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I. THE MACROECONOMIC AND INDUSTRIAL POLICY ENVIRONMENT

A. RECENT ECONOMIC TRENDS

Developments to 1989: external shocks and disrupted development

The Iranian economy has been subject to a number of external shocks during the past few decades, which have seriously disrupted its development process. Periods characterized by a relatively favourable international and domestic business environment, providing the economy with an opportunity for rapid growth and development, have alternated with periods during which the operating environment has deteriorated dramatically and sharply restrained the economy's developmental momentum. The net effect of these events has been a history of interrupted growth and unattained economic potential.

As a major producer of crude oil, Iran benefited greatly from the growing international demand for fossil fuels in the 1960s, which stimulated rising prices in international oil markets as well as increases in the volume of Iran's petroleum exports. The availability of these additional resources permitted substantial investments to be made in a wide variety of development projects, and generated a steady growth of national income, with gross domestic product (GDP) expanding at an annual average rate of almost 10 per cent in real terms between 1959 and 1973.^{1/} This rapid economic growth was accompanied, moreover, by a high degree of price stability, reflected in an annual rate of consumer price inflation of 3.4 per cent, and a broad equilibrium in the external accounts.

The fourfold increase in international oil prices in 1973-74 resulted in a corresponding increase in Iran's export earnings and government revenues, with the current-account surplus surging from \$154 million in 1973 to \$12.3 billion in 1974, and the government's budget revenues rising from IR491 billion to IR1,427 billion during the same period. This prompted a significant upward revision of the targets set for the then prevailing Fifth Five Year Development Plan (1973-78), and a sharp acceleration of the industrialization process in particular. Large numbers of new projects, especially in the upstream reaches of the manufacturing sector, were initiated during this period, with particular emphasis being placed on the expansion and development of the engineering and chemical/petrochemical industries.

In practice, however, the Iranian economy proved unable to absorb the dramatic increase in financial resources, which despite substantial outward capital flows of more than \$4 billion per year resulted in a near-quadrupling of domestic liquidity between 1973 and 1977, and a rise in the annual average rate of inflation to 15.3 per cent. The impact of this erosion of economic stability was exacerbated by the stagnation of international oil prices in 1977-78, which prompted the government to increase its domestic borrowing to enable it to finance its ambitious economic development programmes, thereby further fuelling the already strong inflationary pressures. Even so, the government was unable to prevent a sharp decline in GDP in 1978, which fell by 21 per cent in real terms to a level only marginally above that recorded in 1975.

Meanwhile, the dramatic increase in Iran's foreign exchange reserves from some \$980 million in 1973 to \$7.7 billion in 1974 and \$10.8 billion in 1977 caused a significant strengthening of the Iranian currency. This, in turn, stimulated a sharp increase in imports and undermined the ability of Iran's non-oil products to compete in domestic as well as external markets, leading to a growing dualization of the Iranian economy. This growing dependence on imports and the declining competitiveness of the domestic non-oil industries reinforced the unfavourable balance-of-payments effect of the weakening oil markets in 1977-78, with the current-account surplus narrowing to \$104 million in 1978 from \$2.8 billion in 1977 and a peak of \$7.7 billion in 1976. The impact of the recession induced by the softening oil prices was also felt particularly strongly by the domestic producers of non-oil goods, who had already suffered a significant loss of market share in the preceding years.

The combination of rising inflation and deepening economic recession reinforced the widespread public discontent with the status quo, and helped to stimulate a popular uprising against the government in late 1978, which led to the establishment of the Islamic Republic in early 1979. The Islamic Revolution had a wide-ranging impact on the Iranian economy, resulting in the nationalization of a large number of industrial, commercial and financial enterprises, the flight of vast amounts of capital and skilled personnel, and the rupture of many of Iran's existing global economic and trade links. As a result of these developments the economy suffered a further contraction of 6.4 per cent in 1979, while the price level rose by almost 11 per cent. At the same time, however, the second international oil shock triggered by the events in Iran itself allowed the country to record a substantially increased current-account surplus of almost \$12 billion, and an increase in its foreign exchange reserves from below \$10 billion in 1978 to more than \$14.5 billion in 1979.

Soon after the establishment of the Islamic Republic, Iran suffered another shock when it was unexpectedly attacked by Iraq in October 1980. The resulting conflict, which developed into an eight year war of attrition, further retarded Iran's economic development, both by necessitating a reallocation of resources from developmental objectives to the conduct of the war, and through the extensive damage and destruction it wreaked upon the country's infrastructure. The situation was aggravated by the downturn and eventual collapse of international oil prices between 1982 and 1986, which substantially reduced Iran's export earnings and government revenues, resulting in a significant deterioration in the country's balance of payments and a renewed increase in the government's domestic borrowing. Total liquidity consequently increased at an annual average rate of almost 18 per cent between 1979 and 1988, which helped to stimulate an annual inflation rate of 19.3 per cent. Meanwhile, Iran's economic growth performance remained disappointing, with GDP expanding only slowly between 1980 to 1983 at an average annual rate of 1.8 per cent in real terms, before stagnating in the following two years and then contracting rapidly by almost 4.4 per cent per year between 1985 and 1988.

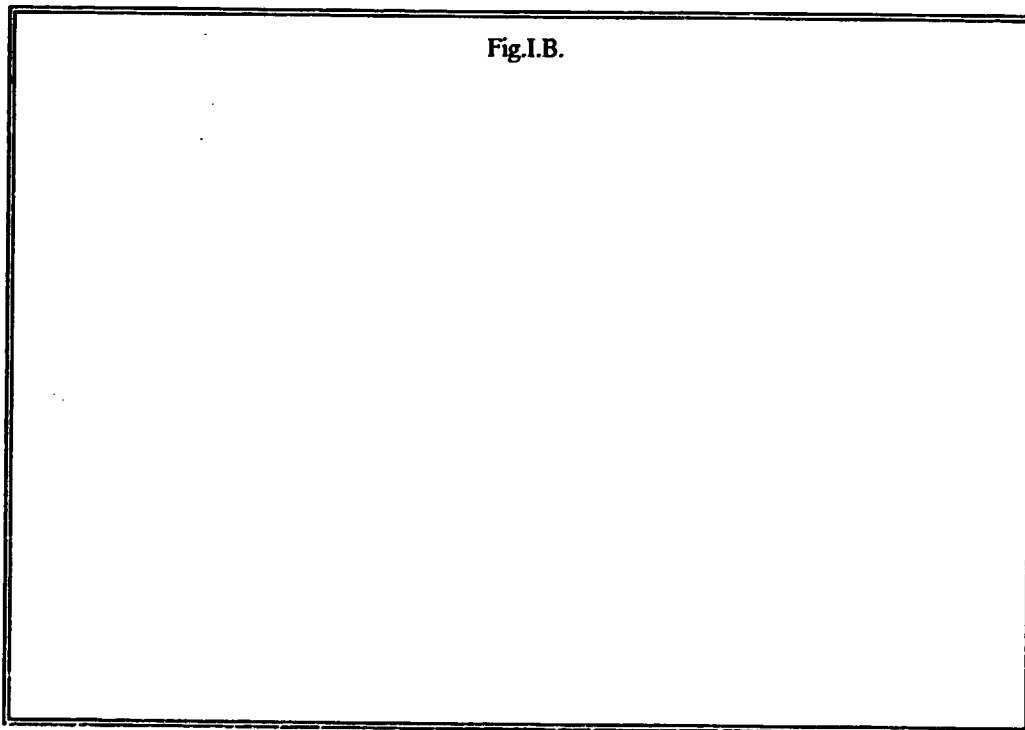
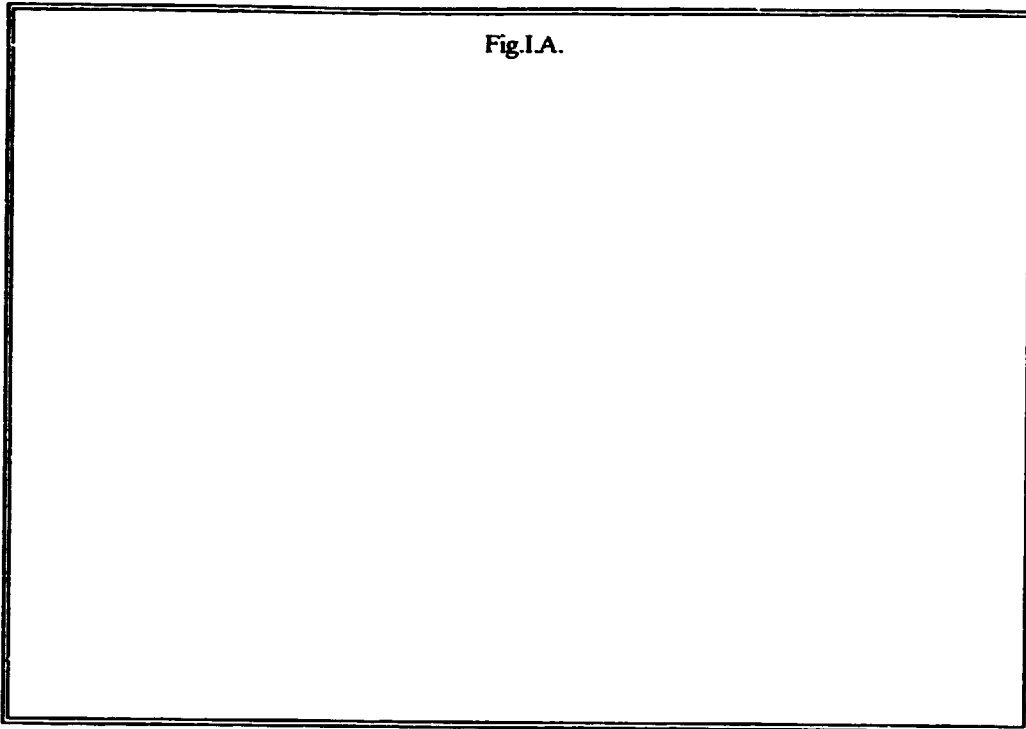




Fig.I.C.



Fig.I.D.

Developments since 1989: reform, recovery and retrenchment

Although Iran succeeded in recovering most of the territory lost to Iraq in the early course of the conflict and ended the war undefeated, its economy was weakened considerably by the conflict. With the population estimated to have grown from 37.2 million to 51.9 million, and GDP (in constant 1990 prices) to have fallen from IR37,227 billion to IR31,742 billion between 1979 and 1988, per capita incomes registered a substantial fall in real terms during the war years. The effects of this decline in overall national income were felt especially strongly by the poorer sections of the community in general and manual workers in particular, who suffered a considerable loss of job opportunities as a result of the damage and disruption of these years, and a sharp fall in real disposable incomes as a result of the sharply increasing prices of basic necessities. *from*

Recognizing the serious deterioration suffered by the economy during the previous decade, the Government of Iran accepted the promotion of economic recovery as its most pressing policy priority following the signing of the cease fire in August 1988. The vehicle chosen for this purpose was the First Socio-Economic and Cultural Development Plan of the Islamic Republic of Iran, drawn up to cover the five year period from March 1989 to March 1994. One of its most important features was an attempt to revive market mechanisms and reverse the extensive accretion of administrative restrictions over the economy that had occurred during the preceding ten years. As indicated in Box I.A, particular attention was paid in this connection to fiscal and monetary stabilization, the gradual removal of price controls and subsidies, the establishment of realistic interest and exchange rates, the liberalization of trade and investment regulations, and the restoration of incentives for the development of private entrepreneurship.

The following years consequently witnessed the introduction of a number of fundamental economic policy reforms. In the field of fiscal policy, measures were taken to improve the country's tax administration in order to strengthen the government's revenue base and reduce its high dependence on the petroleum sector. At the same time, steps were taken to improve the efficiency of monetary policy by removing credit ceilings and raising the rates of return on bank deposits and credits, which for much of the previous decade had allowed to remain negative in real terms. This was accompanied by the reactivation of the Tehran Stock Exchange in September 1989, which in turn was followed by the introduction of a far-reaching privatization programme in 1991. These measures were complemented by a significant liberalization of price policy, with the number of price-controlled items being reduced from 296 (representing approximately 75 per cent of the items and value weight of the consumer price index) in 1988/89 to 22 (representing less than 5 per cent of these variables) by the middle of 1991. Efforts were also made to promote international trade, with many of the quantitative controls on exports and imports being lifted and a new, reduced, tariff schedule being reduced. In a particularly important development, the complex system of multiple exchange rates prevailing in 1988 was gradually simplified, and eventually unified at a sharply depreciated market-related level, thereby correcting one of the most serious distortions in the country's economic system.

These measures, supported by a strengthening of international oil prices in the wake of the Iraqi invasion of Kuwait in August 1990, resulted in a marked improvement in Iran's economic performance. From 4.5 per cent in 1989 the rate of GDP growth increased to 11.2 per cent in 1990 and remained above 10 per cent in 1991 before dropping to a still impressive 5.8 per cent in 1992. This period also witnessed rapid progress in repairing the damage caused by the war, with a number of major industrial facilities damaged or destroyed during the 1980s, including the important refinery of Abadan in the province of Khuzestan, being brought on stream by 1992. A significant, albeit only partially successful, beginning was also made in the divestment of public ownership in commercial and industrial enterprises, with shares of some 40 companies being

floated on the Tehran Stock Exchange by the end of 1992 and shares in a substantial number of other firms being transferred to employees.^{2/}

Box I.A. Principal features of the new economic policies contained in the First Socio-Economic and Cultural Development Plan of the Islamic Republic of Iran (1989-93)

- The lifting of price controls.
- An increase in the share of development expenditure in the government budget.
- The planned divestiture of hundreds of state-owned enterprises.
- The partial lifting of foreign exchange controls, and the activation and legalization of a free foreign exchange market.
- The adoption of measures to stimulate the inflow of capital, mainly through the promotion of joint-venture projects with foreign partners and the encouragement of expatriate Iranians to repatriate capital held abroad.
- The adoption of sounder monetary and credit policies to stimulate the growth of private savings.
- The establishment of industrial free trade zones.
- The promotion of non-oil exports through the provision of appropriate incentives.
- The revocation of unjustified rules and regulations.
- The deregulation of pricing and investment decisions by public enterprises.
- The relaxation of import controls.
- The adoption of measures to increase the rate of industrial capacity utilization to international levels.

This recovery in economic activity was accompanied by a sharp drop in the inflation rate in 1989 and 1990 as the government's budget deficits were reduced, although a combination of credit expansion, exchange rate realignments, and price deregulation prompted an acceleration of inflation in 1991-93. The inevitable need to import a wide range of capital and intermediate goods required for the reconstruction process also imposed a considerable strain on Iran's external balance, which was reinforced by a renewed weakening of international oil prices. After registering a modest deficit of \$191 million in 1989 and a small surplus of \$327 million in 1990, the current-account balance deteriorated dramatically in 1991 and 1992, when deficits of almost \$8 billion and \$5 billion respectively were recorded. With the country's foreign exchange reserves having been depleted in the preceding years by the need to finance the war effort and the substantial compensation payments awarded to foreign owners of firms expropriated by the government in the early 1980s, this dramatic widening of the current-account deficit provoked serious cash flow problems from mid-1992 onwards.

The rapid build-up of arrears on Iran's trade-related debt resulted in the country's total stock of external debt rising from a mere \$5.9 billion, or 5 per cent of GDP, to \$14.6 billion, or 13 per cent of GDP, in 1992, and further to an estimated \$18.6 billion, equivalent to 34 per cent of GDP, by

1993. During the same period the accrued debt service obligations increased from \$457 million, representing 3 per cent of the value of total exports, to \$3.0 billion and \$11.3 billion, or 15 per cent and 65 per cent of total export value respectively. This sharp growth in the external debt burden was accelerated by the depreciation of the US dollar, in which most of Iran's export income is denominated but which accounts for less than 20 per cent of the country's external debt stocks.

By the beginning of 1993 Iran's external payments position had become precarious, with the total value of arrears estimated to have risen to \$2 billion. This prompted the government to enter into negotiations with the country's creditors to reschedule its debt service payments, with the first such agreements being signed with French, German and Japanese banks and trading companies in April-June 1993. As the arrears continued to accumulate, to an estimated at \$5-10 billion by the second half of 1993, the rescheduling negotiations continued, and by mid-1994 wide-ranging agreements had been reached with most of Iran's major creditors.^{3/}

The deteriorating balance of payments and external debt situation inevitably prompted a further weakening of the rial in the foreign exchange markets. This increasing pressure on the currency severely tested the government's resolve to maintain a liberal exchange rate policy, and after allowing a gradual depreciation of the rial's official "floating" exchange rate from IR1,538:\$1 at the time of the unification of the exchange rate in March 1993 to approximately IR1,750:\$1 by May 1994, when a widening gap between the official and free market rates forced the government to introduce a new secondary rate. This rate, known as the export-import rate, was intended to be used for most current-account transactions, and was initially set at IR2,585:\$1, IR50 below the free-market rate. Its subsequent movements have not entirely followed the free-market rate, however, which by the end of 1994 had fallen to some IR2,800:\$1 while the export-import rate stood at IR2,710:\$1.

Meanwhile, the government proceeded with the drafting of the Second Socio-Economic and Cultural Development Plan of the Islamic Republic, which was presented to the *majlis* (national parliament) for deliberation and approval on 21 December 1993, and was scheduled to come into force upon expiry of the First Plan on 20 March 1994. The main objective of this Plan was to improve the macro-economic management of the economy through increased reliance on monetary and fiscal instruments; to promote a more efficient use of public resources; to improve the structure of factor and product markets through the promotion of competition and the prevention of monopolies; to reform the structure of government along lines consistent with the promotion of rapid economic growth; and to enhance the level of social development and social justice. As summarized in Box I.B, this Plan consequently called for a continuation of the liberalizing economic reforms introduced during the First Plan, with a number of deregulatory measures being proposed in the fields of trade, monetary, fiscal, exchange rate, and price policies, and special emphasis being given to job creation.

The mounting economic pressures during 1992 and 1993 prompted a gradual shift in public attitudes towards the reform process, however, which were reflected particularly strongly in the *majlis*. The presentation of the draft Second Plan to the *majlis* consequently elicited only a lukewarm response, with several parliamentary leaders suggesting that the Plan's implementation should be postponed until a more favourable economic environment had been created. This proposal, though contested by the government, was adopted by the *majlis* in March 1994, which scheduled a debate on the Plan for August 1994 and its tentative introduction on 21 March 1995. Although the draft Plan document was approved by the *majlis* at its August 1994 debate, it remains unclear at the time of writing whether the Plan's implementation will proceed on the revised date, or whether it will be subject to a further postponement.

Box I.B. Principal objectives of the Draft Second Socio-Economic and Cultural Development Plan of the Islamic Republic of Iran (1994-98)

Foreign trade:

- The creation of a conducive environment for the development of an export-oriented economy based on the principle of comparative advantage.
- The maintenance of a managed floating exchange regime marked by the revocation of the exchange-delivery-requirement, the convertibility of the rial, and a unified exchange rate.
- The reduction of quantitative restrictions on imports.
- The prevention of monopolies and the promotion of external trade.
- The provision of "reasonable" price support to producers and consumers in line with prevailing international situation.
- The centralization of duty collection on foreign trade.

Money and financial markets:

- The granting of credit solely on the basis of economic criteria.
- The reintroduction of bonds as an instrument for mobilizing public funds.
- An appraisal of all existing monetary and financial rules and regulations.
- The rationalization of profit (interest) rates in order to ensure a positive real rate of return on deposits and credits.
- An increased participation by the private and cooperative sectors in the provision of banking services.

Budget:

- An increase in the share of direct taxes in government revenues.
- A gradual elimination of tax exemptions.
- A reforming of the prevailing tax laws.
- The use of tax incentives to stimulate investment.
- A balanced budget.
- A reduction of the government's recurrent expenditure through a "rolling back of the frontiers of the state".
- An increased reliance on economic criteria in the allocation of development expenditure, with particular priority being given to the completion of unfinished projects.
- The granting of contracts according to bids and tenders.

Pricing:

- The adoption of economic pricing policies for utilities.

Employment and manpower:

- The development of the information dissemination network.
- The creation of increased employment opportunities.
- The development and promotion of handicraft, cottage and small industries, especially in rural areas.
- The channelling of non-agricultural activities to rural areas.
- A reduction in the dependence on foreign labour.

Source: Islamic Republic of Iran, Plan and Budget Organization, "Draft Second Socio-Economic and Cultural Development Plan of the Islamic Republic of Iran", 1993.

In the meantime, the government has responded to the growing concern over rising inflation and the worsening external payments situation by reimposing a variety of economic controls from mid-1994 onwards. A marked change has taken place in the government's exchange rate policy, for example, with a further depreciation of the two official exchange rates being prevented for fear of unleashing further import cost push pressures despite a steady weakening of the rial's open-market rate. In early October 1994, foreign exchange transactions conducted by outside banks and authorized exchange houses were declared illegal.^{4/} This was followed by the introduction of a government campaign to control domestic prices in mid-October, with a number of local newspapers reporting on October 15 that the minister of justice had announced severe penalties for profiteers.^{5/}

While the reintroduction of these controls constitutes a short-term setback to the reform programme initiated in the late 1980s, and will have to be reversed in the coming years in order to ensure the removal of the existing economic distortions and the sustainability of Iran's economic recovery and future growth, the longer-term outlook remains promising. The country has a substantial resource potential on which to diversify its economy from its present high dependence on the hydrocarbon industries provided an appropriate incentive structure is established and maintained. Much of this potential is of an industrial nature, moreover, and the development of an efficient and competitive manufacturing sector based closely on Iran's endowment of natural and human resources will play a major role in stimulating the country's overall economic development.

B. ECONOMIC STRUCTURE

The physical environment

Iran is a comparatively large and geographically diverse country, stretching almost 2000 kilometres from West to East and covering an area of 1.65 million square kilometres. The northern part of the country has a semi-tropical climate, while the central and southern parts are relatively arid with an annual average rainfall of about 250 millimetres. This climatic diversity enables Iran to produce a variety of agricultural crops for most of the year, and its long coastlines along the Caspian Sea in the north and the Persian Gulf and Sea of Oman in the south give it substantial territorial waters and fisheries resources. In addition, the country is also endowed with a wide range of minerals, most of which have not yet been developed despite extensive plans to do so stretching back for almost two decades.

The demographic base

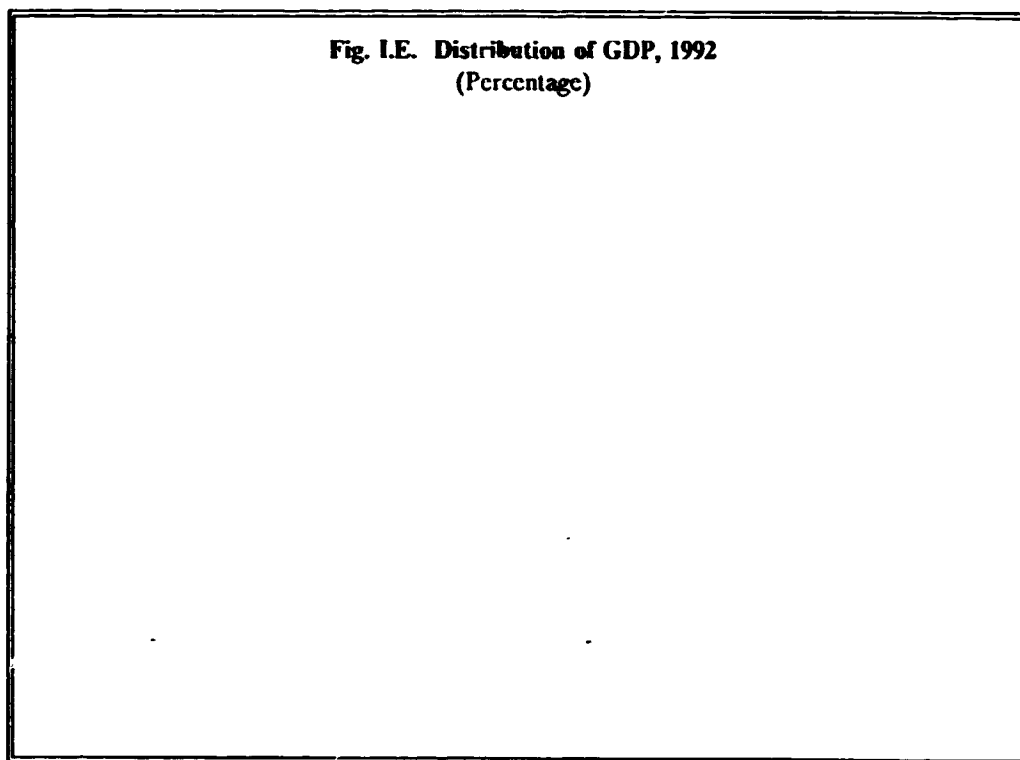
The latest census, conducted in 1991, indicates a total population of 55.8 million. This represents an average annual increase of 3.4 per cent in the 15 years since 1976, when a similar enumeration yielded a figure of 33.7 million. Although this overall growth rate masks a decline from an average of 3.9 per cent per year in 1976-86 to 2.5 per cent per year in 1986-91, even the latter growth rate remains relatively high, and implies a doubling of the population in less than 30 years.

The high population growth rates recorded during the past two decades reflect both a vigorous encouragement of large families by the government during the 1980s, inter alia through the provision of a wide range of social subsidies, and the influx of vast numbers of refugees from Afghanistan and Iraq. Recognizing the strains that such high rates of population growth are likely to place on the development process, however, the government has initiated a family planning programme since 1989. This policy, combined with the increasing repatriation of refugees, is

officially estimated to have resulted in a reduction of the population growth rate to 1.8 per cent by 1993, and is projected to lead to a further decline to 1.5 per cent within the next five years.^{6/}

As a consequence of the high population growth rates recorded in the past few decades, the age structure of Iran's population is heavily weighted towards the younger age groups. The 1991 census showed that 44 per cent of the population was below the age of 15 years, and that a further 10.6 per cent was aged between 15 and 20 years. This heavy preponderance of the younger age groups will inevitably result in heavy demands being placed on the economy in the coming years for such basic requirements as education, medical care, housing and, above all, job opportunities. It will also strain the government's efforts to reduce the rate of population growth as these young people enter the prime reproductive age.

**Fig. I.E. Distribution of GDP, 1992
(Percentage)**



The geographical distribution of Iran's population is very uneven, with 59 per cent of the total population residing in the northern, north-western and central parts of the country to the west of salt deserts. This uneven distribution is primarily a reflection of regional variations in the agricultural and mineral resource base. The coastal regions bordering the Caspian Sea in the north and the Persian Gulf and Sea of Oman in the south are endowed with particularly fertile land, and have consequently developed into major agricultural centres. The central parts are more arid and hence less suitable for cultivation, but have substantial mineral resources which have given rise to many industrial activities.

The last three decades have witnessed a dramatic shift in the rural-urban distribution of Iran's population, with the urban population having increased by 5 per cent per year between 1976 and 1991 while the rural population grew by only 2 per cent per year. This has resulted in a

transformation of the country from a predominantly rural society to one in which about 60 per cent of the population lives in urban areas. This process of urbanization is continuing to advance rapidly, moreover, as a result of insufficient job opportunities in rural areas and the attractiveness of urban life with its better job prospects, more developed health and educational services, and wider availability of consumer goods.

Agriculture, forestry and fishing

Agriculture, comprising arable farming and horticulture, animal husbandry, forestry and fishing, is still the most important sector in Iran in terms of its contribution to GDP and job creation. The share of agriculture in GDP at current market prices actually increased from 17.6 per cent in 1980 to 22.7 per cent in 1992. The latest available statistics on the sectoral distribution of employment show, meanwhile, that although the share of agriculture in total employment declined from 56.3 per cent in 1956 to 29 per cent in 1986 and further to 22.4 per cent in 1992 as a result of the declining capacity of the sector to absorb additional labour, the actual number of people employed in agricultural activities increased from 3.3 million to 3.4 million during this period.

Although mechanization is quickly gaining ground in Iranian agriculture, the sector continues to be dominated by traditional methods of cultivation.^{7/} Despite the growth of large-scale mechanized farming and animal husbandry units, smallholdings therefore continue to comprise the bulk of the sector. According to the 1988 Agricultural Census, the average size of holding amounted to no more than 5.87 hectares, and was often divided into several smaller parcels.

Manufacturing

The manufacturing sector in Iran has evolved over a period of more than five decades as the result of an industrialization drive based on an import-substituting economic development strategy. This has permitted the establishment of a wide-ranging industrial base comprising almost all manufacturing activities. At the same time, however, the objective of industrial self-sufficiency has not been achieved, and the manufacturing sector itself has remained heavily dependent on imported raw materials and capital and intermediate goods, which in turn has rendered it highly vulnerable at times of foreign exchange shortages. The overall contribution of manufacturing, especially outside the oil sector, to the Iranian economy has also remained limited.

The latest available national accounts data indicate that the share of non-oil manufacturing in GDP increased from 9.2 per cent to 13.6 per cent between 1980 and 1992. During the same period the share of the oil sector, which consists mainly of extraction activities but also includes an undefined component of refining and other processing, declined from 12.6 per cent to 8.4 per cent. Assuming, generously, that the relative share of oil refining in the overall oil sector increased from about one-third to one-half between 1980 and 1992, the combined share of oil and non-oil manufacturing in total GDP would only have increased from 13.2 per cent to 17.8 per cent during this period.

The contribution of manufacturing to employment creation has also been comparatively modest. Although the share of manufacturing employment in total employment increased sharply between the 1956 and 1966 censuses from 13.8 per cent to 18.2 per cent, its growth slowed significantly in the following decade to 19 per cent in 1976. By 1986 the share had contracted to 13.2 per cent - below the 1956 level, as a result of the external shocks suffered by the economy of Iran between the mid-1970s and the mid-1980s - and in 1992 it was estimated at a mere 12.3 per cent.

Mining and energy

Iran is well endowed with a wide range of mineral resources, and the mining industry has made a major contribution to the country's economy. Hydrocarbons, including crude oil and natural gas, constitute the most valuable of these resources, although the country also has substantial deposits of other metallic and non-metallic minerals. The bulk of these mineral resources are owned by the state and exploited by government enterprises, although steps have begun to be taken in recent years to involve the private sector in the mining industry.

The extraction of hydrocarbons is the most important activity in the mining sector in terms of the output value generated. Crude oil in particular has traditionally been the most important source of public revenue and foreign exchange, and has retained its dominance in these fields despite persistent efforts by the government to diversify Iran's budget revenues and export earnings. Even in the early 1990s crude oil continues to account for about 70 per cent of government revenues and more than 80 per cent of Iran's export income.

Oil is still the main source of energy in Iran, although plans are under way to expand the use of natural gas for domestic and industrial use. A network of natural gas supply lines for domestic consumption has already been created, and is expected to be extended to almost all cities and some rural areas in the next few years. Plans to promote the use of gas-driven motor vehicles are also seriously being considered in order to reduce pollution and utilize the huge deposits of natural gas in the country.

Apart from substantial deposits of crude oil and gas, Iran is also rich in other minerals. According to a survey conducted in 1988, the total proven reserves of non-oil minerals in Iran exceeded 10 billion tonnes. This total comprised 24.9 million tonnes of coal, 24.7 million tonnes of iron ore, 1.05 million tonnes of copper ore, 646.2 million tonnes of decorative stones, 1.47 billion tonnes of building stone, 5.1 billion tonnes of limestone, 237 million tonnes of silica and 1.3 billion tonnes of gypsum. In addition, Iran also has considerable deposits of lead and zinc, kaolin and fire-clay, asbestos and numerous other metallic and non-metallic minerals.

Non-oil mining activities in Iran have hitherto concentrated on the extraction and processing of iron ore, copper, and various building materials. The total production of non-oil minerals currently amounts to about 60 million tonnes, with, inter alia, a total of 5.7 million tonnes of iron ore, 106,500 tonnes of copper and 44 million tons of various construction stones being produced in 1992.^{8/} Recognizing the considerable contribution that the non-oil mining industry can make towards the diversification of Iran's economy, the government attaches great importance to its further development.

Iran also generates a considerable amount of electrical power. The country's total generating capacity amounted to 15,724 MW in 1992, when a total of 65.8 billion kWh of electricity was produced. The 1989-93 Plan projected the expansion of Iran's generating capacity by 14,349 MW, of which only 2,200 MW had been installed by early 1993. The electricity generating industry consists of steam, gas-fired, hydroelectric and diesel power plants. Nearly half of the installed capacity is accounted for by the steam generators, about 3,900 MW by gas-fired generators and 1,953 MW by hydroelectric generators.

Banking and finance

The formal banking system in Iran is entirely state-owned and composed of a central bank, six commercial banks and four specialized banks. The central bank, Bank Markazi, implements the

government's monetary policies and oversees the operation of the banking system. The commercial and specialized banks offer an extensive branch network, with almost 1,000 domestic and 55 foreign branches at the end of 1992, although this tends to be concentrated mainly in the major cities and towns. These banks are supplemented by a number of non-bank institutions known as *gharz-ol-hasaneh* funds, which accept deposits from the general public and extend short term loans for a 1 per cent service charge.

The banking system itself has been based on the Islamic principle of interest-free banking since 1983. This requires the banks to share proportionately in the profits or losses accruing to their borrowers from investments made with the borrowed funds, and to recompense their creditors according to their own profits or losses. In practice, the commercial banks' credit policies, the distribution of their credits according to various economic activities, and the rate of return (profit) they offer on deposits are determined by the government through the Monetary and Credit Council of the central bank. This, in turn, bases its decisions on the financial requirements of the public and private sectors specified by the government's annual budget.

The ability of the banking system to attract savings has been limited since the introduction of Islamic banking practices because the rate of profit on deposits has been maintained at levels well below the rate of inflation.^{9/} As a result, private funds have tended to be channelled into the purchase of fixed assets, such as foreign currency, gold and real estate. The traditional practice of lending and borrowing money at market rates of interest is widely reported to have continued at an informal level, however, despite the fact that it has been banned since the enactment of the Islamic banking regulations.

A capital market, the Tehran Stock Exchange, was established in 1967. Its development has been hampered by excessive government supervision, however, which is conducted principally through the central bank. Although the government has attempted to enhance the role of the stock exchange in recent years and use it as a vehicle for the privatization of state-owned enterprises, the value of the shares transacted on the bourse amounts to less than 2 per cent of private sector liquidity and only about 5 per cent of the industrial sector's value added.

Trade and services

The services sector has traditionally played an important role in the Iranian economy as a source of employment and income, and has at times accounted for almost half of the value added generated in the country. The emergence of this large services sector has been facilitated by Iran's rapid population growth and the government's commitment to the provision of schooling, health and medical services, and by the creation of a large administrative apparatus determined in part by the sheer size of the country.

The coexistence of a highly capital intensive and economically dominant oil industry with a relatively undeveloped non-oil industrial sector has also meant that the creation of a services sector, providing both public and personal services, represented the only means of distributing the proceeds of the oil industry.

Iran's economic infrastructure has improved greatly during the past four decades or so, although much still needs to be done to bring it to international standards. The latest available data show that the country had more than 5,000 kilometres of railways, 67,518 kilometres of main roads, over 80,000 kilometres of rural and earth roads, five multi-purpose ports with an installed capacity of 750,000 tonnes and 30 airports in 1991. By comparison, the country had a total road length of about 56,000 kilometres, and a rail network of 4,500 kilometres in the mid-1970s. During the

coming five years the government plans to build a further 20,000 kilometres of roads, lay 3,800 kilometres and upgrade 1,800 kilometres of railway lines, and establish 6 million tonnes of new commercial port capacity, in part through the construction of four new ports.^{10/}

The telecommunications industry has also grown rapidly in recent years. In 1993 Iran had almost 2.6 million private telephone lines, 18,800 public telephone lines, 3,630 long-distance lines, a mobile telephone network, and many other telecommunications facilities such as telex and facsimile services. The country also has a satellite communication system, which is to be further developed.^{11/}

C. THE POLICY ENVIRONMENT

Macro-economic policy framework

The economic policy environment in Iran has been subject to considerable changes over the past 15 years. Economic policy-making in the late 1970s and early 1980s exhibited strong centralizing tendencies, and resulted in the ownership of most major industries and enterprises being transferred to the public sector. This trend was reinforced by the effect of the protracted war from 1980-88, during which the need to mobilize sufficient resources to sustain the war effort accelerated the move toward a centrally-planned and government-managed economy.

One of the most direct effects of these developments was the squeezing aside of the private sector into a peripheral economic role. This was most evident in the industrial sector, where the ownership or control of hundreds of firms was transferred to the public sector. With the state-owned oil sector accounting for almost all of Iran's foreign exchange earnings, moreover, the government was also able to control the allocation of foreign exchange. The impact of these developments was exacerbated by monetary and fiscal policies, increasing centralization and regulation involving the increased adoption of price controls and rationing, the continued pursuit of an import-substituting industrial strategy, the imposition of tight controls on foreign exchange and foreign trade, and managerial inefficiencies at the factory level. The resulting decline in productivity significantly aggravated the effects of the war and falling real petroleum prices, which combined to cause the contraction of the Iranian economy in the years to 1988.

With the cessation of the war the authorities were able to turn their attention towards reviving the economy, and initiated a number of economic policy reforms aimed at reviving the Iranian economy's growth momentum. This change of course was formalized in the introduction of the First Socio-Economic and Cultural Development Plan discussed above, which provided for a significant liberalization of the macroeconomic policy environment. Although the adoption of these measures helped to stimulate a strong recovery in 1989-92, it also resulted in a temporary rise in inflationary pressures as price controls were removed, and in a deterioration in Iran's external balance as the growth of economic activity stimulated an increased demand for imports and weakening oil prices reduced Iran's export earnings. This has resulted in the reintroduction of some controls in the very recent past, although it is widely expected that the process of economic liberalization will be continued once circumstances improve.

Price policy

The distortion of the relative price structure has been one of the main macroeconomic characteristics of the Iranian economy for the past two decades. The sudden increase in crude oil revenues in 1974 and the desire to stimulate a rapid development of the economy through the

provision of cheap credits and the adoption of import-substituting policies resulted in the introduction of widespread price subsidies. The manufacturing sector benefited in particularly large measure from this policy stance, and was granted access to subsidized raw material imports and bank credits as well as a variety of tax concessions and export incentives.

The new government established after 1979 took the prevailing price structure as given and attempted to maintain it during the war through a rationing system which encompassed almost the whole economy. This inevitably led to the emergence of a parallel market with prices several times higher than the administered prices, and a thriving illicit trade in foreign exchange. It also prompted a decline in domestic production as the widening gap between official and market prices prevented the largely state-owned industries from obtaining cheap raw materials or selling their goods profitably.

Having been formulated under these conditions in 1988/89, the new economic policy adopted in 1990 placed particular emphasis on liberalizing the existing price structure and permitting market forces to play a greater role in determining prices. This transition was to be accomplished within the framework of a Five Year Economic Development Plan, however, with administered prices being phased out gradually and replaced with market pricing practices over a five year period. In the meantime price subsidies were to remain in force for some basic consumer goods and essential industrial inputs.

This process of price adjustment has not yet been completed. Some foods and raw materials continue to be subsidized, although the Second Socio-Economic and Cultural Development Plan, which is now scheduled to commence in March 1995 proposes that most of these subsidies will be progressively removed during the coming years. To the extent that economic prices continue to be introduced elsewhere in the economy, however, the effect of these remaining subsidies will be marginal, since they cover only a relatively small number of goods.

Fiscal policy

Public spending plays a major role in the economy of Iran, with budget expenditures often amounting to about 50 per cent of the total national income of the country. Government spending is classified under the headings of recurrent and development expenditures, with the former consisting mainly of public procurements and payments of wages and salaries to public sector employees, and the latter comprising expenditures on physical investment by the government. A further distinction is also drawn between the general budget and the overall budget, of which the first relates to the budget of the government and some public enterprises while the second relates to the general budget as well as the accounts of enterprises affiliated to the government. In addition, the government also collects "special revenues", comprising contributions to the Social Security Organization and surcharges on selected taxes and fees, and extra-budgetary revenues collected and spent by the Organization for the Protection of Consumers and Producers (OPCP). These were not consolidated into the general budget until 1993.

One of the main characteristics of the government's fiscal policy has been the running of substantial deficits, at times amounting to almost 50 per cent of total budget expenditure. This feature was particularly apparent during the war years of 1980-88, when fiscal discipline was subordinated to the exigencies of war. Another important characteristic of fiscal policy in Iran has been a persistently high reliance on oil and gas revenues in the government budget, which have accounted for more than 50 per cent of the government's general budget income for most of the past quarter century, especially if adjustments are made to correct for the effects of the increasing overvaluation of the rial in the closing years of the 1980s and early 1990s.

In response to the slackening of international oil markets since the mid-1980s the government has begun to take steps to broaden its revenue base. In this context it is seeking to increase its tax revenues in particular, and a major effort is currently under way to expand its collections of corporate taxes and taxes on private property, wealth and profit, which have hitherto made only a negligible contribution to the government's total tax revenues. For the first time in 25 years the government also attempted to balance its budget in the 1993/94 fiscal year, although preliminary indicators suggest that it achieved only partial success in this endeavour.

On the expenditure side, the late 1980s witnessed a sharp decline in the share of development spending in the government's total general budget outlay to about 20 per cent in 1987-89. This reflected a policy of reducing capital rather than recurrent expenditure whenever revenue shortfalls necessitated budgetary spending cuts. Recognizing the growing need to maintain and expand Iran's economic infrastructure, however, the government has more recently begun to place a higher priority on capital spending, resulting in an increase in its share to about 30 per cent in 1990-92.

Monetary policy

Iran's monetary and credit policies are determined by the Monetary and Credit Council, which is headed by the governor of the central bank. One of the principal aims of the Council has been the promotion of non-inflationary economic growth, the achievement of which has been rendered difficult by frequent external economic and political shocks. Consequently, Iran has suffered double-digit inflation and only modest rates of real GDP growth for most of the past two decades.

The task of the Monetary and Credit Council has been complicated further by the need to conform to the precepts of the Islamic economic system, which prevents the issuance of government bonds and the use of other means of financing practised elsewhere in the world. The activities of the Council have therefore been largely limited to the establishment of credit ceilings for various economic activities and the announcement of the annual rate of profit share paid on bank deposits.

As an instrument of the government, which was primarily concerned to mobilize funds for its own budgetary requirements, the Council has often also been forced to approve high levels of public borrowing even though they undermined the country's financial stability. In line with the need to minimize the cost of government borrowing, moreover, the Council has had to adopt policies leading to low nominal rates of return on borrowing and lending by the banking system, which have usually fallen well short of the rate of inflation, occasionally by a margin of 20 per cent.^{12/} This, in turn, has resulted in the diversion of loanable funds from bank deposits to the purchase of durable goods, real estate, gold and foreign currency, often with speculative intent.

The inability of the prevailing monetary control mechanisms to achieve the principal goal of containing inflationary pressures, combined with the broader reconsideration of economic policies after the 1980-88 war, have prompted some adjustments in monetary policy during the past few years. The profit-share rates on bank borrowing and lending were increased in 1991 and 1992, for example, and attempts have also been made to replace the direct controls on the banking system with indirect market-oriented methods of supervision. The reform process has been very hesitant, however, with the banks' borrowing and lending rates still remaining negative in real terms and some direct controls having been reintroduced in 1993, ostensibly as a temporary response to the external payment arrears and related domestic financial difficulties that emerged in mid-1992.

Trade policy

Iran's foreign trade policy during the past 2-3 decades has been greatly influenced by developments in the international crude oil market. While the average share of oil and gas exports in the country's total foreign exchange receipts amounted to 50-60 per cent in the 1950s, it increased to 80-90 per cent in the 1970s and 1980s, and has fallen only marginally in the opening years of the 1990s. Consequently, the imposition or relaxation of trade restrictions has been influenced directly by developments in international oil markets and their impact on Iran's foreign exchange earnings. During periods of relatively abundant foreign exchange availability the government has tended to allow easier terms for imports and neglected the promotion of non-oil exports, while during periods of foreign exchange shortage it has tried to restrict imports and grant incentives to exporters.

Another important determinant of Iran's foreign trade policy, especially during the past ten years or so, has been the excessive overvaluation of the domestic currency. This practice, which had the effect of subsidizing imports and taxing domestic production and exports, became increasingly unsustainable in the early 1990s. In April 1993, therefore, the government initiated a unification of the previously prevailing multiple exchange rates and a comprehensive realignment of the rial's international parity. Although the subsequent 18 months have witnessed the re-emergence of three different exchange rates, they do not diverge excessively from the equilibrium exchange rate and the gap between them has remained reasonable.

Further reforms are being introduced to liberalize the existing quantitative restrictions on foreign trade. The first step in this direction was taken in September 1993 with the passage of a new trade law. This distinguishes three categories of goods, the trade in which is freely allowed, conditionally allowed with the permission of the relevant government authorities, or banned on religious or legal grounds. In addition, this law permits Iranians working abroad and travellers coming to Iran to import a certain amount of goods at concessional rates of import tax, and also permits the establishment of "border markets" in frontier areas to facilitate trade with neighbouring countries. Other provisions of the law include a number of measures to promote non-oil/gas exports and restrain private imports of consumer goods.

Despite the recent reimposition of some trade restrictions in response to the deteriorating balance-of-payments position, the trade liberalization process is expected to be continued into the foreseeable future. The Second Socio-Economic and Cultural Development Plan of the Islamic Republic of Iran, adopted by the *majlis* in August 1994, specifically calls for the introduction of further trade policy reforms and the reduction and simplification of the prevailing import taxes and tariffs. Further measures are also expected to be taken to re-unify the three-tier exchange rate regime that has emerged since mid-1994, followed by the abandonment of the existing foreign exchange allocation system.

Labour policy

Iran's labour policy is governed by a comprehensive labour law intended to protect workers and maintain employment. The law specifies conditions of work and payment as well as dismissal procedures. The observance of the law is overseen by a High Council of Employment comprising the minister of Employment and Social Affairs, two social and economic experts proposed by the minister and approved by the cabinet, three representatives chosen by the employers and three representatives nominated by labour organizations known as the Islamic Councils of Labour. Its decisions are taken by majority vote, with the minister of employment and social affairs having the casting vote.

Minimum wages, bonuses and other payments are determined by a directive issued annually by the Ministry of Employment and Social Affairs (MESA). The minimum wage currently stands at 110,000-130,000 rials per month, which at the current "floating" exchange rate of 1,750 rials to the US dollar amounts to \$62-74. Employers are also legally required to provide recreational facilities and training for their labour force, as well as a number of additional benefits, such as family allowances, housing benefits, travel expenses, end-of-year and productivity bonuses, a profit share, and payments to MESA for the provision of essential food items. These additional payments can amount to about 100 per cent of the regular pay, especially in production units owned and operated by the government or the public sector.

Industrial development policies

Official attempts to develop Iran's manufacturing industry date back to the middle of the nineteenth century, when the Industrial Revolution and the spread of industrialization in the West prompted Iran, like many other countries of the world, to become an "industrial imitator" of the advanced world. The first major effort to develop a domestic industrial base was initiated in the 1850s by the then prime minister Amirkabir, whose government encouraged local craftsmen to manufacture some of the goods produced in the industrial countries of the day, and employed consultants from the West to assist in the establishment of modern mills and workshops. These new workshops were located in the country's major towns, including Tabriz, Esfahan, Rasht and Tehran.^{13/}

Successive Iranian governments adopted the classical model of import-substituting industrial development spearheaded by the promotion of the textile industry, with the first modern textile mill being set up in Tehran in 1901. Over the following decades, and especially during and after the 1920s, a number of textile, sugar and cement mills were set up. This was followed by a major industrialization effort in the 1930s and 1940s, which again concentrated on the building of mills modelled on those in Europe for the provision of basic necessities and household goods. This time, however, the government's industrial policy was influenced by developments in the former Soviet Union after the 1917 Revolution, which resulted in the emergence of the concept of economic planning.

Indeed, Iran's First Economic Plan, however rudimentary, was drafted in the 1920s but never implemented due to a lack of funds. The interest in economic planning continued to gain strength before and during the Second World War, and Iran's First Seven Year Development Plan (1949-55) was formulated and implemented in the immediate post-war era. It was followed by a succession of further seven year and five year development plans. To date, nine such plans have been formulated in the country, of which six have been implemented. The latest, as discussed above, was scheduled to commence in April 1994, although its introduction has now been postponed until April 1995.

The First Seven Year Plan was formulated at a time of limited funds, and was aimed primarily at developing Iran's agricultural sector, transportation network and social services. It provided for 28.5 per cent of the total expenditure to be devoted to social affairs, 25 per cent to the agricultural sector, 23.8 per cent to the construction of transport infrastructure, 14.3 per cent to the development of industry and mining, and the remainder to the expansion of the oil industry and communication facilities. In fact, the first two years of the Plan were devoted to the establishment of a planning organization and the restructuring of a number of industries, following which an interruption in the flow of oil revenues prevented the implementation of many of the proposed projects. The sugar and cement output of state-owned companies did increase, however, from

27,000 tonnes and 56,000 tonnes in 1949 to 55,000 tonnes and 62,000 tonnes in 1950, respectively.^{14/}

The Second Development Plan (1956-62) also emphasized the development of agriculture and infrastructure, with agriculture and irrigation being allocated 31.1 per cent of the Plan's budget, transport and communications 39.8 per cent, social services 17.3 per cent and industry and mining 11.8 per cent. The main achievements of the Plan included the establishment of economic development as a national objective, the training of manpower for the execution of development plans, the initiation of agricultural mechanization as a basis for agro-industrial development, and the construction of roads, railways, ports, airports, telecommunications facilities, hospitals and clinics, and electricity and piped water systems. In the industrial sector priority continued to be given to the establishment of textile, cement and sugar plants, with the production of fabrics increasing from 60 to 418 million meters, the output of cement increasing from 82,000 tonnes to 1.2 million tonnes, and the production of sugar increasing from 85,000 tonnes to 217,000 tonnes. In overall terms, GNP increased by 34 per cent and the ground was paved for the execution of future development plans.

Iran's Third Development Plan (1963-67) stressed the country's industrialization as the prime instrument of economic development, and provided for the public sector to undertake investments in big, capital-intensive and heavy industries while encouraging the private sector to invest in light industries. During the Plan period the textile, cooking oil, sugar, dried fruits, dates, preserved food, tea, tobacco, fish processing, carpet weaving, leather, glass and fertilizer industries were further developed, with special attention being paid to small and medium sized industries, and steel, paper, synthetic fibre and petrochemical industries were set up. By the end of the Plan period an inward-looking industrial base had been created, with several of the industries established during this period lacking a distinct comparative advantage, the legacy of which still remains with the country.

The Fourth Development Plan (1968-72) was intended to transform Iran's oil-based economy into a non-oil-based one by continued import-substituting industrialization, first in the production of raw materials and subsequently in the production of capital goods. Thus, industry and mining were allocated 25.6 per cent of the planned national investment expenditure, while agriculture was allocated 8.2 per cent, the oil and gas sector 11.7 per cent, water and electricity 12.3 per cent, and transport and communications 13 per cent. Moreover, the contribution of the private sector in achieving the objectives of the Plan was projected to increase substantially, with the share of private investment in the total projected capital formation in agriculture, industry and mining, oil and gas, water and electricity, and transport and communication being set at 62.2 per cent, 58.1 per cent, 55.3 per cent, 1.2 per cent, and 19 per cent, respectively. Industrial output doubled during the Plan period, with the establishment or expansion of production facilities for a wide range of manufactured goods, including steel, heavy metal equipment, machine tools, aluminium, tractors, defence equipment, petrochemicals, paper, cement, synthetic fibres, tyres, fertilizer, processed foods, glass, chinaware, bicycles and motorcycles, transport vehicles, electronic and mechanical products, pharmaceuticals, textiles and leather goods.

The Fifth Development Plan (1973-78) commenced shortly before the surge in international oil prices, which resulted in its revision in mid-stream and a trebling of the originally proposed expenditures. This sharp increase in the availability of financial resources proved to be beyond the absorptive capacity of the Iranian economy, however, and resulted in the flooding of the domestic market with imported goods to the detriment of the many of the internationally uncompetitive industries established during the previous plans. The Plan called for 16.6 per cent of the total investment expenditure to be channelled into the manufacturing industry, with the

private sector accounting for a substantial proportion of this investment. The main thrust of the Plan in the industrial sector was to increase value added and output, maximize industrial capacity utilization, establish new industries and develop existing ones on the basis of comparative advantage, and promote industrial exports as the main source of foreign exchange income. The main emphasis was placed on the metal and chemical/petrochemical industries, which were allocated 29.8 per cent and 20.9 per cent respectively of the total investment funds earmarked for the manufacturing sector.

Many of the projects initiated during the Fifth Development Plan were not completed during the Plan period, and were therefore intended to be carried over into the next Plan scheduled to begin in 1979. The start of the new Plan coincided with the Islamic Revolution, however, which was soon followed by the outbreak of the eight year war with Iraq. These events resulted in a serious disruption of the economy, with many industries suffering severe war damage and the completion of unfinished projects being delayed. The planning process was also interrupted, and although a Five Year Plan covering 1983-87 was drafted by the new government, its implementation was prevented by a lack of funds and the ongoing war.

The abortive 1983-87 Plan was revised and updated after the conclusion of war, and implemented during 1989-93 as the First Socio-Economic and Cultural Development Plan of the Islamic Republic of Iran. This Plan was introduced at a time when the country had suffered major economic setbacks. The real GDP index had fallen from 100 in 1977 to 80 in 1988, while the per capita private consumption index had decreased to 64 during the same period and the share of investment in GDP had decreased from 27.4 per cent to 15 per cent. Even more importantly, the preceding decade had witnessed the introduction of a widespread misallocation of resources, monetary disorder, breakdown of fiscal discipline, and uneconomic pricing.

Against this background, the First Plan of the Islamic Republic sought to raise real incomes, increase the share of investment expenditure and private consumption and bring down unemployment. It also sought to deal with the economic inefficiencies and monetary mismanagement that had arisen, and to restore fiscal discipline. In the industrial field it embodied a mixture of import-substituting and export-oriented policies, paying special attention to the achievement of economic self-sufficiency while at the same time aiming to promote non-oil exports.^{15/}

The Plan did not achieve all its goals, especially in the industrial sector and with regard to non-oil exports. An analysis of the results of the first four years of the plan period published by the Government of Iran in 1992 indicated that the average annual growth rates of most sectors fell short of the targets set by the Plan, albeit often by only a small margin.^{16/} Despite these shortfalls, however, the Plan did succeed in creating a more favourable environment for economic growth and industrial development.

One of the main underlying causes of the failure to meet the Plan targets was the weakness of international oil markets, which resulted in significant foreign exchange shortages. Although the industrial sector received more than its planned allocation of foreign exchange resources its poor performance was due to *inter alia* high dependence on imported raw materials and capital goods, and inability to compete in international markets. In order to help the industrial sector overcome these inefficiencies, the government plans to proceed with the deregulation of the economy and the divestment of many publicly-owned companies.

The Second Socio-Economic and Cultural Development Plan of the Islamic Republic thus provides for the introduction of a number of measures designed to increase manufacturing output, balance

Iran's trade in industrial products, improve and develop domestic technology, and make more efficient use of the country's existing industrial potential. These proposals involve adjustments to the industrial sector in order to ensure that domestic manufacturing activities are based more firmly on the principle of comparative advantage, the reduction of tariff rates to stimulate increased efficiency in domestic production, the continued establishment of industrial estates by the government and the private sector, the privatization of "unstrategic" industries, a liberalization of the investment code and the provision of increased protection for foreign investors in order to encourage the transfer of advanced technology, and the promotion of regional industrial development. A particular important proposal in this connection calls for the establishment and development of small, high-technology industries linked to medium and large industries through a variety of subcontracting arrangements.

Fig. I.F.



Foreign investment policy

Iran's foreign investment policy is governed by two sets of laws: the rules and regulations derived from the constitution of the Islamic Republic of Iran, and the law on the Attraction and Protection of Foreign Investment in Iran (APFII), which was enacted in the 1950s to provide a framework for foreign investment in the country. While requiring foreign investors to have the permission of the Iranian government, APFII allows for such investments to be made "either in cash or in the form of factories, machinery and parts, equipment, patent rights, expert services and the like, for development, rehabilitation and productive activities in industry, mining, agriculture, and transport". According to data collected by one study, IR55.4 billion worth of investments from 27 countries were approved under the terms of APFII during 1955-77. In terms of foreign currency, these investments amounted to a total of about \$11 billion.^{17/}

The establishment of the Islamic government, accompanied as it was by strong revolutionary sentiments and the widespread nationalization and confiscation of private enterprises, resulted in a virtual cessation of foreign investment. As "self-reliance" became the main theme of economic policy following the Islamic Revolution, moreover, and as the relatively high oil prices prevailing until the mid-1980s enabled Iran to earn substantial foreign exchange revenues, the country gradually began to disregard the importance of foreign investment, and the APFII became practically dormant.

Following the conclusion of the eight year war and depletion of foreign exchange reserves, the policy sentiment changed gradually and Iran began adopt a more open approach towards foreign participation. Initially, the country sought to finance its industrial development through buy-back arrangements with foreign investors, whereby the investing company would buy a proportion of the goods produced in its Iranian plants. This only attracted investments worth \$1 million during the First Development Plan of the Islamic Republic, as against a planned figure of \$10 billion.^{18/}

Following these developments, a policy debate ensued as to the interpretation of the foreign investment law. This has resulted in new regulations being approved by the cabinet and submitted to the parliament for deliberation and approval.^{19/} It may be added that foreign investment in the service and trade sectors is not subject to APFII. The direct purchase of industrial establishments is also not forbidden, but does not automatically entitle the purchaser to the benefits offered by the APFII.^{20/}

In summary, whatever legal position may emerge, it is clear that Iran is increasingly in need of foreign investment. It is equally clear that the authorities have realized this need, and are seeking to introduce new measures to promote such investment while also looking for ways to re-interpret the existing laws. This may include the privatization of state-owned industries with the intention of paving the ground for their transfer to foreign nationals, and/or providing a stable and secure investment policy environment.

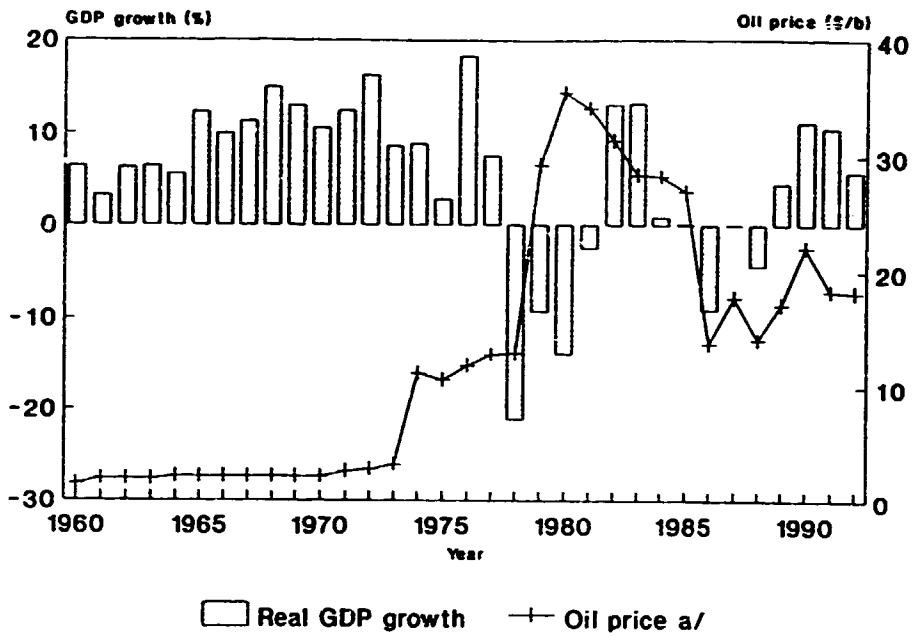
NOTES TO CHAPTER I

- 1/ The macroeconomic data cited in this section are sourced from various issues of the International Financial Statistics Yearbooks published by the International Monetary Fund, Washington D.C.
- 2/ For a detailed analysis of the progress achieved by the privatization programme by 1992/93 see Kazmi, A., *The Privatization Programme in Iran - An Evaluation*, monograph prepared for UNDP Tehran, January 1994.
- 3/ Details of the debt rescheduling agreements reached by Iran with its external creditors are given in the quarterly Country Reports of Iran published by The Economist Intelligence Unit. See, in particular, the Reports for the second quarter of 1993, page 24; the third quarter of 1993, pages 23-24; the fourth quarter of 1993, page 26; the first quarter of 1994, page 25; the second quarter of 1994, pages 24-25; and the third quarter of 1994, page 21.
- 4/ Daneshku, Sheherazade, "Iran's Leaders Try to Stay a Step Ahead of Critics", *Financial Times*, 5 October 1994.
- 5/ See related articles in the 16, 19 and 27 October editions of the Tehran Times; see also "Tehran Attacks Inflation", *International Herald Tribune*, 31 October 1994.
- 6/ "Bevölkerungswachstum auf 1,8 Prozent zurückgegangen", *Iran Report*, Embassy of the Islamic Republic of Iran in the Federal Republic of Germany, Vol. 2, No 30 (76), 28 July 1994, pp. 6-7.
- 7/ Statistical Centre of Iran, Agricultural Census 1988.
- 8/ Islamic Republic of Iran, Ministry of Culture and Islamic Guidance, *After Four Years*, 1992.
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- 10/ Islamic Republic of Iran, Plan and Budget Organization, *Second Socio-Economic and Cultural Development Plan of the Islamic Republic of Iran - Annex 1*, 1993.
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- 12/ Rostami-Nasfi, Fereidoun, *Performance of the Banking Sector in the Last Ten Years*, Iran Chamber of Commerce, Industries and Mines Bulletin, September-October 1993.
- 13/ Barouci, A. A., and Aryafar, A., *Economic Planning in Iran: Roots, Processes and Prospects*, Asian and African Studies, No. 25, 1991.

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- 15/ Government of the Islamic Republic of Iran, Plan and Budget Organization, *First Socio-Economic and Cultural Development Plan of the Islamic Republic of Iran*, Tehran, 1989.
- 16/ Government of the Islamic Republic of Iran, Ministry of Culture and Islamic Guidance, *After Four Years*, Tehran, 1992.
- 17/ Ravasani, Shahpour, *Government and the State in Iran*, n.p., n.d.
- 18/ Government of the Islamic Republic of Iran, Ministry of Finance and Economic Affairs, College of Economic Affairs, *Proceedings of the Third Privatization Seminar*, Tehran, 1994.
- 19/ Government of the Islamic Republic of Iran, Ministry of Finance and Economic Affairs, *Foreign Investment Bill*, Tehran, 1994.
- 20/ Government of the Islamic Republic of Iran, Ministry of Finance and Economic Affairs, College of Economic Affairs, *Proceedings of the Third Privatization Seminar*, Tehran, 1994.

Fig. I. A

GDP growth
(% per year)



a/ Average.

Fig I.B

Inflation
(Percentage per year)

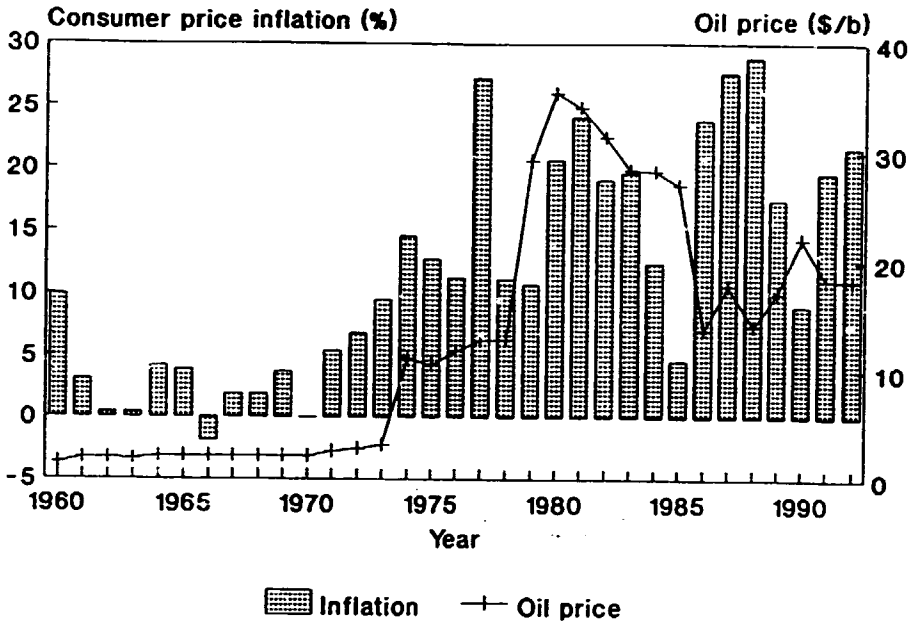


Fig. I.C. External trade
(\$ billion)

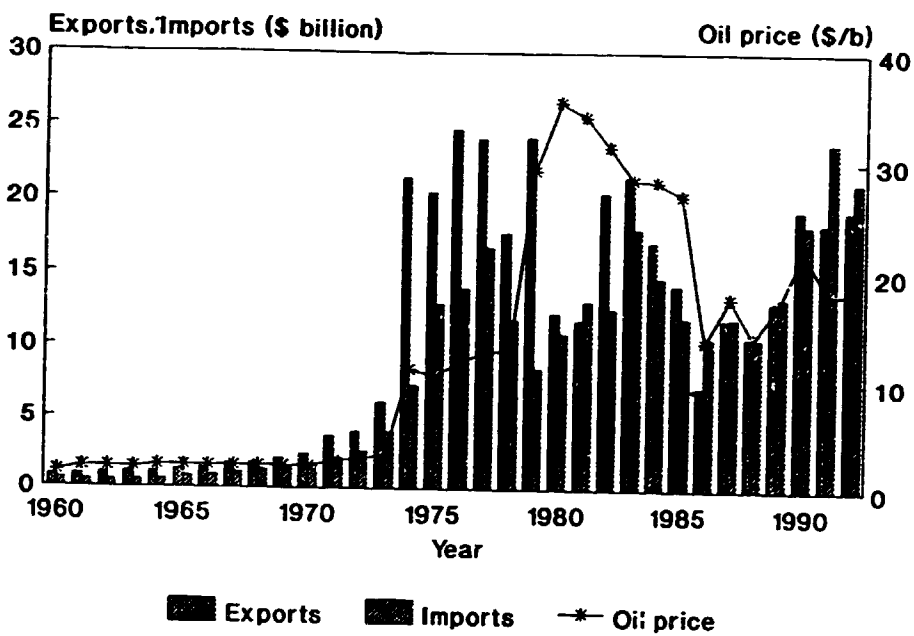


Fig. I.D. Current-account balance
(\$ billion)

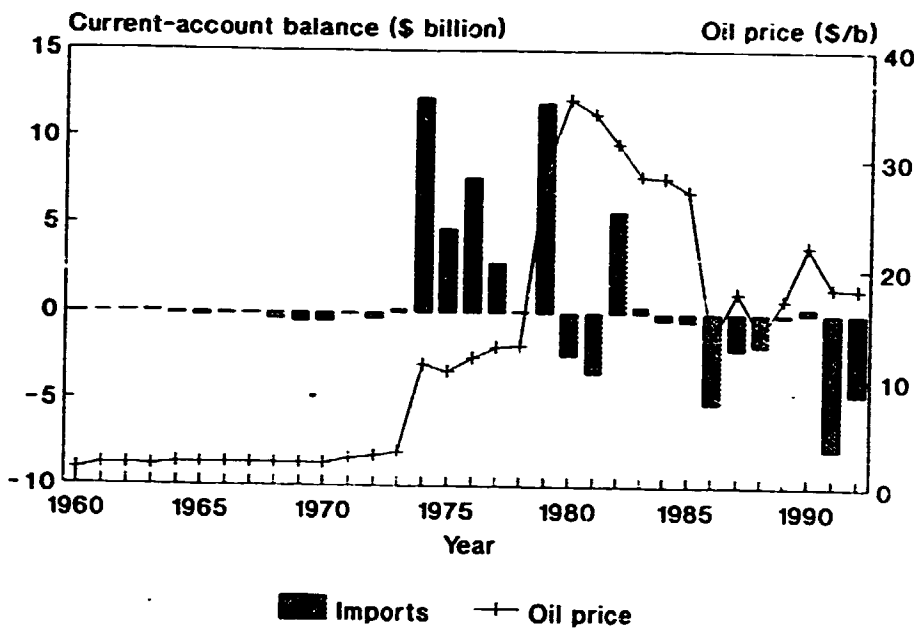
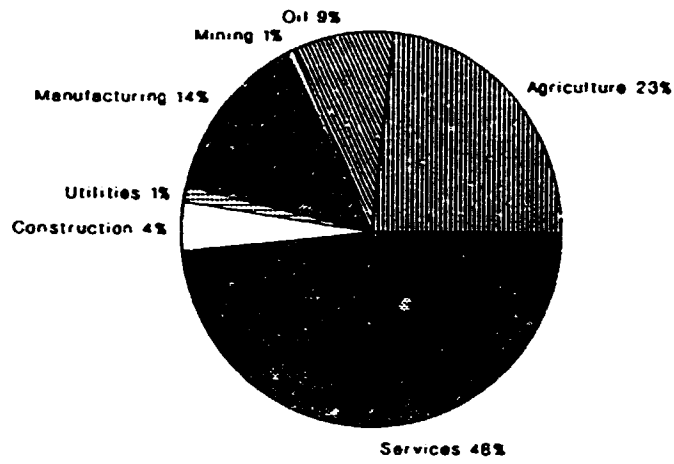
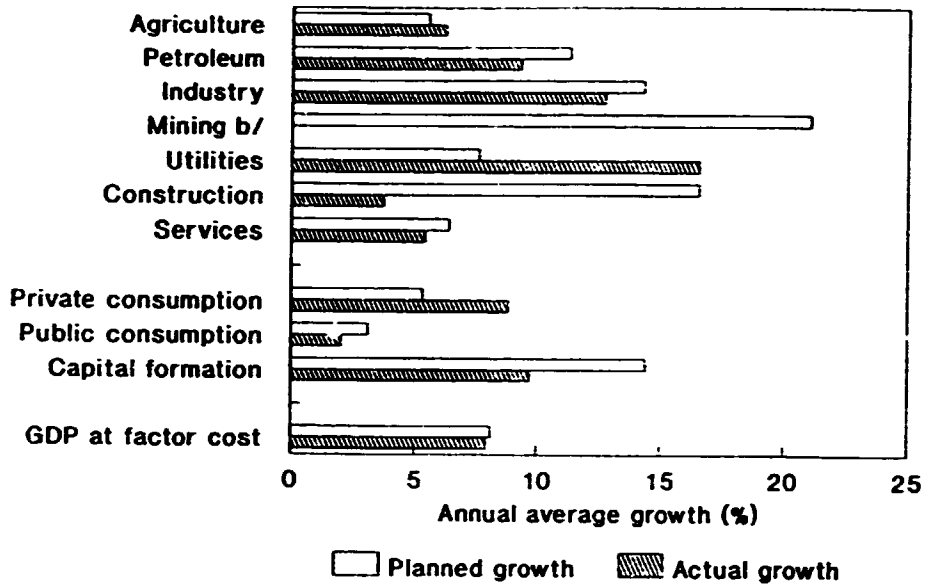


Fig. I.E. Distribution of GDP, 1992
Percentage



**Fig. I.F. Sectoral Growth in First Plan
(Percentage per year)**



a/ First four years only
b/ Actual growth data not available

II. THE MANUFACTURING SECTOR

A. GROWTH AND STRUCTURAL CHANGE

Growth

The Iranian economy was essentially agrarian in character until well into the present century, and the few manufacturing activities that did exist during its early decades were mainly cottage-based. The building of the modern manufacturing sector can be traced back to 1930s, when a number of textile mills, cement plants and sugar refineries were established. These industries were expanded and developed during the first two development plans (1949-62), following which a variety of basic consumer goods industries were established during the third plan (1963-67) and the foundations were laid for the iron and steel, automotive, and petrochemical and chemical industries.

After gathering pace during the fourth and fifth plans (1968-78), the industrialization process was slowed down for almost a decade during the 1980s due to political developments. This was partly the result of a shift in the government's sectoral priorities during the first half of the 1980s, when the previous emphasis on industry as the main agent of economic growth was replaced, at least temporarily, by a greater stress on the agricultural sector. In addition, it also reflected a virtual cessation of the private foreign and domestic investment that had begun to play an increasingly important role in the growth of the manufacturing sector by the late 1970s, as a response both to the self-reliant policies pursued by the new government and to the widespread expropriation of private industrial enterprises during its early years in power. The situation was exacerbated by the extended war during 1980-88, which resulted in a significant diversion of resources and severe damage to many of Iran's leading industrial facilities.

The end of the war and the subsequent adoption of more liberal economic policies, culminating in the introduction of the First Socio-Economic and Cultural Development Plan of the Islamic Republic (1989-93), paved the way for a resumption of industrial growth and development. Many of the installations damaged during the war have been rebuilt during the past five years, and many of the projects delayed by it have been completed. The restoration of stability has also stimulated a gradual recovery in private investment interest, especially among the Iranian business community, which is beginning to move from short-term intermediation activities to longer-term industrial capital formation.

The somewhat fitful nature of industrial growth in Iran during the past two decades is indicated in Table II.1, which shows that neither the economy as a whole nor the manufacturing sector recorded a steady growth trend between the mid-1970s and the early 1990s. Indeed, manufacturing value added outside the petroleum sector suffered a real contraction in five of the eleven years from 1976 to 1986, while the mining and quarrying sector, consisting almost entirely of petroleum-related industries, contracted in six of these years. Consequently, the share of non-petroleum MVA in GDP was only marginally higher in 1986 than in 1975, while that of the mining and quarrying sector was substantially lower. Both the non-petroleum manufacturing industries and the mining and quarrying sector have experienced steady growth since 1986, however, resulting in significant increases in the contribution of both to overall GDP between 1987 and 1992.

Table II.1. Contribution of industry to the national economy, 1975-1992

Year	GDP	Agriculture	Combined industry	Mining	Manu- facturing	Utilities	Construction	Other
A. GDP growth by sector (Percentage change at constant 1980 factor cost)								
1976	20.6	7.3	10.8	10.5	14.4	2.9	52.0	42.9
1977	0.9	0.3	0.0	-1.6	9.4	32.3	-21.7	11.8
1978	-13.0	7.7	-27.5	-31.1	-2.1	-9.5	-13.2	7.7
1979	-8.7	1.1	-14.2	-17.7	0.5	14.8	-27.6	-0.7
1980	-18.3	8.9	-55.0	-68.2	-2.7	-18.2	8.8	8.9
1981	-3.1	2.0	4.9	2.0	8.0	14.0	-12.1	-7.1
1982	13.6	7.1	61.7	114.5	-4.4	19.8	3.8	-7.4
1983	10.7	4.9	5.3	3.2	11.8	3.9	34.6	14.2
1984	0.1	7.3	-9.3	-18.2	12.3	12.1	-5.0	6.1
1985	1.6	7.8	0.4	0.9	-2.1	9.5	-13.1	2.5
1986	-8.9	4.5	-11.0	-14.6	-6.3	7.4	-16.0	-12.0
1987	0.0	2.5	12.6	13.6	11.1	10.9	-15.3	-8.0
1988	-3.0	-2.5	5.9	8.8	2.0	-3.6	-21.4	-8.6
1989	4.1	3.7	8.2	7.6	8.9	11.3	-1.6	0.9
1990	11.8	8.1	18.4	19.5	16.0	19.3	2.9	8.1
1991	9.4	5.1	13.9	9.6	20.5	27.1	8.9	6.9
1992	6.7	7.4	7.1	9.6	3.2	3.2	3.3	6.0
B. Distribution of GDP by sector (Percentage share of current factor cost)								
1975	100.0	8.54	47.97	39.09	7.78	1.10	5.78	57.73
1976	100.0	8.09	43.90	36.10	6.93	0.87	8.71	39.29
1977	100.0	8.07	40.57	32.22	7.31	1.04	7.98	43.37
1978	100.0	9.88	30.41	22.13	7.33	0.95	8.81	50.90
1979	100.0	10.67	34.61	26.24	7.42	0.95	6.71	48.02
1980	100.0	17.47	23.44	13.16	9.20	1.08	8.10	50.99
1981	100.0	21.06	23.90	12.94	9.76	1.20	6.89	48.15
1982	100.0	19.98	29.97	19.23	9.53	1.21	6.65	43.41
1983	100.0	17.95	25.75	15.91	8.78	1.06	8.96	47.33
1984	100.0	19.71	22.24	12.28	9.09	0.87	8.79	49.27
1985	100.0	20.38	19.88	10.46	8.50	0.92	7.69	52.04
1986	100.0	23.91	14.41	4.76	8.62	1.03	7.35	54.33
1987	100.0	25.36	15.77	5.21	9.52	1.04	6.05	52.82
1988	100.0	23.79	16.66	5.02	10.45	1.19	5.07	54.46
1989	100.0	24.54	18.61	6.79	10.70	1.12	4.74	52.13
1990	100.0	23.36	24.36	11.01	12.25	1.10	3.99	48.28
1991	100.0	23.06	25.54	10.33	14.04	1.17	3.73	47.69
1992	100.0	23.32	25.37	10.30	13.96	1.11	3.54	47.76

Source: UNIDO, Industrial Development Review Information Base

Structural change

Its patchy growth performance of the past two decades notwithstanding, Iran's industrial sector has nevertheless come a considerable way from its modest beginnings in the 1930s. As late as the mid-1950s the country's manufactured output consisted primarily of processed foods and textiles, but the following four decades have witnessed a substantial increase in the volume and variety of this output. By the early 1960s the range of products manufactured in Iran had been expanded to include a number of basic chemicals, including fertilizers, paints and soap. This was followed by the development of the electrical and mechanical engineering industries in the 1960s and 1970s, resulting in the emergence of a highly diversified product range by the late 1970s. An indication of this expansion and diversification of the range of industrial output is provided in Table II.2, which traces the development of the industrial sector since the mid-1950s.

Table II.2. Manufacturing production, 1955-1992, selected years

Production	Unit	1955	1962	1967	1972	1986 ^{a/}	1992
Conserved fruit	Thousand tonnes	-	2.2	8.1	..	21	..
Preserved fish	Thousand tonnes	-	-	-	-	12.5	..
Edible vegetable oil	Thousand tonnes	-	64.5	118.0	178.9	401.3	608.3
Wheat flour	Thousand tonnes	-	435.0	2,039.0	407.0
Biscuits and wafers	Thousand tonnes	-	6.6	16.5	18.7	69.0	..
Sugar	Thousand tonnes	75.0	292.0	553.0	669.0	511.0	871.0
Tea	Thousand tonnes	7.0	14.3	18.8	..	48.0	44.0 ^{b/}
Animal feed	Thousand tonnes	-	-	-	-	415.0	..
Non-alcoholic drinks	Million bottles	-	29.0	52.1	..	2,269.0	2,209.6
Cigarettes	Million pieces	6.0	8.4	10.6	12.9	15.3	10.5
Cotton fabrics	Million metres	76.0	364.0	454.0	..	562.0	569.0
Blankets	Thousand pieces	-	504.0	1,286.0	..	6,034.0	..
Knitted fabrics	Thousand pieces	-	-	-	-	13.7	..
Machine-made carpets	Million square metres	-	-	-	-	7.5	8.9
Moquette	Million square metres	-	-	-	-	17.3	24.8
Leather	Million feet	-	11.4	16.2	..	63.1	..
Leather shoes	Million pairs	-	9.5	24.1	..	8.1	13.5 ^{c/}
Non-leather sport shoes	Million pairs	-	1.6	7.0	..	17.1	22.2 ^{c/}
Plastic shoes and slippers	Million pairs	-	4.4	7.0	..	4.1	6.8 ^{c/}
Wooden and formica veneer	Million square metres	-	-	-	-	8.8	..
Neopine	Thousand square metres	-	-	-	-	431.0	..
Writing paper	Thousand tonnes	-	-	-	-	60.0	116.1
Cardboard	Thousand tonnes	-	4.9	5.4	..	7.5	..
Cartons	Thousand tonnes	-	7.7	39.3	..	117.1	154.1
Paper tissues	Thousand tonnes	-	0.8	2.4	..	3.0	4.0
Wall paper	Million square metres	-	-	-	-	19.5	..
Pesticides	Thousand tonnes	-	-	-	-	24.0	18.6
Chemical fertilizer	Thousand tonnes	-	45.7	163.3	1,300.0
Paint	Thousand tonnes	-	2.8	9.7	21.0	26.9	..
Soap	Thousand tonnes	15.0	53.7	34.4	..	31.1	..
Washing powder	Thousand tonnes	-	3.1	31.1	..	132.8	..
Matches	Million boxes	365.0	524.0	447.0	..	1,844.0	..

(continued)

Table II.2. (continued)

Production	Unit	1955	1962	1967	1972	1986 ^{a/}	1992
Automotive tyres	Thousand tonnes	-	215.0	463.0	..	43.1	89.0 ^{b/}
Automotive tubes	Tonnes	-	-	195.0	..	1,299.0	..
Bicycle and motorcycle tyres	Tonnes	-	-	-	-	2,957.0	..
Nylon bags and plastic rolls	Thousand tonnes	-	-	-	-	18.8	..
Plate glass	Billion square metres	-	0.3	1.2	15.1	0.1	..
Safety glass	Thousand square metres	-	-	-	-	297.0	1,204.6
Bricks	Thousand million	-	3.5	4.3	..	8.4	..
Tiles	Million square metres	-	0.2	1.8	..	15.9	24.5 ^{c/}
Gypsum	Million tonnes	-	-	-	-	3.5	..
Cement	Million tonnes	0.1	0.7	3.4	..	13.1	16.0
Copper products	Thousand tonnes	-	2.1	1.9	..	7.0	..
Iron products	Thousand tonnes	-	11.1	73.3	..	149.0	..
Aluminium products	Thousand tonnes	-	1.4	7.9	..	38.6	..
Bulldozers, loaders and mechanical shovels	Units	-	-	-	-	424.0	520.0
Tractors	Thousands	-	-	-	-	10.6	9.3
Tillers and threshers	Units	-	-	-	-	11,916.0	..
Combines	Units	-	-	-	-	338.0	573.0
Water pumps	Thousand sets	-	5.7	6.4	..	42.8	..
Radio and cassette players	Thousand sets	-	8.6	129.6	222.0	245.2	144.0
Television	Thousand sets	-	0.6	24.9	1.9	330.8	678.0
Telephones	Thousand sets	-	-	-	-	259.0	353.0
Electrical heaters	Thousand sets	-	-	-	-	10.2	..
Coolers	Thousand sets	-	1.6	6.4	143.0	238.0	309.0
Refrigerators and freezers	Thousand sets	-	-	-	-	434.4	860.0
Washing machines	Thousand sets	-	-	-	-	73.8	65.0
Meat mincers	Thousand sets	-	-	-	-	27.8	93.0
Juice extractors	Thousand sets	-	-	-	-	95.9	107.0
Rice cookers	Thousand sets	-	-	-	-	76.4	224.0
Car batteries	Millions	-	-	-	-	2.6	..
Light bulbs and tubes	Millions	-	-	-	-	44.1	48.0
Sockets and plugs	Millions	-	-	-	-	17.7	28.0
Cables	Thousand tonnes	-	-	-	-	17.7	..
Wires	Thousand tonnes	-	-	-	-	8.8	..
Motor vehicles	Thousands	-	-	-	-	61.7	75.3
Motorcycles	Thousands	-	-	-	-	110.3	109.8
Bicycles	Thousands	-	-	-	-	35.0	37.8

Sources: Plan and Budget Organization, "Preliminary Report of the Third Plan on Industry and Mines", 1961; Ministry of Industries and Mines, "Data on Industrial and Mining Activities in Iran", 1960; Ministry of Economics, "Report on the Results of the Industrial Census", 1965; Central Bank of Iran, Annual Report and Balance Sheet", 1974; Statistical Centre of Iran, Statistical Yearbooks, various issues; Plan and Budget Organization, "Second Socio-Economic and Cultural Development Plan of the Islamic Republic of Iran", Annex 1, Tables from Chapter III.

a/ Large industrial establishments only.

b/ 1991.

c/ 1993.

A more quantitative indication of the structural changes experienced by the manufacturing sector in Iran is provided by data on the distribution of manufacturing value added (MVA) by major industrial branches between 1975 and 1992 compiled by UNIDO (see Table II.3). This shows that the manufacturing sector has traditionally been dominated by the textiles, food processing (including beverages and tobacco manufactures), and transport equipment branches, whose combined share remained almost unchanged at about 41 per cent between 1975 and 1992. Important changes did take place within these branches, however, with the share of the textile industry declining from 20.5 per cent to 14.6 per cent, while the shares of the food processing and transport equipment industries increased from 12 per cent to 13.7 per cent and from 8.6 per cent to 13.1 per cent respectively during this period.

Other major manufacturing branches are the non-metallic mineral products industries (including ceramics and glass), the metal and metal products industries (excluding machinery and equipment) industries, and the electrical and non-electrical machinery industries. As indicated in Table II.3, each of these branches contributed more than 10 per cent to total MVA in 1992, with the non-metallic mineral products industries accounting for 11.29 per cent, the metal and metal products industries for 17.5 per cent, and the electrical and non-electrical machinery industries for 12.5 per cent. In the case of the first two of these three groups the 1992 share was well above the corresponding figure for 1975, which amounted to 8.4 per cent and 11.2 per cent respectively. By contrast, the 1992 share of the electrical and non-electrical machinery industries fell short of the 13.8 share registered in 1975, principally because of a sharp decline in the share of the electrical machinery sub-group.

Most other branches recorded small but noticeable decreases in their share of total MVA during 1975-92. This was especially true of the paper and printing industries, most sections of the chemical industry including petroleum refining and the manufacture of rubber products, and the professional and scientific equipment industries. Modest gains, by contrast, were made by the wearing apparel, furniture and plastics industries.

Table II.3. Structure of manufacturing value added, 1975-92, selected years
(Percentage)

	1975 ^{a/}	1980	1985	1988	1989	1990	1991	1992 ^{a/}
Food products	5.47	11.47	11.02	12.72	11.61	9.23	10.38	10.48
Beverages	2.38	1.79	2.64	2.69	2.68	1.90	1.52	1.54
Tobacco manufactures	4.18	1.38	0.90	2.53	1.40	1.03	1.77	1.76
Textiles	20.51	16.40	18.55	19.18	18.47	16.98	14.85	14.63
Wearing apparel other than footwear	0.44	0.96	0.66	1.31	1.12	1.06	0.59	0.58
Leather and leather substitutes	0.70	0.44	0.59	1.15	0.87	0.86	0.57	0.57
Leather footwear	1.53	1.23	1.44	1.81	1.74	1.06	0.88	0.88
Wood and cork products excluding furniture	1.05	0.83	1.05	1.96	1.99	1.35	0.96	0.95
Furniture and fixtures of wood	0.33	0.41	0.42	0.48	0.54	0.40	0.42	0.42
Paper and paper products	3.42	1.67	2.29	1.45	1.56	1.63	1.83	1.80
Printing, publishing and allied industries	2.16	0.98	0.85	1.17	2.06	1.42	1.16	1.16
Industrial chemicals	4.84	1.15	2.03	1.92	3.10	2.84	2.62	2.59
Non-industrial chemicals	4.02	3.42	5.31	4.64	6.47	5.16	3.79	3.73
Petroleum refineries	1.61	20.38	0.53	0.50	0.36	0.20	0.28	0.28

Table II.13. (continued)

	1975 ^{a/}	1980	1985	1988	1989	1990	1991	1992 ^{a/}
Miscellaneous products of petroleum and coal	0.07	0.02	0.28	0.42	0.62	0.48	0.31	0.31
Rubber products	2.38	1.15	1.58	1.50	1.97	1.46	1.40	1.40
Plastic products	1.45	2.44	2.06	2.47	2.32	2.06	1.69	1.67
Pottery, china and earthenware	0.34	0.56	0.66	0.53	0.51	0.52	0.38	0.37
Glass and glass products	1.61	1.41	1.46	3.23	1.29	0.91	1.59	1.57
Other non-metallic mineral products	6.84	10.10	11.98	10.57	10.41	8.62	8.50	9.35
Basic iron and steel industries	7.85	4.52	6.24	7.85	6.56	11.20	9.55	9.51
Basic non-ferrous metal industries	0.71	0.60	1.67	2.34	2.14	5.18	3.76	3.72
Metal products excluding machinery and equipment	2.65	3.94	4.86	3.85	5.18	4.24	4.23	4.22
Non-electrical machinery	6.54	2.56	5.53	7.13	7.88	9.08	10.12	9.96
Electrical machinery, apparatus and appliances	7.22	4.82	6.56	2.86	2.46	4.16	2.61	2.57
Transport equipment	8.56	4.93	8.12	3.21	4.14	6.32	13.35	13.13
Professional and scientific equipment	1.01	0.29	0.48	0.25	0.29	0.29	0.44	0.43
Miscellaneous manufacturing	0.11	0.14	0.23	0.27	0.27	0.35	0.45	0.47
Total manufacturing	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

Source: UNIDO Industrial Development Review Information Base.

a/ Estimates.

B. INDUSTRIAL EMPLOYMENT

Quantitative trends

Employment data collected by the various population censuses conducted since the 1950s show that the impact of the manufacturing sector on labour absorption has been less than impressive. After rising sharply from 13.8 per cent in 1956 to 18.2 per cent in 1966, the share of the labour force employed in the manufacturing sector rose only marginally to 19 per cent in 1976 before falling back to a mere 13.2 per cent in 1986. While this last figure is no doubt distorted to some extent by the dislocations caused by political events, and in particular the war of 1980-88, it nevertheless underlines the limited capacity of the manufacturing sector to absorb the rapid growth in population and the labour force in the recent past.^{1/}

The census data on changes in the absolute level of industrial employment closely reflect the trends indicated by the data on the share of total employment accounted for by the manufacturing sector. Between 1956 and 1966 an average of 48,200 new jobs per year were created in manufacturing activities. Over the following decade this rate of increase slowed down quite markedly to 37,400 jobs per year, and during 1976-86 the number of manufacturing jobs actually contracted by an average of 22,100 per year.

More recent employment statistics, though not directly comparable with the census data of 1956-86, have been published by the Central Bank of Iran in its annual reports. The latest of these,

covering 1992, show that the total number of persons employed in manufacturing, mining and petroleum industries amounted to 2 million, or 14.9 per cent of the total employed workforce of 13.5 million. In view of the highly capital-intensive nature of the petroleum extraction and mining industries, it may be assumed that the bulk of these workers were, in fact, employed in manufacturing activities. Thus, although a slight increase appears to have taken place in both the absolute number of industrial workers and the share of industrial employment during the late 1980s and early 1990s, the respective figures have nonetheless remained relatively low by international standards.

Two principal causes can be identified for the comparatively low absorption of labour by the manufacturing sector in Iran. The first is the import-substituting industrialization strategy pursued by both the present and the former governments of the country, which promoted the establishment of capital-intensive industries and was supported by expansionary monetary policies and an overvalued exchange rate. The second was the emergence of the highly capital-intensive petroleum industry as a dominant player in the economy, which at times accounted for more than 30 per cent of GDP, even though its share in employment generation was minimal and seldom exceeded 1 per cent of the employed labour force.

The structure of manufacturing employment is reasonably well balanced between various industries. Although the textile industry has traditionally been the most important source of employment creation, the food processing, non-metallic mineral products, basic metals and engineering industries have also made an important contribution to the creation of industrial employment over the past two decades. By contrast, the leather, wood, paper and professional equipment industries have had a very small share of the industrial labour force. The contribution of the chemical industries (comprising industrial chemicals, non-industrial chemicals, petroleum refining, miscellaneous coal and petroleum products, and rubber and plastic products) has also been significant in overall terms, although the share of the individual components has historically been relatively small.

According to data for medium and large scale industrial enterprises compiled by UNIDO from official sources (see Table II.4), the textile industry accounted about 21 per cent of industrial employment in 1992, while the food industry (including beverages and tobacco manufactures) accounted for a further 13.9 per cent. Significant job opportunities were also created by the non-metallic mineral products industries (including ceramics and glass), which absorbed 13.3 per cent of the industrial labour force, and by the basic metals and machinery industries, which absorbed 15.1 per cent and 11.8 per cent respectively. The transport equipment industry, meanwhile, accounted 5.6 per cent of industrial employment, and the chemical industries (including petroleum refining, rubber and plastics) for 9.9 per cent.

Comparable data for 1975 show that the food industry accounted for about 11 per cent, indicating a modest overall growth during the intervening period. This growth was mainly concentrated in the food processing industry itself, however, with the relative shares of the beverages and tobacco manufacturing industry declining significantly between 1975 and 1992 from 2.3 per cent to 1.4 per cent and from 3.1 per cent to 1.3 per cent respectively. The textile industry, meanwhile, played a much more dominant role in 1975, when it provided employment for 31.2 per cent of the industrial labour force. Its share declined rapidly to slightly over 20 per cent by the late 1970s, and has remained at approximately that level ever since. The share of the non-metallic mineral products industries (including ceramics and glass) has increased steadily from 9.2 per cent in 1975, meanwhile, as has that of the basic metals industries. The overall share of the engineering and transport equipment industries has fallen, by contrast, although the non-electrical machinery industry has made some modest gains from the late 1980s onwards after having suffered an extended contraction in the late 1970s and most of the 1980s.

**Table II.4. Structure of manufacturing employment, 1975-92, selected years
(Percentage)**

	1975	1980	1985	1988	1989	1990	1991	1992 ^{a/}
Food products	5.58	12.43	11.31	11.27	11.81	10.34	11.17	11.20
Beverages	2.28	1.75	1.78	1.43	1.34	1.30	1.40 ^{a/}	1.42
Tobacco manufactures	3.11	2.13	1.24	1.74	1.69	1.61	1.27	1.26
Textiles	31.19	21.00	20.68	22.93	22.07	20.31	21.34	20.97
Wearing apparel other than footwear	0.49 ^{a/}	1.00	1.14	1.41	1.53	1.58	1.14	1.12
Leather and leather substitutes	0.63	0.56	0.73	0.82	0.67	0.66	0.54	0.54
Leather footwear	1.81	1.67	1.77	1.60	1.91	1.73	1.72	1.73
Wood and cork products excluding furniture	1.37	2.07	1.83	1.76	1.97	2.04	1.33	1.31
Furniture and fixtures of wood	0.28 ^{a/}	0.51	0.72	0.49	0.49	0.67	0.61	0.60
Paper and paper products	1.83	1.69	1.75	1.36	1.62	1.50	1.96	1.92
Printing, publishing and allied industries	1.52 ^{a/}	1.19	0.83	0.95	1.20	1.51	1.27	1.26
Industrial chemicals	1.89	1.05	1.79	2.09	2.13	2.33	1.73	1.70
Non-industrial chemicals	3.84	3.17	3.36	3.25	3.60	3.86	3.62	3.55
Petroleum refineries	0.34	3.96	0.20	0.38	0.41	0.17	0.39	0.39
Miscellaneous products of petroleum and coal	0.07 ^{a/}	0.04	0.18	0.40	0.50	0.41	0.33	0.33
Rubber products	2.04	1.17	1.62	1.60	2.05	1.67	1.79	1.78
Plastic products	1.52	2.88	2.04	2.05	2.14	2.19	2.16	2.12
Pottery, china and earthenware	0.58	0.71	0.63	0.60	0.56	0.52	0.68	0.67
Glass and glass products	1.43	1.40	1.18	1.35	1.28	1.27	1.31	1.29
Other non-metallic mineral products	7.18	14.08	14.39	13.83	12.71	12.62	10.35	11.35
Basic iron and steel industries	6.89	3.86	5.83	6.10	5.88	7.31	8.42	8.36
Basic non-ferrous metal industries	0.54	0.61	0.97	1.82	1.70	1.81	1.82	1.79
Metal products excluding machinery and equipment	2.39	4.77	4.35	4.42	4.75	5.19	4.99	4.97
Non-electrical machinery	7.14	3.91	5.31	8.37	8.35	8.98	9.16	8.99
Electrical machinery, apparatus and appliances	5.64	5.34	6.01	2.93	2.79	2.65	1.89	2.84
Transport equipment	7.68	6.63	7.71	4.38	4.21	4.87	5.73	5.61
Professional and scientific equipment	0.63 ^{a/}	0.31	0.44	0.38	0.33	0.49	0.60	0.60
Miscellaneous manufacturing	0.11 ^{a/}	0.12	0.21	0.27	0.32	0.43	0.31	0.32
Total manufacturing	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

Source: UNIDO Industrial Development Review Information Base.

a/ Estimates.

In assessing the employment generating role of manufacturing industry in Iran, it needs to be borne in mind that the country also possesses an extensive informal cottage-based handicraft sector in addition to the formal manufacturing sector. This sector, which consists of a vast number of small workshops throughout the country carrying out a wide-range of labour-intensive activities, is widely acknowledged to be very effective in providing full-time, part-time and seasonal

employment opportunities. Its impact is virtually impossible to measure, however, owing to the small and dispersed nature of the enterprises involved and the lack of any proper records.

The role of women^{2/}

In keeping with the tenets of Islam, a segregation of the sexes is observed in Iran, under which women are expected ideally to limit their activities to the domestic sphere and avoid contact with non-related men. This has not entirely prevented women from engaging in gainful employment, however, and women make an important contribution to both the formal and informal sectors of the economy. Their economic role has been strengthened by the effects of the 1980-88 war, moreover, which resulted in a sharp increase in the number of female-headed households and forced many women from taking paid employment out of economic necessity.

Although quantitative data on the economic role of women in Iran are patchy, it nevertheless remains true that women account for only a relatively small proportion of the Iranian labour force. The 1986 census revealed that only 8 per cent of the female population aged 10 and above was economically active, compared with 45 per cent of the male population, and that women therefore accounted for only 9 per cent of the total labour force. This census also showed that large numbers of employed women in the private sector are engaged in unpaid work, with unpaid family workers representing 42 per cent of the female private-sector work force as against 4 per cent of the male private-sector work force.

Women's employment in Iran is characterized by a high degree of vertical and horizontal segregation, as a result of which women tend to be confined to a comparatively narrow range of occupations. Most of the working women are employed in the service sectors, especially in the provision of education and social services. Agriculture is the second most important source of employment opportunities for women, followed by industry. Within these sectors, the occupational groups in which women are represented most strongly are professional, technical and related workers, agricultural workers and production and transport workers.

Table II.5. Share of women in manufacturing employment by major ISIC category, 1987 (Percentage of total)

ISIC	Industry	Share of women in industrial employment (Percentage)
31	Food, beverage and tobacco	5.6
32	Textile, clothing and leather	18.9
33	Wood and wood products	0.5
34	Paper, cardboard, printing	2.3
35	Chemical, petroleum, coal, rubber and plastic	6.7
36	Non-metal minerals, except petroleum and coal	3.2
37	Basic metal production	0.8
38	Machinery, equipment, tools and metal products	2.4
39	Other	1.7
	Total (Thousands)	8.2 (118 out of 1,441)

Source: Statistical Centre of Iran, Statistical Yearbook.

Industrial employment for women is believed to have decreased sharply since the mid-1970s. The main source of industrial employment for women is carpet-weaving, which is carried out mainly in small rural workshops. Other important employers of women are the textile, garment, leather and footwear industries, although they have suffered some of the most dramatic declines in female employment over the past two decades. The food and beverages industries are also significant employers of women, as is the electrical goods assembly industry.

Rural women in Iran participate in a wide range of agricultural activities, including the primary processing of food and cash crops and livestock products. In addition, rural women are also involved in a variety of handicrafts, including carpet-making, weaving, embroidery, mat-making, the production of *gillims* (hand-woven floor coverings) and sericulture, which represent an important source of income for rural households. Since much of this work takes the form of unpaid family labour, however, it tends to be substantially underreported, with official estimates suggesting that women account for only about 22 per cent of the rural labour force.

C. PRODUCTIVITY AND PERFORMANCE

Output

Data compiled by UNIDO indicate that the share of value added in the gross output of the manufacturing sector rose significantly in the early 1980s from 41.6 per cent in 1975 to 51.3 per cent in 1981, and then fluctuated modestly around the 50 per cent mark before dropping to about 45-46 per cent towards the end of the 1980s and in the early 1990s (see Table II.6). Consequently, this share was only marginally higher in 1992 than in 1975, implying that little success had been achieved during this period in raising the efficiency of the industrial sector and reducing the proportion of input costs in total output value. On the contrary, the sharp decline in the share of MVA in gross output between 1988 and 1989, when the government began to introduce more market-oriented policies, suggests that much of the apparent improvement between 1980 and 1988 was due to the high level of subsidies and distorted price structures prevailing during that period.

A more disaggregated analysis of the data in Table II.6 reveals considerable variations in the performance of various individual industries. By far the most impressive results have been recorded by the food processing, beverage and tobacco manufactures industries, all of which substantially increased their share of MVA in gross output between 1975 and 1992, albeit with occasionally substantial fluctuations in the intervening years. The only other industries to have recorded a noticeable increase in this share were the basic iron and steel, the non-electrical machinery and the transport equipment industries, in most cases as a result of the increased availability of cheap local inputs to replace more expensive imports. All other industries suffered a reduction in this share, reflecting their declining efficiency and productivity.

A separate set of data, not entirely comparable to that presented in Table II.6 because it excludes the petroleum refining industries, is provided in Table II.7 to show variations in the performance of the manufacturing sector by size of enterprise. This shows a steady improvement in the efficiency of large enterprises between the mid-1970s and 1990, although this trend appears to have been reversed in the early 1990s. Small enterprises, by contrast, recorded a steadily decreasing share of value added in gross output, with the decline being particularly severe in rural areas. The result of these developments has been a comprehensive reversal of the comparative efficiency of large and small enterprises during the past two decades, although the share of value added in the gross output of the manufacturing sector as a whole has risen significantly because of the predominance of the larger enterprises in the sector.

**Table II.6. Share of MVA in gross output, 1975-92, selected years
(Percentage)**

	1975 ^{a/}	1980	1985	1988	1989	1990	1991	1992 ^{a/}
Food products	12.40	36.40	34.82	36.62	30.39	30.18	34.08	34.08
Beverages	55.20	59.59	63.22	64.61	71.96	59.38	60.53	60.52
Tobacco manufactures	63.96	59.47	58.75	83.96	74.41	75.39	83.12	83.12
Textiles	62.14	51.16	51.90	51.28	48.23	54.42	45.61	45.61
Wearing apparel other than footwear	61.55	65.24	48.59	42.61	28.92	33.43	43.26	43.27
Leather and leather substitutes	42.66	26.74	23.64	27.97	25.50	33.85	30.81	30.81
Leather footwear	63.50	49.65	50.68	50.58	42.81	42.63	41.85	41.84
Wood and cork products excluding furniture	89.73	43.46	50.46	57.42	50.75	47.97	45.52	45.52
Furniture and fixtures of wood	74.04	54.89	52.38	47.93	46.58	39.41	42.53	42.53
Paper and paper products	72.50	40.00	50.96	42.86	37.80	43.77	40.00	40.00
Printing, publishing and allied industries	76.70	50.72	62.86	55.52	59.37	61.22	65.06	65.06
Industrial chemicals	63.85	61.68	50.36	50.95	54.51	46.38	52.77	52.77
Non-industrial chemicals	36.77	40.66	47.75	50.26	43.91	49.04	36.15	36.15
Petroleum refineries	57.28	84.55	71.43	69.42	52.46	56.03	57.01	57.01
Miscellaneous products of petroleum and coal	56.47	36.71	59.18	59.16	69.83	63.35	50.56	50.55
Rubber products	58.39	49.18	54.85	51.64	44.94	51.22	48.12	48.12
Plastic products	63.24	40.14	47.98	45.10	30.59	26.66	35.93	35.93
Pottery, china and earthenware	72.95	74.18	81.18	67.94	69.60	74.35	65.48	65.48
Glass and glass products	78.45	60.37	64.68	73.81	61.79	55.11	65.54	65.55
Other non-metallic mineral products	63.22	68.20	66.21	59.40	61.72	59.23	57.43	57.43
Basic iron and steel industries	28.50	43.90	39.96	61.88	44.98	40.34	41.13	41.13
Basic non-ferrous metal industries	38.58	44.87	41.63	50.65	36.87	43.42	37.78	37.78
Metal products excluding machinery and equipment	71.42	46.67	54.48	59.72	43.42	38.09	45.89	45.89
Non-electrical machinery	42.26	42.92	44.71	46.53	48.51	48.85	47.64	47.64
Electrical machinery, apparatus and appliances	70.21	50.27	53.62	53.75	51.50	64.25	45.54	45.54
Transport equipment	23.34	33.94	38.95	33.50	53.67	61.24	52.71	52.71
Professional and scientific equipment	68.02	59.65	63.29	57.53	51.76	36.78	46.04	46.05
Miscellaneous manufacturing	62.58	61.54	58.54	95.75	33.74	48.35	60.42	60.42
Total manufacturing	41.62	51.31	47.99	49.64	45.01	45.99	45.29	45.36

Source: UNIDO Industrial Development Review Information Base.

a/ Estimate.

Table II.7. Share of MVA in gross output by size of enterprise, excluding petroleum processing, 1974-92, selected years
(Billion rials)

	1974	1978	1983	1988	1990	1992
Large industrial establishments						
Gross output	564.3	878.9	2,156.7	3,322.3	6,636.3	15,592.2
Value added	186.3	316.8	919.4	1,532.3	3,178.5	6,705.0
Share of value added	33.0	36.1	42.6	46.1	47.9	43.0
Small urban industries						
Gross output	106.6	175.7	225.0	1,467.9	2,570.9	5,563.3
Value added	49.2	87.3	97.2	557.2	975.9	2,058.0
Share of value added	46.2	49.7	43.2	38.0	38.0	37.0
Small rural industries						
Gross output	31.0	86.6	267.5	455.4	595.1	1,220.0
Value added	16.7	44.0	125.2	198.6	259.5	455.0
Share of value added	53.9	50.8	46.8	43.6	43.6	37.3
Total manufacturing						
Gross output	701.9	1,141.2	2,649.2	5,245.6	9,802.3	22,375.5
Value added	252.2	448.1	1,141.8	2,288.1	4,413.9	9,218.0
Share of value added	35.9	39.3	43.1	43.6	45.0	41.2

Source: Central Bank of Iran, National Accounts and Annual Report, various issues.

Productivity

As may be expected, labour productivity rates vary significantly between industries. This is indicated in Table II.8, which show a substantial spread in this productivity rate, defined as MVA per employee, on either side of the average figure for the manufacturing sector as a whole. Inevitably, the highly mechanized or capital-intensive industries are shown to enjoy the highest levels of labour productivity, with the transport equipment and non-ferrous metal industries recording productivity rates more than twice the average level of the manufacturing sector as a whole, and the beverages, tobacco processing, leather, chemicals, glass, iron and steel, and machinery industries also reporting above-average productivity rates in 1992. Relatively low rates, by contrast, are recorded by the traditional low-value-added labour-intensive industries, such as garments, footwear and ceramics.

The data in Table II.8 also show considerable inter-temporal shifts in relative labour productivity rates between 1975 and 1992. In most cases the changes have been negative, with a particularly sharp fall in relative labour productivity having taken place in the petroleum refining industry and significant falls having been recorded in the leather footwear, furniture, paper and publishing, industrial chemicals, rubber and plastics, metal products, electrical machinery and scientific equipment industries. They have been offset, however, by significant improvements in the non-ferrous metal, non-electrical machinery, transport equipment and miscellaneous manufacturing industries.

Table II.8. Labour productivity in manufacturing, 1975-92, selected years
(Index: Total manufacturing = 100)

	1975 ^{a/}	1980	1985	1988	1989	1990	1991	1992 ^{a/}
Food products	98	92	97	113	98	89	93	93
Beverages	104	102	148	189	201	145	108	109
Tobacco manufactures	135	65	73	145	83	64	139	139
Textiles	66	78	90	84	84	84	70	70
Wearing apparel other than footwear	89	96	58	93	73	67	52	52
Leather and leather substitutes	110	80	81	140	130	131	106	106
Leather footwear	85	74	82	113	91	62	51	51
Wood and cork products excluding furniture	77	40	57	112	101	67	72	72
Furniture and fixtures of wood	115	81	59	98	110	60	69	70
Paper and paper products	187	99	131	106	96	109	93	94
Printing, publishing and allied industries	142	83	101	123	172	94	92	92
Industrial chemicals	256	110	114	92	146	122	152	152
Non-industrial chemicals	105	108	158	143	180	134	105	105
Petroleum refineries	480	514	266	132	89	116	71	71
Miscellaneous products of petroleum and coal	103	51	151	107	123	116	93	93
Rubber products	117	99	97	94	96	88	78	78
Plastic products	95	85	101	121	109	94	78	79
Pottery, china and earthenware	59	78	106	88	90	99	55	55
Glass and glass products	113	101	124	240	101	72	122	122
Other non-metallic mineral products	95	72	83	76	82	68	82	82
Basic iron and steel industries	114	117	107	129	112	153	113	114
Basic non-ferrous metal industries	131	98	173	128	126	287	207	207
Metal products excluding machinery and equipment	111	82	112	87	109	82	85	85
Non-electrical machinery	92	66	104	85	94	101	110	111
Electrical machinery, apparatus and appliances	128	90	109	98	88	157	90	90
Transport equipment	111	74	105	73	98	130	233	234
Professional and scientific equipment	159	94	109	66	87	59	72	72
Miscellaneous manufacturing	97	112	108	100	85	82	149	149
Total manufacturing	100	100	100	100	100	100	100	100

Source: UNIDO Industrial Development Review Information Base.

a/ Estimate.

Despite the apparent increases in productivity recorded in some individual industries in recent years, which themselves are often a reflection of distorted prices and subsidies rather than real improvements in efficiency, there can be little doubt that the manufacturing sector in Iran has suffered a sharp reduction in productivity during the past two decades. The latest available data, covering the period to 1987, show that manufacturing value added per worker in large industrial establishments from 806,000 rials in 1974 to 625,000 rials (in constant 1974 prices) in 1987 (see

Table II.9). This represents an overall decline of more than 27 per cent in real terms, or an average decline of almost 2 per cent per year. To a considerable extent it reflects over-manning in the predominantly state-owned component of the industrial sector, where large workforces are often retained for social reasons.

Table II.9. Labour productivity in large industrial establishments, 1974-86, selected years (Constant 1974 prices)

Year	1974	1976	1978	1980	1981	1982	1983	1984	1985	1986
Value added generated factor cost (Billion rials)	186.3	259.4	239.5	244.1	285.0	324.5	369.5	357.1	305.0	318.4
Manpower (Thousand persons)	231.1	271.2	292.6	316.3	486.4	567.1	593.3	578.0	559.0	509.8
Productivity (Thousand rials)	806	957	820	772	586	572	623	618	546	625

Sources: Central Bank of Iran, National Accounts of Iran, 1974-87, 1991, and Census of large industrial establishment, various years.

The falling productivity can be ascribed to a number of causes, many of which are exogenous to the manufacturing sector itself and have their origins in the political developments of the past two decades and the economic policies adopted during this period. This has had a considerable impact on the operating environment faced by manufacturing enterprises, affecting the availability of appropriate factors of production, management, investment, technology, and markets. In many cases the availability of these resources has been severely limited, leading inexorably and inevitably to sub-optimal decision-making and the choice of second-best options.

A major constraint hampering the growth of productivity in the manufacturing sector has been Iran's limited access to suitable technologies, both as a result of its frequent foreign exchange shortages and its restrained trade relations with some of the major international suppliers of technology. An example of the effect of these developments has been the growing trend towards the centralized importation of machinery through state-run procurement and distribution centres since the late 1970s, often from eastern Europe and the former Soviet Union. As this machinery is not always cost-competitive and the technology embodied in it does not always meet the needs of the firms concerned, many enterprises have continued to use their existing obsolescent machinery, with the new machinery being utilized below its full capacity or even being left idle.

A further constraint to the growth of industrial productivity is the limited availability of qualified and skilled manpower. Although there has been a conscious attempt by successive Iranian governments to upgrade the educational capabilities of the country's manpower, which has resulted in an increase in the literacy rate from 47.5 per cent in 1976 to 61.8 per cent in 1986 and 74.1 per cent in 1991, a substantial gap remains between the demand for and supply of suitably qualified industrial manpower. The situation has been exacerbated by the fact that many highly-trained technical and managerial personnel, often with overseas degrees or diplomas, have been unable to find suitable employment in Iran since the early 1980s, and have either migrated abroad or are engaged in activities within Iran which do not enable them fully to utilize their skills and abilities.

In an attempt to overcome this constraint, the government has expanded the provision of technical education in a number of specialized technical schools, which come mainly under the general supervision of the Ministry of Employment (see Table II.10), and encouraged the growth of tertiary educational institutions, which release thousands of graduates into the job market every year (see Table II.11). As a result of these measures, the proportion of the work force with a tertiary education increased from only 2.5 per cent in 1976 to 4.5 per cent in 1986, and has almost certainly grown further in the intervening years. This increase in quantity has not necessarily been matched by a corresponding increase in quality, however, since government regulations require that a proportion of all university places be allocated on grounds other than academic merit, *inter alia* to people who participated in the 1980-88 war and their relatives, and to people from underprivileged backgrounds.

Table II.10. Graduates of technical, professional and agricultural schools

Year	Total		Technical		Professional		Agricultural Only male
	Male	Female	Male	Female	Male	Female	
1985-86	12,961	4,209	10,123	12	2,355	4,197	483
1986-87	17,698	7,964	12,917	19	4,147	7,945	634
1987-88	15,756	9,941	11,059	6	3,857	9,935	840
1988-89	13,796	6,427	9,846	11	3,204	6,416	16
1989-90	13,098	5,713	9,381	0	2,901	5,713	816
1990-91	14,577	6,536	10,492	0	3,187	6,536	898
1991-92	22,023	6,772	16,066	0	4,603	6,772	1,354

Source: Statistical Centre of Iran, *Statistical Yearbook 1992*.

Table II.11. Graduates of universities and higher education institutes according to educational levels, 1984-92

Year	Associate degree	Bachelor	Masters	Doctorate
1984	5,084	13,553	1,143	164
1985	7,586	19,346	1,755	181
1986	10,000	14,640	2,044	243
1988	10,987	15,034	2,319	297
1989	13,359	19,868	3,723	434
1990	13,287	24,376	4,825	369
1991	12,836	31,515	7,401	601
of which:				
Medicine	4,213	6,790	4,363	567
Humanities	1,026	11,977	1,401	20
Basic Sciences	392	4,305	463	12
Engineering	5,968	5,074	560	0
Agriculture and Veterinary	852	2,373	504	2
Arts and Architecture	385	996	110	0

Source: Statistical Centre of Iran, *Statistical Yearbook 1992*.

Cost structure and profitability

The cost structure of Iranian industry has been influenced very significantly by a number of favourable government policies over the past two decades. These have included the maintenance of an over-valued exchange rate and deliberate efforts to reduce the real cost of credit, which have enabled the industrial sector to meet its import requirements and domestic financial needs on highly beneficial terms. At the same time, however, these policies have distorted the operation of the price mechanism, and resulted in the emergence of inefficient and uncompetitive industries as well as a number of macro-economic disequilibria, which are proving very difficult to correct. While the precise impact of these subsidies on the industrial sector is difficult to determine, the fact that they have substantially distorted its cost structure must always be borne in mind when attempting to assess its profitability.

An overview of the manufacturing sector's profitability trends since the mid-1970s is presented in Table II.12, which shows the share of gross profits in MVA. Confirming the points made above about the sector's highly subsidized cost structure, this table shows it to be highly profitable in nominal terms. These profits were especially high in the mid-1970s, when the surge in oil prices effectively removed the government's resource constraints and permitted a particularly high degree of subsidization. The situation deteriorated during the first half of the 1980s, when political developments and weakening oil prices reduced the government's capacity to provide such extensive subsidies. The late 1980s witnessed a partial recovery in nominal profitability levels, as the end of the 1980-88 war and the restoration of some stability in international oil markets increased the government's resource base and permitted a higher degree of subsidization.

This recovery has been restrained by the government's efforts to rationalize its macroeconomic policies in the early 1990s, however, which have included attempts to realign the exchange rate, liberalize prices, reduce the budget deficit and raise the cost of credit. To the extent that these policies are sustained in the coming years, they will result in significant changes in relative prices and cost structures facing the industrial sector. Almost inevitably, they will also result in a rationalization of the manufacturing sector, forcing the closure or restructuring of commercially unviable enterprises and promoting the growth of efficient ones able to compete in an undistorted market environment. This is almost certain to provoke protests from some quarters, with some industrialists already having begun to talk in dire terms of their inability to cope with the new situation and warning of the social consequences of widespread bankruptcies. Under these circumstances it appears highly likely that the pace of these reforms will slow down in the coming years.

More comprehensive data on the cost structure of large industrial establishments are given in the periodic industrial surveys conducted by the Statistical Centre of Iran. As indicated in Table II.13, which presents the results of the latest available survey conducted in 1987, raw materials and wages constitute the two most important cost items for manufacturing enterprises. Raw material costs account for more than 50 per cent in almost all 2-digit ISIC branches, rising as high as 95 per cent in the case of the wood-based and paper-related industries (ISICs 33 and 34). By contrast, the share of raw material costs is lowest, and that of wage costs highest, in the non-metallic mineral industries (ISIC 36). An indication of the distortions arising from the overvalued exchange rate prevailing at this time is given by the relatively low capital stock value ascribed to the petroleum and chemical industries (ISIC 35), which is based on the book-value of its imported machinery and capital goods at official exchange rates.

**Table II.12. Share of gross profits in MVA, 1975-92, selected years
(Percentage)**

	1975 ^{a/}	1980	1985	1988	1989	1990	1991	1992 ^{a/}
Food products	71.00	43.41	43.80	60.83	59.10	66.48	69.75	69.75
Beverages	75.86	45.66	59.06	75.10	80.68	76.73	66.76	66.76
Tobacco manufactures	58.95	8.47	1.81	70.73	50.25	58.50	72.80	72.80
Textiles	69.79	30.11	35.17	49.44	50.16	64.54	53.96	53.96
Wearing apparel other than footwear	30.02	59.49	26.23	69.41	57.27	68.41	51.92	51.92
Leather and leather substitutes	78.90	33.46	38.68	72.49	68.53	77.19	74.48	74.48
Leather footwear	77.14	26.10	36.93	67.52	57.82	52.52	47.56	47.55
Wood and cork products excluding furniture	77.09	-16.53 ^{b/}	11.93	65.65	61.91	70.33	45.02	45.03
Furniture and fixtures of wood	60.00	51.27	10.90	60.37	64.04	52.69	56.54	56.54
Paper and paper products	81.75	35.98	46.05	54.44	45.98	67.60	66.83	60.84
Printing, publishing and allied industries	41.77	30.02	41.82	64.59	73.21	67.18	58.24	58.25
Industrial chemicals	71.98	6.36	40.00	38.82	58.20	68.19	68.99	68.99
Non-industrial chemicals	70.48	47.30	61.16	66.54	72.81	74.08	64.33	64.33
Petroleum refineries	83.39	82.02	74.91	69.05	52.97	64.46	67.05	67.02
Miscellaneous products of petroleum and coal	27.60	11.92	66.45	69.73	64.84	78.05	72.62	72.62
Rubber products	68.73	28.83	31.59	34.17	44.70	59.36	50.52	50.52
Plastic products	78.49	38.51	44.30	63.79	56.55	68.02	58.86	58.86
Pottery, china and earthenware	62.92	38.24	47.10	44.94	49.42	69.01	39.88	39.91
Glass and glass products	72.54	42.03	45.59	78.19	48.59	57.52	72.01	72.02
Other non-metallic mineral products	69.36	36.90	36.36	46.33	52.66	58.55	57.87	57.87
Basic iron and steel industries	68.36	39.92	40.71	62.60	54.86	71.60	58.14	58.14
Basic non-ferrous metal industries	71.69	35.25	62.77	59.10	60.78	86.20	75.74	75.74
Metal products excluding machinery and equipment	75.05	35.05	48.52	49.04	57.29	62.50	59.44	59.43
Non-electrical machinery	68.87	15.94	39.24	45.74	49.94	65.23	64.08	64.08
Electrical machinery, apparatus and appliances	78.26	30.91	42.52	53.58	51.40	79.87	62.00	62.00
Transport equipment	71.63	13.16	33.54	28.25	41.57	69.35	83.75	83.75
Professional and scientific equipment	82.86	35.75	44.58	32.62	50.66	50.12	57.32	57.33
Miscellaneous manufacturing	65.03	65.00	57.50	70.45	63.27	69.06	81.20	81.21
Total manufacturing	70.69	43.21	40.80	55.50	55.80	67.93	64.56	64.49

Source: UNIDO Industrial Development Review Information Base.

a/ Estimate.

b/ Results are negative because salaries are greater than MVA.

Table II.13. Industrial cost distribution by ISIC, 1987

Cost	ISIC Code									Total value (Billion rials)
	31	32	33	34	35	36	37	38	39	
Raw materials	73.3	64.6	95.4	95.2	65.1	41.0	54.9	66.3	78.2	2,113.3
Contracting	0.2	0.8	0.2	-	0.3	1.5	0.8	0.7	1.2	21.3
Minor repairs and maintenance	0.9	1.0	0.2	0.2	1.5	2.7	1.2	1.0	1.2	39.7
Communication	0.1	0.1	-	-	0.2	0.2	0.2	0.2	-	4.8
Commercial insurance	0.2	0.2	-	-	0.3	0.3	0.1	0.2	0.4	28.5
Rent (building, machinery)	1.9	2.5	0.4	0.6	3.4	2.6	4.0	3.0	1.6	87.6
Fuel	1.1	0.4	0.1	-	1.0	4.1	1.3	0.6	0.4	35.8
Electricity	0.8	0.9	0.2	0.1	1.0	3.5	1.5	0.9	0.8	38.2
Water	0.1	0.1	-	-	0.2	-	0.3	-	-	3.5
Wages, salaries	21.0	28.3	3.3	3.6	26.4	42.6	35.4	26.0	14.1	888.8
Others	0.5	0.9	0.2	0.1	0.7	1.4	0.4	1.0	2.0	7.5
Value of capital stock (Billion rials)	12.9	5.5	2.0	1.3	3.6	9.9	1.2	8.2	0.4	

Source: Calculation based on data extracted from 1987 Industrial Survey, Statistical Centre of Iran.

D. INSTITUTIONS AND SUPPORT SERVICES FOR INDUSTRIAL DEVELOPMENT

Until September 1994 the manufacturing sector in Iran was organized into four groups, each of which were covered by a separate ministry. Light industries, including food processing, textiles and leather, chemicals and pharmaceuticals, non-metallic minerals, light metal products and electrical and electronic appliances, were placed under the supervision of the Ministry of Industry, while the automotive, machine tools and heavy engineering industries were supervised by the Ministry of Heavy Industries. The basic metals industry, meanwhile, was allocated to the Ministry of Mines and Metals, while the petroleum and petrochemicals industry fell under the remit of the Ministry of Petroleum. Although the responsibilities of the various ministries were defined reasonably clearly in principle, the separation of their areas of authority has tended to be more difficult in practice, as a result of which their activities often overlap. In order to rationalize this structure, the government has proposed the gradual merger of these ministries, with the first step in this direction having been taken in September 1994, when the Ministries of Industry and Heavy Industries were combined.

According to a report presented to parliament by the Ministry of Industry in 1992, the enterprises under its supervision accounted for 79 per cent of manufacturing output, 80 per cent of value added, 79 per cent of employees and 93 per cent of firms in the manufacturing sector. These enterprises were managed by the National Iranian Industries Organization (NIIO), an umbrella organization affiliated to the ministry. The ministry also promoted manufacturing activities through its Industrial Estate Company, which designated land for the building of industrial estates and assisted in the setting up of industrial units. In addition, the Ministry maintained the Iran Standards Institute and was responsible for ensuring that the manufactured goods produced in Iran comply with specifications set in the national standard. None of these functions and procedures have changed as a result of the ministry's merger with the Ministry of Heavy Industry.

The Ministry of Industry has historically also been responsible for a wide range of research and development (R&D) activities as well as the provision of industrial training. A number of the ministry's departments and provincial centres operate their own R&D units, and the ministry also administers the Industrial Management Organization, which attempts to improve managerial and technical skills by providing training courses for staff members of manufacturing establishments affiliated to the ministry. In line with its training objectives, the ministry established the Technical College for Iranian Industries in 1989.

While the Ministry of Industry has been responsible for the supervision of a large number of industries dispersed throughout Iran, the Ministry of Heavy Industries has had to deal with a smaller number of establishments concentrated mainly in Tehran (the automotive industry), Tabriz (the machine tool and agricultural equipment industries) and Arak (the machine tool industry). This ministry also operates a number of R&D units and conducts strategic management courses as well as sending trainees abroad. Through the Industrial Development and Renovation Organization (IDRO) affiliated to the ministry, it also assists in upgrading Iran's heavy industrial and helping them to enhance the quality of their output through training and the acquisition of technology.

The Ministry of Mines and Metals is concerned mainly with the exploration, extraction and processing of minerals (except fossil fuels), and the production of basic metals. As such it supervises Iran's steel mills and aluminium and copper plants, as well as a number of plants manufacturing intermediate industrial products. The Ministry of Petroleum, finally, manages Iran's oil refineries, petrochemical complexes and gas treatment units. It operates its oil-related manufacturing activities through the National Iranian Oil Company (NIOC), the National Petrochemical Company (NPC) and the National Gas Company (NGC). In addition, it also assists the development of the sector by operating an Oil College, an Oil Research Centre and some other research units affiliated to its commercial companies.

Apart from the government ministries discussed above, the banking system is also involved in the manufacturing sector through its supervision or direct management of a number of industrial establishments. The banks' direct involvement in the industrial sector was initiated by the establishment of a number of specialized banks in the 1950s, such as the Bank of Industry and Mines. The role of the banks in industrial management was greatly enhanced following the post-1979 era as result of the introduction of Islamic banking practices, and the provision that banks could take over manufacturing units owned by their debtors. This has resulted in the emergence of banking-industrial complexes resembling the Japanese model in many respects, in which the banks provide the financial resources for their affiliated manufacturing enterprises.

E. OWNERSHIP AND INVESTMENT PATTERNS

Ownership

The pattern of industrial ownership in Iran has its roots in the historical development of manufacturing industry in the country. As noted in Chapter I (Industrial development policies), Iran's industrialization programme was initiated and largely funded by the state for most of its first two decades. It was only in the fourth development plan (1968-72) that the government seriously began to seek the involvement of the private sector in manufacturing activities, albeit mainly in small and medium sized industries. This resulted in the establishment of a large number of plants and factories by the private sector in the early 1970s, which concentrated principally on the production of consumer goods.

The expansion of the private sector into large-scale industries was subsequently prevented by the nationalization of many of the large, medium and even small sized privately owned enterprises in the 1980s. Some of these were placed under the control of the newly-established National Iranian Industries Organization (NIIO) or the Industrial Development and Renovation Organization (IDRO), an umbrella organization established in 1967 for the management of state-owned heavy industries and affiliated to the Ministry of Heavy Industries since 1982, while others were taken over by a number of revolutionary foundations, such as the Bonyad-i-Mostazafan (Foundation of the Oppressed), Bonyad-i-Shahid (Foundation of the Martyrs), Bonyad-i-Panzdehe Khordad (Foundation of the 15th Khordad, commemorating the date that Ayatollah Khomeini was sent into exile). In the course of this process, most of the heavy industries were transferred to the IDRO, the medium and small industries to the NIIO, and the industries confiscated from associates of the previous regime to the revolutionary foundations.

According to an industrial census conducted by the Statistical Centre of Iran (SCI) in 1983, 986 of the 7,128 large industrial establishments with more than ten employees in the country were managed by the public sector. Of these, 202 were in the non-metallic mineral industries (ISIC 36), 177 in the machinery industry (ISIC 38), 174 in the textile and leather industries (ISIC 32), and the remainder in other branches of the manufacturing sectors. The distribution of these establishments by number of employees revealed further that 7.9 per cent of them employed less than 19 people, 14.6 per cent between 20 and 49 people, 15.6 per cent between 50 and 99 people, 40.1 per cent between 100 and 499 people, and 21.8 per cent more than 500 people. Thus, more than 50 per cent of the publicly-owned industrial enterprises employed a work force of more than 50 people.

In addition, these firms accounted for 68.8 per cent of the total value added of all large industrial enterprises in the country. The most important of these were in the engineering industries (ISIC 38), which accounted for 19.7 per cent of total MVA, the textile and leather industries (ISIC 32), accounting for 14.7 per cent of total MVA, and the food, beverage and tobacco industries (ISIC 31), accounting for 10.5 per cent of total MVA. The census also showed that with a total payroll of more than 385,000, large-scale public enterprises accounted for 67.2 per cent of total employment in Iran's large industrial establishments. Again, the biggest contribution was made by ISIC categories 38, 32 and 31, which accounted for 17.3 per cent, 16.4 per cent and 10.2 per cent, respectively, of the total labour force employed in all large industrial establishments in Iran.^{3/}

In summary, therefore, the 1983 census showed that public enterprises accounted for a majority of the workers employed and the bulk of the MVA generated in Iran's industrial enterprises with more than ten employees. It also revealed that most of these enterprises were concentrated in the textile and leather industries, the food, beverage and tobacco industries, and the engineering industries. In the absence of more up-to-date information it seems safe to assume that the role of the public sector in manufacturing activities increased between 1983 and 1989. This growth is likely to have been arrested in the following years as a result of the introduction of the privatization programme, which resulted in more than a 100 firms being transferred to the private sector. This may not have caused a significant reversal in the distribution of ownership between the public and private sectors, however, because it coincided with the inauguration of a large number of new state-owned industrial enterprises in the field of petrochemicals, basic metals and engineering.

A significant change in the ownership structure is likely to take place in the coming years when the Second Socio-economic and Cultural Development Plan of the Islamic Republic, which provides for major transfer of ownership in the industrial sector, comes into force. According to

the plan, all the industrial establishments under the control of the NIIO are to be transferred to the private sector and the organization itself abolished. The ownership of establishments affiliated to the IDRO is also intended to be transferred to the private sector to the extent permitted by the constitution of Iran.^{4/}

Investment

In Iran the state has traditionally made a major contribution to investment in the manufacturing sector. Generally speaking, the government has directed its investment expenditure into areas requiring high levels of capital expenditure and more advanced technology, such as the manufacturing, mining, transport and communications, health and education, and public utilities sectors, and to a more limited extent the agricultural sector. The private sector, on the other hand, has concentrated its investments in the agricultural sector, the provision of household services and trade, with some investments also being made in small and medium-sized manufacturing industries. As a result of the shift in economic policies initiated in the early 1990s, however, it is expected that the bulk of all future investments will be made by the private sector, except in areas deemed to have a strategic importance, such as the oil/gas sector and heavy industries.

The investment expenditure undertaken by the public and private sectors in all sectors of the economy in 1985-91 is indicated in II.14. This suggests that construction accounts for the bulk of capital formation, although it needs to be borne in mind that the expenditure on machinery and other capital goods is likely to have been significantly underestimated since these items were for the most part imported at overvalued or concessional rates of exchange. Another important feature of Table II.14 is the concentration of the private sector on construction and the public sector on the procurement of capital goods, although this pattern appeared to be shifting in 1991, possibly as a result of the introduction of the new economic policies.

Table II.14. Investment in machinery and building by public and private sector, 1985-91
(Billion rials, current prices)

	1985	1986	1987	1988	1989	1990	1991
Investment in machinery							
Total	744	500	463	644	1,042	1,761	3,028
Private sector	225	202	131	311	585	884	1,789
Public sector	419	298	332	333	456	878	1,239
Share of public sector in total machinery investment (Percentage)	56	60	72	52	44	50	41
Investment in building							
Total	2,097	2,106	2,199	2,313	2,668	3,901	5,027
Private sector	1,429	1,347	1,431	1,445	1,700	2,163	2,571
Public sector	667	759	768	868	968	1,739	2,456
Share of public sector in total building investment (Percentage)	32	36	35	38	36	45	49
Total domestic capital formation	2,841	2,606	2,662	2,957	3,709	5,663	8,054
Share of machinery in total (Percentage)	26	19	17	22	28	31	38
Share of building in total (Percentage)	74	81	83	78	72	69	62

Source: Central Bank of Iran, Annual Reports, various years.

A summary of the sub-sectoral distribution of total investment in the manufacturing sector is presented in Table II.15. This table reveals that the bulk of manufacturing investment has been channelled into the engineering industries (ISIC 38) during the past decade, even though the actual share declined considerably from more than 40 per cent in 1981 to approximately 23 per cent in 1990. The difference was made up by an increase in the shares of several other industries, principally non-metallic minerals (ISIC 36) and, to a lesser extent, basic metals (ISIC 37). The increased share of the latter reflects the expectation of the government that the iron and steel, aluminium and copper industries can be developed into a major source of foreign exchange earnings.

Table II.15. Distribution of new manufacturing investment by ISIC in industries with 10 or more employees, 1981-90, selected years.

ISIC	1981	1984	1987	1988	1989	1990
31	15.3	15.3	20.9	15.0	14.0	17.9
32	17.6	15.1	14.5	16.6	14.6	17.5
33	1.5	1.4	4.5	3.5	3.4	3.6
34	4.3	3.5	3.7	2.5	3.9	2.8
35	10.5	12.9	8.7	11.7	15.9	13.1
36	7.5	20.2	13.4	16.6	18.3	15.2
37	2.5	4.1	3.4	9.5	2.9	5.9
38	40.3	27.1	30.4	24.1	26.3	22.6
39	0.1	0.3	0.5	0.8	0.8	1.5
Total^{a/}	100.0	100.0	100.0	100.0	100.0	100.0

Source: Statistical Centre of Iran, Statistical Yearbooks, various years.

a/ Totals may not add due to rounding.

F. INDUSTRIAL EXPORTS AND IMPORTS

Exports

An essential feature of Iran's foreign trade during the past 50 years has been the dominance of the petroleum sector in the country's exports. While the share of non-oil/gas products in total exports has fluctuated between 2 per cent and 16 per cent between 1971 and 1991, the share of manufactured goods never exceeded 28 per cent of total non-oil/gas exports. This is indicated in Table II.16, which presents a historical summary of the distribution of Iran's non-oil/gas exports by major commodity group.

Within the category of manufactured goods, the most significant exports during the past 20-30 years have been detergents and soap, chemicals, shoes, garments, transport equipment, cement and building materials (see Table II.17). The export of cement has ceased in recent years, however, but copper ingots and products have become an important manufactured export since the mid-1980s.

Table II.16. Distribution of non-oil/gas exports by main commodity groups, 1971-92, selected years
(Percentage)

	1971	1975	1980	1985	1988	1989	1990	1991	1992
Agricultural and traditional goods	76.6	69.9	93.3	79.8	74.4	85.7	79.1	75.0	69.6
Metal ores	4.9	5.5	3.0	6.5	3.2	2.6	2.5	1.5	1.2
Industrial goods	18.4	24.6	3.7	13.8	22.5	11.7	18.4	18.2	21.3
Other	-	-	-	-	-	-	-	5.3	7.8
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: Central Bank of Iran, Annual Reports, various years.

Note: Totals may not add due to rounding.

Table II.17. Composition of main manufacturing exports, 1972-90, selected years
(Percentage of total non-oil exports)

	1972	1977	1980	1982	1985	1986	1987	1988	1989	1990	1991	1992
Detergents and soap	3.6	3.1	-	0.2	-	0.1	0.2	-	0.4	0.1	0.1	0.2
Chemicals	3.4	2.3	-	-	1.0	1.2	1.5	3.1	3.3	1.2	1.8	2.1
Shoes	3.0	1.5	0.4	0.6	0.7	0.2	0.4	-	-	-	0.5	1.0
Copper ingots and products	-	-	0.4	-	6.2	6.6	3.6	13.8	1.6	5.9	2.4	4.9
Ready-made clothes, knit wear and textiles	8.2	4.6	1.6	3.4	1.9	1.7	0.9	0.7	0.5	0.9	2.2	2.7
Cement, building, materials and mosaic	1.3	0.2	-	1.2	0.2	0.4	0.9	0.4	0.6	0.3	0.2	0.6
Transport vehicles	0.5	1.9	0.1	0.5	0.1	0.3	0.2	0.2	0.2	0.4	0.8	2.4
Others	2.1	11.7	1.1	1.6	3.8	1.6	3.7	4.2	5.2	9.6	10.0	7.5
Total^{a/}	22.1	25.3	3.7	7.5	13.8	12.0	11.4	22.5	11.7	18.4	18.2	21.3
Total value of non-oil/gas exports (\$ billion)	0.44	0.52	0.65	0.28	0.47	0.92	1.16	1.04	1.04	1.31	2.61	2.94

Source: Central Bank of Iran, Annual Reports, various years.

a/ Totals may not add due to rounding.

One of the main reasons for poor performance of Iran's manufactured exports is the lack of international competitiveness, in terms of both price and quality, of the goods produced by Iran's

import-substituting industries, which had originally been set up to supply the home market. Both the government and private entrepreneurs are keenly aware of the need to improve this competitiveness, *inter alia* through the promotion of foreign investment in joint ventures, preferably with buy-back agreements. In the meantime, they are also hoping to find markets for the existing products in low-income and less-developed countries.

In view of the uncertain prospects for international oil prices, the government has begun to place increased emphasis on the promotion of non-oil exports, and manufactured exports in particular. The draft of the Second Development Plan of the Islamic Republic, which is currently being debated in parliament, calls for an increase in the value of manufactured exports to \$15.8 billion (see Table II.18). The development and promotion of non-oil/gas exports, and the provision of appropriate policy advice, is also one of the main foci of the technical assistance programme currently being formulated for Iran by the United Nations Development Programme.

Table II.18. Projected value of manufactured exports by major product group, Second Development Plan of the Islamic Republic of Iran, 1995-99.

Product	Value (\$ billion)
Textiles and clothing	0.52
Chemical and cellulose products	1.16
Food and pharmaceuticals	0.32
Non-metallic minerals	0.22
Petrochemicals	2.23
Metals	2.24
Carpets and handicrafts	7.00
Trucks	0.14
Buses	0.06
Others	1.91
Total	15.80

Source: Plan and Budget Organization, "Draft Second Socio-Economic and Cultural Development Plan of the Islamic Republic of Iran", 1993.

Imports

As a developing country with a limited manufacturing capacity of its own, Iran has devoted a substantial proportion of its foreign income to imports in general and the import of manufactured goods in particular. A substantial proportion of these imports has consisted of capital goods needed for the establishment and expansion of the country's industrial and infrastructural capacity, with the data in Table II.19 indicating that transport equipment and machinery have usually accounted for about a third of total merchandise imports. Despite its long-standing efforts at import-substituting industrialization, however, Iran also remains heavily dependent on imports of manufactured intermediate goods, including chemicals, and a wide range of manufactured consumer goods.

**Table II.19. Share of manufactures in total merchandise imports, 1980-89
(Percentage)**

Year	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989
Engineering products ^{a/}	28.2	26.1	28.1	34.9	37.6	34.2	35.4	32.7	34.3	30.0
Chemical products	14.0	16.1	14.2	11.5	12.2	10.2	14.6	15.2	16.0	16.0
Others	36.8	35.3	33.8	35.0	30.3	37.2	31.6	29.3	25.7	26.8
Total manufactures	79.0	77.5	76.1	81.4	80.1	81.6	81.6	77.2	76.0	72.8
Total imports	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Total imports (\$ billion)	10.8	13.5	11.8	18.1	14.5	11.4	9.4	9.4	8.2	12.8

Source: Calculations based on data provided in Annual Report and Balance Sheet of the Central Bank of Iran, various years.

a/ Machinery, tools and transport equipment.

G. INDUSTRIAL LOCATION AND REGIONAL DEVELOPMENT

Apart from such economic factors as the vicinity to sources of raw materials and markets, the location of Iranian industry has also been influenced by a variety of social, administrative and historical factors. The first attempts to industrialize the country in the 1920s and 1930s involved the establishment of textile mills and other plants producing basic consumer goods in Tehran, Esfahan and the provinces bordering the Caspian Sea, which became the initial nuclei of the industrialization process. As this process accelerated and became closely enmeshed with the development planning system, it increasingly became oriented towards import-substitution and the achievement of industrial self-sufficiency. This concept of self-sufficiency was gradually extended to the provincial level, resulting in a considerable dispersal of industry, which was also stimulated by the specific local availabilities of a variety of natural resources. Despite this geographical spread of manufacturing activities, however, the capital Tehran and the areas surrounding it became the principal hub of the industrial sector, and now account for about 40 per cent of industry is now located in Tehran and adjacent areas.

The change in government in 1979 reinforced the desire for self-sufficiency. This policy stance, coupled with the need to create jobs for the growing population and the availability of abundant foreign exchange at the time prompted a renewed dispersal of manufacturing industries throughout the country. A number of new industrial estates, of which the most successful are near the cities of Ghazvin, Rasht, Semnan, Arak, Tabriz and Saveh, were also established at that time to accommodate a variety of small and medium sized industries.

As indicated in Table II.20, however, which presents the latest available data on the distribution of industrial enterprises by province, Tehran has remained the most important industrial centre in Iran by a considerable margin. It continues to account for the vast bulk of the total number of industrial enterprises in Iran, and also had the widest range of industrial activities. The most important of these include food processing, textile production, woodworking, paper production and publishing, oil refining and motor vehicle assembly. Other important industrial provinces, albeit well behind Tehran, are Esfahan, Khorassan and East Azerbaijan,^{5/} which have a number of heavy industries, including chemicals and petrochemicals, iron and steel, metalworking, machine tools and motor vehicle assembly.

Table II.20. Distribution of industrial establishments with 10 or more employees by province, 1990

ISIC	Total country	Tehran	Markazi (Central)	Gilan	Mazandaran	East Azerbaijan	West	Bakhtaran (Kermanshah)	Khuzestan	Fars	Kerman	Khorassan	Esfahan
311 Food products	1,241	321	17	48	93	156	45	19	37	58	64	119	65
312 Food products	279	65	2	105	14	4	3	5	18	13	4	8	5
313 Beverages	35	11	1	2	4	3	2	1	1	2	1	3	3
314 Tobacco	5	-	-	1	1	-	1	-	-	-	-	-	1
321 Textiles	1,459	471	26	26	79	213	15	10	4	22	13	113	178
322 Garments	533	341	4	19	17	14	8	1	4	17	7	46	23
323 Leather products	147	79	-	1	-	27	-	-	-	1	-	33	2
324 Footwear	178	128	2	2	-	9	-	-	-	-	-	15	16
331 Wood products	188	57	3	28	37	5	2	4	4	10	1	6	7
332 Furniture	131	94	1	6	2	3	-	1	2	5	1	3	3
341 Paper products	152	90	5	2	6	3	1	1	2	5	2	6	7
342 Printing and publishing	202	162	-	4	1	-	3	1	1	3	4	11	1
351 Basic chemicals	88	28	5	2	6	3	-	3	3	8	-	-	9
353 Oil and gas processing	320	177	9	8	5	27	5	2	6	15	-	10	14
354 Oil and gas processing	71	13	3	2	1	5	1	3	11	2	2	5	1
355 Rubber products	76	42	1	7	-	3	-	1	-	3	-	4	3
356 Plastics	343	162	13	12	12	14	4	7	7	13	2	13	15
361 Pottery and china	35	5	3	2	-	1	-	-	-	1	2	2	1
362 Glass products	77	47	2	1	1	3	-	-	-	4	-	4	4
369 Other non-metallic minerals	3,914	701	99	35	157	234	159	98	168	270	89	384	526
371 Basic metals	45	11	1	-	1	1	-	1	7	2	-	1	11
372 Non-ferrous metals	71	27	10	3	-	2	1	-	1	2	1	7	5
381 Metal products	1,214	711	38	16	20	46	16	17	20	26	11	67	64
382 Non-electrical machinery	512	302	9	3	11	23	5	2	22	15	8	28	22
383 Electrical equipment	327	201	7	7	4	11	-	3	3	19	2	15	16
384 Transport equipment	223	126	8	1	10	7	3	-	2	3	1	11	9
385 Professional equipment	49	31	-	-	1	3	-	-	1	1	-	6	2
390 Miscellaneous	80	58	2	-	-	-	-	-	-	1	-	8	5
Total	11,995	4,461	271	343	483	820	274	180	324	521	215	928	1,018

(continued)

Table II.20. (continued)

ISIC	Sistan Baluchestan	Kordestan	Hamedan	Chahar Mahal	Lores- tan	Elam	Kohgi- luyeh	Bushehr	Zanjan	Semnan	Yazd	Hor- mozgan
311 Food products	11	21	41	4	16	5	3	5	41	15	31	6
312 Food products	2	1	3	-	4	-	2	1	7	5	5	3
313 Beverages	-	-	1	-	-	-	-	-	-	-	-	-
314 Tobacco	-	1	-	-	-	-	-	-	-	-	-	-
321 Textiles	6	7	6	13	2	-	1	1	90	16	147	-
322 Garments	2	2	3	4	1	2	-	2	4	6	4	2
323 Leather products	-	-	1	-	2	-	-	-	-	-	1	-
324 Footwear	-	-	-	-	-	-	-	-	5	1	-	-
331 Wood products	1	1	4	2	2	-	-	-	12	1	-	1
332 Furniture	-	1	2	-	-	-	-	-	5	-	2	-
341 Paper products	-	-	-	1	1	-	-	-	16	-	4	-
342 Printing and publishig	-	2	-	-	-	-	-	1	4	1	1	2
351 Basic chemicals	-	-	-	-	1	-	-	1	14	1	4	-
353 Oil and gas processing	-	-	1	-	3	-	-	2	27	1	7	1
354 Oil and gas processing	1	3	2	-	2	3	1	1	2	3	1	3
355 Rubber products	-	-	-	-	-	-	-	-	9	-	3	-
356 Plastics	2	1	8	2	-	-	-	1	36	6	13	-
361 Pottery and china	-	-	2	-	-	-	-	-	6	2	8	-
362 Glass products	-	-	1	-	-	-	-	-	7	2	1	-
369 Other non-metallic minerals	78	30	194	116	83	14	12	12	108	90	225	32
371 Basic metals	-	-	1	-	-	-	-	-	4	1	3	-
372 Non-ferrous metals	-	-	-	-	-	-	-	-	11	-	1	-
381 Metal products	6	10	16	5	8	2	2	3	48	11	49	2
382 Non-electrical machinery	1	5	5	3	1	1	3	1	20	7	13	2
383 Electrical equipment	-	1	4	2	-	-	-	2	16	2	11	1
384 Transport equipment	-	-	3	2	-	-	-	3	12	2	3	17
385 Professional equipment	-	2	-	-	-	-	-	-	2	-	-	-
390 Miscellaneous	-	1	-	-	-	-	-	-	1	1	3	-
Total	110	89	298	154	126	27	24	36	507	174	540	72

Source: Statistical Centre of Iran, unpublished data, February 1992.

All the other provinces have less than 5 per cent each of the total number of manufacturing enterprises in Iran. Among these, Kerman is an important centre for copper production; Zanjan for metalworking; Mazandaran for food processing, woodworking, paper and textiles; Gilan for food processing and woodworking; and Khuzestan for paper. Apart from Tehran and Esfahan, which are provincial centres in their own right, Iran's major industrial towns include Ahwaz (in the province of Khuzestan), which has an iron and steel industry; Tabriz (in East Azerbaijan), which has a heavy engineering industry; Arak (in the Markazi province), which has a petroleum refining industry and also produces heavy engineering goods and petrochemicals; and Shiraz (in Fars), Bakhtaran (in the eponymous province), and Bandar-i-Imam and Abadan (both in Khuzestan), which have petroleum refining and petrochemical industries. Mashhad, in the comparatively highly industrialized province of Khorassan, is also an important industrial centre.

The concentration of manufacturing industry in central Iran, and especially in Tehran and its surrounding towns, has given rise to a number of problems. The most important of these are high levels of industrial pollution in these areas, inadequate job opportunities in the other areas, an excessively high growth of Tehran's population, and above all the high cost of setting up new industries in the already industrialized areas. In order to promote a greater dispersal of industry, the government is encouraging the relocation or establishment of manufacturing enterprises at least 120 kilometres outside Tehran, and has provided tax and other incentives for industries to be established in deprived regions. These measures are likely to have only a limited effect, however, since the main reason why industries choose to locate themselves in Tehran and adjacent areas is the vicinity to a large market, availability of a skilled labour force, access to back-up services, and above all, the government's budgetary policy allocating a very high share of public spending to the capital city.

H. ENVIRONMENTAL ISSUES

Public authorities in Iran have been keenly aware of the need to protect the environment for more than two decades, and have established a comprehensive legal and institutional framework for this purpose. A Department of the Environment was established in 1971 to control activities posing a threat to the environment, and its powers were reinforced by the promulgation of an Environmental Protection and Enhancement Act in 1975, which incorporated many of the recommendations of the United Nations Conference on the Human Environment held in June 1972 in Stockholm. This was followed by the enactment of the Air Pollution Control Regulation of 1975, which *inter alia* provided for measures to identify sources and determine maximum acceptable levels of air pollution, inspect and monitor emissions from industrial enterprises, and develop programmes to reduce industrial air pollution.

Environmental considerations have also featured prominently in the legislative measures introduced since 1979. The constitution of the Islamic Republic of Iran, which was approved in December 1979, contains a formal commitment to the protection of the environment and the ecologically sustainable utilization of the country's natural resources.^{6/} This commitment has been emphasized further in subsequent years through the introduction of a number of important environmental laws, including the Water Distribution Act of 1982, the Water Pollution Control Regulation of 1984, the Radiation Control Law of 1989, the Water and Sewage Companies Law of 1990, and the Environmental Health Regulation of 1992. In addition, the government has established an Environmental High Council headed by the President of the Republic, which includes two vice-presidents, ten ministers and the attorney general. Supported by four coordinating councils for environmental programmes, research, education and sustainable

development, the High Council formulates environmental policies and strategies and approves environmental standards.

Despite its strong commitment to environmental protection, the government has often lacked the means to implement its policies and regulations with the required rigour, and has often had to give priority to the objective of economic growth and income creation where this has been in conflict with its environmental goals. This has resulted in a considerable neglect of the environment, involving a substantial loss of forestry resources, significant environmental damage during the 1980-88 war, the widespread dumping of unprocessed industrial and urban refuse, and high levels of air and water pollution. The situation is especially serious in Tehran, where average concentrations of air pollutants exceed internationally accepted standards by a considerable margin (see Table II.21) and no adequate facilities have been established for the treatment of waste water. Most of the other major cities, including Tabriz, Ahvaz, Arak, Shiraz and Esfahan, also suffer from high levels of pollution. The level of hydrocarbon pollution in particular is extremely high in Iran, due both to the very low subsidized price of petroleum products in the country and the high average age and poor maintenance of the country's vehicle fleet.

Estimates of the sources of the major air pollutants suggest that industry is responsible for the bulk of Iran's emissions of sulphur dioxide and total suspended particles (TSP), and a substantial proportion of its total emissions of nitrogenous oxides (see Table II.22). The sulphur dioxide emissions originate mainly from the petroleum refining and metallurgical industries, which account for 40 per cent and 25 per cent of total industrial sulphur dioxide emissions respectively. The TSP emissions derive primarily from the steel and cement industries, which together produce about 70 per cent of the industrial sector's emissions of these particles. In addition, the industrial sector is also responsible for substantial emissions of mercury, copper, fluorine, aluminium and hydrocarbons.

Table II.21. Concentration of air pollutants in Tehran, 1989-91
(Annual averages)

	Average concentration	Guidelines		Percentage above guidelines	
		WB	WHO	WB	WHO
Sulphur dioxide	$\mu\text{g}/\text{m}^3$ 140	100	40-60	40	130-250
Nitrogen dioxide	$\mu\text{g}/\text{m}^3$ 250	100		150	100-200
Total suspended particles	$\mu\text{g}/\text{m}^3$ 180	100	60-90	80	120-340
Lead	$\mu\text{g}/\text{m}^3$ 2.2		0.5-1.0		
Carbon monoxide	ppm 11				
Hydrocarbons	ppm 10				

Source: United Nations Development Programme Tehran, unpublished data.

Note: WB is World Bank's guideline; WHO is World Health Organization's guideline.

Industrial effluents also represent a major source of water pollution in Iran. Although the industrial sector is estimated to account for only 1 billion cubic metres of the 7 billion cubic metres of waste water produced in Iran each year, it tends to be the most heavily polluted,

carrying a diversity of toxins, heavy metals and other pollutants. This reflects the fact that only comparatively few industries, comprising mainly such large enterprises as oil refineries and petrochemical plants, have the financial and technical facilities to treat their effluents efficiently. A few other particularly polluting industries, such as leather tanneries and textile mills, are also required by law to be equipped with waste-water treatment facilities. Even where such equipment does exist, however, it does not always work effectively because its operators often lack the necessary knowledge and expertise to run it properly.

Table II.22. Air emissions from sectoral sources, 1991

	Residential/ commercial	Industry	Agriculture	Transportation	Power	Total
A. Thousand tonnes						
Sulphur dioxide	45	452	37	31	293	859
Nitrogen dioxide	36	98	36	185	191	546
Total suspended particles	30	105	12	24	46	217
Lead		1		1-4		2-5
B. Percentage of total						
Sulphur dioxide	5	53	4	4	34	100
Nitrogen dioxide	7	18	7	34	34	100
Total suspended particles	14	48	6	11	21	100

Source: United Nations Development Programme Tehran, unpublished data.

Quantitative data on the extent of the water pollution caused by individual industries in Iran are limited, although the estimates presented in Tables II.23 and II.24 provide an indication of the effluents released by some of the country's main manufacturing industries. Table II.23, which shows the concentration of pollutants in the waste water released by four major industries, suggests that these concentrations are comparatively high, with a considerable biological and chemical oxygen demand being imposed on the waste water and substantial quantities of solid residues being suspended in it. Table II.24, which shows estimated output levels and the total volume of pollutants discharged by various industries in 1990 presents a similarly discouraging picture.

Table II.23. Comparison of the quality of industrial effluents

Pollution indicator	Dairy industry	Meat industry	Textile industry	Chemical industry
Biological oxygen demand (mg/l)	1,000	1,500	600	1,000
Commercial oxygen demand (mg/l)	1,900	2,500	1,500	3,400
Suspended solids (mg/l)	300	350	200	150

Source: United Nations Development Programme Tehran, unpublished data.

Table II.24. Production of large industries and pollution load, 1990

Industry	1984	1985	1986	1987	1988	1989	1990	Biological oxygen demand 1990 (Thousand tonnes)
Edible oil	438,348	480,913	401,612	473,366	356,743	486,027	540,323	2.2
Sugar (beet)	406,795	486,346	579,659	538,373	503,474	508,408	500,211	7.4
Sugar (cane)	225,792	210,953	62,762	132,643	140,000	100,000	71,115	
Dairy products	260,555	297,343	264,060	266,449	226,916	282,741	398,400	2.4
Canned fruits and vegetables	112,122	122,074	71,473	110,400	131,545	147,272	149,999	2.4
Soft drinks	816,319	900,108	741,097	815,110	907,070	911,122	911,280	1.6
Slaughter houses	505,000	584,509	327,277	450,111	517,238	497,325	580,125	4.1
Tanning and leather	78,318	78,251	64,372	79,320	81,450	88,122	94,850	5.2
Detergent	225,020	236,565	195,040	217,022	150,565	168,657	211,125	0.4
Soap	38,658	36,055	31,118	26,742	32,719	32,052	40,304	0.2
Wool textile	-	11,352	9,230	7,458	7,691	6,394	7,200	
Cotton mills	-	81,729	79,551	79,934	57,660	53,091	62,859	
Nylon fibres	19,160	22,978	17,966	15,713	11,696	11,762	17,194	8.9
Acrylic fibres	34,166	34,930	21,912	17,521	16,615	23,799	29,764	
Polyester fibres	-	151,784	147,738	148,450	107,082	98,597	100,406	

Source: United Nations Development Programme Tehran, unpublished data.

Recognizing the growing environmental pressures faced by the country, and in particular the threat to the environment posed by these high levels of industrial discharges, the Government of Iran has initiated a number of measures to minimize the environmental damage arising from the economic development process, and is coordinating these policies with recommendations and technical assistance from the international community. These measures include the formulation of relevant standards, the establishment of an appropriate legal framework, the introduction of a compulsory environmental impact assessment for all major development projects, the adoption of measures to optimize the use of energy through changes in consumption patterns, the promotion of clean production technologies and applied research on the environment, and the dissemination of environmental knowledge and awareness. A major programme to establish a national strategy for the environment and sustainable development was launched in 1992 with the support of the United Nations Development Programme (UNDP) and the World Bank, which is expected to result in recommendations for a wide range of policy measures covering all aspects of environmental conservation, including, *inter alia*, waste minimization, pollution control, the prevention of soil erosion and desertification, and the conservation of Iran's biodiversity. In another very important development, steps are also being taken to phase out the use of ozone-depleting substances in a project being undertaken with the technical assistance of UNIDO.

The full implementation of these programmes will clearly be constrained in the short run by their high financial cost and the scarcity of the needed financial resources. Social considerations, such as the need to restrain increases in the price of basic consumer goods in an already inflationary economic environment, will also restrain the implementation of appropriate policies, one of the most urgent of which is the need to price natural resources at their full economic cost. There is a clear evidence of will and commitment on the part of the government to tackle the country's environmental problems, however, and a significant improvement in the existing environmental conditions is expected in the medium term.

I. INTERNATIONAL COOPERATION FOR INDUSTRIAL DEVELOPMENT

Since the end of the 1980-88 war, the Government of Iran has focused its attention on the task of promoting economic development and increasing the well-being of the Iranian people. While seeking, as far as possible, to achieve this goal through the mobilization of the country's own resources, it has also recognized the benefits to be gained from increased international cooperation with bilateral and multilateral development assistance agencies, non-governmental organizations and private entrepreneurs. Considerable efforts have therefore been made to establish and develop these ties in the post-war period, as a result of which a tight network of such links has been created.

A particularly strong partnership has emerged between Iran and the United Nations development assistance system. The UNDP and many specialized agencies maintain a strong local presence in the country, and are actively supporting Iran's development efforts. After a hiatus of more than 15 years the World Bank has also resumed its assistance to Iran, and since 1990 has conducted several sectoral and macroeconomic studies as well as disbursing a modest amount of new loans.

As the specialized agency for industrial development of the United Nations system, UNIDO has cooperated closely with Iran since the early 1960s. By mid-1994 the number of completed technical cooperation projects undertaken by UNIDO in Iran had reached 105. They covered all fields of industrial activity including the development of an industrial infrastructure and

institutional support base, and the establishment, expansion or rehabilitation of industrial facilities for the manufacture of a wide range of agro-industrial, chemical, metallurgical and engineering products. A further 14 projects were in progress at this time, including a project to formulate a master plan for the development of national industrial research institutions, and two projects to convert Iran's refrigerator and foam producing industries from the use of chlorofluorocarbons (CFCs) to alternative non-ozone depleting substances.

NOTES TO CHAPTER II

- 1/ See Annex Table A-5. (Confirm this later, in case order of Annex Tables changes.)
- 2/ This section draws heavily on the Country Information Sheet on Women in Industry prepared for Iran by the Unit for the Integration of Women in Industrial Development at UNIDO in July 1992, and from an unpublished report entitled *A Survey of Living Conditions of Rural Women in the Islamic Republic of Iran* prepared by the Ministry of Jihad-e-Sazandegi of the Islamic Republic of Iran in March 1993.
- 3/ Statistical Centre of Iran, *Statistical Yearbook*, Tehran, 1985.
- 4/ Government of the Islamic Republic of Iran, Plan and Budget Organization, Second Social, Economic and Cultural Development Plan of the Islamic Republic of Iran (Draft), 1993.
- 5/ East Azerbaijan has probably lost some of its importance since late 1993, when Iran's 25th province, Ardebil, was separated from it.
- 6/ For details see Articles 45 and 50 of the Constitution of the Islamic Republic of Iran.