00 | 0.01 | -0.36 |
| **Degree of specialization** | 17.0 | 15.7 | 16.9 | 17.1 |
| **-VALUE ADDED:**(millions of dollars) | | | | |
| 311/2 **Food products** | 58 | 58 | *11* | *9* |
| 313 **Beverages** | 14 | 21 | 5 | *4* |
| 314 **Tobacco products** | 12 | 16 | 9 | *8* |
| 321 **Textiles** | 95 | 43 | *13* | *12* |
| 322 **Wearing apparel** | 10 | 4 | - | - |
| 323 **Leather and fur products** | 7 | 4 | *1* | - |
| 324 **Footwear** | 8 | 6 | *1* | *1* |
| 331 **Wood and wood products** | 7 | 6 | *2* | *1* |
| 332 **Furniture and fixtures** | 6 | 3 | *1* | *1* |
| 341 **Paper and paper products** | 8 | 7 | *3* | *3* |
| 342 **Printing and publishing** | 14 | 12 | *2* | *2* |
| 351 **Industrial chemicals** | 11 | 9 | *13* | *11* |
| 352 **Other chemical products** | 10 | 7 | *2* | *2* |
| 353 **Petroleum refineries** | 15 | 10 | *3* | *3* |
| 354 **Miscellaneous petroleum and coal products** | - | - | - | - |
| 355 **Rubber products** | 11 | 11 | *1* | *1* |
| 356 **Plastic products** | 8 | 2 | *1* | *1* |
| 361 **Pottery, china and earthenware** | - | - | - | - |
| 362 **Glass and glass products** | - | - | - | - |
| 369 **Other non-metal mineral products** | 11 | 4 | 5 | *4* |
| 371 **Iron and steel** | *2* | *6* | *2* | *2* |
| 372 **Non-ferrous metals** | *4* | *4* | *2* | *1* |
| 381 **Metal products** | 20 | 15 | *4* | *3* |
| 382 **Non-electrical machinery** | 3 | 4 | *1* | *1* |
| 383 **Electrical machinery** | 6 | 6 | *1* | *1* |
| 384 **Transport equipment** | 19 | 19 | 5 | *3* |
| 385 **Professional and scientific equipment** | - | - | - | - |
| 390 **Other manufacturing industries** | 2 | 2 | - | - |

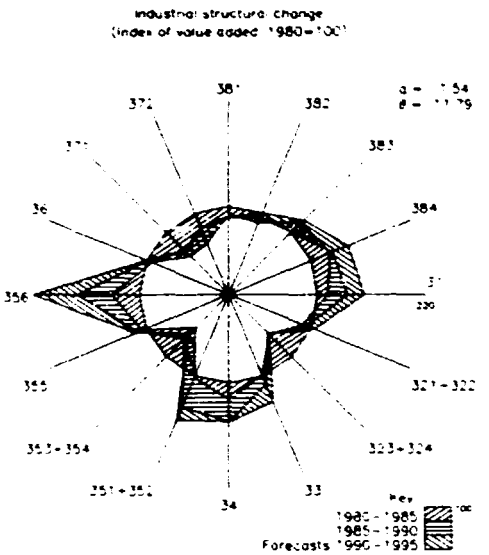
For sources, footnotes and comments see "Technical notes" at the beginning of this Annex

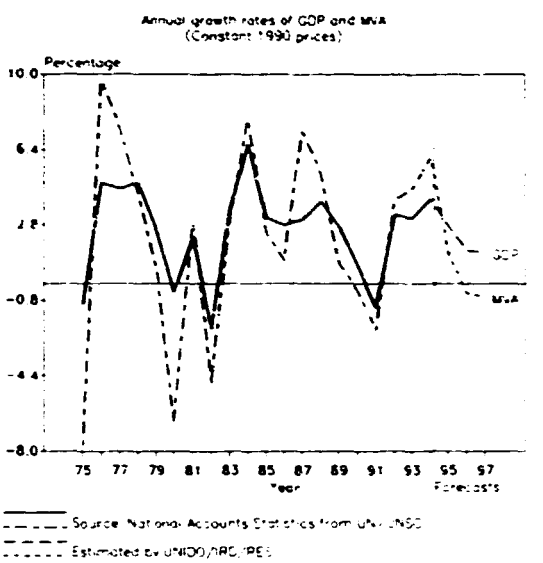


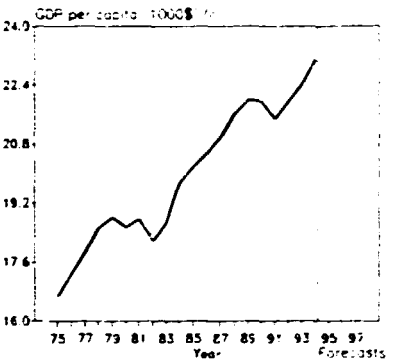
## UNITED STATES OF AMERICA

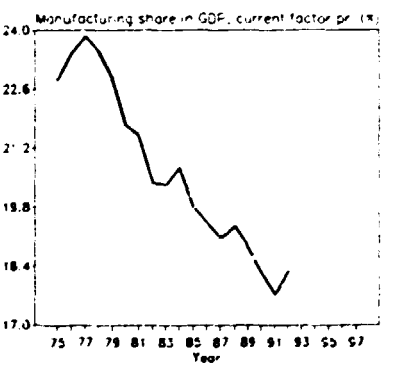


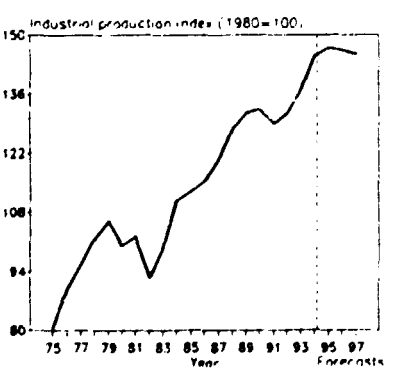



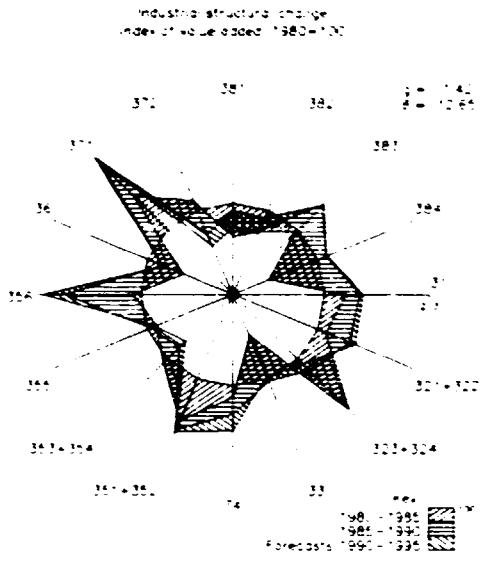

| | 1980 | 1985 | 1990 | 1993 |
|---|---|---|---|---|
| **GDP:[PC] (millions of 1990-dollars)** | 4 223 169 | 4 813 509 | 5 489 500 | 5 779 239 |
| **Per capita[PC] (1990-dollars)** | 18 542 | 20 185 | 21 985 | 22 407 |
| **Manufacturing share[PC] (%) (current factor prices)** | 21.5 | 19.4 | 18.3 | .. |
| **MANUFACTURING:** | | | | |
| **Value added[PC] (millions of 1990-dollars)** | 805 788 | 900 319 | 1 032 100 | 1 096 855 |
| **Industrial production index (1980=100)** | 100 | 113 | 132 | 137 |
| **Value added (millions of dollars)** | 769 899 | 996 438 | 1 322 110 | *1 494 059* |
| **Gross output (millions of dollars)** | 1 857 094 | 2 268 692 | 2 861 330 | 3 212 962 |
| **Employment (thousands)** | 19 210 | 17 424 | 17 502 | *17 178* |
| **-PROFITABILITY:(in percent of gross output)** | | | | |
| **Intermediate input (%)** | 59 | 56 | 54 | 53 |
| **Wages and salaries including supplements (%)** | 21 | 21 | 21 | *20* |
| **Gross operating surplus (%)** | 21 | 22 | 26 | *26* |
| **-PRODUCTIVITY:(dollars)** | | | | |
| **Gross output per worker** | 96 673 | 130 090 | 163 486 | *185 804* |
| **Value added per worker** | 40 078 | 57 188 | 75 541 | *88 448* |
| **Average wage (including supplements)** | 20 044 | 27 953 | 33 565 | *38 257* |
| **-STRUCTURAL INDICES:** | | | | |
| **Structural change θ (5-year average in degrees)** | 2.91 | 3.35 | 3.29 | *2.23* |
| **as a percentage of average θ in 1970-1975** | 84 | 96 | 95 | *64* |
| **MVA growth rate / θ** | 1.45 | 0.10 | 0.77 | 0.10 |
| **Degree of specialization** | 11.9 | 13.5 | 12.3 | 12.5 |
| **-VALUE ADDED:(millions of dollars)** | | | | |
| 311/2 Food products | 63 460 | 87 970 | 119 830 | *136 782* |
| 313 Beverages | 11 810 | 16 170 | 21 140 | *25 006* |
| 314 Tobacco products | 6 160 | 11 890 | 22 560 | *28 706* |
| 321 Textiles | 23 030 | 26 910 | 34 960 | *40 329* |
| 322 Wearing apparel | 19 780 | 22 150 | 25 480 | *28 962* |
| 323 Leather and fur products | 1 850 | 1 580 | 2 210 | *2 449* |
| 324 Footwear | 2 950 | 2 470 | 2 320 | *2 528* |
| 331 Wood and wood products | 12 970 | 15 390 | 20 830 | *26 265* |
| 332 Furniture and fixtures | 9 840 | 13 250 | 16 910 | *19 271* |
| 341 Paper and paper products | 29 790 | 40 390 | 57 200 | *60 920* |
| 342 Printing and publishing | 44 390 | 73 050 | 103 180 | *104 325* |
| 351 Industrial chemicals | 38 920 | 43 370 | 73 480 | *76 798* |
| 352 Other chemical products | 35 530 | 54 290 | 81 770 | *99 017* |
| 353 Petroleum refineries | 23 010 | 13 890 | 22 620 | *20 461* |
| 354 Miscellaneous petroleum and coal products | 2 670 | 3 450 | 4 390 | *5 046* |
| 355 Rubber products | 8 030 | 10 970 | 13 430 | *14 883* |
| 356 Plastic products | 14 540 | 24 740 | 37 320 | *47 678* |
| 361 Pottery, china and earthenware | 1 210 | 1 300 | 1 840 | *2 055* |
| 362 Glass and glass products | 6 470 | 7 660 | 10 080 | *11 427* |
| 369 Other non-metal mineral products | 16 300 | 19 890 | 23 980 | *25 106* |
| 371 Iron and steel | 30 780 | 24 070 | 31 780 | *33 790* |
| 372 Non-ferrous metals | 14 340 | 11 440 | 17 510 | *18 345* |
| 381 Metal products | 53 180 | 61 810 | 70 380 | *74 810* |
| 382 Non-electrical machinery | 102 760 | 115 550 | 145 060 | *155 196* |
| 383 Electrical machinery | 74 850 | 111 230 | 112 400 | *142 051* |
| 384 Transport equipment | 81 280 | 128 220 | 154 030 | *182 194* |
| 385 Professional and scientific equipment | 27 940 | 40 280 | 76 520 | *89 520* |
| 390 Other manufacturing industries | 12 080 | 13 080 | 18 720 | *20 146* |

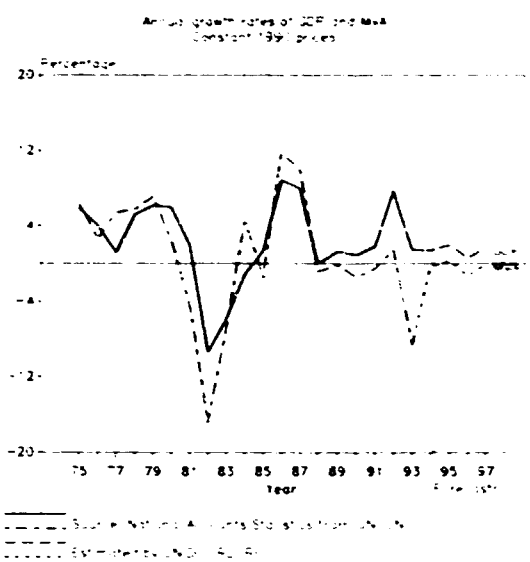
For sources, footnotes and comments see "Technical notes" at the beginning of this Annex.



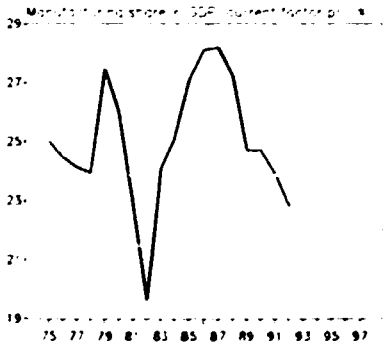



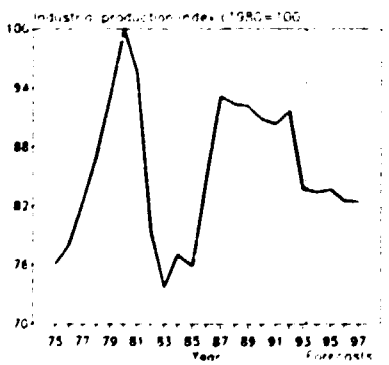





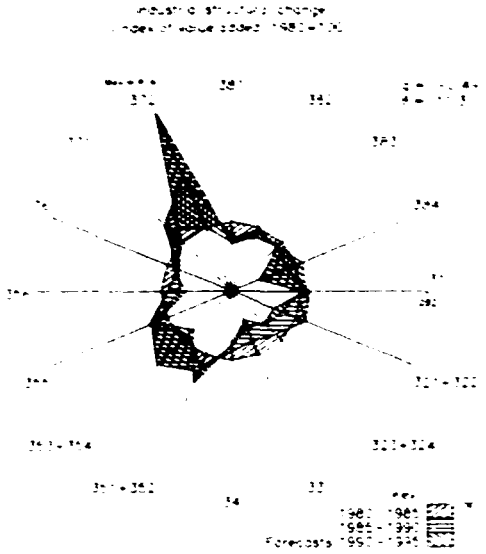


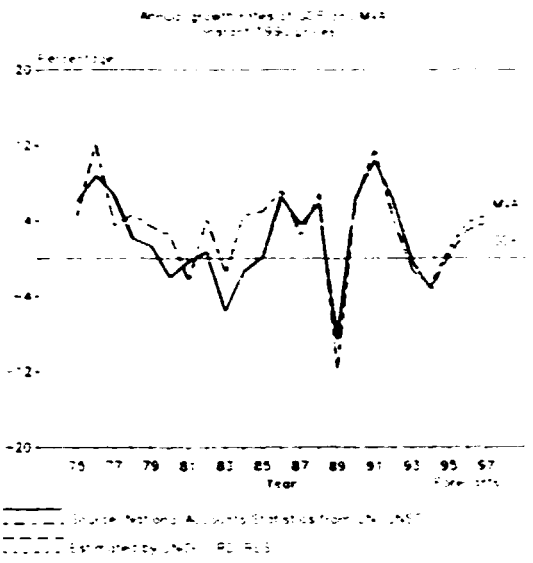
| | 1980 | 1985 | 1990 | 1993 |
|---|---|---|---|---|
| **GDP:[pp] (millions of 1990-dollars)** | 7 905 | 6 897 | 8 282 | 9 224 |
| **Per capita[pp] (1990-dollars)** | 2 713 | 2 293 | 2 677 | 2 929 |
| **Manufacturing share[pp] (%) (current factor prices)** | 26.0 | 27.1 | 24.7 | .. |
| **MANUFACTURING:** | | | | |
| **Value added[pp] (millions of 1990-dollars)** | 2 393 | 1 815 | 2 173 | 2 003 |
| **Industrial production index (1980=100)** | 100 | 76 | 91 | 84 |
| **Value added (millions of dollars)** | *1 286* | 1 337 | 2 379 | *3 704* |
| **Gross output (millions of dollars)** | 3 302 | 3 174 | 5 778 | 9 129 |
| **Employment (thousands)** | 160 | 122 | 166 | *160* |
| **-PROFITABILITY:(in percent of gross output)** | | | | |
| **Intermediate input (%)** | 61 | 58 | 59 | 59 |
| **Wages and salaries including supplements (%)** | *13* | 9 | 10 | *9* |
| **Gross operating surplus and net taxes (%)** | *26* | 33 | 32 | *32* |
| **-PRODUCTIVITY:(dollars)** | | | | |
| **Gross output per worker** | 20 456 | 25 944 | 34 798 | *57 007* |
| **Value added per worker** | 7 971 | 10 929 | 14 334 | *23 250* |
| **Average wage (including supplements)** | *2 635* | 2 441 | 3 318 | *5 043* |
| **-STRUCTURAL INDICES:** | | | | |
| **Structural change θ (5-year average in degrees)** | 12.10 | 14.58 | 8.71 | *4 81* |
| **as a percentage of average θ in 1970-1975** | 123 | 148 | 89 | *49* |
| **MVA growth rate / θ** | -0.08 | 0.14 | 0.33 | 0.34 |
| **Degree of specialization** | 13.9 | 18.8 | 15.2 | 15.3 |
| **-VALUE ADDED:(mil[illegible] of dollars)** | | | | |
| 311/2 Food products | 165 | 266 | 473 | *731* |
| 313 Beverages | 104 | 92 | 181 | *307* |
| 314 Tobacco products | 90 | 68 | 90 | *147* |
| 321 Textiles | 109 | 137 | 235 | *392* |
| 322 Wearing apparel | 59 | 43 | 111 | *164* |
| 323 Leather and fur products | 31 | 76 | 67 | *101* |
| 324 Footwear | 18 | 8 | 19 | *26* |
| 331 Wood and wood products | *14* | 8 | 19 | *30* |
| 332 Furniture and fixtures | *7* | 2 | 13 | *19* |
| 341 Paper and paper products | 30 | 47 | 51 | *86* |
| 342 Printing and publishing | 37 | 27 | 81 | *136* |
| 351 Industrial chemicals | 20 | 26 | 68 | *103* |
| 352 Other chemical products | 75 | 112 | 162 | *252* |
| 353 Petroleum refineries | 192 | 194 | 239 | *338* |
| 354 Miscellaneous petroleum and coal products | 2 | 4 | 1 | *2* |
| 355 Rubber products | 40 | 34 | 58 | *85* |
| 356 Plastic products | 24 | 25 | 65 | *110* |
| 361 Pottery, china and earthenware | 13 | 7 | 20 | *36* |
| 362 Glass and glass products | 14 | 7 | 21 | *27* |
| 369 Other non-metal mineral products | 41 | 24 | 43 | *71* |
| 371 Iron and steel | 10 | 14 | 31 | *44* |
| 372 Non-ferrous metals | 3 | 3 | 3 | *4* |
| 381 Metal products | *53* | 32 | 73 | 95 |
| 382 Non-electrical machinery | *16* | 12 | 22 | *30* |
| 383 Electrical machinery | 33 | 31 | 69 | *109* |
| 384 Transport equipment | 76 | 32 | 129 | *204* |
| 385 Professional and scientific equipment | 1 | 1 | 19 | *34* |
| 390 Other manufacturing industries | 8 | 6 | 15 | *24* |



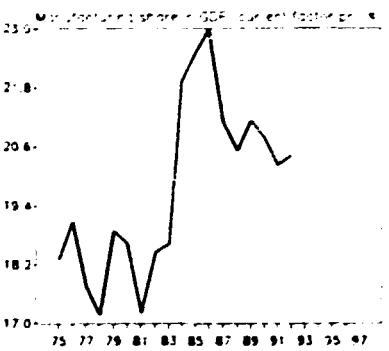


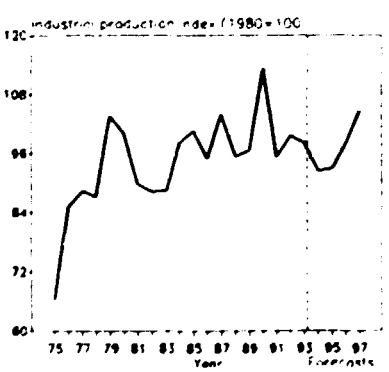
For sources, footnotes and comments see "Technical notes" at the beginning of this Annex.





| | 1980 | 1985 | 1990 | 1993 |
|---|---|---|---|---|
| GDP[2a] (millions of 1980-dollars) | 45 868 | 42 763 | 48 596 | 56 880 |
| Per capita[2a] (1980-dollars) | 3 026 | 2 495 | 2 492 | 2 709 |
| Manufacturing share[2a] (%) (current factor prices) | 18.6 | 22.5 | 20.8 | .. |
| **MANUFACTURING:** | | | | |
| Value added[2a] (millions of 1980-dollars) | 8 300 | 9 087 | 9 974 | 11 393 |
| Industrial production index (1980=100) | 100 | 101 | 113 | 98 |
| Value added (millions of dollars) | *14 461* | 14 071 | 12 175 | *13 262* |
| Gross output (millions of dollars) | *30 213* | 30 305 | 24 124 | *28 507* |
| Employment (thousands) | *426* | 408 | 464 | *491* |
| **-PROFITABILITY:(in percent of gross output)** | | | | |
| Intermediate input (%) | 52 | 54 | 50 | 53 |
| Wages and salaries including supplements (%) | *15* | 13 | 9 | *10* |
| Gross operating surplus and net taxes (%) | *33* | 34 | 42 | *37* |
| **-PRODUCTIVITY:(dollars)** | | | | |
| Gross output per worker | *67 966* | 71 154 | 51 776 | *57 922* |
| Value added per worker | *32 530* | 33 038 | 26 127 | *26 948* |
| Average wage (including supplements) | *10 361* | 9 485 | 4 651 | 5 646 |
| **-STRUCTURAL INDICES:** | | | | |
| Structural change θ (5-year average in degrees) | *7.47* | 9.86 | 16.09 | *13.27* |
| as a percentage of average θ in 1970-1975 | *70* | 93 | 151 | *124* |
| MVA growth rate / θ | 1.24 | 0.03 | 0.18 | 0.08 |
| Degree of specialization | 18.5 | 17.3 | 27.0 | 17.8 |
| **-VALUE ADDED:(millions of dollars)** | | | | |
| 311/2 Food products | *1 425* | 1 597 | 1 210 | *1 606* |
| 313 Beverages | *953* | 836 | 583 | 835 |
| 314 Tobacco products | *409* | 597 | 273 | *432* |
| 321 Textiles | *430* | 505 | 291 | *296* |
| 322 Wearing apparel | *348* | 358 | 160 | *222* |
| 323 Leather and fur products | *57* | 58 | 40 | *46* |
| 324 Footwear | *197* | 158 | 90 | *122* |
| 331 Wood and wood products | *106* | 80 | 36 | *58* |
| 332 Furniture and fixtures | *188* | 142 | 65 | *111* |
| 341 Paper and paper products | *395* | 357 | 277 | *323* |
| 342 Printing and publishing | *376* | 298 | 182 | *266* |
| 351 Industrial chemicals | *325* | 498 | 443 | *657* |
| 352 Other chemical products | *858* | 890 | 662 | *993* |
| 353 Petroleum refineries | *4 222* | 3 634 | 4 734 | *3 331* |
| 354 Miscellaneous petroleum and coal products | *25* | 30 | 19 | *22* |
| 355 Rubber products | *151* | 188 | 139 | *170* |
| 356 Plastic products | *394* | 348 | 215 | *263* |
| 361 Pottery, china and earthenware | *60* | 39 | 18 | *38* |
| 362 Glass and glass products | *137* | 132 | 109 | *172* |
| 369 Other non-metal mineral products | *489* | 378 | 290 | *398* |
| 371 Iron and steel | *651* | 855 | 498 | *786* |
| 372 Non-ferrous metals | *256* | 447 | 788 | *304* |
| 381 Metal products | *652* | 503 | 336 | *467* |
| 382 Non-electrical machinery | *287* | 241 | 180 | *278* |
| 383 Electrical machinery | *345* | 307 | 245 | *301* |
| 384 Transport equipment | *605* | 486 | 198 | *637* |
| 385 Professional and scientific equipment | *38* | 26 | 37 | *58* |
| 390 Other manufacturing industries | *82* | 81 | 56 | *70* |





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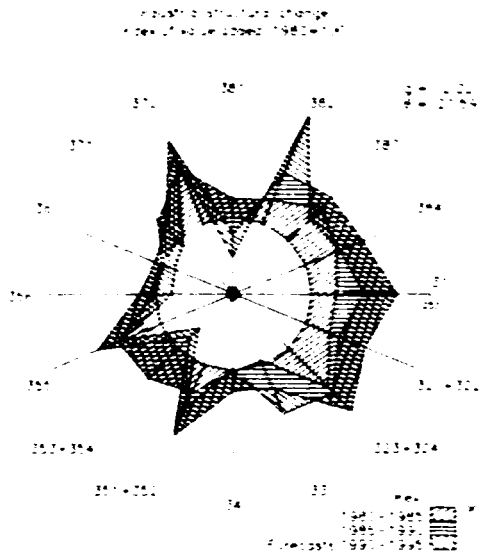
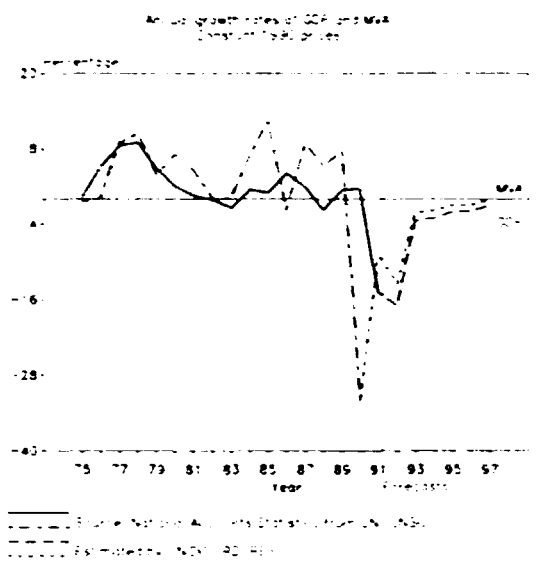
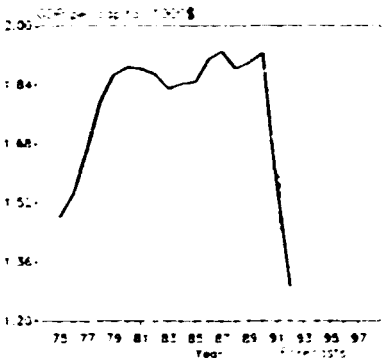
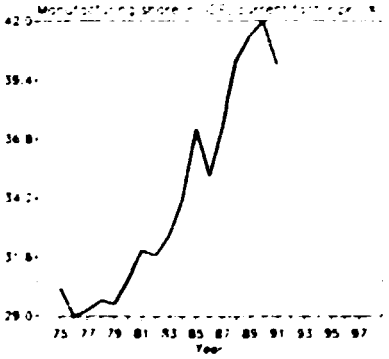


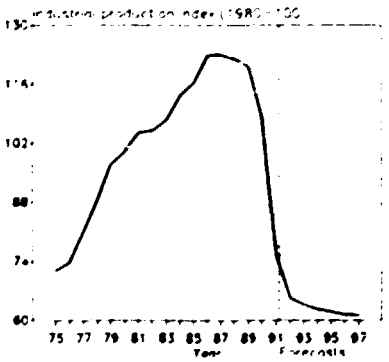


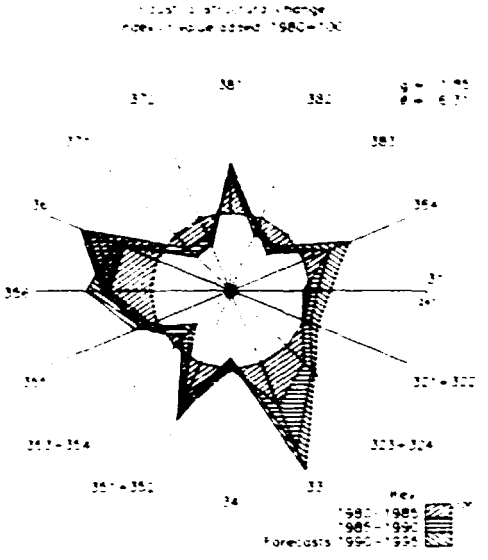
| | 1980 | 1985 | 1990 | 1993 |
|---|---|---|---|---|
| GDP:[2c] (millions of 1990-dollars) | 40 480 | 41 116 | 44 187 | *30 091* |
| Per capita[2c] (1990-dollars) | 1 888 | 1 846 | 1 926 | .. |
| Manufacturing share[2c] (%) (current factor prices) | 30.6 | 37.2 | 42.0 | .. |
| **MANUFACTURING:** | | | | |
| Value added[2c] (millions of 1990-dollars) | 17 257 | 21 677 | 17 708 | *13 617* |
| Industrial production index (1980=100) | 100 | 116 | 108 | *64* |
| Value added (millions of dollars) | 21 750 | 17 171 | *27 622* | .. |
| Gross output (millions of dollars) | 72 629 | 57 020 | *62 556* | .. |
| Employment (thousands) | 2 106 | 2 467 | *2 562* | *2 391* |
| **-PROFITABILITY:(in percent of gross output)** | | | | |
| Intermediate input (%) | 70 | 70 | *56* | .. |
| Wages and salaries including supplements (%) | 14 | 12 | *19* | .. |
| Gross operating surplus and net taxes (%) | 15 | 18 | *25* | .. |
| **-PRODUCTIVITY:(dollars)** | | | | |
| Gross output per worker | 34 487 | 23 113 | *24 373* | .. |
| Value added per worker | 10 328 | 6 960 | *10 840* | .. |
| Average wage (including supplements) | 4 391 | 2 703 | *4 634* | .. |
| **-STRUCTURAL INDICES:** | | | | |
| Structural change θ (5-year average in degrees) | 5.08 | 4.66 | *6.03* | *5.27* |
| as a percentage of average θ in 1970-1975 | 72 | 66 | 86 | *75* |
| MVA growth rate / θ | 1.13 | 1.20 | 0.69 | -0.40 |
| Degree of specialization | 8.8 | 9.0 | 10.2 | 11.5 |
| **-VALUE ADDED:(millions of dollars)** | | | | |
| 311/2 Food products | 1 897 | 1 456 | *3 413* | .. |
| 313 Beverages | 459 | 353 | *577* | .. |
| 314 Tobacco products | 184 | 221 | *302* | .. |
| 321 Textiles | 1 759 | 1 428 | *2 520* | .. |
| 322 Wearing apparel | 903 | 718 | *1 387* | .. |
| 323 Leather and fur products | 226 | 231 | *333* | .. |
| 324 Footwear | 482 | 503 | *892* | .. |
| 331 Wood and wood products | 977 | 530 | *707* | .. |
| 332 Furniture and fixtures | 730 | 438 | *1 127* | .. |
| 341 Paper and paper products | 529 | 394 | *661* | .. |
| 342 Printing and publishing | 876 | 462 | *766* | .. |
| 351 Industrial chemicals | 694 | 631 | *964* | .. |
| 352 Other chemical products | 681 | 525 | *1 241* | .. |
| 353 Petroleum refineries | 454 | 415 | *261* | .. |
| 354 Miscellaneous petroleum and coal products | 101 | 101 | *92* | .. |
| 355 Rubber products | 276 | 269 | *420* | .. |
| 356 Plastic products | 413 | 258 | *405* | .. |
| 361 Pottery, china and earthenware | 128 | 72 | *163* | .. |
| 362 Glass and glass products | 163 | 113 | *196* | .. |
| 369 Other non-metal mineral products | 906 | 513 | *690* | .. |
| 371 Iron and steel | 1 221 | 1 000 | *1 185* | .. |
| 372 Non-ferrous metals | 480 | 509 | *832* | .. |
| 381 Metal products | 2 105 | 1 577 | *1 328* | .. |
| 382 Non-electrical machinery | 1 828 | 1 463 | *2 529* | .. |
| 383 Electrical machinery | 1 800 | 1 544 | *2 296* | .. |
| 384 Transport equipment | 1 441 | 1 263 | *2 091* | .. |
| 385 Professional and scientific equipment | 101 | 93 | *135* | .. |
| 390 Other manufacturing industries | 134 | 88 | *111* | .. |

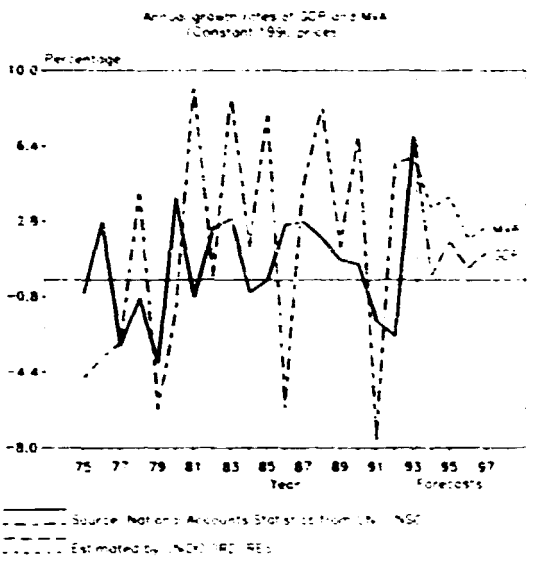
For sources, footnotes and comments see "Technical notes" at the beginning of this Annex.





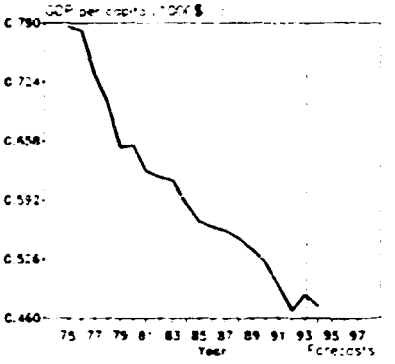


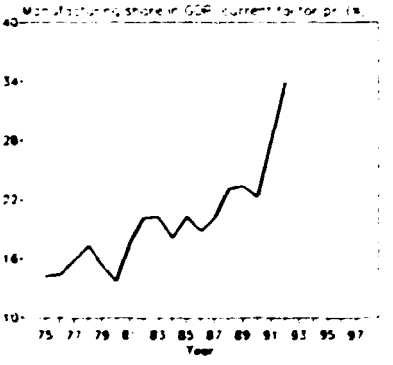


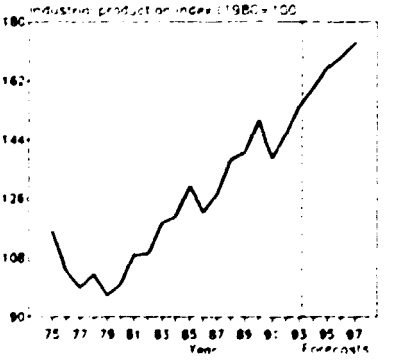


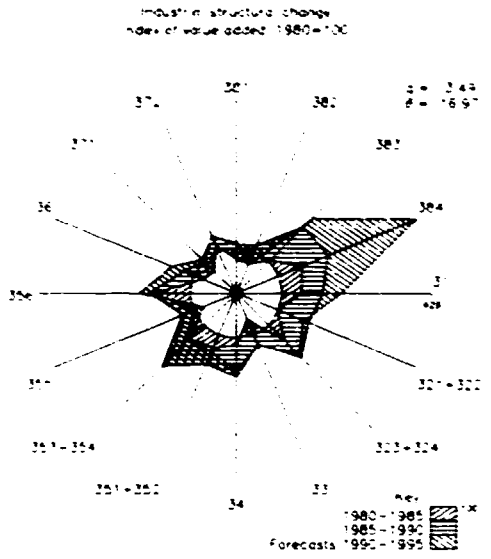

| | 1980 | 1985 | 1990 | 1993 |
|---|---|---|---|---|
| **GDP:[a]** (millions of 1990-dollars) | 3 746 | 3 895 | 4 280 | 4 344 |
| Per capita[a] (1990-dollars) | 653 | 563 | 523 | 486 |
| Manufacturing share[a] (%) (current factor prices) | 13.7 | 20.3 | 22.2 | .. |
| **MANUFACTURING:** | | | | |
| Value added[a] (millions of 1990-dollars) | 586 | 763 | 880 | 906 |
| Industrial production index (1980=100) | 100 | 130 | 150 | 155 |
| Value added (millions of dollars) | 780 | 575 | 1 059 | 1 177 |
| Gross output (millions of dollars) | 1 671 | 1 378 | 2 691 | 3 069 |
| Employment (thousands) | 59 | 62 | 60 | 61 |
| **-PROFITABILITY:(in percent of gross output)** | | | | |
| Intermediate input (%) | 53 | 58 | 61 | 62 |
| Wages and salaries including supplements (%) | 11 | 11 | 11 | 11 |
| Gross operating surplus and net taxes (%) | 35 | 30 | 29 | 28 |
| **-PRODUCTIVITY:(dollars)** | | | | |
| Gross output per worker | 28 231 | 22 254 | 44 662 | 49 712 |
| Value added per worker | 13 173 | 9 280 | 17 573 | 19 092 |
| Average wage (including supplements) | 3 245 | 2 542 | 4 841 | 5 399 |
| **-STRUCTURAL INDICES:** | | | | |
| Structural change θ (5-year average in degrees) | 2.37 | 5.05 | 4.85 | 2.72 |
| as a percentage of average θ in 1970-1975 | 42 | 90 | 87 | 49 |
| MVA growth rate / θ | 0.31 | 0.52 | 0.51 | -1.97 |
| Degree of specialization | 17.9 | 15.4 | 18.5 | 19.1 |
| **-VALUE ADDED:(millions of dollars)** | | | | |
| 311/2 Food products | 92 | 62 | 95 | 110 |
| 313 Beverages | 193 | 104 | 230 | 268 |
| 314 Tobacco products | 58 | 39 | 104 | 120 |
| 321 Textiles | 51 | 32 | 62 | 62 |
| 322 Wearing apparel | 34 | 23 | 45 | 52 |
| 323 Leather and fur products | 4 | 3 | 6 | 5 |
| 324 Footwear | 15 | 13 | 25 | 26 |
| 331 Wood and wood products | 8 | 11 | 28 | 32 |
| 332 Furniture and fixtures | 12 | 10 | 23 | 26 |
| 341 Paper and paper products | 15 | 8 | 11 | 11 |
| 342 Printing and publishing | 17 | 13 | 21 | 21 |
| 351 Industrial chemicals | 22 | 26 | 39 | 46 |
| 352 Other chemical products | 47 | 51 | 80 | 93 |
| 353 Petroleum refineries | 9 | 5 | 7 | 7 |
| 354 Miscellaneous petroleum and coal products | 3 | 2 | 3 | 3 |
| 355 Rubber products | 20 | 16 | 25 | 30 |
| 356 Plastic products | 7 | 7 | 12 | 14 |
| 361 Pottery, china and earthenware | 1 | 1 | 1 | 1 |
| 362 Glass and glass products | 3 | 3 | 4 | 4 |
| 369 Other non-metal mineral products | 33 | 45 | 57 | 59 |
| 371 Iron and steel | 10 | 5 | 7 | 8 |
| 372 Non-ferrous metals | 2 | 1 | 1 | 1 |
| 381 Metal products | 50 | 47 | 93 | 85 |
| 382 Non-electrical machinery | 18 | 11 | 18 | 17 |
| 383 Electrical machinery | 26 | 13 | 20 | 24 |
| 384 Transport equipment | 28 | 24 | 43 | 51 |
| 385 Professional and scientific equipment | - | - | - | - |
| 390 Other manufacturing industries | 2 | 1 | 1 | 1 |

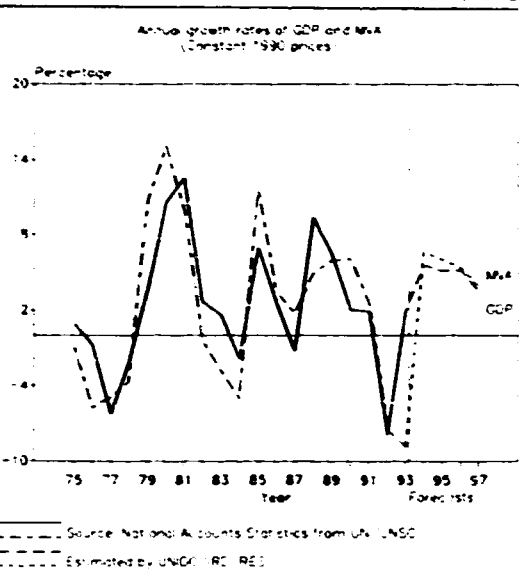
For sources, footnotes and comments see "Technical notes" at the beginning of this Annex.



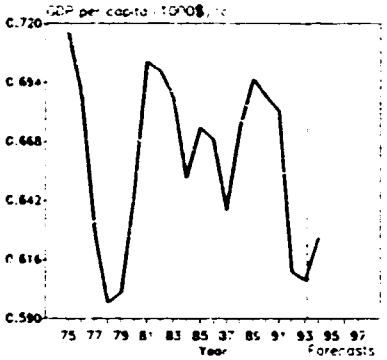



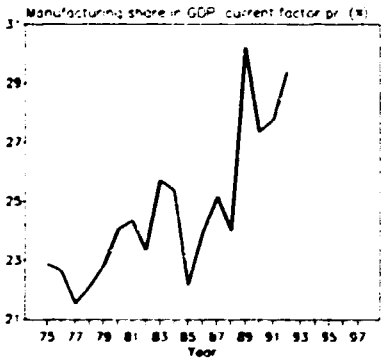


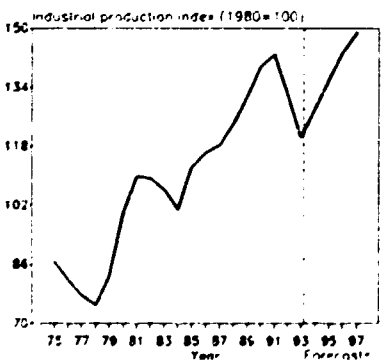



| | 1980 | 1985 | 1990 | 1993 |
|---|---|---|---|---|
| **GDP[2a] (millions of 1980-dollars)** | 4 596 | 5 656 | 6 811 | 6 5.9 |
| **Per capita[2a] (1980-dollars)** | 645 | 674 | 688 | 607 |
| **Manufacturing share[2a] (%) (current factor prices)** | 24.1 | 22.2 | 27.4 | .. |
| **MANUFACTURING:** | | | | |
| **Value added[2a] (millions of 1980-dollars)** | 1 209 | 1 360 | 1 887 | 1 457 |
| **Industrial production index (1980=100)** | 100 | 112 | 140 | 121 |
| **Value added (millions of dollars)** | *1 480* | 1 278 | 2 232 | *1 764* |
| **Gross output (millions of dollars)** | 3 579 | 3 020 | 4 749 | *3 611* |
| **Employment (thousands)** | 161 | 163 | 186 | *172* |
| **-PROFITABILITY:(in percent of gross output)** | | | | |
| **Intermediate input (%)** | 59 | 58 | 53 | *51* |
| **Wages and salaries including supplements (%)** | 17 | 18 | 15 | *15* |
| **Gross operating surplus (%)** | 24 | 25 | 32 | *34* |
| **-PRODUCTIVITY:(dollars)** | | | | |
| **Gross output per worker** | 22 285 | 18 452 | 25 557 | *20 897* |
| **Value added per worker** | 9 205 | 7 816 | 12 014 | *10 210* |
| **Average wage (including supplements)** | 3 848 | 3 241 | 3 939 | *3 156* |
| **-STRUCTURAL INDICES:** | | | | |
| **Structural change θ (5-year average in degrees)** | 6.17 | 12.05 | 12.71 | *9 70* |
| **as a percentage of average θ in 1970-1975** | 134 | 261 | 275 | *210* |
| **MVA growth rate / θ** | 0.49 | 0.14 | 0.65 | 0.11 |
| **Degree of specialization** | 13.4 | 13.3 | 13.5 | 15.0 |
| **-VALUE ADDED:(millions of dollars)** | | | | |
| **311/2 Food products** | 193 | 130 | 241 | *251* |
| **313 Beverages** | 92 | 189 | 302 | *226* |
| **314 Tobacco products** | 55 | 72 | 76 | *91* |
| **321 Textiles** | 147 | 114 | 255 | *171* |
| **322 Wearing apparel** | 70 | 55 | 102 | *73* |
| **323 Leather and fur products** | 4 | 4 | 7 | *5* |
| **324 Footwear** | 34 | 42 | 66 | *47* |
| **331 Wood and wood products** | 38 | 17 | 43 | *36* |
| **332 Furniture and fixtures** | 26 | 15 | 32 | *23* |
| **341 Paper and paper products** | 30 | 37 | 64 | *48* |
| **342 Printing and publishing** | 59 | 45 | 94 | *60* |
| **351 Industrial chemicals** | 58 | 67 | 98 | *39* |
| **352 Other chemical products** | 80 | 78 | 127 | *97* |
| **353 Petroleum refineries** | - | 1 | *1* | - |
| **354 Miscellaneous petroleum and coal products** | 7 | 8 | *16* | *7* |
| **355 Rubber products** | 30 | 24 | 37 | *17* |
| **356 Plastic products** | 25 | 37 | 47 | *38* |
| **361 Pottery, china and earthenware** | 3 | 2 | 3 | *2* |
| **362 Glass and glass products** | 9 | 5 | 9 | *8* |
| **369 Other non-metal mineral products** | 44 | 28 | 54 | *52* |
| **371 Iron and steel** | 194 | 105 | 184 | *146* |
| **372 Non-ferrous metals** | 10 | 2 | 13 | *10* |
| **381 Metal products** | 132 | 78 | 136 | *107* |
| **382 Non-electrical machinery** | 39 | 22 | 43 | *:8* |
| **383 Electrical machinery** | 44 | 36 | 88 | *68* |
| **384 Transport equipment** | 38 | 48 | 81 | *114* |
| **385 Professional and scientific equipment** | 2 | 1 | 2 | *1* |
| **390 Other manufacturing industries** | 17 | 9 | 13 | *10* |

For sources, footnotes and comments see "Technical notes" at the beginning of this Annex.



| AFGHANISTAN | 1980 | 1985 | 1989 | 1991 | 1992 | 1993 |
|---|---|---|---|---|---|---|
| GDP:[a,c] (in million 1990-dollars) | 658 | 734 | 580 | 603 | *615* | *627* |
| Growth rate (%)[a,c] | -3.72 | 0.27 | -3.12 | 7.80 | *2.00* | *2.00* |
| Per capita (in 1990-dollars)[a,c] | 40.9 | 50.6 | 37.2 | 38.3 | *37.0* | *35.5* |
| MVA:[a,c] (in million 1975-dollars) | 272 | 299 | 198 | 198 | *206* | *218* |
| Growth rate (%)[a,c] | -6.06 | 3.32 | -10.34 | 0.23 | *3.74* | *5.99* |
| Manufacturing share (%)[a] | .. | .. | .. | .. | .. | .. |

| ALBANIA | 1980 | 1985 | 1989 | 1991 | 1992 | 1993 |
|---|---|---|---|---|---|---|
| GDP:[a,c] (in million 1990-dollars) | 982 | 1 097 | 1 121 | 878 | *737* | *671* |
| Growth rate (%)[a,c] | 6.31 | 1.78 | -8.97 | -21.89 | *-16.00* | *-9.00* |
| Per capita (in 1990-dollars)[a,c] | 371.4 | 370.5 | 340.8 | 263.4 | *219.2* | *198.0* |
| MVA:[a,c] (in million 1990-dollars) | 245 | 298 | 295 | 172 | 134 | *117* |
| Growth rate (%)[a,c] | 6.08 | 1.57 | -15.65 | -41.82 | -21.88 | *-12.46* |
| Manufacturing share (%)[a] | 29.9 | 28.0 | 26.3 | .. | .. | .. |

| ARMENIA | 1980 | 1985 | 1989 | 1991 | 1992 | 1993 |
|---|---|---|---|---|---|---|
| GDP:[a,c] (in million 1990-dollars) | 5 227 | 6 970 | 7 650 | 6 423 | 3 064 | 2 610 |
| Growth rate (%)[a,c] | .. | 6.53 | -4.52 | -16.04 | -52.30 | -14.80 |
| Per capita (in 1990-dollars)[a,c] | 1 701.4 | 2 156.5 | 2 282.1 | 1 892.9 | 890.3 | 746.8 |
| MVA:[a,c] (in million 1990-dollars) | .. | .. | .. | .. | .. | .. |
| Growth rate (%)[a,c] | .. | .. | .. | .. | .. | .. |
| Manufacturing share (%)[a] | 45.4 | 41.4 | 32.7 | 38.0 | .. | .. |

| AZERBAIJAN | 1980 | 1985 | 1989 | 1991 | 1992 | 1993 |
|---|---|---|---|---|---|---|
| GDP:[a,c] (in million 1990-dollars) | 7 573 | 10 189 | 9 874 | 8 510 | 5 515 | 4 798 |
| Growth rate (%)[a,c] | .. | 4.61 | -9.79 | -13.81 | -35.20 | -13.00 |
| Per capita (in 1990-dollars)[a,c] | 1 230.0 | 1 530.2 | 1 387.4 | 1 180.8 | 755.8 | 649.7 |
| MVA:[a,c] (in million 1990-dollars) | .. | .. | .. | .. | .. | .. |
| Growth rate (%)[a,c] | .. | .. | .. | .. | .. | .. |
| Manufacturing share (%)[a] | 32.7 | 31.5 | 25.0 | 42.4 | .. | . |

| BAHAMAS | 1980 | 1985 | 1989 | 1991 | 1992 | 1993 |
|---|---|---|---|---|---|---|
| GDP:[a,c] (in million 1990-dollars) | 1 603 | 2 075 | 3 134 | 3 065 | 3 068 | 3 130 |
| Growth rate (%)[a,c] | -3.56 | 13.51 | 0.97 | -2.20 | 0.11 | 2.00 |
| Per capita (in 1990-dollars)[a,c] | 7 631.1 | 8 869.1 | 12 242.2 | 11 788.7 | 11 622.4 | 11 677.7 |
| MVA:[a,c] (in million 1990-dollars) | .. | .. | .. | .. | .. | .. |
| Growth rate (%)[a,c] | .. | .. | .. | .. | .. | .. |
| Manufacturing share (%)[a] | 7.5 | .. | 3.2 | 3.8 | 4.0 | *3.4* |

| BAHRAIN | 1980 | 1985 | 1989 | 1991 | 1992 | 1993 |
|---|---|---|---|---|---|---|
| GDP:[a,c] (in million 1990-dollars) | 3 628 | 3 492 | 3 903 | 4 219 | *4 480* | *4 753* |
| Growth rate (%)[a,c] | 2.58 | -2.04 | 1.23 | 8.10 | *6.19* | *6.08* |
| Per capita (in 1990-dollars)[a,c] | 10 454.4 | 8 433.7 | 7 965.2 | 8 354.6 | *8 616.0* | *8 883.4* |
| MVA:[a,c] (in million 1990-dollars) | 509 | 559 | 672 | 698 | *731* | *765* |
| Growth rate (%)[a,c] | 26.25 | -10.51 | 5.23 | 3.80 | *4.74* | *4.67* |
| Manufacturing share (%)[a] | 14.8 | 8.5 | 15.9 | 15.4 | .. | .. |

For sources, footnotes and comments see "Technical notes" at the beginning of this Annex.

| BELARUS | 1980 | 1985 | 1990 | 1991 | 1992 | 1993 |
|---|---|---|---|---|---|---|
| GDP:[a,b,c] (in million 1990-dollars) | 23 544 | 30 842 | 35 819 | 34 744 | 31 759 | 28 742 |
| Growth rate (%)[a,b,c] | 4.17 | 3.97 | -1.40 | -3.00 | -8.59 | -9.50 |
| Per capita (in 1990-dollars)[a,b,c] | 2 445.6 | 3 097.2 | 3 507.5 | 3 399.9 | 3 110.6 | 2 821.2 |
| MVA:[a,b,c] (in million 1990-dollars) | .. | .. | .. | .. | .. | .. |
| Growth rate (%)[a,b,c] | .. | .. | .. | .. | .. | .. |
| Manufacturing share (%)[a,b] | .. | .. | 30.1 | 32.7 | *31.9* | .. |

| BELIZE | 1980 | 1985 | 1990 | 1991 | 1992 | 1993 |
|---|---|---|---|---|---|---|
| GDP:[a,b,c] (in million 1990-dollars) | 249 | 253 | 396 | 418 | 456 | 475 |
| Growth rate (%)[a,b,c] | 4.37 | 1.02 | 8.49 | 5.40 | 9.15 | 4.22 |
| Per capita (in 1990-dollars)[a,b,c] | 1 705.6 | 1 525.9 | 2 097.6 | 2 153.9 | 2 291.9 | 2 330.0 |
| MVA:[a,b,c] (in million 1990-dollars) | 44 | 41 | 53 | 53 | 60 | 59 |
| Growth rate (%)[a,b,c] | 14.91 | 0.96 | 4.89 | -0.21 | 12.79 | -1.29 |
| Manufacturing share (%)[a,b] | 23.1 | 16.3 | 15.0 | 14.7 | 13.1 | *11.7* |

| BENIN | 1980 | 1985 | 1990 | 1991 | 1992 | 1993 |
|---|---|---|---|---|---|---|
| GDP:[a,b,c] (in million 1990-dollars) | 1 336 | 1 735 | 1 845 | 1 883 | 1 961 | 2 026 |
| Growth rate (%)[a,b,c] | 9.42 | 7.53 | 3.29 | 2.06 | 4.16 | 3.31 |
| Per capita (in 1990-dollars)[a,b,c] | 386.2 | 435.1 | 398.2 | 394.0 | 397.8 | 398.4 |
| MVA:[a,b,c] (in million 1990-dollars) | 142 | 128 | 162 | 170 | *175* | *179* |
| Growth rate (%)[a,b,c] | -4.38 | 11.85 | 0.85 | 5.00 | *2.96* | *2.61* |
| Manufacturing share (%)[a,b] | 12.9 | 8.2 | 9.2 | 9.0 | .. | .. |

| BERMUDA | 1980 | 1985 | 1990 | 1991 | 1992 | 1993 |
|---|---|---|---|---|---|---|
| GDP:[a,b,c] (in million 1990-dollars) | 1 558 | 1 565 | 1 653 | 1 572 | *1 602* | *1 634* |
| Growth rate (%)[a,b,c] | 2.51 | 6.69 | -2.50 | -4.91 | *1.90* | *2.00* |
| Per capita (in 1990-dollars)[a,b,c] | 28 860.2 | 27 951.7 | 27 098.4 | 25 767.7 | *25 833.7* | *26 350.4* |
| MVA:[a,b,c] (in million 1990-dollars) | 101 | 98 | 108 | 111 | 114 | *117* |
| Growth rate (%)[a,b,c] | 4.52 | 2.80 | 1.81 | 2.33 | 2.70 | *2.62* |
| Manufacturing share (%)[a,b] | .. | .. | .. | .. | .. | .. |

| BHUTAN | 1980 | 1985 | 1990 | 1991 | 1992 | 1993 |
|---|---|---|---|---|---|---|
| GDP:[a,b,c] (in million 1990-dollars) | 142 | 197 | 283 | 298 | 307 | *327* |
| Growth rate (%)[a,b,c] | 17.63 | 3.69 | 4.90 | 5.03 | 2.98 | *6.71* |
| Per capita (in 1990-dollars)[a,b,c] | 114.6 | 143.0 | 183.6 | 190.1 | 193.8 | *205.0* |
| MVA:[a,b,c] (in million 1990-dollars) | 5 | 11 | 23 | 24 | 28 | *30* |
| Growth rate (%)[a,b,c] | 35.27 | 12.20 | 15.55 | 7.16 | 14.99 | *8.00* |
| Manufacturing share (%)[a,b] | 3.2 | 5.3 | 8.1 | 9.1 | 9.3 | *9.1* |

| BOSNIA AND HERZEGOVINA | 1980 | 1985 | 1990 | 1991 | 1992 | 1993 |
|---|---|---|---|---|---|---|
| GDP:[a,b,c] (in million 1990-dollars) | 15 205 | 16 733 | 13 032 | 9 131 | .. | .. |
| Growth rate (%)[a,b,c] | 1.15 | 1.51 | -23.20 | -29.93 | .. | .. |
| Per capita (in 1990-dollars)[a,b,c] | 3 884.8 | 4 059.5 | 3 025.0 | 2 193.4 | .. | .. |
| MVA:[a,b,c] (in million 1990-dollars) | .. | .. | .. | .. | .. | .. |
| Growth rate (%)[a,b,c] | .. | .. | .. | .. | .. | .. |
| Manufacturing share (%)[a,b] | .. | .. | .. | .. | .. | .. |

For sources, footnotes and comments see "Technical notes" at the beginning of this Annex.

| BRUNEI DARUSSALAM | 1980 | 1985 | 1990 | 1991 | 1992 | 1993 |
|---|---|---|---|---|---|---|
| GDP:[a,b,c] (in million 1990-dollars) | 4 248 | 3 526 | 3 586 | 3 727 | 3 801 | *3 913* |
| Growth rate (%)[a,b,c] | -7.00 | -1.48 | 2.74 | 3.84 | 2.00 | *2 94* |
| Per capita (in 1990-dollars)[a,b,c] | 22 011.1 | 15 603.1 | 13 991.9 | 14 170.6 | 14 131.7 | *14 282 0* |
| MVA:[a,b,c] (in million 1990-dollars) | 430 | 254 | 323 | 250 | *247* | *251* |
| Growth rate (%)[a,b,c] | -8.35 | -5.42 | 5.31 | -22.64 | *-1 09* | *1 73* |
| Manufacturing share (%)[a,b] | 11.7 | 10.0 | 8.8 | 8.1 | *8 3* | .. |

| CAPE VERDE | 1980 | 1985 | 1990 | 1991 | 1992 | 1993 |
|---|---|---|---|---|---|---|
| GDP:[a,b,c] (in million 1990-dollars) | 212 | 287 | 374 | 394 | 407 | 423 |
| Growth rate (%)[a,b,c] | 3.32 | 8.54 | 3.70 | 5.26 | 3.37 | 4.02 |
| Per capita (in 1990-dollars)[a,b,c] | 734.7 | 927.1 | 1 096.6 | 1 124.6 | 1 130.2 | 143.9 |
| MVA:[a,b,c] (in million 1990-dollars) | 12 | 18 | 21 | 23 | *24* | *26* |
| Growth rate (%)[a,b,c] | 7.14 | 36.12 | 6.21 | 6.18 | *6 53* | *6 43* |
| Manufacturing share (%)[a,b] | 4.8 | 5.8 | 6.C | 5.9 | 6.0 | *5 6* |

| CHAD | 1980 | 1985 | 1990 | 1991 | 1992 | 1993 |
|---|---|---|---|---|---|---|
| GDP:[a,b,c] (in million 1990-dollars) | 722 | 1 107 | 1 213 | 1 193 | 1 197 | 1 162 |
| Growth rate (%)[a,b,c] | -7.40 | 21.90 | -2.70 | -1.65 | 0.32 | -2.90 |
| Per capita (in 1990-dollars)[a,b,c] | 161.4 | 220.6 | 218.4 | 209.6 | 204.7 | 193.3 |
| MVA:[a,b,c] (in million 1990-dollars) | 125 | 239 | 174 | 173 | 161 | 156 |
| Growth rate (%)[a,b,c] | -12.00 | -6.65 | -38.84 | -0.90 | -6.59 | -3.04 |
| Manufacturing share (%)[a,b] | 22.9 | 11.1 | 15.4 | 11.1 | 11.1 | *10 6* |

| CZECH REPUBLIC | 1980 | 1985 | 1990 | 1991 | 1992 | 1993 |
|---|---|---|---|---|---|---|
| GDP:[a,b,c] (in million 1990-dollars) | .. | 29 215 | 31 606 | 27 113 | 25 193 | 25 319 |
| Growth rate (%)[a,b,c] | .. | 0.61 | -1.22 | -14.21 | -7.08 | 0.50 |
| Per capita (in 1990-dollars)[a,b,c] | .. | 2 835.0 | 3 066.7 | .. | .. | 2 459.1 |
| MVA:[a,b,c] (in million 1990-dollars) | .. | .. | .. | .. | .. | .. |
| Growth rate (%)[a,b,c] | .. | .. | .. | .. | .. | .. |
| Manufacturing share (%)[a,b] | .. | .. | .. | .. | .. | .. |

| DJIBOUTI | 1980 | 1985 | 1990 | 1991 | 1992 | 1993 |
|---|---|---|---|---|---|---|
| GDP:[a,b,c] (in million 1990-dollars) | 359 | 373 | 424 | 436 | 438 | 447 |
| Growth rate (%)[a,b,c] | 4.72 | 0.57 | 8.91 | 2.65 | 0.50 | 2.20 |
| Per capita (in 1990-dollars)[a,b,c] | 1 277.0 | 952.7 | 820.6 | 815.6 | 801.5 | 803.1 |
| MVA:[a,b,c] (in million 1990-dollars) | 18 | 18 | 20 | 20 | *21* | *21* |
| Growth rate (%)[a,b,c] | 4.06 | 0.49 | 11.79 | 1.84 | *1 67* | *2 39* |
| Manufacturing share (%)[a,b] | *4 6* | 4.3 | 4.7 | .. | .. | .. |

| EQUATORIAL GUINEA | 1980 | 1985 | 1990 | 1991 | 1992 | 1993 |
|---|---|---|---|---|---|---|
| GDP:[a,b,c] (in million 1990-dollars) | 132 | 147 | 163 | 168 | 192 | 206 |
| Growth rate (%)[a,b,c] | -9.94 | 6.55 | 4.74 | 3.43 | 13.72 | 7.35 |
| Per capita (in 1990-dollars)[a,b,c] | 607.5 | 470.9 | 462.8 | 466.0 | 519.3 | 542.7 |
| MVA:[a,b,c] (in million 1990-dollars) | 2 | 3 | 2 | 2 | 2 | 3 |
| Growth rate (%)[a,b,c] | -9.19 | 94.14 | 1.85 | 6 06 | 6.17 | 9.96 |
| Manufacturing share (%)[a,b] | 3.0 | 1.9 | 1.3 | 1.4 | *1 3* | .. |

For sources, footnotes and comments see "Technical notes" at the beginning of this Annex.

| ESTONIA | 1980 | 1985 | 1990 | 1991 | 1992 | 1993 |
|---|---|---|---|---|---|---|
| GDP:[80,c] (in million 1990-dollars) | 65 769 | 66 723 | 74 900 | 64 697 | 48 005 | .. |
| Growth rate (%)[80,c] | .. | -8.70 | -6.47 | -13.62 | -25.80 | .. |
| Per capita (in 1990-dollars)[80,c] | 44 438.6 | 43 439.6 | 47 555.8 | 41 182.3 | 30 713.5 | .. |
| MVA:[80,c] (in million 1990-dollars) | 22 716 | 25 455 | 25 869 | 22 837 | .. | .. |
| Growth rate (%)[80,c] | .. | 0.38 | -5.09 | -11.72 | .. | .. |
| Manufacturing share (%)[80] | 35.8 | 32.2 | 34.5 | *61.7* | .. | .. |

| FRENCH GUIANA | 1980 | 1985 | 1990 | 1991 | 1992 | 1993 |
|---|---|---|---|---|---|---|
| GDP:[80,c] (in million 1990-dollars) | 922 | 987 | 1 103 | 1 115 | *1 129* | *1 128* |
| Growth rate (%)[80,c] | 0.00 | 3.00 | 2.20 | 1.06 | *1 24* | *-0 07* |
| Per capita (in 1990-dollars)[80,c] | 13 565.7 | 10 845.5 | 9 427.3 | 9 138.3 | *8 818 2* | *8 417 6* |
| MVA:[80,c] (in million 1990-dollars) | 11 | 10 | 11 | 12 | 12 | *12* |
| Growth rate (%)[80,c] | 4.52 | 2.81 | 0.43 | 5.18 | 0.00 | *1 97* |
| Manufacturing share (%)[80] | .. | .. | .. | .. | .. | .. |

| FRENCH POLYNESIA | 1980 | 1985 | 1990 | 1991 | 1992 | 1993 |
|---|---|---|---|---|---|---|
| GDP:[80,c] (in million 1990-dollars) | 1 684 | 2 361 | 3 007 | 3 125 | *3 250* | *3 436* |
| Growth rate (%)[80,c] | 0.48 | 5.35 | 3.97 | 3.92 | *4 00* | *5 70* |
| Per capita (in 1990-dollars)[80,c] | 11 151.2 | 13 570.9 | 15 266.3 | 15 471.6 | *15 778 0* | *16 282 1* |
| MVA:[80,c] (in million 1990-dollars) | 120 | 202 | 219 | 227 | *236* | *250* |
| Growth rate (%)[80,c] | 1.77 | 8.27 | 5.22 | 4.00 | *3 84* | *5 76* |
| Manufacturing share (%)[80] | 6.6 | 8.5 | 7.3 | .. | .. | .. |

| GEORGIA | 1980 | 1985 | 1990 | 1991 | 1992 | 1993 |
|---|---|---|---|---|---|---|
| GDP:[80,c] (in million 1990-dollars) | 8 736 | 12 888 | 12 629 | 10 067 | 5 698 | 3 419 |
| Growth rate (%)[80,c] | .. | 12.66 | -0.34 | -20.29 | -43.40 | -40.00 |
| Per capita (in 1990-dollars)[80,c] | 1 730.6 | 2 453.8 | 2 331.0 | 1 852.9 | 1 047.0 | 627.7 |
| MVA:[80,c] (in million 1990-dollars) | .. | .. | .. | .. | .. | .. |
| Growth rate (%)[80,c] | .. | .. | .. | .. | .. | .. |
| Manufacturing share (%)[80] | .. | .. | 29.9 | .. | .. | .. |

| GHANA | 1980 | 1985 | 1990 | 1991 | 1992 | 1993 |
|---|---|---|---|---|---|---|
| GDP:[80,c] (in million 1990-dollars) | 4 968 | 4 881 | 6 226 | 6 463 | 6 713 | 7 037 |
| Growth rate (%)[80,c] | 0.46 | 5.08 | 2.66 | 3.80 | 3.85 | 4.82 |
| Per capita (in 1990-dollars)[80,c] | 464.6 | 380.2 | 414.5 | 417.4 | 420.7 | 427.9 |
| MVA:[80,c] (in million 1990-dollars) | 536 | 429 | 575 | 538 | 553 | 565 |
| Growth rate (%)[80,c] | -1.44 | 24.29 | -4.47 | -6.31 | 2.66 | 2.30 |
| Manufacturing share (%)[80] | 7.8 | 11.5 | 9.3 | 8.8 | 8.7 | 8 8 |

| GUADELOUPE | 1980 | 1985 | 1990 | 1991 | 1992 | 1993 |
|---|---|---|---|---|---|---|
| GDP:[80,c] (in million 1990-dollars) | 1 676 | 1 706 | 2 200 | 2 113 | *2 172* | *2 272* |
| Growth rate (%)[80,c] | -4.66 | -0.76 | 3.14 | -3.96 | *2 78* | *4 61* |
| Per capita (in 1990-dollars)[80,c] | 5 125.0 | 4 805.6 | 5 626.6 | 5 306.7 | *5 348 8* | *5 500 4* |
| MVA:[80,c] (in million 1990-dollars) | 113 | 89 | 129 | 123 | 126 | *131* |
| Growth rate (%)[80,c] | -5.16 | 11.54 | 3.22 | -3.95 | 1.84 | *3 87* |
| Manufacturing share (%)[80] | 6.3 | 4.9 | 5 4 | .. | .. | .. |

For sources, footnotes and comments see "Technical notes" at the beginning of this Annex.

| GUINEA | 1980 | 1985 | 1990 | 1991 | 1992 | 1993 |
|---|---|---|---|---|---|---|
| GDP:[a,b,c] (in million 1990-dollars) | 2 411 | 2 296 | 2 958 | 3 097 | 3 197 | 3 341 |
| Growth rate (%)[a,b,c] | 5.60 | 3.89 | 4.69 | 4.68 | 3.23 | 4.51 |
| Per capita (in 1990-dollars)[a,b,c] | 540.4 | 480.5 | 514.0 | 522.0 | 522.7 | 529.8 |
| MVA:[a,b,c] (in million 1990-dollars) | 61 | 62 | 100 | 106 | 110 | 116 |
| Growth rate (%)[a,b,c] | 2.70 | 3.33 | 5.07 | 6.01 | 3.83 | 5.03 |
| Manufacturing share (%)[a,b] | 1.5 | 1.0 | 3.4 | 3.4 | 4.8 | 4.8 |

| GUINEA-BISSAU | 1980 | 1985 | 1990 | 1991 | 1992 | 1993 |
|---|---|---|---|---|---|---|
| GDP:[a,b,c] (in million 1990-dollars) | 165 | 184 | 233 | 240 | 247 | 255 |
| Growth rate (%)[a,b,c] | -4.19 | -2.20 | 3.30 | 3.00 | 2.80 | 3.00 |
| Per capita (in 1990-dollars)[a,b,c] | 208.1 | 210.3 | 242.2 | 244.4 | 245.7 | 247.7 |
| MVA:[a,b,c] (in million 1990-dollars) | 25 | 24 | 17 | 16 | *16* | *16* |
| Growth rate (%)[a,b,c] | -5.09 | -5.95 | -1.54 | -1.04 | *-1.38* | *-1.38* |
| Manufacturing share (%)[a,b] | 7.3 | 7.1 | 7.1 | 7.3 | *7.3* | .. |

| GUYANA | 1980 | 1985 | 1990 | 1991 | 1992 | 1993 |
|---|---|---|---|---|---|---|
| GDP:[a,b,c] (in million 1990-dollars) | 561 | 469 | 396 | 420 | 453 | 490 |
| Growth rate (%)[a,b,c] | 1.66 | 1.02 | -10.09 | 6.00 | 7.75 | 8.23 |
| Per capita (in 1990-dollars)[a,b,c] | 739.6 | 593.3 | 497.8 | 524.4 | 560.1 | 600.3 |
| MVA:[a,b,c] (in million 1990-dollars) | 40 | 28 | 18 | 20 | 24 | 24 |
| Growth rate (%)[a,b,c] | 0.76 | -3.13 | -16.67 | 10.57 | 19.32 | 2.87 |
| Manufacturing share (%)[a,b] | 12.1 | 9.8 | 5.2 | 4.3 | 4.4 | *3.8* |

| HAITI | 1980 | 1985 | 1990 | 1991 | 1992 | 1993 |
|---|---|---|---|---|---|---|
| GDP:[a,b,c] (in million 1990-dollars) | 2 380 | 2 270 | 2 281 | 2 296 | 2 182 | 2 094 |
| Growth rate (%)[a,b,c] | 7.39 | 0.59 | -0.14 | 0.68 | -5.00 | -4.00 |
| Per capita (in 1990-dollars)[a,b,c] | 444.7 | 387.1 | 351.6 | 346.9 | 323.0 | 303.8 |
| MVA:[a,b,c] (in million 1990-dollars) | 506 | 429 | 417 | 345 | *328* | *289* |
| Growth rate (%)[a,b,c] | 14.81 | -0.84 | 2.41 | -17.37 | *-4.82* | *-12.03* |
| Manufacturing share (%)[a,b] | 19.1 | 17.6 | 19.5 | *18.3* | .. | .. |

| KAZAKHSTAN | 1980 | 1985 | 1990 | 1991 | 1992 | 1993 |
|---|---|---|---|---|---|---|
| GDP:[a,b,c] (in million 1990-dollars) | 21 196 | 27 993 | 38 936 | 35 594 | 30 967 | 26 972 |
| Growth rate (%)[a,b,c] | .. | 6.16 | 15.54 | -8.58 | -13.00 | -12.90 |
| Per capita (in 1990-dollars)[a,b,c] | 1 421.9 | 1 774.0 | 2 335.7 | 2 120.4 | 1 834.8 | 1 591.1 |
| MVA:[a,b,c] (in million 1990-dollars) | .. | .. | .. | .. | .. | .. |
| Growth rate (%)[a,b,c] | .. | .. | .. | .. | .. | .. |
| Manufacturing share (%)[a,b] | .. | .. | 20.8 | .. | .. | .. |

| KOREA, DEMOCRATIC PEOPLE'S REPUBLIC | 1980 | 1985 | 1990 | 1991 | 1992 | 1993 |
|---|---|---|---|---|---|---|
| GDP:[a,b,c] (in million 1990-dollars) | 11 276 | 18 041 | 21 500 | 21 500 | 20 425 | *19 938* |
| Growth rate (%)[a,b,c] | 9.89 | 9.59 | -3.70 | 0.00 | -5.00 | *-2.39* |
| Per capita (in 1990-dollars)[a,b,c] | 617.5 | 907.1 | 987.4 | 968.9 | 903.2 | *865.1* |
| MVA:[a,b,c] (in million 1990-dollars) | .. | .. | .. | .. | .. | .. |
| Growth rate (%)[a,b,c] | .. | .. | .. | .. | .. | .. |
| Manufacturing share (%)[a,b] | .. | .. | .. | .. | .. | .. |

For sources, footnotes and comments see "Technical notes" at the beginning of this Annex.

| KYRGYZSTAN | 1980 | 1985 | 1990 | 1991 | 1992 | 1993 |
|---|---|---|---|---|---|---|
| GDP:[a,b,c] (in million 1990-dollars) | 3 234 | 4 338 | 5 539 | 4 963 | 4 001 | 3 345 |
| Growth rate (%)[a,b,c] | .. | -5.31 | 1.20 | -10.41 | -19.37 | -16.40 |
| Per capita (in 1990-dollars)[a,b,c] | 894.2 | 1 087.2 | 1 269.9 | 1 118.5 | 886.6 | 728.8 |
| MVA:[a,b,c] (in million 1990-dollars) | .. | .. | .. | .. | .. | .. |
| Growth rate (%)[a,b,c] | .. | .. | .. | .. | .. | .. |
| Manufacturing share (%)[a,b] | .. | .. | .. | .. | .. | .. |

| LAO PEOPLE'S DEMOCRATIC REPUBLIC | 1980 | 1985 | 1990 | 1991 | 1992 | 1993 |
|---|---|---|---|---|---|---|
| GDP:[a,b,c] (in million 1990-dollars) | 513 | 702 | 865 | 908 | 972 | 1 029 |
| Growth rate (%)[a,b,c] | 1.70 | 5.06 | 7.61 | 5.00 | 7.00 | 5.87 |
| Per capita (in 1990-dollars)[a,b,c] | 160.0 | 195.2 | 205.8 | 209.5 | 217.4 | 223.4 |
| MVA:[a,b,c] (in million 1975-dollars) | 23 | 31 | 38 | 43 | *46* | *50* |
| Growth rate (%)[a,b,c] | 7.94 | 3.86 | 10.91 | 13.16 | *8.00* | *8.10* |
| Manufacturing share (%)[a,b] | .. | .. | .. | .. | .. | .. |

| LATVIA | 1980 | 1985 | 1990 | 1991 | 1992 | 1993 |
|---|---|---|---|---|---|---|
| GDP:[a,b,c] (in million 1990-dollars) | 1 708 069 | 2 012 443 | 2 401 539 | 2 202 885 | 1 457 693 | 1 311 923 |
| Growth rate (%)[a,b,c] | 2.39 | -0.22 | -1.49 | -8.27 | -33.83 | -10.00 |
| Per capita (in 1990-dollars)[a,b,c] | 674 060.2 | 770 165.7 | 899 116.2 | 828 463.6 | 552 575.1 | 502 459.9 |
| MVA:[a,b,c] (in million 1990-dollars) | .. | .. | 797 885 | 795 285 | 408 131 | 274 909 |
| Growth rate (%)[a,b,c] | .. | .. | .. | -0.33 | -48.68 | -32.64 |
| Manufacturing share (%)[a,b] | .. | .. | 34.5 | 36.9 | 28.1 | .. |

| LIBERIA | 1980 | 1985 | 1990 | 1991 | 1992 | 1993 |
|---|---|---|---|---|---|---|
| GDP:[a,b,c] (in million 1990-dollars) | 915 | 841 | 805 | 725 | 739 | 739 |
| Growth rate (%)[a,b,c] | -6.29 | -2.02 | -10.00 | -9.99 | 2.00 | 0.00 |
| Per capita (in 1990-dollars)[a,b,c] | 487.5 | 382.6 | 312.6 | 272.3 | 268.6 | 259.8 |
| MVA:[a,b,c] (in million 1990-dollars) | 82 | 80 | 59 | 57 | *62* | *64* |
| Growth rate (%)[a,b,c] | -21.21 | -1.61 | -32.51 | -4.05 | *9.86* | *1.96* |
| Manufacturing share (%)[a,b] | 9.5 | 6.6 | 7.9 | .. | .. | .. |

| LITHUANIA | 1980 | 1985 | 1990 | 1991 | 1992 | 1993 |
|---|---|---|---|---|---|---|
| GDP:[a,b,c] (in million 1990-dollars) | 741 857 | 1 069 754 | 1 275 687 | 1 103 066 | 669 564 | 560 799 |
| Growth rate (%)[a,b,c] | .. | 9.63 | -6.74 | -13.53 | -39.30 | -16.24 |
| Per capita (in 1990-dollars)[a,b,c] | 216 095.8 | 296 230.8 | 343 758.2 | 296 762.4 | 180 135.5 | 151 077.4 |
| MVA:[a,b,c] (in million 1990-dollars) | .. | .. | .. | .. | .. | .. |
| Growth rate (%)[a,b,c] | .. | .. | .. | .. | .. | .. |
| Manufacturing share (%)[a,b] | 37.8 | 35.2 | 35.4 | *36.9* | 45.0 | *42.3* |

| MALI | 1980 | 1985 | 1990 | 1991 | 1992 | 1993 |
|---|---|---|---|---|---|---|
| GDP:[a,b,c] (in million 1990-dollars) | 1 747 | 2 005 | 2 509 | 2 504 | 2 582 | 2 780 |
| Growth rate (%)[a,b,c] | 4.01 | 8.50 | 2.41 | -0.20 | 3.11 | 7.67 |
| Per capita (in 1990-dollars)[a,b,c] | 254.5 | 253.3 | 272.3 | 263.4 | 263.0 | 274.3 |
| MVA:[a,b,c] (in million 1990-dollars) | 89 | 167 | 204 | 208 | *224* | *239* |
| Growth rate (%)[a,b,c] | 1.58 | 4.37 | -2.35 | 1.97 | *7.79* | *6.47* |
| Manufacturing share (%)[a,b] | 4.3 | 7.5 | 8.2 | 6.9 | 7.0 | *6.7* |

For sources, footnotes and comments see "Technical notes" at the beginning of this Annex.

| MARTINIQUE | 1980 | 1985 | 1989 | 1991 | 1992 | 1993 |
|---|---|---|---|---|---|---|
| GDP:[a,c] (in million 1990-dollars) | 1 734 | 2 159 | 2 800 | 2 689 | *2 849* | *3 005* |
| Growth rate (%)[a,c] | 2.80 | 4.50 | 2.94 | -3.96 | 5 95 | *5 47* |
| Per capita (in 1990-dollars)[a,c] | 5 320.2 | 6 330.6 | 7 777.8 | 7 387.7 | *7 742 2* | *8 099 6* |
| MVA:[a,c] (in million 1990-dollars) | 72 | 101 | 162 | 90 | 92 | *97* |
| Growth rate (%)[a,c] | -9.91 | 26.89 | 2.95 | -44.49 | 2.22 | *5 78* |
| Manufacturing share (%)[a] | 5.1 | .. | .. | .. | .. | .. |

| MAURITANIA | 1980 | 1985 | 1989 | 1991 | 1992 | 1993 |
|---|---|---|---|---|---|---|
| GDP:[a,c] (in million 1990-dollars) | 856 | 852 | 1 052 | 1 092 | 1 111 | 1 167 |
| Growth rate (%)[a,c] | 0.70 | 3.35 | 6.26 | 3.80 | 1.81 | 4.96 |
| Per capita (in 1990-dollars)[a,c] | 551.7 | 482.4 | 525.1 | 531.5 | 527.5 | 539.8 |
| MVA:[a,c] (in million 1990-dollars) | 82 | 100 | 119 | 127 | 142 | 150 |
| Growth rate (%)[a,c] | -1.43 | 22.44 | 22.15 | 7.05 | 11.07 | 6.19 |
| Manufacturing share (%)[a] | 5.6 | 12.8 | 12.9 | 12.0 | *12 0* | .. |

| MAURITIUS | 1980 | 1985 | 1989 | 1991 | 1992 | 1993 |
|---|---|---|---|---|---|---|
| GDP:[a,c] (in million 1990-dollars) | 1 409 | 1 769 | 2 559 | 2 673 | 2 839 | 2 992 |
| Growth rate (%)[a,c] | -10.06 | 6.68 | 7.15 | 4.47 | 6.21 | 5.38 |
| Per capita (in 1990-dollars)[a,c] | 1 458.8 | 1 741.6 | 2 421.0 | 2 505.6 | 2 631.5 | 2 742.6 |
| MVA:[a,c] (in million 1990-dollars) | 200 | 299 | 502 | 531 | 565 | 621 |
| Growth rate (%)[a,c] | -7.03 | 15.27 | 7.72 | 5.69 | 6.40 | 10.00 |
| Manufacturing share (%)[a] | 15.0 | 20.3 | 23.1 | *19 6* | .. | .. |

| MONGOLIA | 1980 | 1985 | 1989 | 1991 | 1992 | 1993 |
|---|---|---|---|---|---|---|
| GDP:[a,c] (in million 1990-dollars) | 1 144 | 1 595 | 1 877 | 1 577 | 1 394 | 1 375 |
| Growth rate (%)[a,c] | 3.43 | 6.19 | -2.07 | -16.00 | -11.64 | -1.36 |
| Per capita (in 1990-dollars)[a,c] | 687.9 | 835.3 | 862.4 | 708.5 | 613.1 | 593.1 |
| MVA:[a,c] (in million 1990-dollars) | 323 | 480 | 521 | 427 | 373 | *354* |
| Growth rate (%)[a,c] | 8.03 | 3.07 | -2.30 | -15.99 | -14.80 | *-5 00* |
| Manufacturing share (%)[a] | 24.2 | 26.6 | 27.7 | *27 7* | .. | .. |

| MONTSERRAT | 1980 | 1985 | 1989 | 1991 | 1992 | 1993 |
|---|---|---|---|---|---|---|
| GDP:[a,c] (in million 1990-dollars) | 48 | 54 | 71 | 68 | *74* | *83* |
| Growth rate (%)[a,c] | 10.22 | 4.73 | -10.83 | -3.97 | *d 48* | *12 54* |
| Per capita (in 1990-dollars)[a,c] | 4 029.6 | 4 880.7 | 6 464.6 | 6 208.1 | *6 734 7* | *7 579 1* |
| MVA:[a,c] (in million 1990-dollars) | 3 | 3 | 4 | 4 | *4* | 5 |
| Growth rate (%)[a,c] | 10.71 | 0.00 | -10.42 | -3.99 | *9 15* | *12 75* |
| Manufacturing share (%)[a] | 5.7 | 5.5 | *4 6* | .. | .. | .. |

| MOZAMBIQUE | 1980 | 1985 | 1989 | 1991 | 1992 | 1993 |
|---|---|---|---|---|---|---|
| GDP:[a,c] (in million 1990-dollars) | 1 404 | 1 116 | 1 318 | 1 377 | 1 386 | 1 620 |
| Growth rate (%)[a,c] | 2.46 | -6.82 | 3.10 | 4.50 | -0.85 | 18.80 |
| Per capita (in 1990-dollars)[a,c] | 116.1 | 82.4 | 92.9 | 95.5 | 92.7 | 107.3 |
| MVA:[a,c] (in million 1990-dollars) | 568 | 260 | 325 | 364 | *377* | *460* |
| Growth rate (%)[a,c] | 3.25 | -13.87 | -1.04 | 12.00 | *3 74* | *21 74* |
| Manufacturing share (%)[a] | *33 1* | *14 9* | .. | .. | .. | .. |

For sources, footnotes and comments see "Technical notes" at the beginning of this Annex.

| MYANMAR | 1980 | 1985 | 1990 | 1991 | 1992 | 1993 |
|---|---|---|---|---|---|---|
| GDP:[a,b,c] (in million 1990-dollars) | 20 897 | 26 374 | 23 659 | 23 977 | 26 686 | 28 277 |
| Growth rate (%)[a,b,c] | 7.91 | 2.85 | 2.75 | 1.35 | 11.32 | 5.96 |
| Per capita (in 1990-dollars)[a,b,c] | 617.9 | 702.5 | 585.8 | 581.2 | 611.3 | 634.1 |
| MVA:[a,b,c] (in million 1990-dollars) | 1 391 | 1 826 | 1 496 | 1 491 | 1 695 | *1 801* |
| Growth rate (%)[a,b,c] | 6.86 | 2.92 | 0.04 | -0.35 | 13.69 | *6.28* |
| Manufacturing share (%)[a,b] | 9.5 | 9.9 | 7.8 | 7.3 | 7.4 | *7.4* |

| NAMIBIA | 1980 | 1985 | 1990 | 1991 | 1992 | 1993 |
|---|---|---|---|---|---|---|
| GDP:[a,b,c] (in million 1990-dollars) | 1 982 | 1 848 | 2 129 | 2 129 | 2 265 | 2 215 |
| Growth rate (%)[a,b,c] | 0.18 | 0.00 | 6.00 | 0.00 | 6.37 | -2.17 |
| Per capita (in 1990-dollars)[a,b,c] | 1 924.0 | 1 568.6 | 1 578.2 | 1 537.2 | 1 591.4 | 1 516.4 |
| MVA:[a,b,c] (in million 1990-dollars) | 117 | 126 | 113 | 107 | 111 | *108* |
| Growth rate (%)[a,b,c] | -14.65 | 1.70 | 5.88 | -5.56 | 3.93 | *-2.78* |
| Manufacturing share (%)[a,b] | 4.6 | 4.6 | 6.1 | 5.7 | 6.1 | *5.2* |

| NETHERLANDS ANTILLES AND ARUBA | 1980 | 1985 | 1990 | 1991 | 1992 | 1993 |
|---|---|---|---|---|---|---|
| GDP:[a,b,c] (in million 1990-dollars) | 1 338 | 1 281 | 1 559 | 1 497 | *1 482* | *1 500* |
| Growth rate (%)[a,b,c] | 4.06 | -2.07 | 7.56 | -3.96 | *-1.00* | *1.20* |
| Per capita (in 1990-dollars)[a,b,c] | 7 690.2 | 7 040.2 | 8 203.5 | 7 796.5 | *7 678.6* | *7 691.0* |
| MVA:[a,b,c] (in million 1990-dollars) | 113 | 88 | 107 | 102 | *100* | *100* |
| Growth rate (%)[a,b,c] | 14.83 | -2.71 | 7.56 | -3.96 | *-2.72* | *0.45* |
| Manufacturing share (%)[a,b] | 8.5 | 6.8 | .. | .. | .. | .. |

| NEW CALEDONIA | 1980 | 1985 | 1990 | 1991 | 1992 | 1993 |
|---|---|---|---|---|---|---|
| GDP:[a,b,c] (in million 1990-dollars) | 1 079 | 1 070 | 1 600 | 1 663 | 1 812 | *1 843* |
| Growth rate (%)[a,b,c] | -0.40 | 4.51 | -4.27 | 3.92 | 9.00 | *1.70* |
| Per capita (in 1990-dollars)[a,b,c] | 7 542.8 | 6 900.2 | 9 523.8 | 9 780.7 | 10 476.1 | *10 532.9* |
| MVA:[a,b,c] (in million 1990-dollars) | 98 | 78 | 112 | 116 | *123* | *123* |
| Growth rate (%)[a,b,c] | -4.64 | -1.05 | -4.27 | 3.92 | *6.02* | *0.10* |
| Manufacturing share (%)[a,b] | 5.8 | 4.7 | .. | .. | .. | .. |

| OMAN | 1980 | 1985 | 1990 | 1991 | 1992 | 1993 |
|---|---|---|---|---|---|---|
| GDP:[a,b,c] (in million 1990-dollars) | *4 477* | 9 000 | 10 521 | 11 313 | 12 184 | 12 668 |
| Growth rate (%)[a,b,c] | 6.05 | 13.76 | 7.52 | 7.52 | 7.70 | 3.98 |
| Per capita (in 1990-dollars)[a,b,c] | 4 086.3 | 6 442.5 | 6 008.7 | 6 185.1 | 6 382.1 | 6 359.6 |
| MVA:[a,b,c] (in million 1990-dollars) | 49 | 265 | 396 | 397 | .. | .. |
| Growth rate (%)[a,b,c] | 19.05 | 20.39 | 14.58 | 0.30 | .. | .. |
| Manufacturing share (%)[a,b] | 0.8 | 2.4 | 3.7 | 4.2 | 4.3 | *4.3* |

| PAPUA NEW GUINEA | 1980 | 1985 | 1990 | 1991 | 1992 | 1993 |
|---|---|---|---|---|---|---|
| GDP:[a,b,c] (in million 1990-dollars) | 2 827 | 3 015 | 3 221 | 3 528 | 3 945 | 4 563 |
| Growth rate (%)[a,b,c] | -2.29 | 3.60 | -3.00 | 9.53 | 11.81 | 15.42 |
| Per capita (in 1990-dollars)[a,b,c] | 915.9 | 876.0 | 839.0 | 896.6 | 982.0 | 1 107.8 |
| MVA:[a,b,c] (in million 1990-dollars) | 411 | 458 | 388 | 449 | 486 | 531 |
| Growth rate (%)[a,b,c] | -0.42 | 3.01 | -22.77 | 15.83 | 8.04 | 9.34 |
| Manufacturing share (%)[a,b] | 10.5 | 11.0 | 12.4 | *12.0* | .. | .. |

For sources, footnotes and comments see "Technical notes" at the beginning of this Annex.

| QATAR | 1980 | 1985 | 1990 | 1991 | 1992 | 1993 |
|---|---|---|---|---|---|---|
| GDP[a,b,c] (in million 1990-dollars) | 7 767 | 6 285 | 7 360 | 7 249 | *7 539* | *7 916* |
| Growth rate (%)[a,b,c] | 7.10 | -3.91 | 7.85 | -1.51 | *4 00* | *5 00* |
| Per capita (in 1990-dollars)[a,b,c] | 33 919.1 | 17 556.4 | 15 176.2 | 14 412.5 | *14 583 1* | *14 964 9* |
| MVA[a,b,c] (in million 1990-dollars) | 414 | 624 | 854 | 786 | *850* | *924* |
| Growth rate (%)[a,b,c] | -12.51 | 3.64 | 7.86 | -8.00 | *8 18* | *8 65* |
| Manufacturing share (%)[a] | 3.: | 7.8 | .. | .. | .. | .. |

| REPUBLIC OF MOLDOVA | 1980 | 1985 | 1990 | 1991 | 1992 | 1993 |
|---|---|---|---|---|---|---|
| GDP[a,b,c] (in million 1990-dollars) | 6 079 | 7 177 | 10 103 | 8 831 | 6 623 | 5 696 |
| Growth rate (%)[a,b,c] | .. | -9.76 | 8.17 | -12.59 | -25.00 | -14.00 |
| Per capita (in 1990-dollars)[a,b,c] | 1 515.7 | 1 703.1 | 2 316.1 | 2 016.2 | 1 507.0 | 1 292.2 |
| MVA[a,b,c] (in million 1990-dollars) | .. | .. | .. | .. | .. | .. |
| Growth rate (%)[a,b,c] | .. | .. | .. | .. | .. | .. |
| Manufacturing share (%)[a] | .. | .. | 28.1 | *28 1* | .. | .. |

| REUNION | 1980 | 1985 | 1990 | 1991 | 1992 | 1993 |
|---|---|---|---|---|---|---|
| GDP[a,b,c] (in million 1990-dollars) | 2 929 | 3 598 | 4 408 | 4 563 | *4 777* | *4 965* |
| Growth rate (%)[a,b,c] | 4.20 | 3.49 | 4.00 | 3.51 | *4 70* | *3 93* |
| Per capita (in 1990-dollars)[a,b,c] | 5 789.4 | 6 541.7 | 7 297.5 | 7 430.8 | *7 655 4* | *7 830 7* |
| MVA[a,b,c] (in million 1990-dollars) | 190 | 236 | 300 | 278 | 289 | *300* |
| Growth rate (%)[a,b,c] | 13.91 | 11.41 | 12.79 | -7.36 | 3.96 | *3 86* |
| Manufacturing share (%)[a] | 10.2 | 8.8 | *8 5* | .. | .. | .. |

| RUSSIAN FEDERATION | 1980 | 1985 | 1990 | 1991 | 1992 | 1993 |
|---|---|---|---|---|---|---|
| GDP[a,b,c] (in million 1990-dollars) | 525 217 | 621 078 | 591 407 | 585 949 | 470 244 | 413 814 |
| Growth rate (%)[a,b,c] | 4.39 | 4.52 | -7.64 | -0.92 | -19.75 | -12 00 |
| Per capita (in 1990-dollars)[a,b,c] | 3 792.6 | 4 342.2 | 3 998.3 | 3 955.2 | 3 175.9 | 2 800.6 |
| MVA[a,b,c] (in million 1990-dollars) | .. | .. | .. | .. | .. | .. |
| Growth rate (%)[a,b,c] | .. | .. | .. | .. | .. | .. |
| Manufacturing share (%)[a] | .. | .. | 35.8 | *35 8* | .. | .. |

| RWANDA | 1980 | 1985 | 1990 | 1991 | 1992 | 1993 |
|---|---|---|---|---|---|---|
| GDP[a,b,c] (in million 1990-dollars) | 1 905 | 2 206 | 2 337 | 2 361 | 2 420 | 2 499 |
| Growth rate (%)[a,b,c] | 6.01 | 4.41 | -2.00 | 1.06 | 2.49 | 3.25 |
| Per capita (in 1990-dollars)[a,b,c] | 368.9 | 364.2 | 334.5 | 329.2 | 328.7 | 330.8 |
| MVA[a,b,c] (in million 1990-dollars) | 327 | 342 | 375 | 380 | 393 | *393* |
| Growth rate (%)[a,b,c] | 26 49 | 6.96 | 2.86 | 1.56 | 3.23 | *0 00* |
| Manufacturing share (%)[a] | 15.8 | 14.2 | 16.5 | *16 0* | .. | .. |

| SAMOA | 1980 | 1985 | 1990 | 1991 | 1992 | 1993 |
|---|---|---|---|---|---|---|
| GDP[a,b,c] (in million 1990-dollars) | 183 | 179 | 176 | 195 | 188 | *194* |
| Growth rate (%)[a,b,c] | 3.00 | 5.96 | -4.47 | 10.83 | -3.26 | *3 00* |
| Per capita (in 1990-dollars)[a,b,c] | 1 149 8 | 1 119.2 | 1 085.1 | 1 188.0 | 1 142.3 | *1 162 4* |
| MVA[a,b,c] (in million 1990-dollars) | 15 | 15 | 14 | 15 | *15* | *15* |
| Growth rate (%)[a,b,c] | 3.02 | 4.53 | -4.56 | 8.11 | *-1 09* | *1 57* |
| Manufacturing share (%)[a] | 4.6 | 13.8 | 7.9 | *7 9* | .. | .. |

For sources, footnotes and comments see "Technical notes" at the beginning of this Annex.

| SAO TOME AND PRINCIPE | 1980 | 1985 | 1990 | 1991 | 1992 | 1993 |
|---|---|---|---|---|---|---|
| GDP:[a,b,c] (in million 1990-dollars) | 70 | 52 | 55 | 57 | 60 | 67 |
| Growth rate (%)[a,b,c] | 2.59 | -1.61 | 3.80 | 3.50 | 4.51 | 12.23 |
| Per capita (in 1990-dollars)[a,b,c] | 744.0 | 486.7 | 463.5 | 467.9 | 481.2 | 527.2 |
| MVA:[a,b,c] (in million 1990-dollars) | 1 | 1 | 1 | 1 | *1* | *1* |
| Growth rate (%)[a,b,c] | 0.00 | -8.68 | 5.18 | 4.00 | *4.34* | *11.46* |
| Manufacturing share (%)[a] | 7.3 | *7.2* | .. | .. | .. | .. |

| SEYCHELLES | 1980 | 1985 | 1990 | 1991 | 1992 | 1993 |
|---|---|---|---|---|---|---|
| GDP:[a,b,c] (in million 1990-dollars) | 256 | 275 | 369 | 369 | 376 | 390 |
| Growth rate (%)[a,b,c] | -2.55 | 10.29 | 7.56 | 0.00 | 1.95 | 3.90 |
| Per capita (in 1990-dollars)[a,b,c] | 4 060.7 | 4 237.8 | 5 265.5 | 5 191.3 | 5 292.6 | 5 422.5 |
| MVA:[a,b,c] (in million 1990-dollars) | 19 | 20 | 34 | 34 | 35 | 39 |
| Growth rate (%)[a,b,c] | 18.21 | 8.44 | 14.91 | 0.70 | 2.39 | 12.37 |
| Manufacturing share (%)[a] | 8.0 | 10.6 | 9.9 | *9.9* | .. | .. |

| SIERRA LEONE | 1980 | 1985 | 1990 | 1991 | 1992 | 1993 |
|---|---|---|---|---|---|---|
| GDP:[a,b,c] (in million 1990-dollars) | 426 | 494 | 547 | 533 | 523 | 510 |
| Growth rate (%)[a,b,c] | 2.91 | 7.46 | 2.50 | -2.60 | -1.85 | -2.43 |
| Per capita (in 1990-dollars)[a,b,c] | 131.8 | 137.9 | 136.8 | 130.1 | 124.7 | 118.7 |
| MVA:[a,b,c] (in million 1990-dollars) | 83 | 81 | 56 | 88 | 95 | *103* |
| Growth rate (%)[a,b,c] | -4.88 | -15.55 | -7.06 | 57.59 | *7.63* | *8.25* |
| Manufacturing share (%)[a] | 7.5 | 4.8 | 7.1 | 8.7 | *8.7* | .. |

| SLOVAKIA | 1980 | 1985 | 1990 | 1991 | 1992 | 1993 |
|---|---|---|---|---|---|---|
| GDP:[a,b,c] (in million 1990-dollars) | .. | 12 666 | 13 568 | 11 593 | 10 783 | 10 338 |
| Growth rate (%)[a,b,c] | .. | 4.11 | -2.51 | -14.56 | -6.99 | -4.12 |
| Per capita (in 1990-dollars)[a,b,c] | .. | 2 464.1 | 2 581.5 | .. | .. | 1 945.8 |
| MVA:[a,b,c] (in million 1990-dollars) | .. | .. | .. | .. | .. | .. |
| Growth rate (%)[a,b,c] | .. | .. | .. | .. | .. | .. |
| Manufacturing share (%)[a] | .. | .. | .. | .. | .. | .. |

| SOMALIA | 1980 | 1985 | 1990 | 1991 | 1992 | 1993 |
|---|---|---|---|---|---|---|
| GDP:[a,b,c] (in million 1990-dollars) | 584 | 637 | 669 | 662 | 679 | 692 |
| Growth rate (%)[a,b,c] | 1.79 | 9.53 | -2.70 | -1.00 | 2.50 | 2.00 |
| Per capita (in 1990-dollars)[a,b,c] | 86.9 | 80.9 | 77.1 | 75.4 | 76.6 | 77.3 |
| MVA:[a,b,c] (in million 1990-dollars) | 13 | 11 | 14 | 16 | .. | .. |
| Growth rate (%)[a,b,c] | 9.17 | 7.55 | -6.29 | 16.12 | .. | .. |
| Manufacturing share (%)[a] | 4.7 | 4.9 | *4.3* | .. | .. | .. |

| SUDAN | 1980 | 1985 | 1990 | 1991 | 1992 | 1993 |
|---|---|---|---|---|---|---|
| GDP:[a,b,c] (in million 1990-dollars) | 24 174 | 23 807 | 23 451 | 23 451 | 26 101 | 26 545 |
| Growth rate (%)[a,b,c] | -3.41 | -2.90 | -5.31 | 0.00 | 11.30 | 1.70 |
| Per capita (in 1990-dollars)[a,b,c] | 1 294.0 | 1 109.3 | 953.9 | 928.6 | 1 006.2 | 996.4 |
| MVA:[a,b,c] (in million 1990-dollars) | 2 486 | 2 268 | 2 099 | 1 969 | *2 126* | *2 157* |
| Growth rate (%)[a,b,c] | -4.09 | -0.26 | -11.44 | -6.17 | *7.96* | *1.46* |
| Manufacturing share (%)[a] | 8.9 | 8.8 | 9.2 | 9.7 | 9.3 | .. |

For sources, footnotes and comments see "Technical notes" at the beginning of this Annex.

| SURINAME | 1980 | 1985 | 1990 | 1991 | 1992 | 1993 |
|---|---|---|---|---|---|---|
| GDP[a,c] (in million 1990-dollars) | 1 645 | 1 623 | 1 714 | 1 762 | 1 863 | 1 863 |
| Growth rate (%)[a,c] | -8.57 | 2.02 | -0.91 | 2.78 | 5.77 | 0.00 |
| Per capita (in 1990-dollars)[a,c] | 4 633.1 | 4 304.6 | 4 285.0 | 4 349.8 | 4 555.9 | 4 500.9 |
| MVA[a,c] (in million 1990-dollars) | 244 | 195 | 170 | 155 | *159* | *161* |
| Growth rate (%)[a,c] | -10.52 | 6.45 | -6.85 | -8.96 | *2.26* | *1.50* |
| Manufacturing share (%)[a] | 17.6 | 12.5 | 10.2 | 9.9 | .. | .. |

| SWAZILAND | 1980 | 1985 | 1990 | 1991 | 1992 | 1993 |
|---|---|---|---|---|---|---|
| GDP[a,c] (in million 1990-dollars) | 611 | 734 | 904 | 904 | 917 | 935 |
| Growth rate (%)[a,c] | 2.90 | 3.88 | 4.57 | 0.00 | 1.37 | 1.97 |
| Per capita (in 1990-dollars)[a,c] | 1 080.3 | 1 131.3 | 1 215.4 | 1 182.0 | 1 164.8 | 1 155.4 |
| MVA[a,c] (in million 1990-dollars) | 150 | 174 | 275 | 281 | 297 | *315* |
| Growth rate (%)[a,c] | 11.17 | -1.30 | 19.64 | 2.10 | 5.72 | *6.10* |
| Manufacturing share (%)[a] | 21.3 | 15.3 | 32.5 | 32.5 | .. | .. |

| TAJIKISTAN | 1980 | 1985 | 1990 | 1991 | 1992 | 1993 |
|---|---|---|---|---|---|---|
| GDP[a,c] (in million 1990-dollars) | 3 124 | 4 138 | 4 530 | 4 373 | 3 279 | .. |
| Growth rate (%)[a,c] | .. | 7.23 | 4.41 | -3.47 | -25.00 | .. |
| Per capita (in 1990-dollars)[a,c] | 790.1 | 907.9 | 856.8 | 803.2 | 585.2 | .. |
| MVA[a,c] (in million 1990-dollars) | .. | .. | .. | .. | .. | .. |
| Growth rate (%)[a,c] | .. | .. | .. | .. | .. | .. |
| Manufacturing share (%)[a] | .. | .. | .. | .. | .. | .. |

| TONGA | 1980 | 1985 | 1990 | 1991 | 1992 | 1993 |
|---|---|---|---|---|---|---|
| GDP[a,c] (in million 1990-dollars) | 81 | 120 | 124 | 128 | 130 | *134* |
| Growth rate (%)[a,c] | 15.81 | 5.37 | -3.95 | 3.70 | 1.00 | *3.63* |
| Per capita (in 1990-dollars)[a,c] | 875.2 | 1 323.1 | 1 289.0 | 1 336.7 | 1 336.2 | *1 384.6* |
| MVA[a,c] (in million 1990-dollars) | 8 | 8 | 9 | 9 | *9* | *10* |
| Growth rate (%)[a,c] | 21.43 | 6.26 | -7.30 | -10.07 | *8.72* | *3.65* |
| Manufacturing share (%)[a] | 6.1 | 8.2 | .. | .. | .. | .. |

| TURKMENISTAN | 1980 | 1985 | 1990 | 1991 | 1992 | 1993 |
|---|---|---|---|---|---|---|
| GDP[a,c] (in million 1990-dollars) | 3 304 | 4 314 | 5 384 | 5 324 | 5 036 | .. |
| Growth rate (%)[a,c] | .. | 1.33 | 5.39 | -1.12 | -5.40 | .. |
| Per capita (in 1990-dollars)[a,c] | 1 153.5 | 1 337.6 | 1 472.3 | 1 421.6 | 1 314.0 | .. |
| MVA[a,c] (in million 1990-dollars) | .. | .. | .. | .. | .. | .. |
| Growth rate (%)[a,c] | .. | .. | .. | .. | .. | .. |
| Manufacturing share (%)[a] | .. | .. | .. | .. | .. | .. |

| TUVALU | 1980 | 1985 | 1990 | 1991 | 1992 | 1993 |
|---|---|---|---|---|---|---|
| GDP[a,c] (in million 1990-dollars) | 9 | 7 | 8 | 8 | .. | .. |
| Growth rate (%)[a,c] | .. | -1.95 | 2.49 | 4.79 | .. | .. |
| Per capita (in 1990-dollars)[a,c] | 1 068.0 | 852.7 | 897.9 | 940.9 | .. | .. |
| MVA[a,c] (in million 1990-dollars) | .. | .. | .. | .. | .. | .. |
| Growth rate (%)[a,c] | .. | .. | .. | .. | .. | .. |
| Manufacturing share (%)[a] | .. | .. | .. | .. | .. | .. |

For sources, footnotes and comments see "Technical notes" at the beginning of the Annex.

| UGANDA | 1980 | 1985 | 1990 | 1991 | 1992 | 1993 |
|---|---|---|---|---|---|---|
| GDP:[a,b,c] (in million 1990-dollars) | 2 729 | 3 049 | 3 710 | 3 862 | 3 979 | 4 232 |
| Growth rate (%)[a,b,c] | -3.40 | 1.96 | -0.16 | 4.10 | 3.02 | 6.35 |
| Per capita (in 1990-dollars)[a,b,c] | 208.0 | 201.8 | 206.7 | 207.7 | 206.6 | 212.2 |
| MVA:[a,b,c] (in million 1990-dollars) | 98 | 99 | 164 | 187 | 194 | 201 |
| Growth rate (%)[a,b,c] | 6.10 | -9.80 | 4.20 | 14.09 | 3.62 | 3.71 |
| Manufacturing share (%)[a] | 4.2 | 1.9 | 4.4 | *4.4* | .. | .. |

| UKRAINE | 1980 | 1985 | 1990 | 1991 | 1992 | 1993 |
|---|---|---|---|---|---|---|
| GDP:[a,b,c] (in million 1990-dollars) | 121 750 | 139 781 | 155 582 | 146 510 | 126 013 | 102 720 |
| Growth rate (%)[a,b,c] | 3.81 | 0.99 | 1.39 | -5.83 | -13.99 | -18.48 |
| Per capita (in 1990-dollars)[a,b,c] | 2 436.9 | 2 745.4 | 3 013.9 | 2 836.4 | 2 441.2 | 1 992.6 |
| MVA:[a,b,c] (in million 1990-dollars) | .. | .. | .. | .. | .. | .. |
| Growth rate (%)[a,b,c] | .. | .. | .. | .. | .. | .. |
| Manufacturing share (%)[a] | 36.5 | 32.4 | 29.6 | *29.6* | .. | .. |

| UNITED ARAB EMIRATES | 1980 | 1985 | 1990 | 1991 | 1992 | 1993 |
|---|---|---|---|---|---|---|
| GDP:[a,b,c] (in million 1990-dollars) | 32 950 | 30 067 | 33 780 | 34 456 | 35 396 | 35 750 |
| Growth rate (%)[a,b,c] | 26.42 | -2.39 | 17.75 | 2.00 | 2.73 | 1.00 |
| Per capita (in 1990-dollars)[a,b,c] | 32 462.9 | 21 803.4 | 20 215.7 | 20 021.0 | 19 997.9 | 19 686.2 |
| MVA:[a,b,c] (in million 1990-dollars) | 1 186 | 2 672 | 2 518 | 2 694 | 2 736 | 2 777 |
| Growth rate (%)[a,b,c] | 64.87 | -2.20 | 5.38 | 7.00 | 1.57 | 1.50 |
| Manufacturing share (%)[a] | 3.7 | 9.0 | 7.2 | *7.5* | .. | .. |

| UZBEKISTAN | 1980 | 1985 | 1990 | 1991 | 1992 | 1993 |
|---|---|---|---|---|---|---|
| GDP:[a,b,c] (in million 1990-dollars) | 13 573 | 17 459 | 20 025 | 17 978 | 15 978 | 15 594 |
| Growth rate (%)[a,b,c] | .. | 4.05 | 4.74 | -10.22 | -11.13 | -2.40 |
| Per capita (in 1990-dollars)[a,b,c] | 851.7 | 963.9 | 980.6 | 860.4 | 747.5 | 713.4 |
| MVA:[a,b,c] (in million 1990-dollars) | .. | .. | .. | .. | .. | .. |
| Growth rate (%)[a,b,c] | .. | .. | .. | .. | .. | .. |
| Manufacturing share (%)[a] | .. | .. | .. | .. | .. | .. |

| VANUATU | 1980 | 1985 | 1990 | 1991 | 1992 | 1993 |
|---|---|---|---|---|---|---|
| GDP:[a,b,c] (in million 1990-dollars) | 94 | 143 | 154 | 161 | 163 | *166* |
| Growth rate (%)[a,b,c] | -11.46 | 1.11 | 4.11 | 5.10 | 1.00 | *1.84* |
| Per capita (in 1990-dollars)[a,b,c] | 806.8 | 1 080.2 | 1 030.5 | 1 054.8 | 1 038.2 | *1 031.0* |
| MVA:[a,b,c] (in million 1990-dollars) | 3 | 5 | 9 | 9 | *10* | *11* |
| Growth rate (%)[a,b,c] | -11.45 | 11.21 | 2.22 | 5.11 | *8.92* | *9.28* |
| Manufacturing share (%)[a] | 4.2 | 3.8 | 5.9 | *5.9* | .. | .. |

| VIET NAM | 1980 | 1985 | 1990 | 1991 | 1992 | 1993 |
|---|---|---|---|---|---|---|
| GDP:[a,b,c] (in million 1990-dollars) | 41 529 | 57 449 | 73 396 | 77 768 | 84 492 | 91 312 |
| Growth rate (%)[a,b,c] | -4.81 | 6.20 | 5.05 | 5.96 | 8.65 | 8.07 |
| Per capita (in 1990-dollars)[a,b,c] | 773.2 | 959.4 | 1 100.6 | 1 140.5 | 1 211.6 | 1 280.2 |
| MVA:[a,b,c] (in million 1990-dollars) | .. | .. | .. | .. | .. | .. |
| Growth rate (%)[a,b,c] | .. | .. | .. | .. | .. | .. |
| Manufacturing share (%)[a] | .. | .. | 16 | *16* | .. | .. |

For sources, footnotes and comments see "Technical notes" at the beginning of this Annex.

| YEMEN, NORTHERN PART | 1980 | 1985 | 1990 | 1991 | 1992 | 1993 |
|---|---|---|---|---|---|---|
| GDP[a b c] (in million 1990-dollars) | 3 350 | 4 450 | 5 905 | 6 378 | 6 378 | 6 640 |
| Growth rate (%)[a b c] | 6 04 | 10 31 | -3 70 | 8 00 | 0 00 | 4 11 |
| Per capita (in 1990-dollars)[a b c] | 526.9 | 583 9 | 642.2 | 673 3 | .. | .. |
| MVA[a b c] (in million 1990-dollars) | 291 | 536 | 563 | 578 | 605 | 621 |
| Growth rate (%)[a b c] | 7.70 | 1 46 | -12 22 | 2 70 | 4 73 | 2 59 |
| Manufacturing share (%)[a b] | 8 5 | 12 1 | 9 5 | 9 5 | .. | .. |

| YEMEN, SOUTHERN PART | 1980 | 1985 | 1990 | 1991 | 1992 | 1993 |
|---|---|---|---|---|---|---|
| GDP[a b c] (in million 1990-dollars) | 1 267 | 1 690 | 1 568 | 1 557 | 1 593 | 1 641 |
| Growth rate (%)[a b c] | 3.68 | -2.97 | -3.70 | -0.73 | 2 33 | 3 00 |
| Per capita (in 1990-dollars)[a b c] | 680.5 | 790.9 | 630.1 | 567.5 | .. | .. |
| MVA[a b c] (in million 1980-dollars) | 48 | 88 | 76 | 77 | 79 | 81 |
| Growth rate (%)[a b c] | -41.12 | 22.41 | -12 15 | 1.47 | 2 55 | 2 79 |
| Manufacturing share (%)[a b] | 6.7 | 9 7 | .. | .. | .. | .. |

| YUGOSLAVIA | 1980 | 1985 | 1990 | 1991 | 1992 | 1993 |
|---|---|---|---|---|---|---|
| GDP[a b c] (in million 1990-dollars) | 49 856 | 51 450 | 40 524 | 28 396 | .. | .. |
| Growth rate (%)[a b c] | 3.44 | 0.28 | -23.20 | -29.93 | .. | .. |
| Per capita (in 1990-dollars)[a b c] | 5 235.9 | 5 224.4 | 3 990.2 | 2 759.5 | .. | .. |
| MVA[a b c] (in million 1980-dollars) | .. | .. | .. | .. | .. | .. |
| Growth rate (%)[a b c] | .. | .. | .. | .. | .. | .. |
| Manufacturing share (%)[a b] | .. | .. | .. | .. | | |

| ZAIRE | 1980 | 1985 | 1990 | 1991 | 1992 | 1993 |
|---|---|---|---|---|---|---|
| GDP[a b c] (in million 1990-dollars) | 2 405 | 2 599 | 2 862 | 2 782 | 2 491 | 2 287 |
| Growth rate (%)[a b c] | 2.37 | 2.56 | 3 04 | -2.80 | -10 44 | -8.20 |
| Per capita (in 1990-dollars)[a b c] | 89 1 | 82.0 | 76.5 | 71.9 | 62.4 | 55.5 |
| MVA[a b c] (in million 1990-dollars) | 62 | 56 | 55 | 53 | 45 | 40 |
| Growth rate (%)[a b c] | -1.43 | 4.77 | 4.49 | -3.89 | -14 12 | -11 47 |
| Manufacturing share (%)[a b] | 3.1 | 1 7 | 2 1 | .. | .. | .. |

For sources, footnotes and comments see "Technical notes" at the beginning of this Annex

# Industrial Development Global Report 1995

The theme for the *Industrial Development Global Report 1995* is 'sustaining the growth impulse'. Events since the beginning of the 1990s have plunged the world economy into a state of flux. The role of industry in the development process is under scrutiny, and questions have been raised concerning the role of the industrial strategies of the past in providing the impetus for overall economic growth in developing countries. Developing countries as a whole outpaced developed countries in the growth of both GDP and MVA in 1994, and are expected to sustain their performance in 1995. Can the growth phase thus be sustained into the twenty-first century?

The main issues affecting the growth prospects of developing countries until the end of the decade are discussed in the Report. Those issues revolve around the changes that have occurred and those still under way in the world today, including:

- Implications of GATT and the World Trade Organization
- Significance of the new forms of regional integration
- New concepts of industrial competitiveness
- Alleviation of global poverty through the industrial process

Although incomplete, the list of issues referred to above covers the more significant areas of concern. In the current global environment, in which the developed countries themselves are faced with severe economic and social problems, the road to a better life for the population of developing countries will be steep and arduous. It is hoped that the discussion of the above-mentioned issues will provide some insight into their complexities as well as guidance to national planners in the formulation of their reform programmes and industrial policies.

The Report also contains a review of trends and prospects in the manufacturing sector as well as of key industrial development issues for 10 regions, as classified by UNIDO.

A statistical annex presenting industrial development indicators for 185 countries and territories around the world is included.

ISBN 0-19-829036-5

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Oxford University Press