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21203

ARGENTINA

Industrial Transformation and Growth

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First published 1995

ISBN ??????????

The Economist Intelligence Unit
40 Duke Street, London W1A !DW, UK

British Library Cataloguing in Publication Data
Indonesia, Industrial Transformation and Growth
1. Indonesia
I. United National Industrial Development Organization

ISBN ??????????

Acknowledgments.

This review has been prepared by the United National Industrial Development Organization under the general direction of J. Vinanchiarachi, Industrial Development Officer. The review was prepared and written by W. David Guthrie, consultant to UNIDO.

Typeset by UNIDO Vienna,
Printed and Bound in Great Britain by the Economist Intelligence Unit

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PREFACE

This Industrial Development Review of Argentina is part of a sales series aimed at strengthening the "country focus" of UNIDO activities. As part of the work of the Industrial Development Review Unit of UNIDO'S Programme Support and Monitoring Branch, the Reviews present a survey and analysis of each country's industrial development achievements. The Reviews are intended to provide a service to those within UNIDO and other international agencies concerned with industrial policy, planning, project development and implementation and to be a ready source of information for governments, investors, industrialists, entrepreneurs, policy-makers, international organizations, aid agencies and research institutions.

The Reviews have two separate but interrelated objectives: they are designed to facilitate and promote the activities of UNIDO, as well as to serve as an informative and analytical document for the international industrial community. The analyses contained in the Reviews are intended to support the technical assistance programming for industry by providing industry-specific analysis which may serve as an input to programming activities and as a basis for informed discussions. The Reviews are also designed to accommodate the needs of a wide readership in the international community associated with industry, finance, trade, business, research and government, laying the groundwork for undertaking in-depth analysis of specific aspects of industrial development trends, policies and strategies.

This Review comprises three Chapters. Chapter I presents an overview of the economy of Argentina and analyses the macroeconomic context of the ongoing process of liberalization, while also presenting early results and the economic outlook. The structure and performance of the manufacturing sector are anslysed in Chapter II with particular emphasis to growth and structural change, employment, productivity, the role of public and private sectors, trade, location and environmental issues. Chapter III examines the performance and prospects of key industry branches. Data on industrial trends are presented in Annex B. A set of other annexes present industrial investment information and important contact points for investors.

This review is based on information available as at July 1995.

EXPLANATORY NOTES

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

Dates divided by a slash (1991/1992) indicate a fiscal year or a crop year. *Dates* divided by a hyphen (1990-1992) indicate the full period, including the beginning and the end years.

In Tables:

Totals may not add precisely because of rounding.
Two dots (..) indicate that data are not available or not separately reported.
A dash (-) indicates that data are not applicable.

The following *abbreviations* are used in this publication:

ADRs	American Depository Receipts
BCRA	Banco Central de la Republica Argentina
BF	Blast Furnace
bcd	barrels per calendar day
bcf	Billion of cubic feet
boe	Barrels of oil equivalent
BPD	Barrels per day
BsAs	Buenos Aires
CIF	Cost, insurance, freight
DR	Direct Reduction
EU	European Union
FOREX	Foreign exchange
FOB	Free on board
GATT	General Agreement on Tariffs and Trade
GDP	Gross Domestic Product
GNP	Gross National Product
GDP	Generalized system of preferences
FAO	Food and Agriculture Organization
FOB	Free on board
HP	Horse power
Ha.	Hectare
IDB	Inter-American Development Bank
INDEC	Instituto Nacional de Estadistica y Censos
ISO	International Standards Organization
MFN	Most Favoured Nation
m^3	Cubic meters
mcd	millions of cubic feet
MIA	Movimiento Industrial Argentino
Mt	Metric tonnes
MVA	Manufacturing Value Added
OECD	Organization for Economic Cooperation and Development
OPEC	Organization of Petroleum Exporting Countries
OTC	Over-the-counter
Ps	Pesos
TOE	Tonnes of oil equivalent
UNDP	United Nations Development Programme
UNIDO	United National Industrial Development Organization
USSR	Union of Soviet Socialist Republics
WB	World Bank
WTO	World Trade Organization
YPF	Yaciemiento Petroliferos Fiscales

BASIC INDICATORS

BASIC INDICATORS I: THE ECONOMY

Population:	:						
Annual growth rate of population (1980 - 1994)	:	1.2 per cent					
Labour force (1993)	:						
GDP (1994)	:						
GDP per capita (1994)	:						
Growth of GDP (Percentage)	:	1989	1990	1991	1992	1993	1994
Structure of GDP (Percentage)	:				1988	1994	
		Agriculture					
		Mining & Quarrying					
		Manufacturing					
		Construction					
		Other					
Exports (1993)	:						
Principal Exports ($ million, 1993)	:						
Imports (1993)	:						
Principal Imports ($ million, 1993)	:						
Current account deficit (1993)	:						
International reserves (1993)	:						
Outstanding external debt (1993)	:						
Debt service ratio (1993)	:						
Consumer price change (Percentage)	:	1990	1991	1992	1993	1994	
Exchange rate (Peso equivalent to $1)	:	1990	1991	1992	1993	1994	
					1	1	

BASIC INDICATORS II: THE MANUFACTURING SECTOR

Manufacturing value added (1993)	:	

MVA per capita (1993)	:					
Manufacturing employment (1988?)	:					
Growth of MVA (Percentage)	:	1989	1990	1991	1992	1993
Structure of MVA (Percentage)	:				1990	1993
Share of manufactured exports in total exports (1993)	:					
Structure of industrial exports (1993) (Percentage)	:					
Share of manufactured imports in total imports (1993)	:					
Structure of industrial imports (1990) (Percentage)	:					
Wholesale price index by manufactured goods (19??=100)	:	1989	1990	1991	1992	1993

BASIC INDICATORS III: INTER-COUNTRY COMPARISON OF SELECTED INDICATORS

SUMMARY

During the 1980s, the Argentine economy was subject to sharp swings in growth, productivity employment, regulation and terms of trade. Agriculture was the major employer and counter-cyclical dampening agent. Manufacturing was encouraged through government policy, regulation and financial incentives. In the last 5 years, the economy has undergone major changes in regulation, structure and performance. Manufacturers now must compete against imports and develop export markets, the federal government has privatized most of its holdings and the financial incentives have been largely discontinued. Private foreign investment, much of which fled in the 1980s, has returned.

The first year of the major policy changes, 1990, produced only a small increase in GDP of 0.1 per cent. From 1991 to 1994, Argentina became the third most rapidly growing economy in the world, with 1991 GDP increasing 8.9 per cent, 1992 increasing 8.7 per cent, 1993 increasing 6.0 per cent and 1994 by 6.5 per cent As a result of external factors, GDP growth for 1995 will not approach these levels but will still be positive. Much of this growth has come from the manufacturing sector, especially in food processing, oil and gas, chemicals and especially transport equipment, which has been responding to pent up domestic demand. Retail sales have also increased sharply as incomes rose.

Chapter I details the processes of economic growth and structural change and the policy environment in which they occurred. In particular, the chapter discusses the policy initiatives by the Argentine Government to bring about this growth As a result of the economic instability of the 1980s coupled with hyperinflation, both government and public incentives exist to maintain and strengthen these policies. To an extent, some of the growth has been financed by the inflow of foreign capital yet much success must be claimed by the Government for providing the climate in which growth could occur. The Government has also been at pains to repay debt incurred during the 1980s from private and multilateral lending institutions so that foreign investors would find that the economy is not only open to investment but welcomes it.

Following this overview of the macroeconomy and policy environment in Chapter I, the dynamics of the manufacturing sector are analyzed and presented in Chapter II. This discusses the functioning of Argentina's manufacturing industry by examining the key issues involved in its growth and structural change, employment, productivity, ownership patterns, industrial location, environmental impacts, trade and technical cooperation. Broadly, the Chapter examines how dramatic growth and restructuring have been achieved, identifying new trends and looking at changes that are still in process.

The manufacturing sector is shown to be varied in structure and production and under strong pressures to reorganize. From cottage-scale operations to large, vertically integrated complexes, manufacturing includes small food processors to efficient domestic and transnational corporations. While small industries associated with agriculture account for most of the employment, most of the value of gross output and manufacturing value added (MVA) can be accounted for by medium and large-scale firms. Most of these results have been regularly documented by the National Institute of Statistics and Census of the Argentine Government.

More disaggregated investigation shows that the performance of almost all manufacturing sectors, with the exception of agriculture, has been highly variable over the period 1980 to 1990. After that, the more stable economic environment has allowed increases in oil and gas production and refining, some chemicals, certain machine tools, beverages, automobile production, iron and steel and certain electronics sub-sectors. In some cases, the better growth has been due to foreign investment, in some to reorganization and privatization and in some to increases in consumer demand.

The growth in manufacturing has not been accompanied, however, by an increase in employment. Jobs have steadily declined from 1990 since many manufacturing firms were government-owned and over-manned. Privatization brought on the need to be more competitive by cutting labour costs. Unemployment reached in excess of 12 per cent in 1994 and is expected to reach 15 per cent before leveling off. One privatized firm in the oil and gas sector cut its workforce by 90 per cent.

I. THE MACROECONOMIC AND INDUSTRIAL POLICY ENVIRONMENT

A. RECENT ECONOMIC TRENDS

Argentina is experiencing a revolution in its economy. It has made a so-far successful transition from a largely state-run economy into one that is more often than not a free market. This transition is taking place within a stable democracy that has formed associations with its neighbours to increase everyone's prosperity. Economic reforms instituted in 1990 have taken root and there has been a major change in how various sectors operate.

The old import substitution model has been abandoned. Unlike previous attemps at economic liberalization in the 1980s, these change are real and based on a broad consensus about the lack of effectiveness of that model. Real promise is held out as a result of vast natural resources, a literate population and a shared view of the necessity for reform. There are problems associated with social insurance, labour market rigidities and lack of business' financial sophistication but these are being addressed. Argentina's 34 million people can look forward to real economic growth.

Developments to 1990 - inappropriate economic incentives

Argentina's principal natural resource is the land and its agricultural output. While the economic base is diversified, agriculture remains a mainstay of the economy, especially exports of agricultural commodities. During periods of poor performance economically, agriculture remained the hard base of the economy.

Originally the poorest of the Spanish colonies, Argentina's main initial economic activity was the export of mules to Peru. Due to the lack of a broad economic base, the population remained very small for many years. Gradually, due to colonization and migration from Chile, the population grew and the few Indians in the country were displaced. Buenos Aires developed, not without opposition, as a major port. From the time of the British invasion in 1806, Spanish influence in the country began to wane. While the invasion was unsuccessful, free trade was introduced and the population began to reap its benefits.

The 1940s witnessed the introduction of a state-directed economic structure along with civil unrest. This structure, while modified over the years, remained largely intact until the 1980s when, little by little, reforms, never enough, were introduced.

The decade of the 1980s in Argentina can be characterized as one of stagflation. Argentina, like much of Latin America, was beset by high import barriers, economic mismanagement, hyperinflation and huge external debt. The government of the mid 1980s borrowed heavily from the International

Monetary Fund (IMF) and other international lending institutions. The IMF was insistent upon the establishment of a stabilization programme. The government instituted the Austral Plan in response. It pegged the currency to the dollar and was supposed to limit government spending. Initially, the Plan was successful but failed finally due to a lack of fiscal balance and reliance upon the old policies of government intervention and import substitution. An agreement was reached with the creditor banks in 1987 to restructure the debt. However, the economy continued to deteriorate as inflation started to again increase. By 1988, the financial situation had deteriorated to the point where the government suspended interest payments on the external debt.[1] A final plan, the Plan Primavera, was launched in 1988 but by 1989 had to be halted when the austral massively depreciated. Coupled with uncertainty over the outcome of the elections of that year, the devaluation produced hyperinflation. Government involvement in the economy was clearly unsucessful. The economic causes of this unuccessful involvement were manu.

The basic policy pursued was import substituion but other approaches were also used. Tariffs, quotas, export rebates, subsidies and other instruments served to keep imports out and protect domestic manufacturers and workers. Firms were exempted from value added tax (VAT), income taxes and various other taxes for up to 15 years. A deterioration in exchange rates led to decreases in manufacturing and losses in exports. Other macro economic policies were designed to control the cost of living, the cost of borrowing and access to foreign exchange.

Price controls, interest controls, credit, foreign exchange and taxation policies caused great distortions and misuse of scarce resources. These policies led to periods of high inflation, followed by periods of real growth. This erratic trend damaged the manufacturing sector, whose inability to compete internationally made them rely upon the domestic market. It also discouraged planning. Concomitantly, a sharp fall in investment occurred during the period. In the mid 1970s, investment had been 23 per cent of GDP. By 1989, it had fallen to 15.7 per cent and by 1990 to 14.2 per cent of GDP. The state was heavily involved in some key industries, which were inefficient and unprofitable. Among them were steel, ship-building, petrochemicals, shipping and energy production. In 1985, tax revenue was 14 per cent of GDP. By 1989 it had fallen to 12.5 per cent. The stop-go economy of the 1980s and lack of political will undercut the tax structure. The erratic nature of economic activity caused manufacturers to avoid paying taxes as they scrambled to keep businesses afloat. The government did little to enforce tax payments or alter tax incentive schemes. The result was budget deficits financed by inflation. One of the many areas affected was foreign trade.

Import protection was achieved by tariff and non-tariff barriers to trade. The tariff schedules were designed according to the type of good, domestic supply and degree of processing. Tariff rates were set higher for consumer goods than for capital or intermedia

te products. Rates were also higher for import-competing goods, the rates increasing according to the degree of processing. The period 1988-1990 witnessed a change in direction of trade policy as many items that were formerly protected were removed from the protection scheme. But the changes were not enough and came too late.

In the manufacturing sector, prior to 1983-1984, the foreign debt crisis created opportunities for import substitution. The practical effect of this was an economic recovery based on domestic demand. Good medium-term production decisions and investment plans were not possible with the erratic nature of the business cycle since then, however. Manufacturers reliant, for economic and political reasons, on the domestic economy found themselves uncompetitive in international markets and with weakening demand domestically.

When elections were held in 1989, the economy was in deep recession. The new government produced a sea change in economic policy that would reverse most of the factors that contributed to the uneven growth in Argentina's economy prior to 1990. It would also result in a period of growth unprecedented in the country's history. Most importantly, public opinion was strongly in favour of policies that would avoid future hyperinflation.

During the 1980s the public sector share in GDP decreased slightly. In 1980-1982 and again in 1984-1988, expenditures on social programmes and on infrastructure development and subsidies to the private sector increased. On average, public sector spending was 9 per cent of GDP. The bulk of contribution to GDP prior to 1990 came from the manufacturing sector with construction, agriculture, and mining each contributing less than 10 per cent to total GDP. The public sector share of GDP, while declining slightly from 1980, was in excess of 40 per cent in 1989. As a highly indebted country, Argentina had to service the foreign debt but did so without increasing revenues, contributing to the inflation that characterized the latter part of the 1980s by printing money. In part, an inefficient tax collection system focusing on ease of administration rather than receipts of revenue also contributed to inadequate government revenues, along with lax enforcement.

Developments since 1990 - a new era of policy reforms, stability and growth

In the face of policy reforms, the economy rebounded well in 1991 from a reduced growth rate of 0.1 per cent in 1990. Real GDP grew by 8.9 per cent in 1991, 8.7 per cent in 1992. The pace of economic growth slackened to 6 per cent in 1993 and is expected to be 6.5 per cent in 1994. These are impressive numbers and the fact that they were sustained for an extended period is proof that the policy reforms are working. The government of Mexico devalued the peso in 1994. The devaluation was handled poorly. Investor's perceptions of Latin America were to lump all countries together, so that when one had problems, all would, and did. The result is popularly referred to as the Tequila Crisis. Per capita GDP for 1994 should be $8,180 and total GDP should be $279 billion.[2] As a result of the first and second quarter 1995 Tequila crisis, and a slow down in consumer spending, GDP for 1995 is expected to fall to 3.5 per cent, which is still impressive by OECD standards.

Structural reforms

The government that came to power in 1989 tabled a plan to privatize up to 30 state companies and reduce the federal bureaucracy. The IMF supported this first plan and agreed to a stand-by loan. The facility was suspended, however, when Argentina did not make good on the loan's performance criteria. From 1990-1991 the government worked hard to achieve stability in the economy. After peaking at over 20,000 per cent in March 1990, monthly inflation started falling. When the government started printing money to fund expenditures in 1991, the Austral plummeted. Inflation started to increased. The Convertibility Plan was introduced in March 1991. It contained two key

policy measures that transpired to force the government to a balanced budget and to stop printing money:

- The Austral was pegged at A 10,000=$1 in April 1991.

- Congress enacted legislation requiring the central bank to back the monetary base by 100 per cent by reserves of foreign exchange and dollar-denominated instruments.

At the same time, indexation was prohibited. In 1992, the peso was reintroduced, with the exchange rate being 1 Peso=A 10,000. Since then, the peso has been effectively repegged to the dollar, with an official floor of Ps 0.9998=$1. Restrictions on the buying and selling of foreign currency have been removed. The Convertibility Plan is widely viewed as a success. Other measures to open the market were introduced and have contributed to economic growth.

Argentina has embarked on wide-ranging reforms of its tax system. In 1990, the government introduced radical changes in administration and the tax system. The philosophy was to drop those taxes that were easy to collect but had an outsized influence on growth - export taxes, financial transactions taxes - and replace them with taxes such as VAT, and to overhaul the tax administration. Compliance with VAT has been strengthened through such methods as new invoicing requirements and closing businesses that have failed to turn over tax receipts promptly, turning the VAT into one of the most productive taxes.[3]

Additional tax reforms were introduced with a view to improving competitiveness through the lowering of foreign trade taxes, the stamp tax, and the tax on corporate gross assets. Tax reform has also been carried over to the provincial level where the turnover tax has begun to be eliminated.

Government spending

The government budget plan for 1994 called for expenditures of 39,980 million pesos, a level slightly below that of 1993. Social services spending was increased as were security and defence spending. The latest budget was based on an assumed 6.5 per cent rise in GDP, a 4 per cent rise in prices and 1,815 million peso trade deficit. No increases in salaries for government employees were included.[4,5] Adjustments have since been made as a result of the Crisis.

In June 1995 it was decided to keep down spending, by deferring payment of public sector wages of 300,000 employees until July. Public sector debts with suppliers will also be rescheduled and a wealth tax will be instituted in June 1995. The purpose of the postponement is to reach fiscal targets agreed with the IMF. It has the added benefit of a recovering economy producing tax receipts in the second half of the year that were not produced in the first half, thus helping to balance the budget. The government hopes the move will boost national accounts for the quarter by $1.5 billion although financial markets have reacted with some skepticism.

The 1995 federal budget includes a 3.6 per cent increase in public spending to $43 billion. In order to cover anticipated increases in the state-level social security system after private pension funds were introduced in July of 1994.[6] Funding of the state pension system remains a problem as anticipated revenues may not match expenditures thus causing the government to go into deficit spending. The most recent information coming from the Ministry of the Economy and the Central Bank indicate that the government will indeed run a surplus in 1995. The cause of this has to do with the so-called Tequila crisis and its galvanizing effect on policy makers.

Privatization

The process of privatization of federal government-owned companies is mostly complete. In 1995, the finance minister announced the terms for privatizing Argentina's nuclear power plants, several hydroelectric plants and petrochemical plants. The sale is expected to raise $3 billion.[7] There remain a large number of local government-owned companies and local government subsidy schemes. Privatization has also resulted in protests, sometimes violent, especially in poorer areas of the country such as Santiago del Estero. The federal government is encouraging local governments to divest themselves of government-owned and/or subsidized companies. One important such investment is in Tierra del Fuego, where the assembly portion of the electronics industry is largely located. So long has government been involved in the market, however, that many may find the transition to the Federal government]s plan is less successful than desirable.

Privatization of provincial government-owned enterp ises is far from complete and mav not occur to the degree desired by the federal government, although the present party in power controls a majority of the legislatures in the provinces. Moreover, in some provinces, up to 40 per cent of the economically active population are employed by government-owned enterprises. Large-scale privatization will of necessity result in job losses. One of most difficult of the sectors to privatize will be the banks. While the Central Bank maintains that all will be privatized of those that survive the Tequila crisis, it is not clear that the provincial governments will go along with this.

Barriers to trade

While tariff barriers to trade have been rationalized, non-tariff barriers are still quite high. As of 1 January 1995, the Mercosur Agreement was implemented among Argentina, Brazil, Paraguay and Uruguay. A common external tariff was introduced, non-tariff barrier restrictions will be eliminated and macroeconomic policies will be coordinated.

Exports and imports

Exports for the period 1992-1994 increased by $2.5 billion but imports increased by $5.3 billion, fuelled by consumer spending. The merchandise trade deficit for 1994 was estimated to be $6 billion and the current account deficit $11 billion. While trade figures for the first quarter of 1995 are not available, many industries report that they have witnessed significantly increased exports to Mercosur countries, especially Brazil. As long as the peso remains pegged to the U.S. dollar and the dollar remains weak against other major currencies, there will remain a strong possibility of increasing exports. While some industries would like to see a devaluation (and the currency is overvalued), the government has ruled out any such possibility.

Investment

While investment has increased by 15 per cent since 1990, it remains less than 20 per cent of GDP. Industry remains strapped for capital. Largely due to foreign investors, stock market capitalization is 17 per cent of GDP but still well below Chile and Brazil. The stock market is also thinly traded as large percentages are owned by family groups and the publicly traded shares are 40 per cent owned by foreign investors. Approximately 100 companies are traded on the exchange but there is little experience in Argentina with equity investment. Most business have relied upon bank credit rather than public flotation of shares to attract capital.

Employment

Employment had increased steadily throughout the previous decade to where, by 1990-92, 13.7 million people representing 41.7 per cent of the population were employed. As a result of privatization and

cost-cutting measures, in 1993 Argentina had an unemployment rate of 9.9 per cent. It was estimated to have increased to 10.8 per cent in 1994 and climbed to 12.2 per cent in January 1995.[8] Some observers believe that unemployment will reach 15 per cent by the time all the structural changes have been implemented and started to take full effect. Labour market rigidities have also been sighted as an important contributor to unemployment. The unemployment data should, however, be taken with a degree of scepticism. Well-informed observers strongly believe that a flourishing black market economy exists, inflating the unemployment data. Adding to the lack of certainty of the accuracy is that moonlighting by government employees in some areas may be occurring quite commonly as many are not well paid in their regular jobs.

The fear of inflation that came from the 1980s is so strong that labour and management are willing to make the sacrifices necessary in order to bring long-term price and employment stability. While there have been violent labour protests, resulting in deaths, there is a large consensus that the medicine has to be taken in order to cure the patient. The reelection of the government by a large majority in May 1995 underscores this belief.

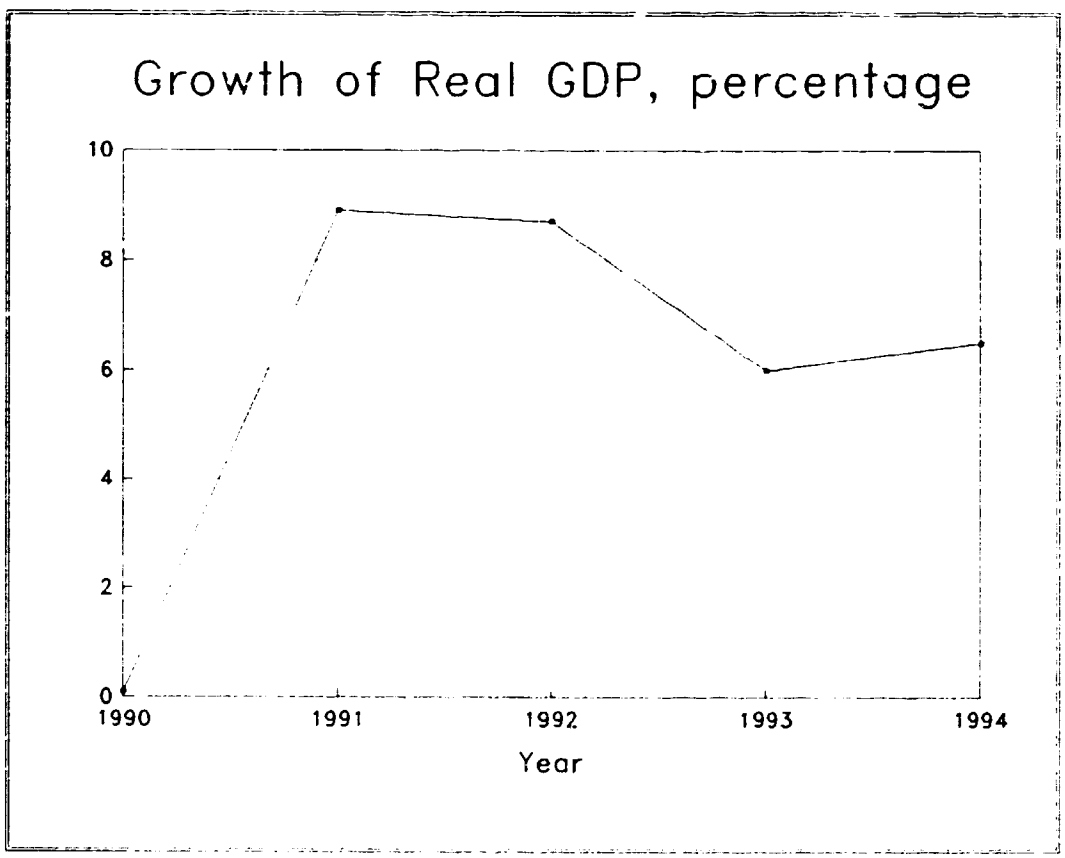
Foreign debt

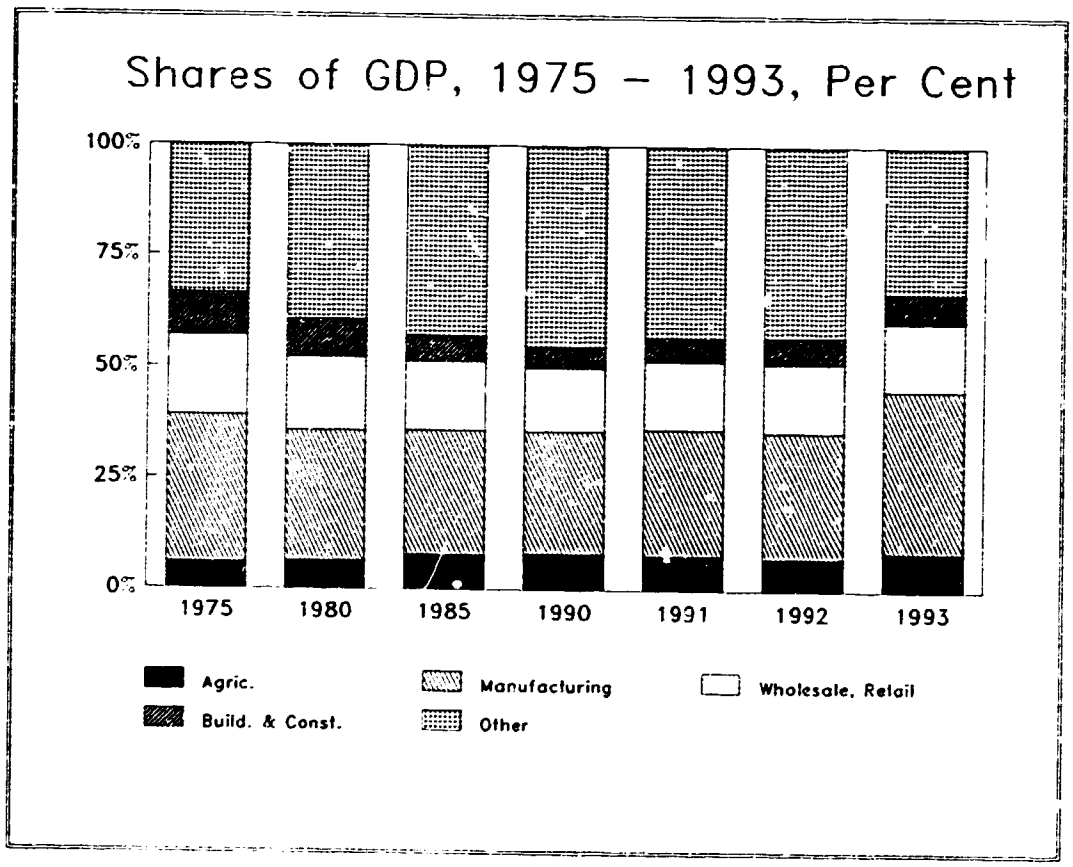
Interest payments on external debt have kept the current account in deficit. New terms were negotiated in 1992 for all publicly held external debt and as a result, started to become current in servicing the debt. In 1992, thanks to privatization and a healthier economy, direct investment climbed to $4.2 billion, compared with a $4.2 billion net outflow in 1987. The convertibility law and the stronger economy caused reserves to increase. Prior to the Tequila crisis, reserves were at $17 billion but the capital outflow resulting from the crisis cut these back to $6 billion and raised concern that reserves were not adequate. Foreign public debt currently stands at $70 billion and debt service payments were $3.3 billion for 1994, representing 21 per cent of exports of goods and services. .

Money supply

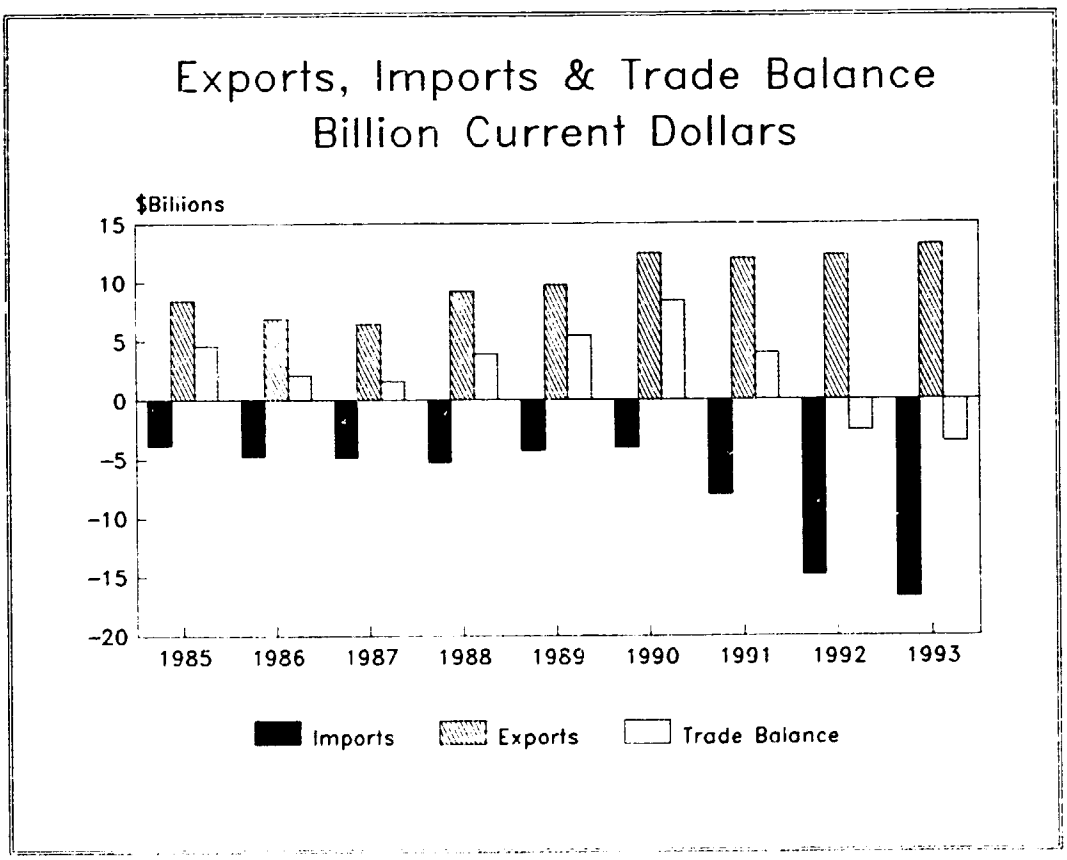
The major method currently being used to control money supply growth is the required reserve ratio. Currently set at 43 per cent for checking and savings accounts, this broad instrument is felt to be the appropriate tool in order to avoid additional calls on bank reserves.[9] While the BCRA is permitted other, finer controls over the money supply, the Tequila crisis caused a run on many banks as investors tried to move from pesos to dollars. In practice, dollars are as commonly used a currency as the peso, widely circulated and accepted by virtually all merchants.

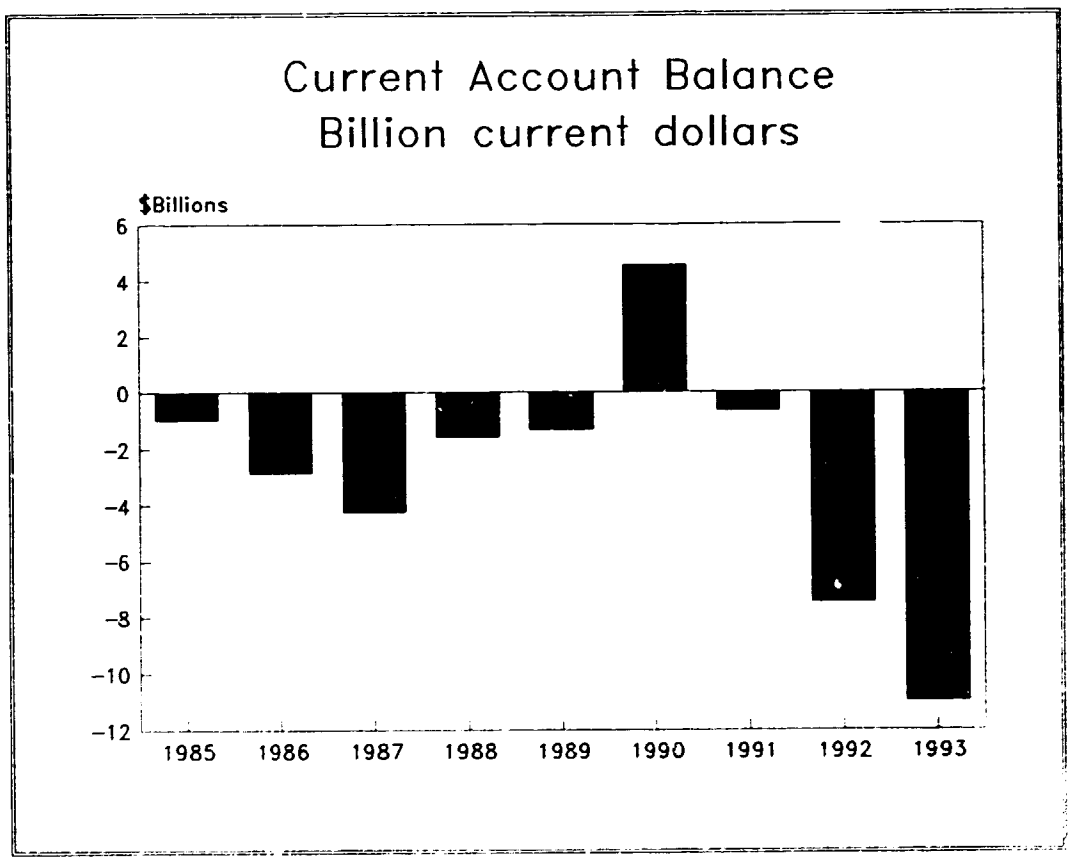
Graphs. growth of gdp. structure of gdp



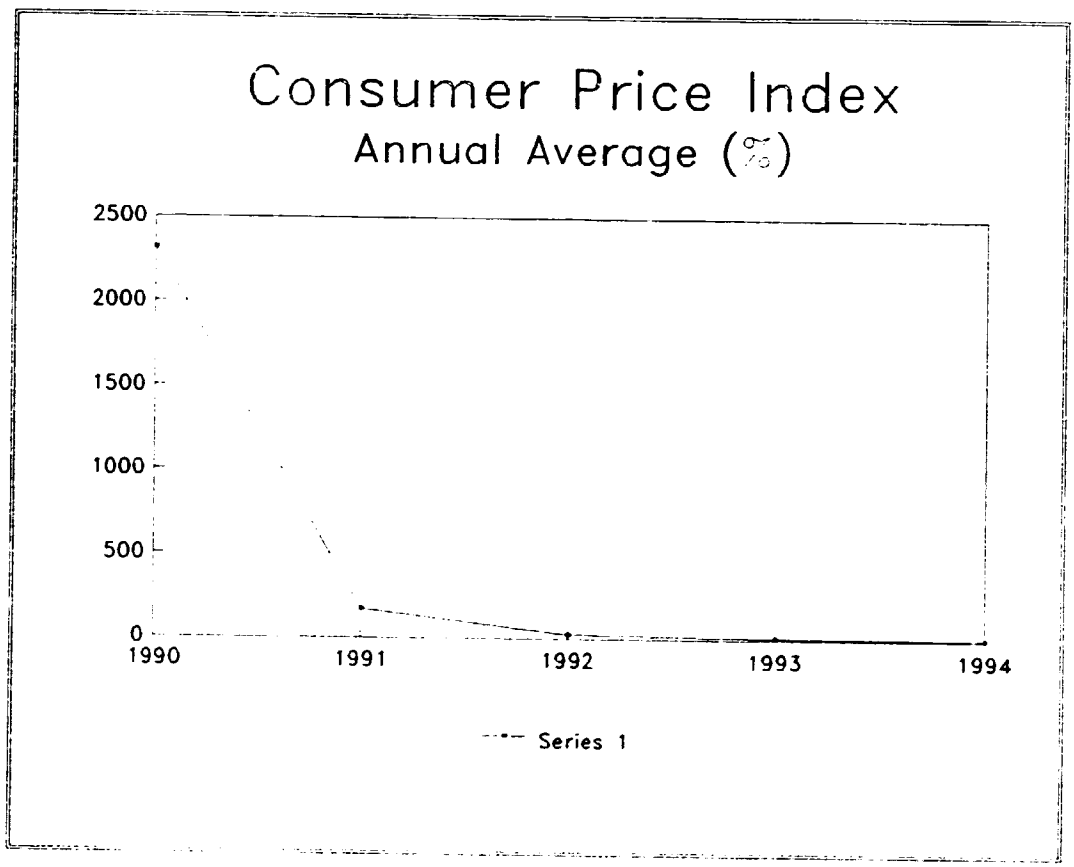

Shares of GDP, 1975 – 1993, Per Cent
100%
75%
50%
25%
0%
1975
1980
1985
1990
1991
1992
1993
Agric.
Build. & Const.
Manufacturing
Other
Wholesale, Retail

graph exports imports and trade balance, current account balance

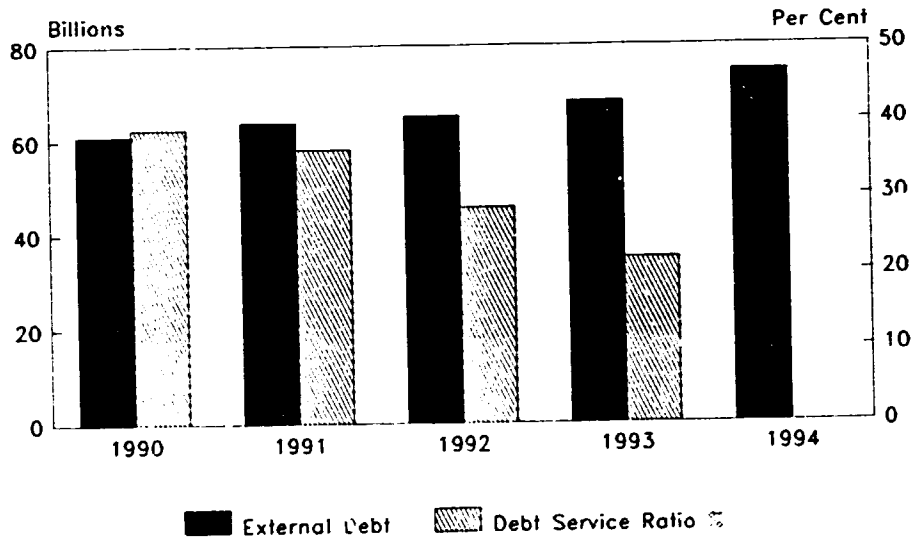



Current Account Balance
Billion current dollars
$Billions
6
4
2
0
-2
-4
-6
-8
-10
-12
1985
1986
1987
1988
1989
1990
1991
1992
1993

graphs external debt and debt service, per cent changes in CPI



External Debt ($) and Debt Service Ratio (%)



1994 Debt Service Ratio not available.

B. ECONOMIC STRUCTURE

The physical environment

Argentina is the second largest country in South America, with a total land are of 2,736,690 square kilometres. Its vast territory spans tropical, temperate and polar zones. The majority of the population and most economic activities are concentrated in the littoral areas of the central region of the country.[10]

Argentina is richly endowed with natural resources. The ample land resources appropriate for agricultural and animal husbandry have provided the country with an international comparative advantage in such goods as wheat, corn, beef and wool. The country also has important mineral, forest and fish resources, and an extensive transport network. Broadly, there are four regions, the north-eastern plains, Pampas, Patagonia a nd the Andes mountains. The Pampas region is among the worlds most productive agricultural areas. There has been a net migration into the cities. In 1960, 74 per cent of the population lived in urban areas. By 1990, urban population had increased to 86 per cent of the total. Two other cities have over 1 million each: Córdoba and Rosario. Other large cities are Mendoza, Tucumán, Mar del Plata, Santa Fe, La Plata, Bahía Blanca and Salta.

The demographic base

Argentina has rich human resources that translates into a substantial pool of literate labour force. In 1990, the literacy rate was 95 per cent. Some 96 per cent of children were enroled for primary school in the period 1987-90. In 1990, 21 per cent of the labour force were women. Women constituted 35 per cent of the enrolment in science and engineering schools over the period 1987-88. Women also constitute a slightly higher percentage of the population and have a somewhat longer life span compared to men.

Population growth in Argentina is quite low. Over the period 1980-93, population grew at an annual rate of 1.3 per cent per year. Average daily caloric intake is approximately 31 per cent above recommended minimum. In 1991, infant mortality was 30 per 1,000 live births and average life expectancy was 71 years.

Until 1994, education was compulsory for grades 1-7 and began at age 6. In 1994, compulsory education was increased to 10 years. Although the literacy rate is high, few pupils choose to go to secondary schools, not only because there are few in rural areas but also because where such schools are in abundance, in the cities, poor people in rural areas cannot afford to send their children to live there for their education. While there are secondary technical schools, these are also located in the cities. One consequence of this policy has been to create a large gap between the literate but under trained and the university educated. One practical effect of this is a lack of technicians. There are no active plans to increase the mandatory schooling period to 12 years or more. The new mandatory education period will require at least 20 years to start taking effect, although the first students under the program will graduate in 1997. No increases in the budget for education are foreseen. It remains to be seen whether adding 3 years to mandatory education without the necessary chemistry, physics and biology laboratories concomitant with such an increase will be as effective as hoped. In the short to medium term, therefore, the gap will remain, causing either the necessity to import technically trained people or suffer the continuing effects of the lack of technical support services.

University education is excellent and the pool of well-trained scientists and engineers is world class. The lack of technical staff to support them will slowly be rectified. In the meantime, given the

fundamental changes in infrastructure generated by the radical overhaul of the economy, many of these well-educated people are currently driving taxi cabs in Buenos Aires or running kioscos (kiosks) that provide relatively high cost consumer goods. They are the first affected during economic downturns, as occurred in the first and second quarters of 1995.

Western European and United States influences have had a large impact on educational literacy and emphasis. The education infrastructure (buildings, classrooms) is in bad repair, not surprising in light of pressures on government spending, but necessary improvements will require spending from both the federal and provincial governments. While the federal government is expected to run a budget surplus in 1995, no additional expenditures for education are foreseen. Provincial governments are strapped for cash and are unlikely to be able to increase their contributions to the education budget either.

Manufacturing

As a result of mixed signals from government, lack of competitivity in international markets, reliance upon the domestic market for sales and an overvalued peso, manufacturing:s contribution to GDP has averaged 28 per cent over the period 1980 - 1993, with considerable variation over the years (see table I.1). The highest contribution was in 1982 at 31.4 per cent and the lowest in 1992 at 21.9 per cent. From 1990 - 1992, there was a consistent downward trend, reversed in 1993. In large part, manufacturing performance was due to the Convertibility Plan of 1991, which caused a sharp recovery as a result of increased domestic demand. The erratic nature of the performance in this sector is consistent with the boom-bust nature of the economy in the 1980s but may also reflect underlying data problems. For example, manufacturing contributed 31 per cent to GDP in 1989, but fell to 26.8 per cent in 1990. Changes in relative prices (a trend which continues) and a movement toward a service economy are consistent with the decline in manufacturing contribution to GDP since 1990. The largest component of GDP is Other, which is largely services and was consistently 50 per cent or more.

For the same reasons as above, manufacturing value added (MVA) was also erratic over the period 1980 - 1993. The average for the sector was 10.7 million in constant 1980 pesos. The lowest value was in 1982 at 9.7 million pesos and the highest in 1993 at 14.95 million pesos. Consistent gains began being made since 1990. Since then, MVA has increased by 51 per cent, which is a remarkable achievement. It is unlikely that the same performance will be achieved in 1995.

Assuming that manufacturers are able to find niche markets in the less regulated economy, most may perform adequately. Some sub-sectors (electronics assembly, textiles, footwear) will likely underperform the rest of the sector. Petroleum and petrochemicals, manufactured agriculture products and transportation equipment are likely to out-perform other sub-sectors. Although iron and steel have not been greatly threated by imports of cheaper steel from Asia, it should be expected that these volumes will increase.

The first three quarters of 1994 witnessed a real 6.8 per cent annual output growth. Construction and, mining and financial services were the sectors experiencing the most growth. The manufacturing sector's growth was below average. Overall, growth slowed throughout the year. The index of industrial production declined in the second and third quarters then grew by 1.9 per cent in the fourth.

There seems to be a trend away from production of consumer durables and into industrial commodities. Capital equipment imports investment rose from a 27.9 per cent growth in the first three quarters of 1993 to 63.3 per cent in the final three quarters of 1994. Gross domestic fixed investment in 1994 also rose by 22 per cent vis-á-vis the first three quarters of 1993.

Table I.1 Distribution of GDP by Sector of Origin, 1980 - 1993 (Percentage)

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993
Agriculture	6.4	6.5	9.6	8.7	8.4	7.6	7.8	8.1	9.0	9.6	8.1	6.7	6.0	7.2
Mining & Quarrying	1.0	1.5	1.3	2.1	1.9	2.0	2.0	1.8	2.3	3.3	2.9	2.1	1.8	2.3
Manufact.	29.5	28.8	31.4	30.7	29.7	29.6	27.4	27.5	28.0	31.0	26.8	24.4	21.9	26.6
Construct.	8.7	7.8	7.1	7.2	6.4	5.7	6.0	6.5	6.3	6.2	4.5	4.6	5.4	5.8
Other	54.4	55.4	50.6	51.3	53.6	55.1	56.8	56.1	54.4	50.0	57.7	62.2	64.9	58.1
Total *	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

* Totals may not add due to rounding
Source: UNIDO Data Base

Mining and energy

Contributing 2.3 per cent to GDP in 1993, mining and energy has not been a major industry although it has grown consistently since 1980. Most of this contribution comes from extraction of oil and gas. Oil reserves are only 7 years at the current rate of extraction. An active exploration programme is under way for both crude oil and natural gas.

Iron is the primary metallic ore although a programme of gold mining development is under way.[11] Copper deposits are located in the Pachon area and Bajo de la Alumbrera in Catamarca. Other important minerals extracted are coal (in small quantities) lead, zinc, borax, tin and uranium concentrates of which there are 29,400 tonnes of known reserves. The governmental agency Comisión Nacional de Energia Atómica (CNEA) is responsible for 75 per cent of the uranium production.

Imports of energy are minimal as adequate supplies of oil and gas are produced locally. In addition, hydroelectricity and nuclear power are both pursued. Imports of energy consist mostly of petroleum products and natural gas. The government has divested itself of most holdings in the energy field.

Energy production is playing an increasingly important role. Two thirds of Argentina's crude oil is consumed domestically. There are also some petroleum product imports. The major story is that crude oil production has increased by 50 per cent since 1990 while reserves have declined significantly.

Agriculture, forestry and fishing

More than 60 per cent of the country's export earnings are from these three subsectors and accounted for 7.9 per cent of GDP in 1992. It is estimated that over the 1994/95 growing season 10.5 million ha will have been planted in cereals and 7.8 million ha in oil seeds. The sectoral contribution to GDP is understated due to the value added by processing in country. The bulk of agricultural production comes from the Pampas, which is one fifth of the area of Argentina but has two thirds of the population. The Pampas area is responsible for approximately 85 per cent of crop and livestock exports, having very favourable climate and soil conditions, among the best in the world.

One third of agricultural exports can be attributed to the food industry, increasing valued added for the country. Two thirds are commodity exports. Thus, because agriculture is such a large component of exports, the trade balance is directly and largely affected by international commodity prices. Clearly, a movement into more valued added products would help in insulating the economy from swings in international commodity prices. One benefit of the inception of the WTO has been fewer market fluctuation in agriculture commodities prices, allowing Argentine firms to engage in more planning than they have been able to do in the past. Industry perceptions of a more level playing field are behind this phenomena.

In 1993, farm output declined by 1 per cent while the rest of the economy grew by 6 per cent. While prices for commercial space and industrial plants have risen substantially, the price of land in the Pampas has fallen. Much of the fall in land prices in the Pampas is, however, attributed to the large number of firms that went out of business. So much land was released into the market, that prices were driven down.

There are still a large number of small farms, lowering overall industry productivity. By one estimate, one half of Argentina's farms are too small to be viable. If this industry follows the pattern of other countries, small holdings will coalesce into large ones, permitting economies of scale. Given government policy, this is the likely outcome.[12]

Other things being equal, the milk and dairy products industry should be able to compete globally except for the distortions that occur from other countries' agricultural subsidies. Production is oriented toward domestic consumption, estimated recently as being worth $2.5 billion per year.[13]

Fishing is not a major contributor to GDP, accounting for 0.7 per cent of total agricultural, hunting, forestry and fishing GDP in 1992. Landings of saltwater fish have risen from 544 million metric tonnes in 1990 to 919 million metric tonnes in 1993, an increase of almost 70 per cent. Mar del Plata processed the largest portion of the catch, 40 per cent.

Forestry is only slightly more important to GDP than fishing, accounting for 1 per cent of total agricultural, hunting, forestry and fishing GDP. Deforestation has been a problem but the industry has reversed this trend. In future, it is anticipated that, as a result of competition, Argentine forestry production will decline.

In the past, the agricultural sector has been the area that has saved the rest of the economy from greater damage. As a result of the major economic changes under way, farmers are asking government for assistance. This has not been the case in the past. Many food companies have stayed competitive, in part, by avoiding taxes.[14] While this is still the case, the tightening up of the tax structure and tax enforcement may cause some of the more marginal producers to go out of business.

As a whole, the agriculture-based industry supported the policy changes that the government started introducing in 1990. They are still convinced that deregulation is good but are concerned about the fact that the playing field is not as level as it could be. They believe they took a larger than proportionate impact from the policy changes, mainly in the form of higher interest rates. They are also equity averse, preferring to borrow credit, when needed. Most of this debt is owed by the large firms. Small firms are not believed to be indebted by much to banks. Debt has also risen to $5 billion, or 40 per cent of gross product. The farm sector was in debt before the Tequila crisis. It is more in debt now. The industry feels that it has no way to bridge the gap between the previous modes of operation and those today stemming from public policy. Thus, three issues stand in the way of a healthier industry: competition from northern hemisphere producers, domestic regulations and access to capital.

Pulp and paper

The pulp and paper sector is natural resource based. The main input has traditionally been wood from natural forests, but production is now increasing based on human replanting. Due to natural conditions, Argentina could be in a position to develop a competitive pulp and paper industry more rapidly owing to the growth rate of trees exceeding that which prevails in the northern hemisphere. The sector has largely been made up of small family-run operations and few world-class mills although the situation is changing. Current production is about 1 million metric tonnes per year.

While per capita consumption of paper increase from 33.8 kg in 1991 to 43.1 kg in 1993, an increase of 28 per cent, Argentine producers were unable to exploit the increase. Falling international prices caused imports of paper to increase and match the increase in consumption. The outlook for small producers is bleak and for larger ones, not healthy Major competitors are the United States, Canada, Brazil and western Europe.

As the Mercosur agreement starts to take effect, it is expected that Argentine producers will concentrate on niche markets rather than trying to offer a broad array of products. Brazil is expected to produce the relatively less sophisticated packaging products while the Argentine industry focuses on higher value-added production.

Iron and steel

All plants are privately held. Argentina does not have a comparative advantage in iron and steel and it is expected that several firms will eventually go out of business. While the remaining firms are

healthier as a result of government policy, the pattern of "smoke stack" industries is, lacking comparative advantage especially as a result of high wage rates, to move offshore to Asia.

There is an increasingly strong environmental movement, adding to cost, reducing productivity, and making competition with Asian exporters more difficult, though to date, imports from the Republic of Korea and Japan have been small. Industry have been cooperating with the ISO 14000 negotiations on a new set of environmental standards. Plants are generally operating in compliance with national emissions standards.

Employment in the industry has hovered around 3.5 per cent to 4 per cent of the labour force for a long period. Restructuring will cause the number of jobs to decline significantly, perhaps by as much as 50 per cent. Upgrading steel production methods, which would also reduce employment, is not foreseen in the near term as a result of capital shortages.

In addition to competition from Asia, Argentina will also be facing competition from protected European Union (EU) suppliers, many of whom produce under quotas in order to survive.

Electronics and electrical equipment

Firms producing telecommunication equipment are healthy as a result of privatization and a great deal of investment. The equipment assemblers in Tierra del Fuego will probably go out of business as a result of the loss of government subsidies. Local firms are not vertically integrated, unlike Brazil, and may not compete well except in niche markets, a direction in which manufacturing is already moving.

There are major multinationals as well as regional and local firms. Both wages and employment have declined as has value added.

Textiles

Employment has been in a long-term decline which accelerated with the new policy initiatives since 1990. Approximately 200 firms have gone out of business and more than 10,000 jobs have been lost. Prospects for the remainder are not good.

The industry had been heavily protected by tariffs and was severely affected by exposure to international competition as a result of the removal of these tariffs. The increases in GDP resulting from more competition and leading to increases in consumer demand did not help the local industry. New equipment was purchased to make firms more competitive but it was not sufficient. This exposure has caused firms to be classified, for financial purposes, as "risky". The practical result is to make credit even more scarce than for the rest of the economy.

As in other countries and industries, competition from low cost Asian producers has been the major source of complaint. Manufacturers feel that the government has not learned the lessons of the GATT Multi-Fibre Arrangement (MFA). Manufacturers are hoping that the Mercosur agreement will aid in protecting them from high levels of imports. There is some discussion as well to join forces with industry groups in other countries in the hemisphere to take a dumping case to the World Trade Organization (WTO).

Transport manufacturing

The highly protected automobile and truck manufacturing sector is the current major engine of economic growth. Firms that abandoned the country in the 1980s are returning. Some firms are moving in that are totally new to the market. As most countries protect their domestic auto manufacturing sector, Argentina is not alone in doing so. There are complicated rules for the low tariff import of foreign parts - these need to be matched with like exports. There is some disagreement between Argentina and Brazil on the implementation of the Mercosur Agreement as it pertains to

automobile exports. Argentina is hoping to export 70,000 vehicles per year to Brazil but recent reports indicate Brazil may only be willing to take half the number.[15] The vehicles themselves, while not necessarily state-of-the-art, are maturing in that direction. The fleet itself is not being replaced; that market has yet to be tapped.

Employment has been declining gradually since 1987. Value added has also been declining. Recent information suggests that these trends may be reversing themselves as a result of a more liberal economy. Demand for new vehicles improved over 1990-1994 but is off in the first half of 1995 as a result of higher interest rates and the Tequila crisis. It is unlikely that there will be a return to the early period growth in the short term, as interest rates are likely to remain high.

Four areas of Argentina will soon be opened to a new plan to help replace the existing fleet. Older vehicles will be tradeable for new ones and the buyer will get a 20 per cent discount on the purchase price. The industry will fund half and the government half. The industry share will be divided into some, as yet unagreed, split between manufacturers and retailers. Demand for vehicles to augment the existing fleet is the current pattern. As a result, air pollution in the country is a major problem. The air on some streets in Buenos Aires is almost unbreathable as a result of diesel emissions from the huge, aged bus fleet. New vehicles are being fitted with catalytic converters but these are relatively too few to make a difference.

SERVICES

Transport and communications

There are a total of 211,369 km of roadway of which 54,500 km is paved or improved. As the number of automobiles in use has increased sharply, road usage has also increased. As of 1994, -thousand vehicles were for private use and - thousand were commercial. Private companies, who own 10,000 km of roads, have to maintain them and can collect tolls. The fleet of both commercial and private use vehicles is quite old, on average at least 10 years. The abundant taxis in Buenos Aires are in the main Peugeot 504s and Renault 12s with the newer vehicles also including Fiats. Until recently, vehicles were not fitted with catalytic converters and, while the bodies are generally well maintained, significant air pollution results from old, inefficient engines and poor maintenance. In recent years, the transport industry has been the major engine of growth. The aging fleet, however, has not been replaced but added to. Especially heavy contributors to air pollution are trucks and buses which can be in excess of 30 years old.

The railway system is the biggest in Latin America comprising 34,172 km.[16] As the state-owned railway has been privatized, it is expected that the condition of the lines will improve. Some lines have been sold already: Rosario/Bahía Blanca, Mitre and Roca. Notably, the lines are not the same gauge overall.

Iberia bought Aerolíneas Argentinas and other local partners in 1990. By 1994, Iberia controlled 85 per cent of the company. The privatization was not a notable success as the government had to buy back the local partners in 1992. The airline is still widely regarded as poorly run.

Only one publicly-owned television station remains; the rest have been privatized. There are a number of national and provincial dailies including one in English and one Italian. There is one telephone for every 12 inhabitants and the system is modern and extensive. The telecommunication monopoly, Empresa Nacional de Telecomunicaciones (ENTEL) was sold in 1990 to private parties. At that time, the company was sold as two entities, a northern and a southern company. Together, they have invested some $5 billion in infrastructure since 1991. Both have made large profits and the state tripled its investment when it sold its stake in the southern company. The public has not received news

of the performance of the companies well and additional regulations are expected. There are extensive cable networks available offering a wide array of programming.

There are 11,000 km of navigable waterways, 6 major ports (Bahia Blanca, Buenos Aires, Necochea, Rio Gallegos, Rosario and Santa Fe), 4,090 km of crude oil pipelines 2,900 km for petroleum products and 9,918 km for natural gas.

Banking and finance

The central bank is the Banco Central de la República Argentina (BCRA). BCRA is responsible for administering the financial sector, note issue, credit control and regulation of foreign exchange markets. In the past, the BCRA was not especially trusted by industry. There is still some concern that the finer instruments of monetary control such as the discount window may be inappropriately used by the bank.

The banking sector is characterized by seven different types of institutions.

- Thirty entirely or partly privately-owned foreign banks; 131 private banks;
- Two development banks, the Banco Santafesino de Inversión y Desarrollo and the Banco Nacional de Desarrollo, which is federally-owned;
- Three investment banks;
- Twenty six financial companies (financieras);
- One mortgage bank which is state-owned;

  Two savings and loans specializing in housing;
- Nineteen credit cooperatives (cajas de crédito).[17]

In addition, foreign exchange (except for $/peso) is not undertaken by banks but by currency exchange houses. Conversion of less common currencies, even western European ones can be a problem. Banking hours are from 10 a.m. until 3 p.m. although there are attempts under way to lengthen them.

There is also an extensive network of automatic teller machines that can also be used to obtain currency from major credit cards, although the more common European cards, such as Bankomat, are not recognized. Visa, MasterCard and American Express are recognized along with national and regional systems.

The Tequila crisis of 1994 brought on a domino effect throughout the Latin American financial community and Argentina was no exception. Deposits held by banks declined by 15 per cent as a result of the crisis, reducing liquidity. Overall, $8.5 billion fled the economy. Although national banks were sufficiently liquid, much pressure came on provincial banks, usually owned by the provinces. These banks are typically used to finance provincial budgets (usually deficits) and the provinces do not seem to be as enthusiastic about privatization. While the federal government expects these banks to either be privatized or go bankrupt, there will be pressure at the provincial level to continue to subsidize them. While there has been no depositor insurance, privately-run depositor insurance has recently been introduced. There will be no bail-out for depositors in banks that collapse.

The insurance industry is also growing rapidly largely due to the need to insure automobiles. Foreign insurance companies are also participating in this boom. Metropolitan Life, General American, Best Meridien, all from the United States, Eagle Star (United Kingdom) and Bamerinders (Brazil), moved in starting from 1993, based on a market that set record sales of $4.2 billion, up 23 per cent from the

previous high in 1987. The government deregulated the industry in 1994. No registration is needed to sell policies. One estimate was that the former monopoly enjoyed by insurance brokers drove up the cost of insurance by 25 per cent.

Derivatives were to have become legal on the bourse. Trading is to be permitted on the MERVAL index as options and futures debut on the local market.[18]

Small firms do not enjoy easy access to the bourse and other financial sources not only due to a lack of experience but also because many local sources are not only in weak financial positions but also lack experience in lending to small firms. Other than commercial loans, the other common form of increase in assets is through acquisition by foreign firms. In addition, management is accustomed to financing growth through debt rather than equity. Thus, while the bourse is developing, it is unlikely to play a major role in financing growth for small- and medium-sized companies for some time.

Interest rates for commercial loans were at 20 per cent in May 1995 and there was little sign that rates would come down any time soon. Rates for consumer credit were higher. Thus, the consumer spending that was the engine for growth from 1990/91 to 1993 collapsed as a result of the Tequila crisis.

Tourism and other services

Tourism

Although richly endowed with tourist attractions (the Andes, for example) tourism has not been a major contributor to GDP due in part to high travelling costs and in part due to its distance from major tourist areas. The majority of tourism is based on domestic and regional demand. Two major areas of interest are: Germans coming to visit Patagonia and tourists going to Tierra del Fuego to sail on to the Antarctic (unlikely to generate large sums). Favourable exchange rates will cause Argentines to visit neighbouring countries rather than undertake long distance international travel.

The coast is sandy beach and would be considered ripe for development as a resort area should sufficient tourits demand such accommodaiton. The Andes do get tourists for skiing, but again, less development has gone into them than could have There are active private sector programs underway to increase interest in tourism. .

Retailing

The shopping possibilities are excellent although prices are in line with those in western Europe. The value added tax is 21 per cent, up from 18 per cent before the Tequila crisis. Shops carry a wide assortment of domestically produced and imported goods. Many shops are small although large chains such as United States-based J.C. Penney are moving in. Supermarkets have become a success except in major cities where small, local operations still exist. The downturn starting in early 1995 has resulted in a drop in consumer spending. While shops appear well stocked, it is likely that the stock is displayed as interest rates of more than 20 per cent discourage holding high inventories.

DEMAND STRUCTURE OF GDP

Consumption, investment, government spending

Government spending declined from 1987 to 1990 then started to increase. The government ran a deficit from 1987 until 1989 then started to run surpluses. The budget was again in deficit in 1994 but

the government believes it will end the year in surplus through, for example, deferral of wage payments to the second half of the year when improvements in the economy would produce higher tax receipts. The majority of government spending goes to pensions and transfers to provinces at one third each of total government expenditure. Public sector wages were, in 1992, 15 per cent of government expenditures. Revenues are two thirds from national taxes and one third from social security taxes.

There was a net loss of investment in 1987, then money started to come in in direct investment starting in 1988. It had increased steadily since 1989 but fell in 1994 as a result of the Tequila Crisis. After the May 1995 elections, it started returning again, initially at $100 million per day. It has since declined, reflecting investor unease over the short term economic prospects. There is some discussion of setting minimum investment periods but, given the free market nature of the government, it is unlikely that this idea would become law.

Consumption started to increase in 1990 after having decreased for the previous 3 years. It started to fall again in 1994 as the Tequila crisis affected consumer confidence. Consumer demand is still down and shows little sign of increasing in the near term. Much of the increase in consumer demand was due to consumption of imports after removal of many of the tariffs, thus leading to a negative merghandise trade balance. Given that employment is also likely to increase, further impetus for consumption increase is unlikely until better employment rates are achieved.

EXTERNAL TRADE AND PAYMENTS

Exports

Foods and livestock account for the bulk of exports, some 40 per cent in 1993 and the first quarter of 1994. Twenty seven per cent of exports are accounted for by manufactured goods, down from 44 per cent in 1990. The trend has been consistently downward. Upward trending is transport material and equipment as Argentina's automotive sector develops under local and foreign private ownership. Given that the dollar in 1995 has been weak, and the peso is pegged to the dollar, it is likely that Argentina's trade deficit will narrow as its exports become relatively cheaper in markets where imports are not subject to punitive tariffs.

Imports

There are three categories for tariffs on imports:

- Twenty two per cent for products destined for consumption;
- Eleven per cent for medicines, capital goods produced wholly abroad and raw materials;
- Thirty five per cent for many electronics products.

There are also lower taxes for imported consumer goods (0.6 per cent). The Regimen Estadistico de Importación (Statistical Import Regime) automatically approves proper imports and issues import authorizations.

Four sectors show consistent increase for imports: chemicals, manufactured goods, transport equipment and other manufactured goods. This is in line with the easing of tariff barriers on imports and with investors' growing confidence in the resilience and stability of the Argentine economy.

Public debt was reduced by $10.4 billion in 1993 through Brady Plan reductions in principal, revaluation of collateral net disbursements and privatizations. Over the period 1989-93, debt service declined from 101 per cent to less than 50 per cent of exports. About $8.7 billion in debt service payments are expected in 1995, composed of $3.6 billion in interest and $5.1 billion in principal. Debt service will approximate 2.8 per cent of GDP in 1995 and total debt will be one fourth of GDP.

C. THE POLICY ENVIRONMENT

MACROECONOMIC POLICIES

Overview

The onset of the Tequila crisis, while not caused by Argentina, hasa major, negative impact on the economy. The crisis has affected Latin American countries in investors' perceptions. The government has been struggling to keep the Convertibility Plan viable, prevent a collapse in the banking sector, keep Central Bank reserves up and pursue a variety of other macroeconomic policies. The policy progression since the regime came to power has been from activist overhaul to damage control. As of mid-1995, the government's austerity measures appear to be working and after the May 1995 elections, approximately $100 million per day was being moved back into the economy by investors. In the government's opinion, the crisis is over.

Until recently, there was no private deposit insurance scheme for the banks. The central bank is forbidden to lend to problem banks more than the latter's net worth. The central bank is also enjoined from acting as a bank of last resort. The problems in this sector are recognized and even before the Tequila crisis, steps were being to stabilize the sector through mergers and acquisitions. A long-term strategy, it was also accompanied by measures to regulate the banks more tightly. It is anticipated that highly capitalized small banks and large institutions will survive, leading to a healthier financial system.[19] A large number of provincial banks will fail.

By 1995, small regional banks were in trouble due to poor management, their use by provincial authorities to finance deficits and the Tequila crisis. Officially, laissez-faire policies in the financial system are the rule. In practice, more "hands on" approaches have been followed, some of which circumvent central bank regulations. In order to ensure liquidity, a discount window from Banco Nación was opened to draw on a fund of P 800 million. This fund was created through a 2 per cent compulsory reserve on bank deposits and soon became exhausted. The result was an emergency decree modifying the central bank's charter. Cash flow crises in the banks can now be handled by the central bank, which is permitted to use excess reserves to aid in liquidity.

A line of credit with the IMF that was suspended in 1994 is also being renegotiated. In addition, a new agreement for $2 billion is being sought from the same source. It is hoped that further liquidity ($2 billion) may also arise from foreign banks' giving bridging loans in exchange for shares of privatized firms still in government hands.

For the capital and current accounts, one encouraging sign is the consistent increase in direct private investment, increasing 24 per cent per year from 1990 to 1993. This is a positive indication of investor confidence in the economy. Investors panicked from the Tequila crisis and the resulting loss in liquidity in the markets have prompted some to call for mandatory minimum times for investments to remain in the country. First quarter 1995 preliminary results indicate increased exports, principally to Mercosur countries.

Industrial policy

The deregulation of the Argentine economy introduced by the current government affected many areas, chiefly in trade and industry. The decree promulgating the regulations specifically dealt with:

- Domestic trade - including the removal or rationalization of restrictions on medicines, wine, cement and services;

- Foreign trade - removal of restrictions on the import of foreign capital, elimination of quotas except on automobiles, simplified controls at customs along with sweeping revisions to most customs-related activities;

- The removal of regulatory agencies concerned with grain, beef, fish, forests, animal health, yerba mate, sugar, and limits were placed on the functions of the wine institute'and

- Tax changes and promotional activities eliminating taxes on exports and removal of the export promotion fund, removal of promotional schemes for specific industries such as aircraft, naval and road machinery, the aluminium industry and others.[20]

- A comprehensive program of credits for micro and small enterprises with the objective of facilitating access to credit to contribute to employment and productivity.[21]

- An assistance fund for the creation of consortiums which is a subsidy for small and medium-sized businesses who wish to engage in domestic and foreign market businesses.[22]

Most industries agree that these measures were necessary but the effects on employment and social conditions have been large. Industry representatives also agree that the economy is healthier and more able to compete. The long term view is that Argentina will seek out niche markets in many industries rather than producing a full product range. The comparative advantage will remain with agriculture but the problem of subsidies from the United States and the EU will distort this sector's ability to compete.

The government budget for industrial promotion in 1994 was $1.3 billion, not including tariff exemptions, tax deferrals or regional exceptions such as in Tierra del Fuego. Tourism promotion was budgeted at $5 million for each of the three regions of San Juan, Catamarca and La Rioja.

For existing projects, starting in 1989, the law deferred 50 per cent of promotional benefits, except tariff exemptions for Tierra del Fuego. In 1991, the government decided that promotional benefits calculated on the estimated fiscal cost of the original project could be used to offset taxes. In 1992 a tax credit programme was enacted to replace tax deductions. New projects are given no promotional benefits with the exception of La Rioja, Catamarca and San Juan.

There are three additional regimes, two for industry in general and one for the automotive sector are described below in documents published by the Ministry of Economy and Public Works and Services of the Nation.[23]

SPECIALIZATION AND INDUSTRIAL RECONVERSION REGIME

Regulations: decree 2641/92, resolutions ex-sic 14/93, 80/95 and 148/93 and resolution 1149/93 of the Ministry of Economiy and Public Works and Services.

Objective: promote specialization and reconversion of the business and industrial sectors and foster exports.(Pymes programme)

Results:

193	Registered programs
174	Approved and to be approved programs

35 per cent over reference year:	The average increase rate for the pledged exports
61 per cent over reference year:	The average development rate for exports within the Pymes
80 per cent of the total	Of programmes submitted by Pymes

REIMBURSEMENT OF CAPITAL GOODS REGIME

Regulations: decrees 937/93, 1452/93, 2430/93 and 2789/93; resolutions ex-sic 161/93, 162/93, 209/93, 2082/93; resolutions 25/93 and 21/94; general resolutions of the General Tax Bureau (DGI): 3708, 3734, 3753 and 3767 of 1993.

Objective: foster reconversion competitiveness and industrial sector gearing through the incorporation of capital goods at lower costs, and level market conditions for capital goods producers after the commercial opening in compliance with rule 501/93 of the Ministry of Economy and Public Works and Services. This caused a reduction to 0 per cent on the tariffs of that sector and elimination of the statistics tax.

Results: Between 1991 and 1993 this sector increased it gross production value by 9.07 per cent.

AUTOMOTIVE REGIME

Regulations: decrees 2677/91, 683/94 1179/94 and regulatory resolutions.

Objectives: reconversion of the Argentine automotive sector.

Description:

- Assemply plants must submit a reconversion plan.
- Imported content of the vehicles to be produced by the above mentioned is fixed.
- Import of finished vehicles and spare parts by assemply plants is allowed, paying 2 per cent of tariff as long as these imports are offset by vehicles or spare parts exports.
- Final users may freely import those vehicles manufactured by assembly plants located in the country paying the corresponding tariffs.
- Import quotas are established for assembly plants not settled in the country.
- Specific offset rules are established for assembly plants not settled in the country.
- Conditions for the settlement of new assembly plants are established.
- The possibility for assembly plants to offset their imports by capital goods exports is set.

Results:

- Spare parts sector and assembly plant investments through 1993 reached $300 million.

- Investments of $450 million are forecasted for 1994 and until 1999, estimations are the sector will have received a total flow of $2 billion.

- Within a framework of strong international cooperation, enterprises such as General Motors, Toyota and s

- Under study are Chrysler, Honda and Isuzu.

- The explosive increase of vehicle production takes place within a high opening level. Imports have accounted for approximately one fourth of domestic market sales.

Industrial policies and a more open business climate have attracted approximately $24.5 billion in foreign investment over the period 1990-93. In 1994, foreign investment was expected to exceed $4.6 billion.[24] This places Argentina as the third largest destination for capital among emerging market countries. Mexico and China attract more. Privatization also realized over $24 billion. While no figures are yet available for 1995 and since the first quarter and two thirds of the second quarter were periods of capital outflow, post-May election results suggest that capital inflows will again be large, although not as large as in 1994.

Tierra del Fuego and other trade zones

A deliberate effort has been under way since 1972 to advance industrial activities and development in Tierra del Fuego. The focus has been mostly on electrical equipment and electronics. In the 1990s, while the new laws were not applied to this region, new projects were suspended. An excise tax on selected items was suspended on electrical and electronic products but the tax was maintained for imports. Producers committed, in 1990, to keep a lid on prices while a list of restrictive reference prices for competing imports was included. The share of inputs free of tariffs and VAT increased to 50 per cent. As the various promotional schemes for Tierra del Fuego are being removed, prospects are bleak for the industry in this region. As the electronics assembly industry is a major employer in this area, lay-offs will have a large social consequence.

Similar zones are authorized for Rosario and Villa Constitución Port but have not been developed. A similar situation exists for Concepción del Uruguay, Entre Ríos Province. A plan is being devised to implement a general regime of free trade zones.[25]

Automotive

The regulatory scheme for this industry is designed to last until 1999 after which point it will be abandoned. Important components of the scheme are:

- Increase imported content to 40 - 42 per cent according to the category of vehicle;

- Producers are required to prepare a reconversion programme;

- The export-import relationship should be 1:1;

- Exports can be composed of vehicles or spare parts;

- Thirty per cent of investments in equipment of domestic origin may be counted as exports;

- Spare parts pay a tariff of 2 per cent;

- Producers running a positive balance of trade pay a 2 per cent tariff on imported cars;

- Import quotas are set at 10 per cent of domestic production in 1994.

Industrial specialization in automobiles for export

Tariff reductions can be had by producers who agree to increase exports relative to the average of the last 12 months. The firms then receive an import licence with differential tariffs. Imports under this condition must correspond to the same category as the exports under customs nomenclature. Four periods are taken into account: 1993-96, 1997, 1998 and 1999. For the first period, tariff rates are 2 per cent. After 1996, a formula will be used to calculate the reduced tariff rate.

Previously, manufacturers tried to produce a full array of models. As a result of the changing incentives in industry, it is expected that manufacturers will specialize in one or two models. This should increase economies of scale.

As this sector has been an important engine for growth, post-1999 incentives for the industry remain unclear. While automotive production yields a large multiplier effect,[26] it is unclear whether Argentina has a competitive advantage in the production of automobiles and commercial vehicles.

Federal Pact on Business Profitability and Competitiveness

The Pact is an agreement with provinces party to it. It binds the federal government to eliminate taxes on assets, decrease the VAT, issue rural mortgage bonds, lower employer charges in primary, construction, scientific and technological research and tourism. Provinces are required to eliminate a variety of taxes, lower the regulatory burden and complete the privatization process.[27]

Labour

Employers have repeatedly stated that hiring new employees needs to be based on easing labour regulations. The government unveiled a plan in January 1995 to remove these rigidities. The bill will require approval by Congress and has already been agreed by employers and labour unions. Applicable to small-and medium-sized firms, the plan will:

- allow flexibility in setting the length of the working day;
- reduce severance pay by one half, the equivalent of one months pay for each year employed;
- set the trial period for new employees to 180 days;
- require 10 days dismissal notice for employees working at the firm for less than 5 years; 20 days for employees longer employed;
- salary for the 13th month (aguinaldo) to be replaced by a sum equivalent to 8.33 per cent of the salary.[28]

An additional proposal calls for reducing the cost of social security and disability benefits by setting up an insurance scheme. For their part, employers have indicated a willingness to hire additional employees should these proposals become law. The government may also be called upon to set up retraining programmes so that employees are better able to compete internationally.

The Mercosur agreement

While technically a foreign trade pact, the Southern Cone Economic Area (Mercosul) can be classified as macroeconomic, industrial and foreign policy. As from 31 December 1994, the agreement came

into force. Under it, Argentina, Brazil, Paraguay and Uruguay agree to liberalize internal trade with a common external tariff, the elimination of non-tariff barriers, the coordination of macroeconomic policies and a 100 per cent preference margin. The market has 200 million consumers and a GDP of $800 billion.

While trade among the four countries was a relatively low amount in the 1980s, it is expected to increase significantly, especially with Brazil. Since 1988, trade with Mercosur countries has increased by more than 20 per cent. Chile, Bolivia and Peru have expressed interest in joining Mercosur and member countries have been also discussing links with the North American Free Trade Agreement (NAFTA) and the EU.

It is widely believed that Mercosur will provide additional stimulus to the economy, that those problems that have not or cannot be addressed by the government will be eased by the agreement. First quarter 1995 information, while not available from statistical sources, is believed to show a significant increase in exports to other Mercosur countries, especially Brazil.

In addition, there has been discussion on the inclusion of Chile in Mercosur as well as an extension of the NAFTA to Mercosur. While the inclusion of Chile is possible, many in Argentina are sceptical that the NAFTA countries will welcome their inclusion until more experience is gained with NAFTA itself.

D. ECONOMIC OUTLOOK

Near-term GDP growth is expected to moderate to an annual rate of 3.5-4 per cent, down from 6.5 per cent in 1994 and 6 per cent in 1993. Much of the slowdown will come from reduced sales of durable goods. Additional contributing factors are the flight of investment resulting from Tequila Crisis and declines in consumer spending. One negative result of the slowdown will be a likely rise in unemployment, already at 10.8 per cent in May 1994 and 12 per cent in early 1995.

The extensively reformed corporate sector in Argentina bodes well for future economic strength. As a result of privatizations, rationalizations, simpler and more effective tax policies and strong commitments to a balanced budget, the country is not only more competitive and self-assured, it is also stronger politically. One curious turn-around is the private sector coming to the rescue of the government as a result of the Tequila crisis. In the past, it has been the government bailing out industry.

Before the Tequila crisis , companies were poised to raise investment spending by 22 per cent. While there has been capital flight associated with the crisis, by April 1995, stability seems to have returned.[29] This will bode well for future investment as it demonstrates the government's willingness to stay the course in the face of internal and external pressures to devalue the peso and to reduce government spending in a still bloated public sector in order to try to balance the budget.

The move to privatize the provincial banks, which lose $500 million annually, is likely to take place in 1995 as part of the government's efforts to achieve an envisaged budget surplus and correct imbalances in the financial system.[30] The move may be resisted by provincial governments, who use the banks as a source for funding local budget deficits. Financing provincial governments is an issue that will need to be addressed in future, especially for provinces such as Jujuy, which find themselves losing jobs to privatization, immigration pressures and a government work force that is 25 per cent of the employable people.

Additional moves in privatization will take place for at least four hydroelectric plants, three nuclear plants and two petrochemical companies. Proceeds from the sale are earmarked to reduce the national debt. A national railway was privatized in May 1995.

The petroleum sector's prospects bode well as the government estimates the industry will invest $6.8 billion from 1994-1997. The funds will go into exploration and drilling. There are indications that one privatized firm, Yacimientos Petroliferos Fiscales (YPF), will provide $3.2 billion of this money although the chief executive of the firm has been replaced.

Since the peso is tied to the dollar and the dollar remains weak, it is likely that exports will do better than in 1994. At the same time, relatively more expensive imports from the EU and Japan will encourage sales of domestically produced goods. Overall, the balance of payments deficit is likely to deteriorate due to higher interest rates on foreign debt payments. The deficit was $12 billion in 1994.

Assuming the government is successful in curbing public spending, inflation for 1995 is projected at 4 per cent.[31] This should be contrasted with the 1989 inflation rate of 4,924 per cent.

By the second quarter of 1995, there was much less concern about the state of the economy as a result of the Mexican peso crisis although some argue that the economy is going into recession. The government seemed to have dealt swiftly and well to the initial retreat of investors from the country. While it remains that exports need to be increased and that there is still too much government intervention in markets, the manufacturing sector appears to be moving in the right direction.

One sector with particularly good prospects for long-term growth is the automotive. While Argentina has one car for every 5 individuals, the vehicles are old and the fleet needs replacing.

While the stock exchange has seen more activity lately, 6 privatized firms account for two thirds of total market capitalization.[32] Additional firms are going to need to float shares on the bourse to raise equity, but nervous investors seem to look at a thinly traded market with some trepidation. While a derivatives market is also growing, so far the products offered are not extensive. More sophisticated instruments, greater capitalization and fewer worried investors are clearly future requirements.

There remains considerable work to be done in making industry more competitive. The government sector is still bloated and productivity in many manufacturing branches and banking is well below international levels. Uneconomic firms will require absorption into larger, more efficient operations and there are still a number of barriers to trade that require lifting. Paradoxically, the Mexican peso crisis has increased the likelihood that the current government will be reelected, so as to ensure economic stability and low inflation, of which Argentines have considerable, painful experience.

The movement of transnationals, both Europe and United States-based, continues and is likely to accelerate, especially with the success of Mercosur. With them, the transnational corporations are bringing access to additional capital, up-to-date manufacturing techniques with higher value added, access to international markets and business acumen.

Expanding exports is critical to Argentina's prospects for growth. However, in order to reach foreign markets, significant steps still need to be taken. Export performance and industrial restructuring are requirements in order to take advantage of overseas market opportunities. Even with these minimums, additional help may be required.

Computer software

Notable by its absence is a large, domestic computer software industry. Computers, related peripheral equipment and software are in abundant supply and at reasonable prices. Given that there is such a highly educated workforce of university-trained graduates, it is thought to be unusual that a local Spanish language software industry has failed to develop, especially in light of current high unemployment and the composition of the unemployment being many engineers.

Argentina is a signatory to the World Trade Organization. The organization originated from the Uruguay Round of the General Agreement on Tariffs and Trade (GATT). In order to be in compliance with the WTO, Argentina is going to need to change legislation on patents and copyrights. There are two major sectors in which disputes over intellectual property rights have arisen in Argentina: ethical pharmaceuticals and video programme transmission. As of May 1995, the government could not agree with the legislature on the content of the new legislation and the debate is ongoing. Pressure is also being exerted on the government by countries that have large pharmaceutical industries which engage in significant research and development activities. The existing law, which dates from the 19th century, is regarded as being anachronistic and incapable of recognizing such issues as ownership of content of video programmes. As a result, video piracy is seen as a major problem although, by international standards, the law is adequate. The government is vigorously pursuing cases of copyright infringement.

Another issue that warrants attention is personal savings. The lack of domestic savings leaves the economy dependent on outside investors and, as the Mexican peso crisis has demonstrated, these investors can leave as quickly as they came. Argentines invest 17 per cent of GDP in savings, which may be too small to support the volume of investments that are going to be required to continue to transform the economy. There is circumstantial evidence that cash, mostly dollars, is not kept in banks at all but kept "under the mattress." Since current short-term interest rates are in excess of 20 per cent and deposits are not increasing, a picture emerges for the need for less consumer spending. Fortunately, multilateral aid agencies have shown great interest in Argentina and the government has striven to repay its outstanding loans.

More than half the additional funding from World Bank sources will be for institutional strengthening - health, childcare, education and environment. In addition to further funding from the World Bank, the Inter-American Development Bank is studying new lines of assistance to the provinces and municipalities. Argentina is also eligible for multilateral investment funds from this source. Fund participation and access to these funds will help projects in export promotion, reform of domestic and foreign investment schemes, small and medium enterprises (SME) and micro-enterprise promotion. A further $7.15 million project for Entrepreneurial Development Centres (EDC) is being allocated. EDCs will be set up in various industrial districts across the country.

The basic thrust of government privatization, loans directed at specific infrastructure problems and the development of entrepreneurial skills may require additional efforts. Unemployment pressures could cause the solid policy base to be eroded. Prospects are positive for trade, especially with Mercosur countries. Improvements in the global trading system will help Argentina to gain export market share, especially in agriculture. Industry is already restructuring, focusing on areas of comparative advantage and carving out niche markets. Support for the government's policies is strong given the clear majority with which it was reelected in May 1995. Investor confidence is returning and investment is flowing back in. A return to previous GDP growth, while not guaranteed, is possible.

NOTES TO CHAPTER I

[1] The Economist Intelligence Unit, *Argentina 1993-94 Country Profile*, London, P. 13.
[2] *The Economist*, "Survey Argentina", 26 November 1994, p. 3.
[3] *Finance and Development*, Argentina - A Radical Approach to Tax Reform", March 1995.
[4] *Keesings Record of World Events*, News Digest for September 1993, p. 39635.
[5] The government froze public spending from mid-November 1994 until the end of the year, expecting to realize a Ps 1.3 billion savings. Salaries and basic services were exempted from this decree.
[6] The Economist Intelligence Unit, *Business Latin America*, London, 5 December 1994, p. 4.
[7] *Keesings Record of World Events*, News Digest for September 1993, p. 39365.
[8] *Latin American Weekly Report*, 26 January 1995, p. 35.
[9] Before the Tequila Crisis, the Required Reserve Ratio was still high, at 33 per cent for commercial loans.
[10] *The International Directory of Importers*, 1995, p. 69.
[11] *International Herald Tribune*, April 1995.
[12] *The Economist*, "Survey Argentina", 26 November 1994, p. 11
[13] Perez Alonso, N., *Ambito Financiero*, 4 June 1993.
[14] *The International Directory of Importers*, 1995, p. 70.
[15] *International Herald Tribune*, June 21, 1995, p. 12.
[16] *The International Directory of Importers*, 1995, p. 70.
[17] The Economist Intelligence Unit, *Argentina Country Profile* 1993-94, London.
[18] The Economist Intelligence Unit, *Cross Border Monitor*, July and August 1994, London.
[19] The Economist Intelligence Unit, *Argentina Country Report*, 1995, 1st Quarter, London.
[20] Berlinski, J., *Industrial Development and Incentives*, Instituto T. di Tella, Buenos Aires, 1994.
[21] Ministry of Economy and Public Works and Services, *Argentina Industry in the '90s*, 1994, Buenos Aires.
[22] *Ibid.*
[23] Ministry of Economy and Public Works and Services, *Argentine Industry in the '90s*., September 1994, Buenos Aires.
[24] *Latin American Weekly Report*, 26 January 1995, p. 35.
[25] *The International Directory of Importers*, 1995, p. 70.
[26] The multiplier effect can be characterized as the economic benefits of manufacturing certain products. In the case of automobiles, for every $1 of production, some multiple of that is the actual increase to the economy. Some studies have suggested multipliers in excess of 10 for the automotive sector. Thus, many countries engage in protected automobile production because of the large economic effects resulting from it.
[27] Republica Argentina, Ministerio de Economia y Obras y Servicios Publicos, *Economic Report*, 2nd Quarter 1994, No. 10, Buenos Aires.
[28] *Latin American Weekly Report*, 26 January 1995, p. 35.
[29] The Economist Intelligence Unit, *Business Latin America*, 5 December 1994, London.
[30] *Ibid*, 13 February 1995.
[31] *Ibid.*
[32] *The Economist*, "Survey Argentina", 26 November 1994.

II. THE MANUFACTURING SECTOR

The manufacturing sector of Argentina is large and diversified, producing a broad range of products in spite of a lack of comparative advantage in some of them. Firm size ranges from one person operations, as in agriculture, to fully vertically integrated companies manufacturing complex equipment and chemicals. Paradoxically, the government policies that led to this diversification also caused many of them to be inefficient and uncompetitive. When the policies changed in 1990, the manufacturing sector began a reorganization that is still not complete nor likely to be so for many years. Some sectors are still protected but will be gradually subjected to competition. For others, all protection was lifted and many of these will not survive in their present form or function. While this chapter records much of the developments from 1980 to 1993, the rapidly evolving manufacturing sector will little resemble the picture presented here 5 years hence.

A. GROWTH AND STRUCTURAL CHANGE

Growth

Annual growth rates recorded by manufacturing subsectors over the period 1980-1992 fail to indicate a clear pattern of industrial development (see Table II.1). Much of the rather too erratic cyclical fluctuations in manufacturing value added across subsectors in the 1980s could be attributed to a high degree of government intervention a plethora of state-owned and managed firms, heavily protected private sector firms and high tariff barriers to keep out competition, allowing inefficient firms to remain in business in the absence of competitive pressure. Under the high tariff wall domestic manufacturers attempted to produce the full product range as barriers prevented imports, allowing them virtually exclusive access to the domestic market. The price paid by consumers was higher than world market prices. The industrial policy lacked economic sophistication and rigid labour market policies were also the rule. Priority was given to imports of intermediate goods for further processing. Attitudes towards foreign capital, employment and income distribution objectives also constituted the principal distortions contributing to much of the industrial stagnation in the 1980s.[1/] There were some exceptions, however.

In the 1980s a few manufacturing subsectors emerged as fast growing segments despite intermittent cyclical downturns. Although not evidenced by annual growth rates of MVA presented in Table I.1, which is based on reporting enterprises, transport equipment and petroleum refinery emerged as dynamic manufacturing subsectors in recent years. Production data reported in Table II.2 indicate a dramatic increase in the production of transport equipment over the period 1986-1993. Firms that abandoned the country in the 1980s are returning, while some new entrants in automobile production are totally new to the country. Triggered by an unprecedented expansion in the production base Argentina endeavors to export 70,000 vehicles per year to Brazil. The vehicles, while not necessarily the state-of-art, are maturing in that direction. Petroleum refining emerged as the second most dynamic subsector of manufacturing in recent years. The production of crude oil, gasoline, gas oil and diesel oil grew significantly during 1986-1993 as indicated by the fact that production figures for 1993 were substantially higher than the figures achieved in 1986. Freeing the market for more competition has had the result of increasing consumer confidence.

Although there has recently been a slowdown in the demand for vehicles particularly in 1995 it is likely that this demand will resume, perhaps in the second half of the year. It is due to the increasing number of vehicles on the road that drives the demand for refined petroleum products. In part, external demand for these products is also responsible. Demand for petrochemical products in their finished forms has also increased.

The fast growing segments of food processing in terms of volume of production include alcoholic beverages, cheese, and edible oil. The production of carbonated beverages also increased significantly in the early 1990s. The food processing sector continues to be a mainstay of the economy and is likely to increase its international market share as a result of lower subsidies, especially in northern hemisphere producers, the United States and the European Union.

Having rebounded well in 1991 with a 16.5 per cent growth, textiles remained subdued at 1.8 per cent in 1992, while that of wearing apparel suffered negative growth rates for three consecutive years in the early 1990s. For decades the industry was protected from import competition. Recent exposure to international competition as a result of removal of tariffs revealed the compelling need to rationalize and modernize the production process. Competition from low-cost producers has been a major threat to the country's textile and clothing industry.

Following three consecutive years of negative growth, value added in paper production grew by 22.7 per cent in 1991, which the industry failed to sustain in 1992. Pulp and paper production is a domestic resource-based manufacturing activity. The main input has traditionally been wood from natural forests. Argentina is undoubtedly in a position to develop a competitive pulp and paper industry by virtue of the fact that annual growth rates of trees in the country far exceed that of northern hemisphere. Hitherto the industry has largely been made up of small family run operations and a few world-class mills. Current production of pulp and paper stands at 1 million tonnes per year. The volume of production in 1993 was almost equal to the output turned out in 1986 as falling international prices have allowed imports to make deep inroads into the domestic market. Major competitors are the United States, Canada, Brazil and Western Europe. As the Mercosur Agreement starts to take effect, from January 1, 1995, it is expected that Argentine producers will concentrate on niche products that could successfully penetrate the sub-regional market.

Steel production stood at 2.8 million tonnes in 1993, compared to 3.2 million tonnes in 1986. Much of the capital stock in the iron and steel industry is obsolete. Rationalization of the production process and modernization of the industry's capital stock are expected to make around 50 per cent of jobs redundant. Upgrading of steel production methods in steel plants, which are privately owned, is severely constrained by capital shortage.

According to data compiled by UNIDO, the electrical machinery subsector suffered negative annual growth rates in value added for five consecutive years until 1992. The decline in value added was less pronounced in 1991 and 1992.

Table II-1 Annual average growth rate of MVA, constant 1980 SUS

Year	Food	Beverages	Tobacco	Textiles	Wearing apparel	Leather	Leather footwear	Wood	Furniture	Paper	Printing	Industrial chemicals	Non-industrial chemicals	Petroleum refining
1980	-10 9	29 4	-1 3	-27 2	-63 7	-23 8	-23 4	-34 8	-26 9	-32 2	-12 4	-20 8	59 5	22 2
1981	-5 1	-8 8	-7 3	-12 5	-8 24 6	-11.0	-25 3	-4 0	-9 3	-11 3	-8.2	-3 4	-4 1	
1982	6 2	-10 0	-6 42 57	2-11 0	-15 8	-1.1	-26.89	20.035	2-2 2	2-9 8				
1983	6 2	4 06	211 819	01 39	922 615	817 915	49.6	-3 83 6						
1984	3 6	9 812	56 48	60 81	5-0 2	-0 43	3-2 24	1-10	0-2 9					
1985	-2 8	-5 2	-0 3	-14 4	-8 717	0-8 4	-3 7	-6 8	-6 9	-10 2	-12 1	-8 2	-11 1	
1986	7 8	14 82	920 94	3-4 311	16 831	015 512	619 59	311 8						
1987	2 7	-4 8	-5 6	-5 9	-6 6	-4 7	-27 93	9-13	17 21	010 50	2-3 6			
1988	0 3	-18 2	-9 82	4-3 50	12 60	7-7 1	-6 8	-11 51	5-3 3	-3 1				
1989	-1 4	-9 80	8-5 30	68 4	-10 8	-6 6	3-1	-6 33	0-2 4	-28 47 1				
1990	1 5	-0 4	-1 1	-2 9	-17 3	-15 4	-3 6	-9 4	-25 3	-1 0	-5 51	816	813 9	
1991	9 9	26 84	116 5	-3 317	660 611	092 522	7-1	0-1 120	31 6					
1992	-4 8	2 38	01 8	-4 2	-1 6	-3 6	-7 8	-4 41	1-5	70 8	-3	93 2		

Year	Miscellaneous refining	Rubber	Plastic	China	Glass	Iron and non-metalics	Non-ferrous steel	Metal metals	Electric products	Transport Machine	Scientific machinery	equipment prof	Miscellaneous	Total
1980	-13 4	-16 0	-49 4	-31 4	-29 813	10 5	-15 615	6-39	96 711	7-26	0-3	2-9 4		
1981	-10 9	-31 91	0-22 6	-11 8	-13 9	-18 9	-17 6	-10 6	-14 2	-10 2	-35	9-5 7	-12 0	-12 1
1982	4 99	712 213	4-0 5	-9 910	216 0	-0 0	9-14 3	-3 6	-18 6	-15 2	-2 7	-1 0		
1983	12 330	013 922	30 10	812 62	2-0 37	80 722	8-4 97	57 9						
1984	2 99	39 3	-2 56	6-16 6	-2 413	2-1 47	66 015	410 62	62 7					
1985	1 4	-31 5	-22 9	-21 8	-29 7	-15 2	-23 7	-15 4	-6 02	3-9 0	-23 0	-14 4	-10 0	-10 3
1986	5 434	960 526	044 915	928 027	1-2 4	-7 95	420 5-1	111 412	6					
1987	15 2-6	212 9-1	816 610	011 96	60 54	97 312	513 01	82 8						
1988	1 47	4-17 5	-13 0	-20 7	-6 85	3-7 5	-0 92	1-14	8-18	5-3	3-4	9-4 2		
1989	10 5-20	8-27 1	-7 6	-4 3	-15 7	-11 74	3-10	7-17	4-21	6-15	9-18	9-7	4-6 7	
1990	-22 328	817 86	55 1	-19 46	90 9	-2 48	2-16 1	-16	4-7	90 10	4			
1991	25 4-10	38 439	9-30 348	73 61	732 311	3-2 319	237 511	811 5						
1992	-4 0	-3 62	9-2 0	-2 42	3-1 3	-1 0	-1 5	-2 3	-2 3	-2 70	6-1	3-1 5		

Source Industrial Development Reviews Information Base

Table II-2
Production or sales of selected products, 1986 - 1993

Product Group	Units	1986	1987	1988	1989	1990	1991	1992	1993
Cattle	000 head	10,404	9,409	8,987	9,147	9,351	9,259	8,784	8,921
Aves	000000	159	179	160	139	149	173	233	256
Cheese	000 mt	261	277	252	260	271	289	336	350
Edible oils	000 mt	2,365	2,029	2,420	2,378	2,808	3,057	3,100	2,755
Wheat flour	000 mt	2,996	2,996	3,006	3,279	3,102	3,314	3,118	3,133
Sugar	000 mt	1,038	981	1,048	944	1,243	1,473	1,282	1,008
Alcoholic Beverages	000 liters	121,392	103,885	84,998	61,845	57,201	71,628	81,367	84,109
Ethyl Alcohol	000 liters	340,953	329,596	232,009	116,904	139,010	139,067	118,721	100,000
Wine (sales)	000 hectolit	18,559	18,383	17,861	17,229	17,131	17,111	16,193	14,558
Beer (sales)	000 hectolit	5,452	5,847	5,229	6,102	6,170	7,979	9,518	10,305
Carbonated beverages	000 hectolit	17,401	16,791	11,967	9,799	10,065	15,561	19,545	20,565
Spun cotton	000 mt	126	129	128	131	131	140	129	118
Paper	000 mt	954	1,114	995	946	927	966	977	927
Sulfuric acid	mt	250,840	253,046	258,000	214,344	209,384	243,126	218,668	205,909
Calcium carbonate	mt				59,018	41,321	59,413	45,984	59,550
Caustic soda	mt				242,000	230,000	210,000	160,300	155,621
Chlorine	mt				216,000	210,000	185,000	141,600	138,500
Urea	mt	91,942	102,228	95,500	97,696	108,795	103,420	86,335	116,364
Polypropylene	mt				36,140	55,700	59,564	101,017	118,518
Polyethylene	mt	210,064	237,057	258,979	224,093	227,412	241,776	268,294	238,618
PVC & co-polymers	mt	53,884	95,731	109,892	98,401	104,543	105,668	90,903	85,284
Polystyrene	mt	28,813	40,603	31,111	33,070	34,298	46,042	52,350	49,200
Lampblack	mt	34,544	41,161	42,040	42,624	36,683	42,914	39,367	39,312
Crude oil	000 m3	25,179	24,857	26,123	26,713	28,004	28,621	32,246	34,447
Gasoline	000 m3	6,081	5,853	5,927	5,520	6,907	7,544	7,924	7,861
Gas oil	000 m3	7,868	7,609	8,271	8,533	8,948	9,423	10,498	10,622
Diesel oil	000 m3	973	998	704	445	509	487	295	218
Fuel oil	000 mt	5,147	4,838	4,695	4,539	4,139	3,654	3,370	3,089
Cement	000 mt	5,553	6,302	6,028	4,449	3,612	4,399	5,051	5,647
Iron	000 mt	2,558	2,785	2,663	3,336	2,968	2,259	1,993	2,140
Steel	000 mt	3,242	3,603	3,624	3,883	3,636	2,972	2,680	2,870
Aluminium	mt	147,607	152,527	154,103	162,030	162,981	166,290	153,002	170,600
Zinc electrolyte	mt	29,123	31,662	32,657	31,516	30,713	33,452	34,500	31,069
Automobiles	vehicles	170,490	193,315	164,160	127,823	99,639	138,958	262,022	342,344
Pick-up trucks	vehicles	23,605	24,306	20,078	13,971	13,879	18,906	31,441	44,131
Heavy trucks	vehicles	6,662	6,657	5,416	4,397	2,990	3,482	5,558	6,671
Buses	vehicles	2,334	3,609	2,890	1,858	1,663	2,457	4,521	4,575
Tractors	vehicles	8,056	3,114	5,075	4,295	4,868	3,099	3,783	2,926
Light bulbs	000000					92	89	99	114
Color Televisions	000					310	607	1,386	1,612
VCRs & Players	000					212	337	580	498

Source INDEC, Anuario Estadistico de la República Argentina, 1994, Table 5.7.1, Buenos Aires

Industrial production in May 1995 has been estimated to have risen by almost 6 per cent over the previous month. Much of the upturn in production seems to be stemming from exportable goods such as chemicals, plastics, petrochemicals and iron and steel, and partially offsetting stagnant domestic demand. The exports of these products were around 50 per cent higher in the first five months of 1995, compared with the same period in 1994. Approximately half of the increase in Argentine exports was due to the rising demand in neighboring Brazil. A significant increase in exports is, however, not expected to add substantially to the growth of the economy as exports account for only a fraction of GDP.

Growth is likely to be impeded, however, due to a lack of manufacturer's experience with equity financing. Most businesses in Argentina rely on debt to finance growth. The stock exchange lists only 100 companies and the shares are thinly traded. Interest rates in June 1995 were above 20 per cent. Thus, the major route for financing growth open to manufacturers is through increased sales and these have not materialized in 1995 due to an economic downturn. Another route to growth is foreign acquisition and this has been occurring. Until companies develop an understanding of finance through equity, this route to growth is closed.

Structural Change

Since 1990, Argentine industrial policies no longer encourage or discourage structural change. After a decade that was notable for its declines in productivity and employment and its large increases in inflation, the government coming to power in 1990 lifted many of the restrictions, priority lists, inducements and barriers. These policy changes, while being acknowledged as causing more unemployment, have been successfully implemented and widely accepted. The hyperinflation that beset the economy in 1989 introduced an anti-inflation psychology much like post-war Germany. This freeing of markets and manufacturers has had dramatic effects in much of the manufacturing sector. While some industries still benefit from protection, for example the transport industry, others such as oil and gas are doing extremely well and have adjusted rapidly and effectively.

Investment in structural change also declined in the first half of 1995 as a result of capital flight. Investors, concerned about the devaluation of the Mexican peso in late 1994, withdrew $6 billion from Argentina. As of May 1995, the capital has started to return as investor confidence resumes but the loss of the capital assisted the process of economic downturn. Government expects that the second half of 1995 will see a return to the growth witnessed from 1991 to 1994.

Table II.2 presents a selection of manufactured goods production from 1986 to 1993. These clearly show the uneven performance of the economy and, in the case of some sectors, the effects of the policy changes introduced in 1990. Output has become somewhat more diversified, as 6 new items appear on the list during or after 1989. Of the 42 items shown, 11 have shown declines over the period 19 have increased and the remainder show a cyclical pattern. .

(Insert Table II.2. above. here)

The scope of manufacturing in Argentina is greatly varied in both scale and scope. It ranges from cottage industries producing agricultural products to large industrial complexes producing very sophisticated intermediate, final and capital goods. The smaller firms are difficult and expensive to monitor on a continuous basis, so much analysis is based on census data up to 1984. A more recent census was completed in 1994 but has not yet been made public. An additional problem with data is that of the lack of good information, in detail, on the agricultural sector. Since the further manufacturing of agricultural products is an important contributor to GDP, the lack of detailed information on this sub-sector distorts somewhat the underlying trends in manufacturing structural change. The mostly wide used statistics come from the National Institute of Statistics and Census (INDEC). As government has been reducing expenditures, there is less available for the collection of data. In the short term, it makes analysis of the available information more problematic. In the long term, better statistics are going to be required for both domestic and international investors.

For the analysis that follows, please refer to Table II.1, above and Table II.3, below. The variability of yearly rates of growth of MVA for the 1980s was high. This introduces questions regarding the adaptation of firms during those swings in the level of activity, either in growth years or in recession years. It also raises questions about the medium and long term sustainability of those yearly rates beyond cyclical growth. As the current situation shows, many of the changes are unsustainable in light of greater exposure to competition and changes in relative prices.

The cumulative effect of yearly growth rates of manufacturing value added between 1975 and 1992 led to changes in the composition of value added. Petroleum refining shows a strong gain, as do industrial chemicals. While the data suggest an improvement in the paper and paper products subsector, more recent albeit casual evidence suggests that the reverse is true. This subsector is composed of a few major producers and many small operations. The latter are not expected to survive as plants are old, small, inefficient and polluting. While the quality of the pulp that goes into the manufacturing process has improved, and world-scale plants exist, the vast majority of plants in this industry are expected to disappear. The manufacturers that survive are expecting to focus their activities in niche markets rather than trying to compete with larger, lower-cost Brazilian operations.

Electrical machinery has continued to decline and all signs indicate that the trend will continue. One portion of this industry, electronics assembly, is expected to disappear entirely due to a lack of comparative advantage. This portion is located in Tierra del Fuego and its loss will adversely affect employment prospects for the region. The non-assembly portion of the industry is composed of transnationals and local operations and is likely to increase its share of value added. There is an especially strong industry manufacturing certain forms of testing equipment, instrumentation and telecommunications equipment that may do very well. Consumer electronics manufactures, mainly transnationals, will face competition from Brazil in addition to imports, especially from China and Japan.

For the transport equipment subsector, the long-term prospects can not be ignored. The industry is healthier and more competitive. While the industry is protected under the Mercosur rules, production has increased sharply as domestic incomes have risen. The fleet of vehicles, whose average age is in excess of 15 years, is being added to rather than replaced. Electrical machinery is on a long-run downhill trend that is likely to end with a few producers specializing in unique products and the remainder, if they stay in business, repairing the equipment being operated by the few that remain in business.

For the chemicals industry, while not a strongly growing sector, there are transnationals involved along with local and regional producers. Prospects for change in the industry will arise from competition with other Mercosur countries. It can be expected that a basic range of chemicals will be produced, along with some niche manufacturing. While leather manufactures showed an above average performance, it should be expected to decline and perhaps mostly disappear in the long run due to competition from Asia. Machinery is likely to continue to decline for the same reasons electrical machinery has declined.

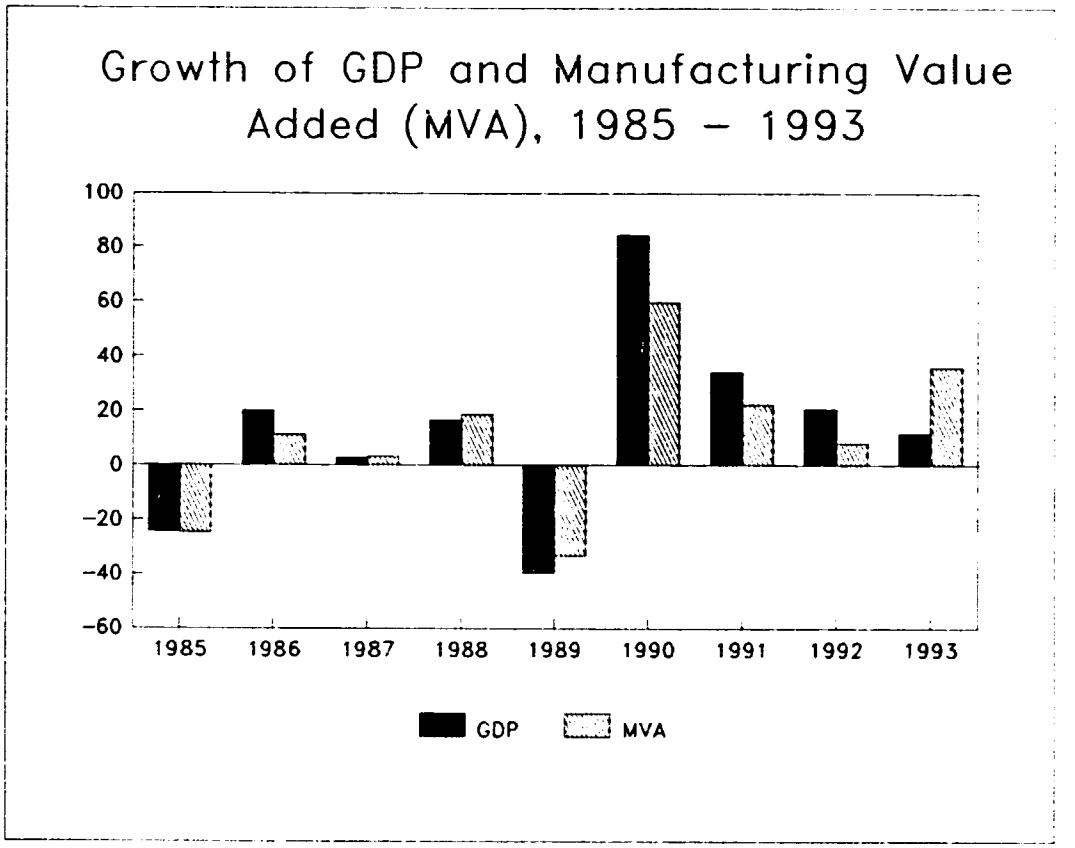
Table II-3 Constant 1980 Industry Share of Manufacturing Value Added, Per Cent

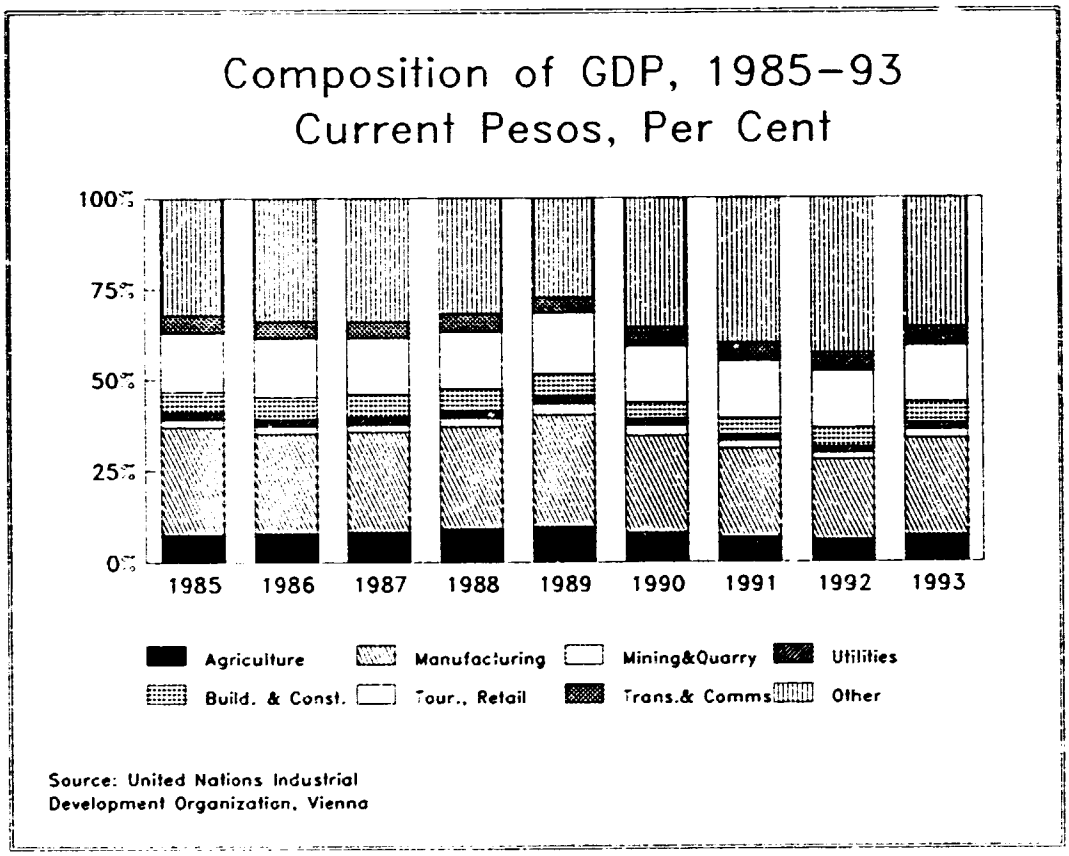
	1975	1985	1992
Food products	18.89	24.02	24.49
Beverages	3.46	4.12	3.76
Tobacco manu.	0.89	1.14	0.98
Textiles	7.58	6.11	6.81
Wearing apparel exc.footwear	5.25	2.19	1.39
Leather & leather substitutes	0.72	0.79	0.67
Leather footwear	1.58	0.76	0.73
Wood and cork prod. exc.furniture	2.29	1.34	1.14
Furniture & wood fixtures	1.06	0.87	1.07
Paper & paper products	3.50	3.47	4.04
Printing, publishing & allied	3.88	3.05	2.45
Industrial chemicals	3.12	4.27	4.97
Non-industrial chemicals	2.96	3.86	3.47
Petroleum refineries	6.66	9.28	10.86
Misc. petroleum & coal products	0.34	0.47	0.52
Rubber products	1.14	1.00	1.05
Plastic products	1.55	1.12	1.40
Pottery, china & earthenware	1.58	0.96	1.19
Glass & glass products	2.21	1.24	1.00
Non-metallic minerals exc. pottery, china & glass	2.93	2.41	2.54
Basic iron & steel industries	4.51	4.89	6.24
Basic non-ferrous metal industries	1.37	1.46	1.70
Metal products exc. machinery & equipment	4.54	5.62	5.44
Non-electrical machinery	5.40	4.34	3.64
Electrical machinery, apparatus & appliances	2.98	2.89	1.53
Transport equipment	7.67	6.65	5.26
Professional & scientific equipment	1.43	1.14	1.11
Misc. manufacturing	0.53	0.56	0.54
Total manufacturing	100.00	100.00	100.00

Note: totals may not add due to rounding.
Source: Industrial Development Reviews Information Base.

Graph Growth of GDP and Manufacturing Value Added, 1985 - 1993

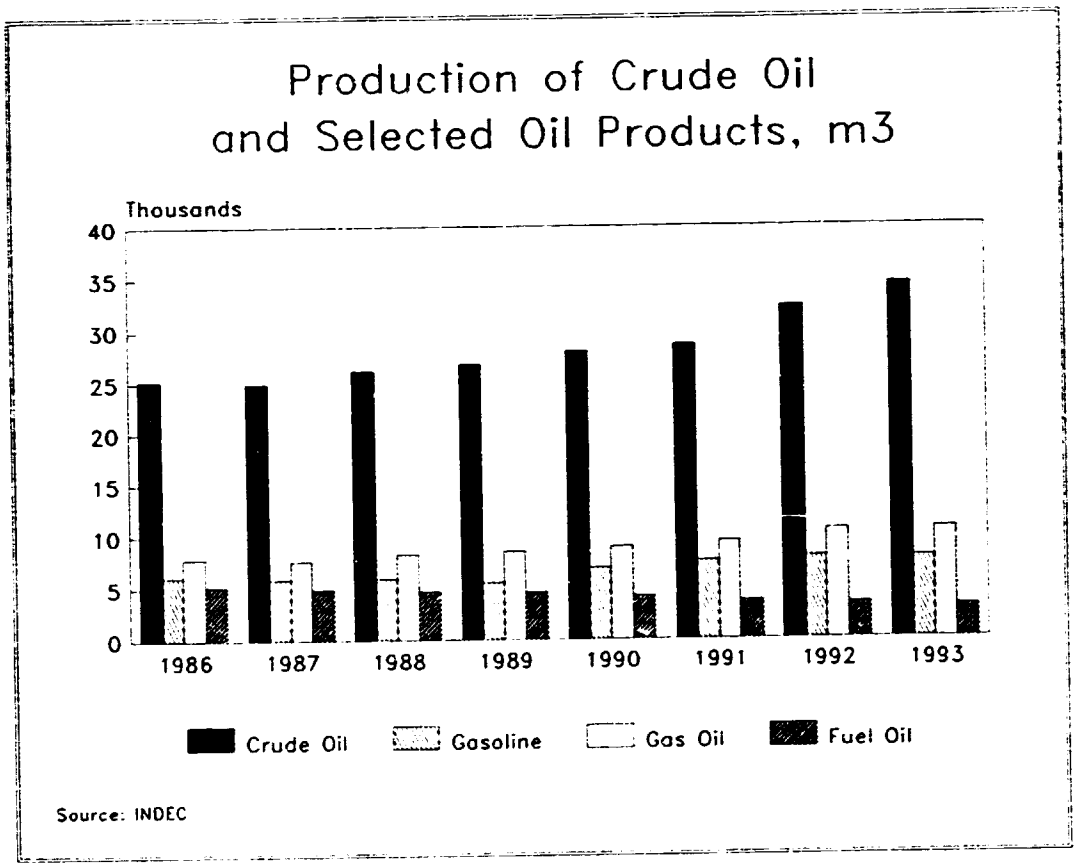
Graph Composition of GDP, 1985 - 1993, Current Pesos, Per Cent

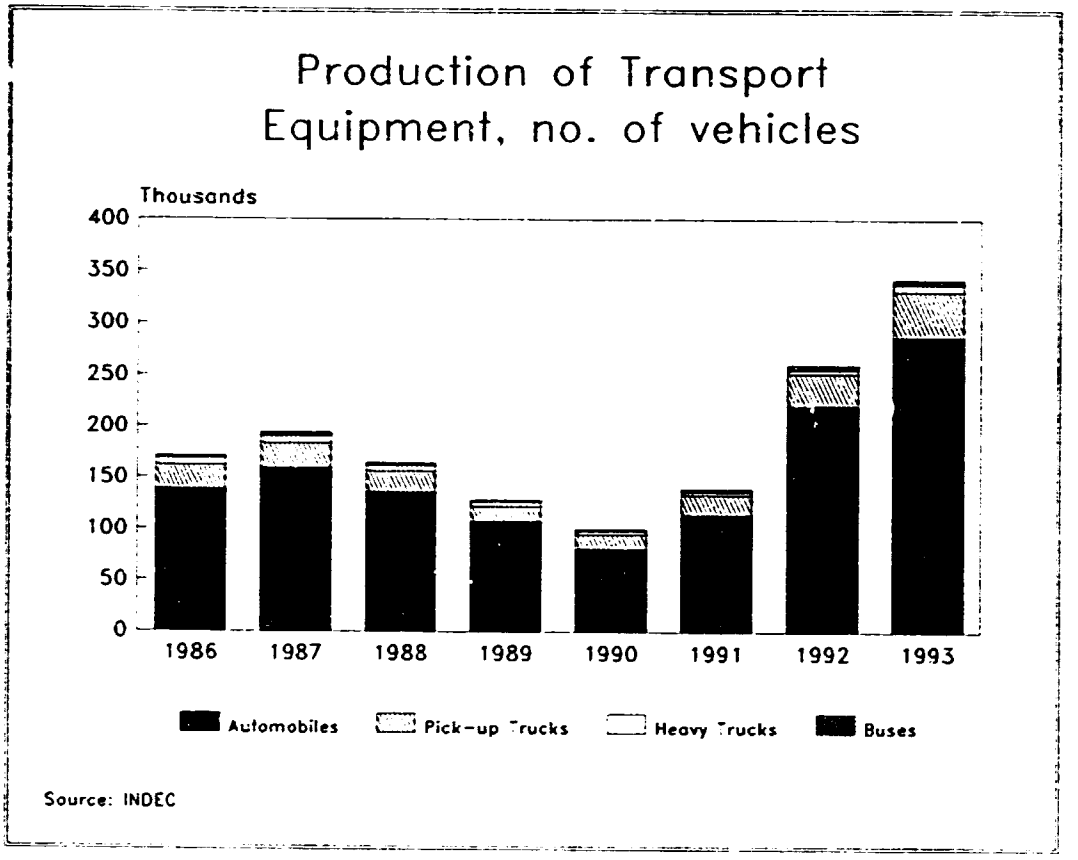



Composition of GDP, 1985–93
Current Pesos, Per Cent
100%
75%
50%
25%
0%
1985
1986
1987
1988
1989
1990
1991
1992
1993
Agriculture
Manufacturing
Mining&Quarry
Utilities
Build. & Const.
Tour., Retail
Trans.& Comms
Other
Source: United Nations Industrial Development Organization, Vienna

Graph Production of crude oil and selected oil products

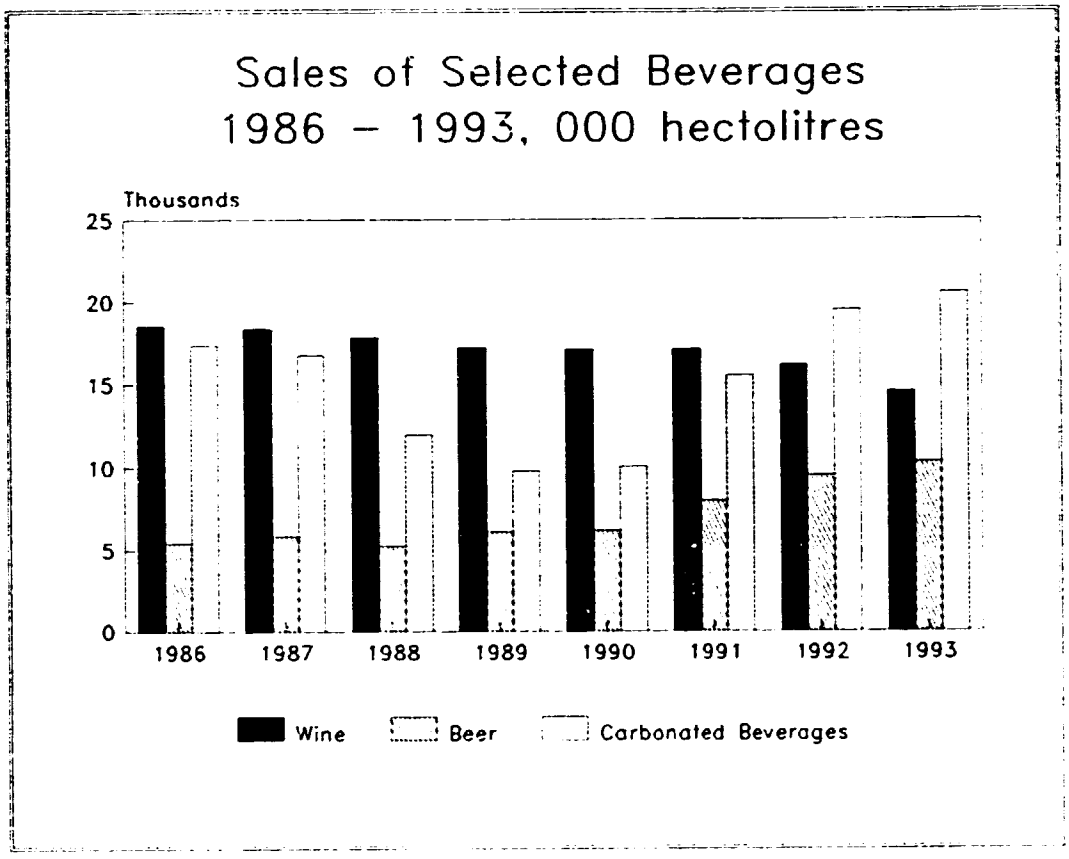
Graph Production of Transport Equipment, no. of vehicles

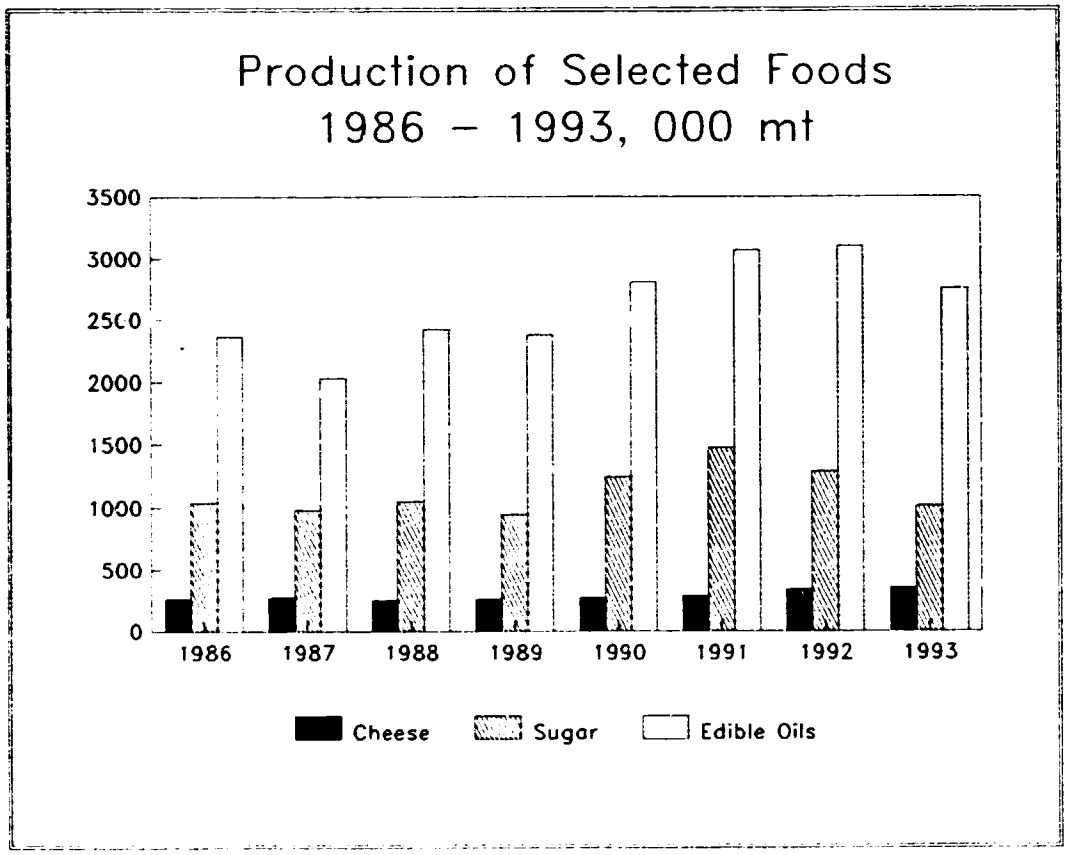



Production of Transport Equipment, no. of vehicles
Thousands
400
350
300
250
200
150
100
50
0
1986
1987
1988
1989
1990
1991
1992
1993
Automobiles
Pick-up Trucks
Heavy Trucks
Buses
Source: INDEC

Graph Sales of Selected Beverages

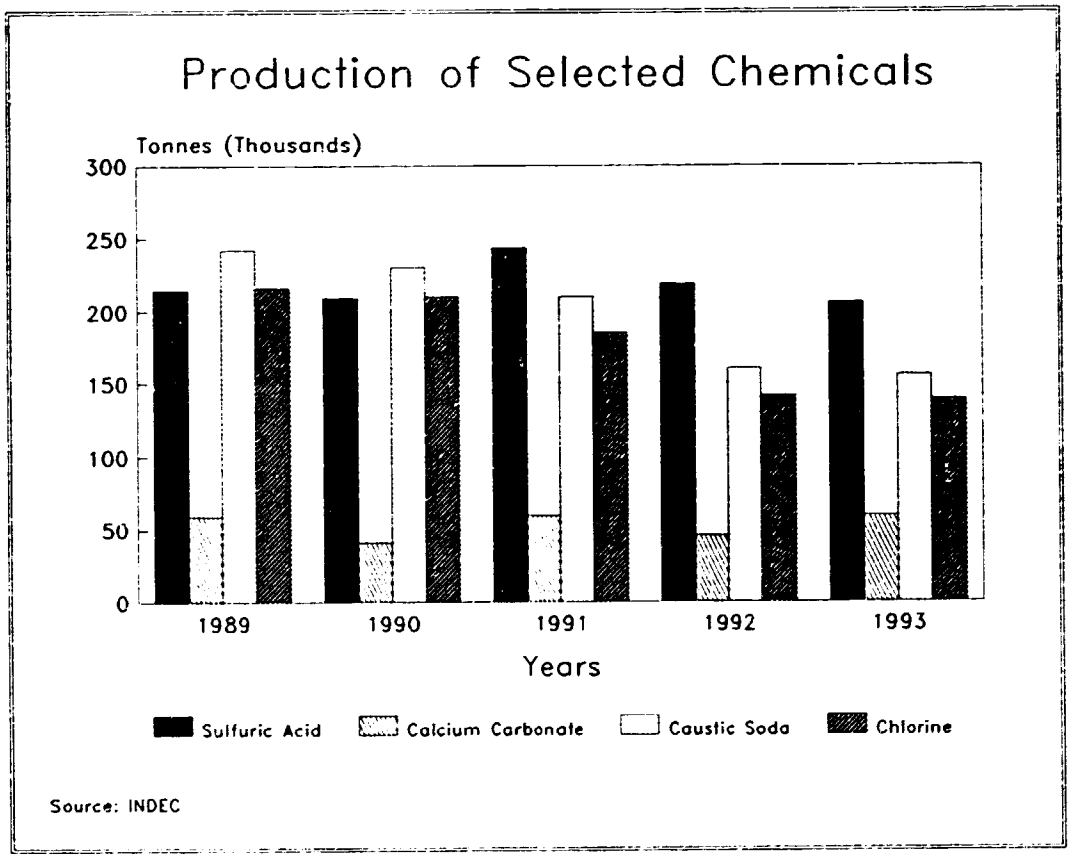
Graph: Production of Selected Foods

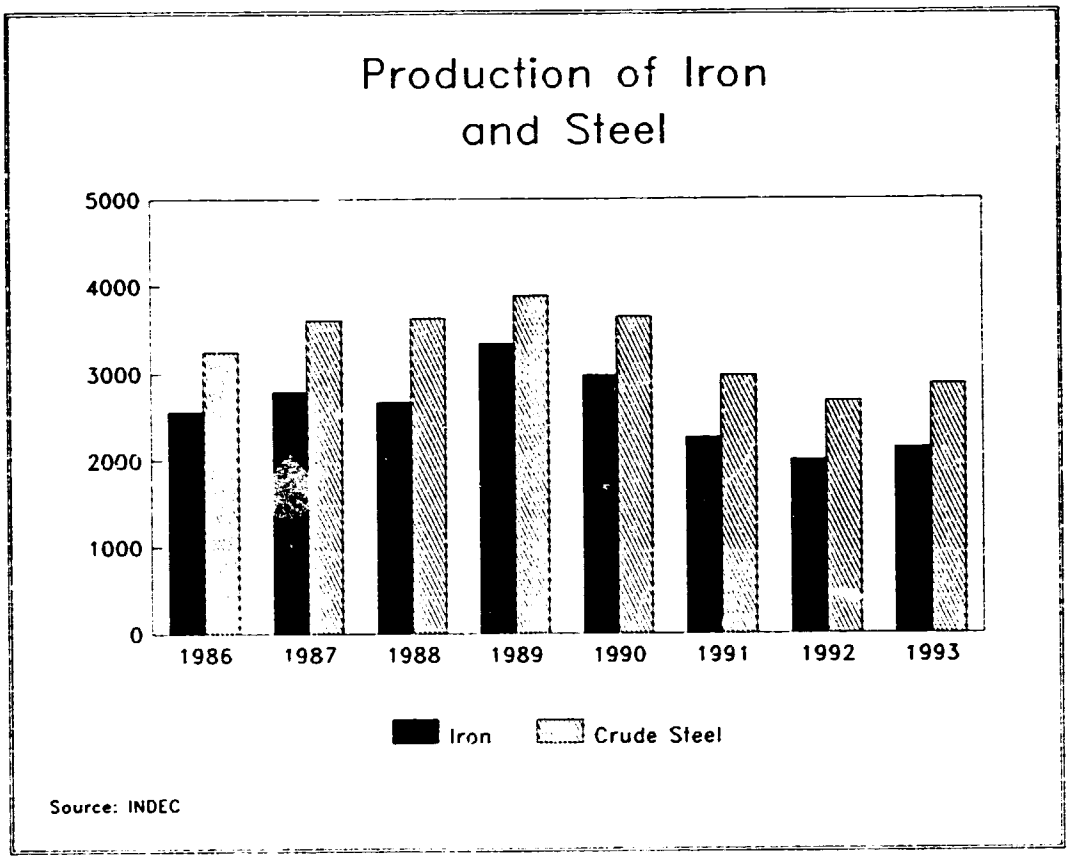



Production of Selected Foods
1986 – 1993, 000 mt
3500
3000
2500
2000
1500
1000
500
0
1986
1987
1988
1989
1990
1991
1992
1993
Cheese
Sugar
Edible Oils

Graph Production of Selected Chemicals

Graph Production of Iron and Steel




Production of Iron and Steel
5000
4000
3000
2000
1000
0
1986
1987
1988
1989
1990
1991
1992
1993
Iron
Crude Steel
Source: INDEC

While large changes have not shown up in the data for textiles yet, it is expected that strong losses will be recorded here and in all aspects of wearing apparel including shoes. This is a result of increased imports from south east Asia and China. As parts of the manufacturing process that goes from the leather hide to the finished shoe, or from the cotton gin to the dress shirt are labour-intensive, these portions of the textile industry are especially prone to change structure or disappear. They are also actively pursuing government subsidies and protection against competition. The base inputs, leather, cotton and wool, are likely to do well as exports.

There is an active exploration program for gold and other minerals underway. Gold production can be expected to increase in future. Some increase may show up in non-ferrous metals, especially zinc. Silver mining has halved since 1989. According to the widely respected Financial Times book Mining, "The year 1993 will be considered the year in which the efforts of the Argentinean Government through its Secretaria de Mineria finally paid off."[1] By the end of 1993, there were 35 mining companies actively exploring. Ownership of mineral resources still remains with the provinces but royalties are only 3 per cent of annual production.

Metal products and furniture MVA has declined in 10 years over the period 1980 - 1992. In the former case, this is due to both business cycle and competitivity issues. In the latter case, it is due almost entirely to consumer spending. Scientific and professional equipment declined for 9 of 13 years due to a lack of comparative advantage. In many cases, declines in growth of MVA can be attributed to normal business cycles, lack of competition, poor management, too much state interference and trying to manufacture too broad a range of goods. Overall, MVA declined for manufacturing in 7 of the 13 years.

Those sectors that performed relatively the best - they had fewer declines than increases - were food, beverages, textiles, paper, industrial chemicals petroleum refining, leather, miscellaneous refining, plastics, iron and steel, non-ferrous metals and machinery. With the possible exception of iron and steel, these are the sub-sectors that are likely to continue to perform well. Casual evidence suggests that in the 1993 - mid 1995 period, they have. In no case did any sub-sector fail to decline at some point over the period 1980 -1992.

If one examines solely the 1990 to 1992 period, however, a somewhat different pattern emerges. While almost across-the-board declines are recorded for 1992, they tend to be smaller than in the 1980s. The year 1991 is one in which most sectors posted gains, mostly strong gains, in MVA. Nineteen ninety should be taken as the year in which policies were first introduced but would not have had enough time to start having any effect.

While manufacturing is the single largest contributor to GDP, it is the sector most likely to contract under the new economic rules and as a result of the 1995 economic contraction With exceptions, "smoke-stack" industries have declined Those that have not yet shown decline are expected to. This follows a trend seen in many developed countries as older, more established but labour intensive industries migrate to Asian countries.

The broad swings in economic activity of the 1980s are probably ended. With a more predictable business climate and with clearer price signals, both domestic and international, the Argentine manufacturing industry is poised to succeed. In the long run, heavy industries, such as iron and steel and other metals, will tend to play relatively less important role in terms of their contribution to MVA and greater emphasis will be placed on manufacturing with higher value added. The Mercosur market will mature and give manufacturers access to more than 200 million consumers. While foods will continue to do well as Argentina has a natural comparative advantage here, other long-run winners are transport equipment, processing activities related to petroleum, industrial and non-industrial chemicals, plastics and in those industries that can successfully exploit niche markets - paper, machine tools and non-metallic minerals.

B. INDUSTRIAL EMPLOYMENT

Good data for employment are only available for 1982 to 1984. Much of the analysis that follows is based upon interviews with manufacturers and trade associations. Data for employment in 1994 should be available in the second half of 1995.

Quantitative trends

Background

After the 1950s, increasing proportions of employment were accounted for by industries producing intermediate and capital goods. Because of the greater capital intensity of those industries, growth in employment was not as fast as it had been previously. In the period from 1950 to 1970, while manufacturing value added increased 150 per cent, employment rose by only 20 per cent. This capital intensity was closely related to the government-backed incentives systems, which reduced the real cost of capital through generous tax expenditures. Virtually the entire manufacturing sector was protected from competition and imports, had continual state intervention and subsidies and, with exceptions, was very inefficient.

Recent trends

An overview of industrial employment is shown in Table II-4. The table shows an inter-census comparison of sectoral employment between the two census years of 1973 and 1984.[2,3] In order to examine the changes in employment more carefully, it has been broken down into a more aggregated and a less aggregated level. By 1984, two sectors accounted for more than half of the employment in Argentina: food and machinery. The third largest sector was textiles and the fourth was chemicals.

(Insert Table II.4)

In the mid 1970s, a long stagnation period in production started, with cyclical increases in the mid 1980s, until 1990, after which no explicit industrial policies other than a free market existed. Over this period, the performance of sectors was not consistent. Those activities usually providing most of the domestic absorption of employment reduced their share (foods not related to exports, mechanical products, textiles). Chemicals, paper and steel did, however, record increases. There are also differences within sectors, with some firms benefiting from promotional incentives and others internalizing the income redistribution of the effect of swaps or debt reduction.[4] During that same period, small and medium-sized firms increased their employment while large ones reduced it. For the latter, increases in productivity were important. At a more disaggregated level, the increase in employment levels is especially clear for food products, beverages, other chemicals and plastics. Decreases in employment were found in textiles; iron and steel; non-electrical machinery and transport equipment.

Table II-5 show employment indices through time. Total industrial employment declined during the 1980s then began to increase starting in 1990. It has since fallen again. The sub-sectors experiencing the greatest percentage decrease in employment were food products; paper products; basic chemicals; and basic metals from 1983 to 1989. Food products' decline was due to international price falls. The other three sub-sectors were due to decreases in domestic demand. High positive increases are found for 1983-1986 in beverages, ceramics and scientific equipment. These can, in part, be explained by increases in domestic demand, especially for beverages. In 1987-1989, a recession period, increases in employment are found in paper, petroleum refineries, glass and non-metallic minerals. For petroleum refineries, this counter-cyclical situation was a function of international oil prices and increased international demand. From 1990 to 1991, food and paper increased employment but basic metals and chemicals continued declining. Significant increases were also to be found in paper and in wood and furniture. In both cases, increases in domestic demand are in large part responsible.

(Insert Table II.5)

More recent trends point toward a reduction in employment in textiles and leather products as a result of competing imports. Foods may show future decline but will not be as adversely affected due to a greater focus on exports. Machinery employment may also continue declining, especially machine tools, as comparative advantage in them seems to lie in Brazil. Other sectors shown, such as paper, also will experience redundancies but since they employ significantly fewer people than the top four sectors, their contribution to declines in employment will be relatively smaller.

In 1994, unemployment was slightly higher than 10 per cent. In 1995, it is expected to increase to more than 12 per cent. Observers believe that it will rise as high as 15 per cent until the reforms introduced since 1990 begin to take strong hold. Many of the unemployed are engineers.

Since 1990, labour costs have risen faster than labour productivity. The result is that unit labour costs have increased, along with almost all other costs valued in dollars. A paradox has set in where domestic productivity "rises" while international competitiveness seems to "decline". The government's view is that there is a trade-off between medium- and long-term productivity gains and short-term, transient competitiveness losses. On the short-term view, one factor acting in Argentina's interest is the weakening dollar. As the peso is pegged to the dollar at 1:1, Argentina's exports become relatively more competitive internationally.

As is indicated from the above analysis, Argentina has been struggling with declines in employment since the 1970s. Initially, the response was protection; later, freer markets. Rather than endure the political consequences of declining employment in the 1970s, governments, in effect, encouraged it by forcing manufacturers into more capital intensive means of production in order to offset high wage bills. Practical experience has shown that the greater the mobility in the factors of production (labour, capital), the more productive the economy and the lower the likelihood of sustained, structural unemployment.

In general, the flexibility of labour in the cycles was important in identifying the sources of productivity change. Also, strong employment declines in manufacturing are not independent of the increase in overall unemployment rates, which from an average of 5.9 per cent in 1985-1987 climbed to 7.6 per cent in 1989-90. As overall unemployment increases, aggregate demand decreases. Post-1990 reforms caused the first wave of unemployed to flow into the retail sector. Succeeding waves have also gone into this area as well as, for example, taxi driving. There is, however, reason to believe that the actual unemployment rate may be overstated. There is believed to be a large, informal labour market which is not counted in official statistics.

As the social safety net has been withdrawn, increasing pressure has been falling on governments to deal with the unemployment problem. There have already been violent protests in some areas. One answer has been through labour policy.

For years, manufacturers have been requesting more flexibility in labour policies, especially in hiring and firing. The government introduced, in 1995, legislation to accomplish this. As labour unions and the legislature have already been consulted and approve, it seems likely that the legislation will pass. The net effect will be a reduction in labour costs which may permit employers, in the long run, to hire more workers. Some of the policies to be pursued will be: shorter trial periods for new employees, shorter notice times for employees to be laid off and more flexibility in wage negotiations. One example typically cited for keeping unemployment high is the minimum wage, which tends to cause fewer people to be employed and thus has almost the opposite effect than that intended.

Not only as a result of incentives introduced over the past 20 years but also following the policy changes in 1990, high labour costs and zero tariffs for capita goods imports have led to a strong labour-saving bias. Although capital investments have gone up significantly since 1990, the impact of this on productivity and on competitiveness is unclear. Much of the new equipment goes to the non-tradable sector or does not add to productive capacity, e.g. recreational equipment and machinery, small private aircraft, and personal computers. The long-term consequences of this, if allowed to continue, could reduce Argentina's ability to compete internationally.

Educational background and skill levels

The absence of relevant data does not allow the comparison of skill levels, but given the increase in manufacturing value added to the share of "process" industries, the average skill level actually used might have declined. It is unclear, however, whether this is due to a conscious choice by manufacturers, a decline in the education system or due to external factors such as a deterioration in the terms of trade. Also, labour saving technologies introduced in this period worked in the same direction.[5]

There is a large fund of literate but relatively unskilled labour and a smaller fund of university-educated professionals. Between the two extremes are few who qualify as technicians. Until 1994, few students went beyond the 7 year maximum required education. The reasons for this lie in disparities in income between rural and urban areas and the location of secondary schools. In rural areas, few could afford to send their children to secondary schools. These are mostly located in cities. There were also few secondary schools in rural areas, so there was little option. There is also a paucity of secondary technical schools and the few that exist are also in cities. There will be a secondary technical school focusing on agriculture in the Pampas region but no other major movement exists to directly address the lack of technical skills.

The government has recognized, in part, the lack of secondary school education leading to a lack of a more technically skilled work force. In 1994, the mandatory years of schooling were increased from 7 to 10. Unfortunately, the first beneficiaries of this will not graduate until 1997. There will also be no increases in funding so facilities such as laboratories for schools will have to be provided by the provinces. It is acknowledged that this will provide a better-trained work force but the transition from the present situation to a better one will require at least 20 years. The lack of skilled technicians has been remarked upon by many industries and presents a formidable barrier to the goals of niche market manufacturing. Moreover, there is ample evidence of the practical effects of having a lack of skilled technical staff, such as allegedly high accident rates in poorly maintained elevators.

The largest beneficiaries of the new mandatory education will be those in rural areas. As farming in Argentina becomes more mechanized, there will be a need for more highly trained farmers, conversant with computers and software. As agricultural commodities feed into food processing industries, greater economies of scale can be realized and food exports will become more competitive. In the mean time, the lack of more advanced education will impose burdens on people and industries and will continue to be a drag on economic progress.

The role of women

The participation of women in the workforce increased through time along with a decrease in the participation of men. In the manufacturing sector, by the late 40s, the concentration of women in manufacturing activities was important, at about one third of total employment, and two thirds of these worked in the textile industry. The changes introduced in the capital intensity of manufacturing since the 1950s affected overall employment absorption, which then reduced the participation of women very strongly, by 26 per cent in 1960, 21 per cent in 1970 and 18 per cent in 1980. At the same time, some survey data for 1985 shows that approximately 80 per cent of the workers of the informal textile industry were women, reinforcing their precarious situation. By the end of the 1980s another important share of the women's labour force left manufacturing, moving to services or increasing the unemployment rate.[6] As the textile industry is likely to be greatly affected by the changes in market structure currently underway, even more women are likely to be made redundant.

In sum, long term employment prospects are better than those in the immediate future, which could be better. Areas that are likely to see the strongest increase in long term employment, or the fewest job losses, are food processing, the transportation equipment sub-sectors, all activities related to petroleum, including petrochemicals, and areas where niche markets can be exploited such as in custom-made machine tools. Manufacturers expect to see continued losses As the Mercosur

market allows, not only greater access to each other's markets, but also room for specialization, manufacturers placing emphasis on exports instead of focusing of domestic sales will more likely be able to restrain redundancies. Local trade associations expect that the manufacture of standard products will pass to Brazil while local manufacturers will focus on products yielding high value added. If, as postulated, the unemployment rate rises to 15 per cent, greater pressure may be put on the government - currently running a deficit but expecting a surplus in 1995 - to increase spending on social services. One likely possibility would be a retraining scheme that would equip workers better for the emerging new areas that will result from more open competition. Another possibility would be introduction to entrepreneurial management and basic financial analysis.

C. PRODUCTIVITY AND PERFORMANCE

Output

There has been a large increase in manufacturing contribution to gross output. In 1980, manufacturing contributed less than one third. By 1992, it had grown to greater than one half. Within that growth, however, there are branches that have declined in their share of contribution to output, such as printing, refining and glass. The overall trend also masks the uneven year-on-year performance of most industries. In most years, food products underperformed the average for industry as did leather footwear, furniture, rubber products, and transport equipment. In the latter case, however, a turn-around can be seen after 1988. There is also wide variation across time within branches and between branches. This is indicative of the broad swings in industrial activity associated with the 1980s in Argentina when large movements in price levels and capital flight caused boom-bust cycles to develop.

(Insert Table II.6)

Labour productivity

Employment has been decreasing since 1983 in both years of economic growth and recession. See Table II.7, which shows two periods of growth, 1983-1986 and 1991-1992 compared to the recession years of 1987-1990. In all the periods, the sectors showing a higher than average decline in employment were textiles and machinery. In both sectors, labour saving technology was introduced (in textiles, for spinning and weaving.) In the period 1991-1992, decline was sharp for basic metals, iron and steel. The explanation for this lies is wage increases and declines in physical output. The sectors with the largest changes were not the same during the 1980s and early 1990s. In the 1983-1986 growth period, productivity increases in chemicals and foods were above the average rate. In the recession period, higher than average declines occurred in machinery, non-metallic minerals, wood and textiles. In the next growth period, 1991-1992, the sectors with stronger declines in previous periods registered the highest growth rates in output per worker.

Table II.7 Changes in Labour Productivity and Employment, in Periods of Growth (1983 - 1986, 1991-1992) and Recession (1987-1990).

	1983-1986		1987-1990		1991-1992	
	PROD/ EMPL.	EMPL.	PROD/ EMPL.	EMPL.	PROD/ EMPL.	EMPL.
INDUSTRY	10.0	-4.9	-11.1	-12.4	21.6	-4.6
FOODS	12.9	-3.0	10.4	-16.4	18.0	1.6
TEXTILES	2.4	-8.1	-12.0	-13.0	25.0	-8.8
WOOD	5.9	-8.2	-23.0	-23.7	54.8	10.2
PAPER	3.4	-1.0	-8.5	-7.9	8.7	0.1
CHEMICALS	16.0	-4.8	-7.2	-12.2	10.7	-3.2
NON-METALLIC MINERALS	0.6	-12.4	-29.1	16.3	56.9	-7.9
BASIC METALS	-9.4	1.2	-6.2	-5.3	10.3	-24.4
MACHINERY	6.7	-6.0	-30.5	-16.3	44.8	-9.4

Source: Prof. J. Berlinski, Instituto T. Di Tella, Buenos Aries.

During the 1980s, fluctuations in the level of productivity were recorded in every branch of manufacturing, with 1990 being the lowest point, after which an increase started. Figures for 1991-1992 represent an increase in productivity of 22 per cent in two years. Higher than average increases are found in textiles, wood, non-metallic minerals, and machinery and equipment. Looking back at the 1980s' (Table II.6) for the performance of those 1991/92 leaders in productivity; the growth period 1983-1986 show their poor performance compared with results attained by chemicals, (the average was 10 per cent), showing a difference in the sectoral sources of productivity in each growth period. In the recession period of 1987-1990, the fall in productivity indices was the highest in machinery , compared to an average fall of 11 per cent. It is clear from this mixed picture that a labour-saving bias, encouraged by government prior to 1991, had a strong impact on manufacturers.

Table II.8 compares the capital intensity of industrial activity measured in horse power installed per employee, for census data of 1973 and 1984. The HP/E index is serving as a proxy for the capital intensity of industrial activity. There is a slight increase in the average for total industry between the two census years. At the lower level of disaggregation, the index appears higher than total industry in both years for wood; paper; chemicals; non-metallic minerals; and basic metals. In all cases, except in chemicals, there is a strong increase in 1984. At the more disaggregated level, the three most capital intensive industries in 1984 were petroleum refining, iron and steel and paper products. The least capital intensive were garments, footwear and printing and publishing.

(Insert Table II.8)

Increase in capital intensity requires some comments about the introduction and adaptation of new technologies along the industrialization process. After the 1930s, so-called light industries manufacturing was done using simple techniques in small scales of production. Later, progress was made towards the production of mechanical and chemical goods using a Ford-like production line model. Those sectors were supported by public enterprises as a further development of production for national defense. By the end of the 1950s the development of automobiles, capital goods, and basic inputs (steel, paper, oil) required the management of more complex technologies and investments where those techniques were embodied. The technological model was the outcome of adaptive adjustments by local firms. The initiatives of the public sector were important, among them the technological institutes, in agriculture, and industry. Changing production patterns, towards electronics and information technology required the transition from assembly line to more flexible production schemes. Changes in domestic policies also affected the role of technology, reducing the scope for domestic firms to adapt and decreasing human capital development within the plants.[8]

Recently, capital intensive firms have been beset with problems of access to funds. By experience, manufacturers prefer taking on debt to issuing equity. At current high interest rates, capital intensive industries can only gain adequate financing by paying interest rates in excess of 20 per cent, thus discouraging renovation. Historically, managers have also been risk-averse, thus stifling innovation. The quandary managers now face is absorption through a foreign owner, borrowing of debt at high interest rates, or doing nothing. In the much more competitive environment in which these firms now operate, and being equity averse, manufacturers are feeling the pinch. Add to that the recent decline in domestic demand and the outlook is for continued difficulty. Many manufacturers are pinning their hopes on exports, especially to Mercosur.

At a deeper level, the question remains whether some capital intensive sectors have a comparative advantage. It is clear that investment in textiles production, for example, may only earn adequate returns if there is some underlying advantage to locating production in Argentina. Thus, investment, *per se*, is necessary but not sufficient for an industry to remain viable. In the absence of significant declines of wages, it is difficult to find evidence that investment alone in labour-saving technologies will be sufficient to keep several sectors in business.

Profitability

The reliability of corporate statements of profitability is questionable in most cases. This stems, in part, from a history of tax avoidance and, in part, due to the fact that measurement of profitability in state-owned enterprises is subject to political considerations. Table II-8 (above) also presents estimates of the share of wages and salaries in value added, and can be used as an indirect indicator of change in gross profitability. The comparison shows an increase in gross profitability in wood, non-metallic minerals, basic metals, machinery and equipment. There is a decline in foods, textiles, paper and chemicals. As from 1990, the changes in ownership, open markets and fewer regulations will have caused profitability to change significantly. Industry sources suggest that the petroleum sector, consumer electronics manufacturing, petrochemicals, transport equipment and some areas of food processing are relatively healthy. Textiles, machine tools and paper are struggling. There is no doubt that the recent economic downturn has affected profitability, as most industry associations report.

D. OWNERSHIP AND INVESTMENT PATTERNS

The government continues to sell its interests in manufacturing. In many cases, it continues to hold a minority interest. As some of these firms are also traded on the stock exchange, presumably, once the firms share prices rise sufficiently, the government will sell its stake. Ownership has passed to foreign private investors or local investors, usually. One exception to this is ownership of Aerolinas Argentinas, now owned by state-owned Iberia. The situation is much different at the provincial level, however. Provincial governments still own considerable assets in manufacturing. These firms are generally inefficient, used more for their ability to keep people employed than for producing competitive products. The federal government has been putting pressure on local governments for some time to sell off their holdings. Faced with the unemployment problems this would create, many have been reluctant to do so. The May 1995 elections, however, saw the ruling federal party also taking control of 10 of the 14 provinces. Thus, in principle, it is likely that most of the provinces will proceed with privatization.

In the case of transportation equipment, Toyota will be building a plant rather than investing in existing facilities. Transnationals moving into Argentina are generally buying old plant and upgrading it rather than building new. Local firms are in a credit squeeze. With interest rates above 20 per cent and managers and owners being equity-averse, the major resort to capital is through bank loans. Firms that have been successfully privatized have generally been bought by cash-rich foreign firms rather than local ones. Local firms are unlikely to use the equity path in future. As experience with the stock market increases, however, it is possible that the local firms will be better able to compete. This may take considerable time - as long as 20 years.

The following analysis of investment patterns is based on data from a survey of almost 600 firms, made by the ECLA office in Buenos Aires[9] for the period 1983-1988. Table II.9 includes the basic sectoral features. A high concentration of investment is found in the chemical industry (46 per cent) A few activities explain large parts of this, the most important being petroleum refineries followed by basic chemicals. A smaller amount of investment is also found in basic metals, basically the iron and steel industry. Similar shares were found in processed foods, one fourth of which can be explained by vegetable oils; in machinery and equipment and a total of 12 per cent has gone into the automobile industry. There is a clear dominance of projects related to intermediate goods: chemicals, basic metals and cellulose, followed by automobiles and food industries. More recent trends show investments going into transport equipment, chemicals and foods.

(Insert Table II.9)

Table II-10 shows different aspects of the investment effort of the 1980s, mostly related to the type of project and the importance of the industrial promotion system in sharing some of the costs. New plants were constructed mostly in textiles, paper and chemicals, while high values corresponded to increased capacity especially in chemicals, non-metallic minerals, basic metals, machinery, foods and textiles. New equipment was also important in foods and textiles. The last column of this table shows the important role of the promotion scheme, with an average share of the 29 per cent of the value of investment projects, involved primarily in paper, basic metals, wood, textiles and non-

metallic minerals. Since that promotion system has largely disappeared as of 1995, future investments will be private.

(Insert Table II.10)

Table II-11 is a formulation of the same categories used in Table II-10 but broken down by firm size. Seventy one per cent of investment money went to the medium-large and large firms. Small firms' principal source of capital was from government-financed schemes. Rarely did large firms invest in new plant, while small firms were inclined to do so. Medium-large and large firms invested more heavily in increased capacity. If one assumes that medium-large and large firms are already utilizing plants sufficient to yield economies of scale, then it seems reasonable that small firms would also attempt to attain greater economies of scale by building new facilities rather than installing new capacity. New plants would also more likely use new equipment rather than old.

(Insert Table II.11)

In the last two decades, the Argentine economy underwent important structural changes which have led to changes in ownership patterns. Today the domestic economy is more open to international competition and to trade discriminatory arrangements such as Mercosur, with an aggressive policy of privatization of public enterprises. The transnational corporations were important since early industrialization efforts, increasing their share in industrial GDP from less than 20 per cent in the 1950s to around one third in the 1970s. They were characterized by producing in larger plants with higher productivity and capital intensity than local firms. Their technologies were a novelty in the domestic market, despite the fact that some were not on the cutting edges of technology internationally. The regulatory framework for foreign enterprises has changed since 1976. In the period 1976-1983, some sectors, such as financial activities and oil producers were given more flexibility, but this was compensated for by decreases in flexibility of several others. Since 1989, investments in areas restricted in the past have been allowed, as in defense, public services, energy, etc.. Forty per cent of privatized firms, many coming from the restricted list, were in the hands of private investors by 1993. The proportion has since increased but the government is still a minority shareholder in many of these privatized firms.

Table II.12 presents a breakdown of privatization by buyer and sector. There were clearly a number of sectors that were still in the queue for privatization in 1992. Most of the federal government's portion of this has been accomplished as of 1995. Provincial holding of companies are, however, quite large and their privatization also involves serious unemployment consequences for the provincial authorities. It is remarkable that the federal government has been able to move towards privatization in such a rapid manner.

(Insert Table II.12)

E INDUSTRIAL LOCATION

Regional distribution of industrial activity

The number of industrial establishments has declined from 1974. The number is expected to continue to decline when the latest census data are released. Of all the areas, Buenos Aires has the most industrial firms. Other important areas are Cordoba, Entre Rios, Mendoza, Misiones and Santa Fe. Table II-13 shows the pattern for changes in the location of manufacturers from 1974 to 1984. Having almost 40 per cent of the total industrial cites, Buenos Aires is the most industrialized. Santa Fe is the second and Cordoba the third.

(Insert Table II.13)

Special Trade Zones

The geographically isolated province of Tierra del Fuego has been the focus of government policy since the 1970s. Located at the extreme south of Argentina and equidistant between Buenos Aires and the Antarctic, it has been a trade zone specializing in the assembly of electronic equipment. More and more of the preferential rules for the area have been removed and manufacturers are not expected to survive the resulting opening to competition. The overall impact on the economy as a result of this loss is not felt to be great.

Rosario, Villa Constitucion Port and Concepcion del Uruguay in Entre Rios Province are also designated as trade zones but no move has been made to develop them as yet. While a plan is being devised to extend the general regime of trade zones, it is difficult to see how the government will be able to finance them in light of its budget problems.

F. ENVIRONMENTAL ISSUES

Air pollution levels in Buenos Aires are high. The stock of old cars and buses seem to be a major contributor as is the presence of much heavy industry, including iron and steel and transport manufacturing. As the vehicle manufacturers produce more vehicles, and as the older vehicles are replaced, some of the air pollution problems will disappear, albeit slowly. Nitrous oxide emissions levels are also likely high, along with sulfur dioxide and carbon monoxide. A number of taxis are also using liquefied natural gas instead of petrol or diesel oil.

The iron and steel industry has seen increasing pressure to clean up its emissions and has been cooperating in the development of the International Standards Organization meetings on agreeing international standards for air and water pollution. Plants are mostly older and less efficient than the types found in some Asian countries.

The petroleum and chemicals industries are believed to be operating at or near international levels of pollutant emissions control. Associated natural gas[10] is not flared but used for domestic consumption and exports. The pulp and paper industry is, however, having difficulty in meeting its obligations on water-borne effluents. The use of fertilizers has been increasing so it can be expected that water pollution from this source will increase.

Increasing use of natural gas in electricity generation is seen as one method of reducing CO^2 emissions from this source. While additional generating capacity is not yet required, a careful look is being given to combined-cycle natural gas turbines instead of coal or oil. As Argentina has 3 nuclear electricity generating facilities which still have at least 20 years of operating life, pollution levels from the electricity system are lower than they would be in countries without nuclear power.

There is increasing awareness of the need for ecologically sustainable industrial production but little resources to expend on it. Industries have come under increasing pressure from environmental groups to operate in a more clean manner and many are trying to comply. As with other areas requiring investment, however, lack of access to capital coupled with a first quarter 1995 decline in domestic demand, has not left industries in a strong position to invest money in portions of the production process that do not seem to lead to increasing efficiency or cost savings. As the economy begins to emerge from the 1995 recession, increasing efforts are expected.

G. TRADE IN MANUFACTURED GOODS

Imports

Until 1990, imports were officially discouraged through high tariff and non-tariff barriers. The so-called import substitution model encouraged domestic production and prevented competition from lower-priced imports. As shown in Table II.14, the share of manufactured imports has been higher than 80 per cent of total imports. Of total manufactured imports, a large majority were from non-agricultural sectors. Deliberate policy efforts to encourage manufacturing diversity tended to

produce goods of lower quality than those imported. Thus, Argentina has shown a strong preference for imports in spite of policy efforts during the 1980s to the contrary.

(Insert Table II.14)

In 1993, three sub-sectors accounted for more than 50 per cent of manufactured imports: non-electrical machinery, electrical machinery and transport equipment. In 1980, these were also the main imports. While there has been variation in the intervening years (1980 - 1993), these three remain the largest source of manufactured imports. Many industries demonstrate a pattern of higher contribution in 1980, then decline through the decade, to resume an upward trend in the 1990s. Beverages, wearing apparel, wood and cork products and others may have been initial beneficiaries of the import substitution model. Other industries have shown a consistent decline in imports: food products, paper and paper products, basic non-ferrous metals. In the case of food products, Argentina has a comparative advantage so one might expect fewer imports. In the latter two cases, not only is there no comparative advantage, the two sectors have been going through restructuring for a number of years. While in many industries, on a percentage basis, growth or decline has been large, the base against which this is measured is very small. While it does indicate growth or shrinkage, the economic consequences are not so large. Tobacco is a case in point as is furniture and pottery.

Principal trading partners for all imports are presented in Table II.15. While the United States remains Argentina's major trading partner, Brazil's share of imports has steadily increased to where, by 1992, it was the equal of U.S. imports. If the trend continues, which is expected, in 1993 or 1994, Brazil will overtake the U.S. as Argentina's most important import source. The major European trading partners have all witnessed a decline in imports and the U.S.' share has dropped to the 1988 level. Imports from Bolivia have also declined but trade with Chile has almost doubled. In the past, Italy has been a major supplier of machine tools. Industry sources have stated that one of the reasons for the increase in imports of from Brazil is the due to the increase in machine tools as Brazil has developed a comparative advantage in this sub-sector. Imports from Japan have also declined, due largely to the booming domestic transport equipment industry. In fact, in order to regain some of this lost market share, one Japanese company has decided to locate an automobile plant in Argentina rather than depending upon imports. An increasingly import electronics manufacturing sector (not assembly) may also account for a shift of imports away from Japan.

(Insert Table II.15)

Table II.16 gives a brief sketch of the composition of imports broken down into three categories. Consistently greater than 80 per cent of imports are from non-agricultural origins. Fuels can be largely ignored as the nature of the business frequently requires that countries who are producers will import particular products in exchange for refinery output that may not best match the domestic market. Imports of agricultural origin are largely luxury items or foods which cannot be produced locally due to soil and weather conditions.

Table II.16 Level and Composition of Manufacturing Imports by Origin (Agriculture, Non-Agriculture and Fuels), 1980 - 1991, Selected Years

	1980	1983	1986	1989	1991
Agricultural Origin	10.3	7.1	8.3	5.0	9.7
Non-Agricultural Origin	84.6	88.7	88.6	90.0	86.0
Fuels	5.1	4.2	3.1	5.1	4.3
Total	100.0	100.0	100.0	100.0	100.0

Source: INDEC, Anuario Estadistico de la Republica Argentina, 1992, Buenos Aires, various Tables. .

Exports

In the 1980s transnational corporations exported in activities related to natural resources or with intra-corpany trade. Today, they have increased the level of trade, as well as the intra-corporate share. It is known that the Mercosur agreement is among the priorities set by them.[11] Many of

these transnationals will maintain basic operations in Brazil, and use their Argentine facilities for turning basic and intermediate goods into finished products for export.

Table II.17 examines trends in manufactured product exports. Exports of food products have constituted, over the period 1980 - 1993 at least 46 percent of exports. Leather and leather substitutes are the second most important exports. Third is transport equipment and the fourth is petroleum refining. The latter category, while being a source of foreign exchange earnings, is more a reflection of the nature of the business than an indicator of an actively pursued policy to export. There has been major changes in formerly important exports, such as wearing apparel, that have declined significantly from 1980. Industrial chemical exports have also fallen in this manner. Iron and steel has shown an especially erratic activity, from little to much then back to little. Some industries have shown rapid growth or decline but the base against which these calculations are made is small, thus their change, while dramatic, is relatively unimportant to the economy as a whole. Leather footwear, wood and cork products, furniture, miscellaneous petroleum and coal products and others are examples of this.

(Insert Table II.17)

The major, significant declines have come in wearing apparel, textiles, industrial chemicals and basic non-ferrous metals. The first two are in line with the trend whereby much of this business is now moving to Asia and away from western hemisphere sources. These are also two important industries for employment so the loss of the industry will have additional consequences. Historically, wearing apparel and textiles have been heavily protected but these barriers were removed in 1990. Many observers believe these industries will not survive. The decline in industrial chemicals may only be a statistical aberration as there is reason to believe, due to the presence of large transnational corporations, that this industry will do well in spite of the trend. Non-ferrous metals is a cyclical industry, largely based on trends in international prices, and one which has seen prices depressed in the last 4 years. Trends in this sector are therefore unreliable as a gauge for future growth or decline.

A picture has begun to emerge, as of 1993, of those industries that will do well by exporting, whether to Mercosur or elsewhere. Food products will continue to do well, especially in light of the fairer global trading rules resulting from the Uruguay Round of GATT. Transport equipment exports are likely to be focused more towards Brazil. The unique component of this industry is that Argentina manufactures the engine, drive train and chassis then exports these to Brazil where the bodies are installed. Demand for vehicles has been consistently rising so this sector should continue to show strength. The success of exports of refined petroleum products is a function of two variables: international crude oil prices and availability of domestic reserves. Reserves have been declining so the long term trend for exports is unclear. Crude oil prices have also been weak and there is much international competition in this business.

Table II.18 shows the principal trading partners for exports. In 1992, the three largest trading partners were Brazil, the U.S. and the Netherlands. Netherlands market share has remained roughly steady but the U.S. has lost some market share to Brazil. The largest and most significant decline is for exports to the USSR. The major successors to the USSR lack foreign exchange and have seen real decreases in incomes. Exports to Chile, Italy and Spain have increased. As in imports, above, it is expected that Brazil will remain the most important trading partner.

Table II.18 Exports to principal trading partners, percentage of total.

	1987	1988	1989	1990	1991	1992
Brazil	8.5	7.2	11.5	11.5	12.4	13.3
USA	14.6	15.3	12.0	13.5	10.1	11.7
Netherlands	9.7	5.1	10.3	11.1	11.1	10.1
Germany (1)	6.0	8.8	4.4	5.2	6.1	6.0
Chile	2.5	2.6	2.9	2.6	4.1	4.5
Italy	3.6	4.4	3.5	4.2	4.8	4.3
Spain	2.4	2.1	1.9	2.5	3.8	4.0
Japan	3.5	4.8	2.8	3.2	3.8	3.1
USSR	10.1	8.3	8.7	4.0	1.9	0.8

(1) West Germany until July 1990.

Source: The Economist Intelligence Unit, Argentina, London, 1994.

Overall trade patterns are likely to remain stable for several years. Consumers have shown a clear preference for manufactured imported goods rather than domestically produced ones, leading to balance of trade deficits. The first quarter decline in consumer spending notwithstanding, upon recovery, it is expected that consumers will again demonstrate this preference. Manufacturers have become increasingly focused on the need to export in order to maintain business viability. As a result, more industries are asking for a "level playing field" for their goods, leading to the formation of blocs, such as the Cairns Group that somewhat successfully negotiated for better terms of trade in the Uruguay Round of the GATT negotiations. While some industries still try to maintain barriers to domestic consumption, these are fewer and receive less sympathetic hearings from the government. As manufacturers have started to shift their focus away from the domestic market, they have also come into contact with new manufacturing processes and management styles that have already started to produce results in output and productivity. As a result of the economic reforms of the early 1980s, changes in trade patterns will emerge over the next 20 years as market signals rather than government intervention begin to take effect.

H. ROLE OF TECHNICAL COOPERATION IN INDUSTRIAL DEVELOPMENT

The following discussion is based on an internal UNIDO document.

In 1993, Argentina ranked second only to China as a World Bank loan recipient, with $1.590 billion or 10 per cent of total bank lending. Over the first half of 1994, the Bank cleared two loans to support the development of the capital market, worth jointly $508.5 million. The IDB lent Argentina $1.043 billion in 1993 and cleared a further $154.7 million in the first half of 1994. An estimated 34 per cent of World Bank loans and 47 per cent of IDB loans for 1994-1996 are being addressed to education, health and poverty. The share of the provinces in the World Bank and IDB loans will be 72 per cent and 55 per cent respectively. The Plate Basin Development Fund (FONPLATA) is expected to finance the following projects: (I) Pilcomayo River Basin; (ii) Impact of Economic Integration on Urban and Transportation Systems; (iii) co-ordination of export promotion activities; and, (iv) infrastructure and environmental investment in the Misiones Province. A further $1.117 billion are being or are to be channeled through bilateral financing (Eximbank and Overseas Economic Cooperation Fund of Japan, Kuwait Fund for Arab Economic Development, Instituto de Credito Oficial of Spain and Italy's Mediocredito Centrale). These funds will go to information management, hospital equipment, the new Investment and Foreign Trade Bank, cleaning of the Reconquista River Basin, communications and infrastructure. Disbursements by August 1994 through co-financing by Japan's Eximbank with the IMF, IDB and World Bank amount to $157.3 million.

Table II-19 Argentina: Proposed World Bank Lending Program, $ millions

Assistance Lending Objective	1993/94	1995/96/97	1993-1997 Total	Per cent
1. Consolidating Macroeconomic Reforms				
- Public Enterprise Reform	300			
- DDSR	450			
- Provincial Fiscal Reform		300		
Sub-total			1,050	20
2. Institutional Strengthening				
- Yacreta II	300			
- Flood Rehabilitation	170			
- Road Maintenance	140			
- Oil Industry Environment	150			
- Maternal Child Care	100			
- Secondary Education Decentralization		200		
- Social Sector Reforms TAL		30		
- Provincial Agricultural Development		125		
- Provincial Development II		200		
- Provincial Roads		200		
- Buenos Aires Health		200		
- Maternal Child Health II		100		
- Forestry Sector		30		
- Provincial Agricultural Development II		200		
- Provincial Water and Sanitation		200		
- Education Development		150		
Sub-total			2,745	55
3. Private Sector Development				
- Financial Sector Reform	400			
- Capital Market Development	500			
- Regulatory Development		25		
- Productive Services		50		
- Mining		30		
- On Farm Development		200		
Sub-total			1,205	25
Total Programmed Lending	2,710	2,290	5,000	100
Number of Loans	9	16	25	

Source: Internal UNIDO document.

Notes to Chapter II.

[1] Diaz-Alejandro, C.F., (1970). Essays on the economic history of the Argentine Republic. Yale U.P..

[1] Mining Annual Review, 1994, London, UK.

[2] The 1994 census has been completed but as of the time of this writing, it had not yet been released to the public.

[3] The census of 1984 showed inconsistencies related to high inflation and incurrence of financial costs. Conclusions arrived at when examining these together warrant a degree of skepticism.

[4] For further discussion of swaps and debt reduction over the period 1984 to 1989, see Fachs, M., (1990), "Los programas de capitalizacion de la dueda externa Argentina", CEPAL, Oficina de Buenos Aires.

[5] For additional discussion, see Beccaria, L., (1993), "Restructuracion empleo y salarios en la Argentina", in Kosacoff, B., Editor, (1993), op. cit.

[6] For further discussion and references, see Garcia de Fanelli, A.M., (1991), Empleo femenino en la Argentina: de la modernizacion de los 1060s a la crisis de los 1980s". Desarrollo Economico, No. 123.

[7] This was possible by using 1984 employment data as weights to estimate productivity and employment changes at the more aggregated level.

[8] For further discussion and references, see Bisang, R., (February 1994), Industrializacion e incorporacion del progreso tecnico en la Argentina", Documento de Trabajo 14, Fundacion Union Industrial Argentina.

[9] CEPAL, (Febrero 1993), "Las inversiones en la industria Argentina: El comportamiento heterogeneo de las principales empresas en una etapa de incertidumbre macroeconomica (1983 - 88)", Working Paper 49.

[10] When the primary output of an oil well is crude oil, should there also be natural gas present, this is referred to as associated gas.

[11] For further discussion, see Kosacoff, B. y Bezchinsky, G. (1993), "De la sustitucion de imporactiones a la globalizacion. Las empresas transnacionales en la industria Argentina", in Kosacoff, B., Editor (1993), op. cit.

III. INDUSTRY BRANCH PROFILES

A. FOOD PROCESSING

Argentina possesses a comparative advantage in the production of agricultural products due to good soil and favorable weather conditions. However, it faces formidable constraints in the international market, the World Trade Organization (WTO) notwithstanding. Both the United States and the European Union, major agricultural producers and exporters, practice a variety of schemes to encourage farmers to produce too much, then export the surplus on international markets at prices below production cost (dumping.)

Prior to 1990, the agriculture branch in Argentina was responsible for pulling the economy out of recession. When the rest of the economy was government-managed, agriculture was a comparatively free market.[1] With the advent of 1990, when other industries were being privatized, and some going out of business, the agriculture industry found itself struggling with falling international prices, greater competition and, rather than leading the business cycle, trailing it. One favorable note is the positive effect the WTO has had on commodity prices as they have become more stable, aiding producers in doing planning.

In no country can agriculture be discussed without reference to subsidies, tariffs, quotas and other instruments of farmers' income maintenance. Argentina has made great strides to rid itself of many of these programs but also faces stiff competition from countries that have not gone so far and are politically unlikely to do so in the near future. Farmers themselves are not unknown for taking to the streets in support of their livelihoods.

Government statistics indicate that the sector increased its contribution to GDP by 5.7 per cent when comparing 1st half 1993 to 1st half 1994, while overall GDP increased during the same period by 7.4 per cent.[2]

STARCHY STAPLE FOODS

Resource base

Past trends

The principal starchy staple foods produced are maize and sorghum. Tables III.1 through III.8 show production over the period 1991 to 1993. Maize production has increased as has sorghum. The other crops have had lack-luster results.

Weather conditions have had a negative influence during the previous two growing seasons on the production of the major crops of maize and sorghum. Data for 1991 to 1993 indicate that in the early part of the 1990s, yields increased for most crops. Production over the earlier period increased as well, but again recent casual data indicate that output has probably fallen. Varieties of maize have been engineered that can cope with less water and still manage to produce adequate yields but limits to this seem to have been reached in 1994. The crop is used, not only directly for human and

animal consumption, but also indirectly as in the production of corn starch. Oats are used primarily as animal feed and secondarily for human consumption. Sorghum is processed into a flour and blended with other starches for use in industry.

Constraints and prospects

The major constraint facing farmers is lack of access to credit. Farmers, even in developed countries, prefer credit to other means of gaining access to money. In Argentina, holdings are generally small, usually less than 20 hectares, and due to the lack of adequate finance, inefficiently farmed. Fertilizers, which have recently grown in popularity with farmers, are still not extensively applied.

The maize crop can be traded internationally, but trades are done on the basis of barge lots sold for transport down the Mississippi River in the United States. Thus, the productivity and weather conditions facing North American farmers has a direct bearing on the price received by farmers in Argentina despite the difference in geography, climate conditions and productivity.

Potentially, Argentina has the prospect of being the "bread basket" of South America. Current interest rates, in excess of 20 per cent, are a significant deterrent to increased productivity as well as production.

Table III.1 Barley

	1991	1992	1993
Area harvested (1000 ha.)	250	235	230
Yield (Kg./Ha.)	2,280	2,464	2,391
Production (1000 mt.)	570	579	550

Source: FAO, "Yearbook of Production, 1993", Geneva.

Constraints and prospects

SORGHUM

Past trends

Table III.2 Sorghum

	1991	1992	1993
Area harvested (1000 ha.)	676	764	724
Yield (Kg./Ha.)	3,330	3,620	3,950
Production (1000 mt.)	2,251	2,768	2,660

Source: FAO, "Yearbook of Production, 1993", Geneva

Constraints and prospects.

RICE, RYE, MILLET AND OATS

Past trends

Table III.3 Rice

	1991	1992	1993
Area harvested (1000 ha.)	86	136	108
Yield (Kg./Ha.)	4,029	4,353	4,414
Production (1000 mt.)	348	592	470

Source: FAO, "Yearbook of Production, 1993", Geneva

Table III.4 Rye

	1991	1992	1993
Area harvested (1000 ha.)	55	47	50
Yield (Kg./Ha.)	818	723	800

Production (1000 mt.)	45	34	40

Source: FAO. "Yearbook of Production. 1993". Geneva

Table III.5 Millet

	1991	1992	1993
Area harvested (1000 ha.)	50	59	61
Yield (Kg./Ha.)	1.500	1.102	984
Production (1000 mt.)	75	65	60

Source: FAO. "Yearbook of Production. 1993". Geneva

Table III.6 Oats

	1991	1992	1993
Area harvested (1000 ha.)	456	407	407
Yield (Kg./Ha.)	1.338	1.593	1.590
Production (1000 mt.)	640	649	647

Source: FAO. "Yearbook of Production. 1993". Geneva

MAIZE, POTATOES AND SWEET POTATOES

Past trends

The 1990-1991 growing season is remembered as a very bad year due to lack of rain at the right times. This is especially crucial for maize, which is a very important crop in Argentina.

Table III.7 Production of maize, potatoes and sweet potatoes, 000 mt

	1980-1981	1985-1986	1990-1991	1991-1992	1992-1993	1993-1994
Maize	12.900	12.100	7.685	10.699	10.901	10.439
Potatoes	2.247	2.022	1.995	1.961	2.210	--
Sweet Potatoes	247	409	289	266	270	--

Source: INDEC, Anuario Estadistico de la Republica Argentina, 1994, Buenos Aires, tables 5.2.4 and 5.2.5.

Constraints and prospects

Industry sources estimate that 11 million tonnes of maize will be harvested in the 1994 - 1995 growing season. Production is not as high as it was in some years in the 1980s but is above average for production over the last 3 years. In addition to better weather conditions, fertilizers are also being used this season in up to 50 per cent of the plantings.

WHEAT-BASED PRODUCTS

Resource base

Production of wheat has been declining as a result of bad weather conditions. Over the 1993-1994 growing season, wheat accounted for 39 per cent of cereal production and almost 50 per cent of the land under cultivation for cereals. Prices declined slightly in 1994 compared to 1993[3] but have increased in 1994. A bumper crop is expected in the 1994-1995 growing season.

Farmers have started to use fertilizers in wheat growing and over the 1993-1994 growing season, 35 per cent of the crop was subjected to its application. A major export destination has been Brazil, but exports have fallen. Peru, Chile and Bolivia are also important importers of Argentine wheat. Table III.?? shows the importance of wheat in Argentina's agricultural production.

Table III.8 Wheat

1991-1992	Per cent of total land	1992-1993	Per cent of total land	1993-1994	Per cent of total land

		for cereals		for cereals		for cereals
Area harvested (1000 Ha.)	4.547	53	4.255	51	4.734	55
Area cultivated (000 Ha.)	4.751	40	4.548	40	4.869	44
Production (1000 mt.)	9.884	39	9.874	39	9.184	39

Source: FAO. "Yearbook of Production. 1993". Geneva

Past trends

A full range of baked goods is available and bread is a staple of the diet. Most bakeries are local and *confiteria* are a popular retail source for fresh-baked products especially bread. Transnationals such as Nabisco and Behlsen have also moved into the market. especially in the manufacture of crackers and biscuits. Pasta is also a popular staple and widely available and in great variety. There has been a steady growth in the domestic flour milling capacity and has been accompanied by a downstream increase in processing activities.

Constraints and prospects

Growth in incomes is likely to produce an increase in demand for more complex wheat-based products such as baked goods. Demand for pasta will remain strong as most citizens of Argentina come from countries where pasta is an important element of the diet. Growth in the industries will also come from increases in population but most companies are looking to exports to increase their profits.

LEGUMES

Past trends

The area under cultivation for pulses and dry beans has been steady over the last 4 years. while yields have increased. This situation has been brought about by favorable weather conditions. which may not obtain in 1995. by improved prices. and improved techniques. Many farmers in this sector have sold off their businesses and the land has been purchased by larger or wealthier operations that can take advantage of economies of scale. In addition. when economic conditions are more uncertain. these crops can be relied upon to provide nutrition to families unable to afford more expensive diets.

Constraints and prospects

The gradual improvement in productivity augers well for these commodities. Prices have continued to remain healthy and that stability leads to better planning. Diversification into other crops is desirable in order to avoid soil erosion but the overall prospects for farmers in these crops remains positive. Down-side problems are mostly concerned with the long-term stability in consumers' incomes as greater and longer stability will result in a decrease in demand.

Table II.9 Pulses

	1991	1992	1993
Area harvested (1000 ha.)	211	208	211
Yield (Kg./Ha.)	1.414	1.520	1.518
Production (1000 mt.)	298	317	321

Source: FAO. "Yearbook of Production. 1993". Geneva.

Table II.10 Dry Beans

	1991	1992	1993-
Area harvested (1000 ha.)	165	160	160
Yield (Kg./Ha.)	1.455	1.563	1.563
Production (1000 mt.)	240	250	250

Source: FAO. "Yearbook of Production. 1993". Geneva.

FRUITS AND VEGETABLES

Past trends

For apples and pears, the 1992/1993 growing season affected fruit production in two ways. Firstly, international prices fell and secondly, unfavorable local weather conditions reduced harvests. These separate problems increased the pressure on the branch's structural problems. Farmers costs also increased by as much as 15 per cent over the 1991-1992 growing season, with electricity prices and fruit picking contributing to these increases.

Production of apples declined over this period by 20 per cent Weather conditions in October and November, that areas of Rio Negro, Neuquen and Mendoza were declared disaster areas. Exports also declined over the previous year by 20 per cent as a result of increased competition from Chile. Over 1993 - 1994, prices stabilized and weather improved. Production of apples returned to around 1,000,000 tonnes. Competition from Chile South Africa and New Zealand for exports to the EU did not reduce exports.

Production for pears over the 1992/93 growing season fell by almost one third, also as a result of low prices and bad weather. Exports fell by 16 per cent. Principal export destinations are the EU and Brazil. Production for 1993 - 1994 is expected to be approximately 380,000 tonnes, up from the previous year but still below the levels reached in 1991-1992.

The citrus branch and its associated activities form an important industry, characterized by dynamic firms at both the regional and national levels. Citrus production, especially for mandarin oranges and lemons, were up significantly in 1992 - 1993 over the previous year. Exports increased by 20 per cent and went mostly to the EU. Conditions for 1993 - 1994 were relatively unfavorable and it is expected that total production will decline by 13 per cent.[4] Exports of oranges increased by 110 per cent as a result of a poor orange crop in Spain.

Table III.11 Fruit Production, 000 mt.

	1991	1992	1993
Apples (1)	1,070	1,100	740
Pears (1)	290	420	285
Peaches & Nectarines	240	235	238
Plums	52	55	60
Oranges (1)	540	750	664
Tangerines, Mandarin Oranges (1)	200	220	345
Lemons (1)	550	530	605
Grapefruit (1)	180	170	177
Apricots	19	23	23
Bananas	270	280	300
Strawberries	7,700	7,700	8,000
Almonds	430	440	460
Walnuts	8,000	8,280	8,400
Grapes (2)	2,751	2,953	1,956
Raisins	7	8	7

(1) Source: Sociedad Rural Argentina, Anales, 1994, Buenos Aires, p. 48.
(2) Source: INDEC, Anuario Estadistico de la Republica Argentina, 1994, Buenos Aires, Table 5.2.4
Source: FAO, "Yearbook of Production, 1993", Geneva.

Table III.12 Production of selected vegetables, 000 mt

	1980-1981	1985-1986	1990-1991	1991-1992	1992-1993
Peas	50	31	33	36	59
Onions	193	230	310	317	400
Tomatoes	372	824	716	720	700

Carrots	85	178	210	217	215
Squash	274	397	362	366	314

Source: INDEC. Anuario Estadistico de la Republica Argentina. 1994. Buenos Aires. Tables 5.2.4 and 5.2.5.

Constraints and prospects

Principal variables affecting prospects for the branch are 1) weather. 2) international prices. 3) exports. and 4) subsidies paid by other countries. Farmers have complained about the lack of fair competition internationally but the government prefers to wait until the new GATT rules start having an effect. In the event that the weather holds. the new rules should provide for fairer access to western European and U.S. market. Farmers also hope to increase exports to the U.S.. which is also a major producer of citrus fruits.

VEGETABLE OILS

Resource base

The most important inputs for the vegetable oils industry are soybeans and sunflower seeds. Flax. peanuts and cotton seeds are also important crops. Oil content of soybeans is around 18 per cent. Soybean meal is a "by-product" of the oil extraction process and represents some 40 to 44 per cent of the total mass. Although a byproduct. soybean meal is of very high protein content and can be used for a variety of feeds for both human and livestock consumption.

The introduction of soybean cultivation was a fundamental turning point in agriculture in Argentina. The combination of soybeans and wheat cultivation in the same year was possible because of the creation of "short-cycle" wheat varieties. Later. soybeans supplanted wheat and were grown on their own. Production of soybeans in Argentina is similar in technology and efficiency to production in the U.S. The large increases in soybeans and also in sunflower production. changed the agricultural profile of the country. Part of the expansion of these crops was due to a new agricultural technological package. including hybrid seeds. agrochemicals. fertilizers. repeated cultivation instead of rotation of crops and cattle raising etc.. Profitable sunflower crops gained substantially from the introduction of new hybrids. with higher yields in cultivation and more fatty content in the seed.

Argentina has a comparative advantage in the production of Soya due to good soil and usually good weather. Farmers have not yet started to rely heavily on fertilizers so the crop enjoys the favor of those who prefer naturally grown foods. Over the 1980/1981 growing season. 1.9 million hectares were under cultivation. By 1993/1994 the area had grown to 5.6 million.[5]

In the domestic market. prices for unprocessed soybeans have risen slightly. In the international market. from 1991 until 1993. Soya oil prices (CIF Rotterdam) remained relatively stable. Since then. prices have been increasing steadily owing largely to unfavorable weather conditions reducing harvests. Production has also been variable from 1991 until 1993 and 1994 production is likely to be roughly the same as in 1993. See Table III.13 for relevant production data. The spread between international prices and domestic prices has been widening. leaving local farmers little incentive to increase production. The international market for Soya oil and meal has been healthy but disappointing harvests have been the rule rather than the exception. New uses for Soya meal continue to be discovered by nutritionists and the long term prospects for producers and exporters remains healthy.

In 20 years. Argentina increased production of Soya by a factor of 100. sunflower by 2 and flax by 3. These latter two crops were already important in Argentine agricultural production at the beginning of this expansion process. The production of flax has since been surpassed by peanuts.

Table III.13 Soya beans, area under cultivation, harvested and production, selected years.

Growing season	Area under	Area Harvested (ha.)	Production (00) tonnes

	cultivation (000 ha.)		
1980/1981	1,925	1,880	3,770
1985/1986	3,340	3,316	7,100
1990/1991	4,967	4,783	10,882
1991/1992	5,007	4,949	11,310
1992/1993	5,319	5,116	11,045
1993/1994	5,639	5,583	11,389

Source: INDEC, Anuario Estadistico de la Republica Argentina, 1994, Buenos Aires, Table 5.2.2.

Table III.14 Flax, area under cultivation, harvested and production, selected years.

Growing season	Area under cultivation (000 ha.)	Area Harvested (ha.)	Production 000 tonnes
1980/1981	780	726	585
1985/1986	750	688	460
1990/1991	590	573	457
1991/1992	431	416	343
1992/1993	215	206	176
1993/1994	148	142	112

Source: INDEC, Anuario Estadistico de la Republica Argentina, 1994, Buenos Aires, Table 5.2.2.

Table III.15 Sunflower, area under cultivation, harvested and production, selected years.

Growing season	Area under cultivation (000 ha.)	Area Harvested (ha.)	Production 000 tonnes
1980/1981	1,390	1,280	1,260
1985/1986	3,140	3,046	4,100
1990/1991	2,372	2,301	4,034
1991/1992	2,693	2,562	3,408
1992/1993	2,187	2,059	2,956
1993/1994	2,004	1,943	3,588

Source: INDEC, Anuario Estadistico de la Republica Argentina, 1994, Buenos Aires, Table 5.2.2.

Table III.16 Peanuts, area under cultivation, harvested and production, selected years.

Growing season	Area under cultivation (000 ha.)	Area Harvested (ha.)	Production 000 tonnes
1980/1981	201	197	170
1985/1986	176	173	259
1990/1991	198	179	311
1991/1992	153	153	221
1992/1993	110	110	233
1993/1994	134	134	209

Source: INDEC, Anuario Estadistico de la Republica Argentina, 1994, Buenos Aires, Table 5.2.2.

Past trends

At the start of the fast development process in the 1970s, Argentina had a vegetable oils industry mostly oriented towards supplying refined oils to meet domestic demand. The new orientation implied the development of an agro-industry complex oriented to bulk exports of unrefined oils. This sector was different, however, from others in the country as industrial promotion was not an important instrument in its development. The process of production increase was very intense at the raw materials level and in industry, where new plants and processes were incorporated, scales were increased and plants became automated. In the 1980s, industry expanded along with output. Thus the vegetable oils industry was in fact the main and perhaps only exception to the poor performance of most industrial branches in that period. Notably, this process took place without the interference of governments.

The fast rates of growth and increases in contribution are, in part, explained by a sharp increase in demand. World demand and prices for oils increased due to an increase in European production of beef, poultry, eggs and milk. However, even if world market demand increased strongly in the

period and conditions for commercialization were easy, it was the government's policy that gave momentum to industrialized exports by means of maintaining differential export taxes for seeds, oils and byproducts. Under these conditions, growth of industrial processing (oil-seeds crushing) in the 1980s, at a rate of 14.8 per cent per year, was faster than growth of agricultural production of the relevant grains, which showed a rate of 8.9 per cent per year[6].

In 1970, oil seeds contributed 9.7 per cent to agricultural product, rising to 37 per cent by 1989[7]. Over the same period, value added in oil seeds agricultural production increased by more than 200 per cent, with value added in soybeans increasing more than 300 per cent. The share of oil seeds crops in the agricultural product mix increased from 13.3 per cent to 31.2 per cent. The share of soybeans cultivation in total agricultural production increased from 7.7 per cent to 24.5 per cent[8].

The average share of the value of production of vegetable oils to total food industries production for the period 1986-1989 was 11.9 per cent[9]. The 1980-1988 increase of production value of vegetable oils was more than 150 per cent. Manufacturing value added at 1986 prices (1986=100), for vegetable oils and fats was 42.5 for 1980 and 137.7 for 1991, an increase of 224 per cent. From 1980 to 1991 the share of manufacturing value added of food and drinks total in the industrial sector increased from 19.5 per cent to 24.3 per cent.

The share of edible oil exports in total edible oil production rose to over 90 per cent, and the contribution of edible oils exports to industrial exports increased from 15.2 per cent in 1980 to 32.7 per cent in 1988[10].

Table III.18 presents a detailed breakdown of edible oils production. In the international market, from 1991 until 1993, Soya oil prices (CIF Rotterdam) remained relatively stable. Since then, prices have been increasing steadily owing largely to unfavorable weather conditions. Production has also been variable from 1991 until 1993 and 1994 production is likely to be roughly the same as in 1993.

Table III.18 Vegetable oils production, 000 tonnes

Product	1989/90	1990/91	1991/92	1992/93	1993/94
Sunflower	3,760	4,030	3,677	2,956	3,588
Flax	514	460	340	180	112
Peanut	230	310	220	230	209
Soya	10,700	10,900	11,300	9,867	11,384
Total	15,204	15,700	15,537	13,233	15,298

n.b. A small quantity of safflower oil is also produced, 7,000 tonnes in 1993/94.
Source: ECLAC, "Indicadores Macroeconomicos del la Argentina, 1994"
INDEC, "Anuario Estadistico de la Republica Argentina, 1994", Buenos Aires

The major oil exporter is Cargill with 16 per cent of the market. The top five exporters together account for some 50 per cent of the market. Other important companies involved in the market are Ac. Gra Deheza, Vicentin, Oeste Oleag Moreno, Nidera Argentina and La Plata Cereal. Iran imports 16 per cent of total Argentine Soya oil exports while Venezuela, Brazil, China and Malaysia also import significant volumes. Together, these countries account for almost 50 per cent of exports. Exports of oil in 1994 totaled 1.4 million tonnes.

Participation of soybeans in industrial edible oil processing increased from 1 per cent to 70 per cent in two decades, displacing the previously dominant oil seeds sunflower, flax and peanut. The decrease in flax oil production was a consequence of a decrease in demand, while in the case of peanut oil, the primary sector reoriented itself to edible varieties[11].

Evolution of industrial capacity included an increase in the scale of production and a decrease in the total number of plants. Growth of leading enterprises in the branch combined the opening of new firms and plants with changes in dimensions of some of the existing ones, and the closure or takeover of existing firms by either existing firms or by new entrants.

A most important characteristic of the industrial facilities thus developed is that the type or level of industrial processing is largely limited to seed-crushing, as oil is exported in bulk, in an unrefined

state. There was, however, a very important technological transition in the industrial plants with the diffusion of the solvents extraction process totally or partly replacing the technology of press or continuous-press extraction.

The industry that developed involves largely a "multiplant" structure of firms. The investments outside the plants in commercialization and transport facilities were also very important. At the end of the 1980s it was estimated that 80 per cent of the exports of the oils complex (oils and grains) passed through some 10 privately owned ports, mostly on the Paraná river[12].

An important characteristic of this branch is that national businessmen, as well as some national producers' cooperatives, have been very active in taking advantage of favorable development conditions. In 1984, local private capital owned 76 per cent of installed capacity, cooperatives owned 8 per cent and foreign capital firms 16 per cent. In the second half of the 1980s, smaller firms tended to disappear and foreign firms increased their importance by adding new plants. The types of foreign firm interested in such expansion were also trading in agricultural commodities and in the food industry products[13].

From 1973 to 1984 the number of firms decreased from 57 to 40. The total number of plants decreased from 60 to 56 over the period 1980 to 1991, with an increase from 7 to 16 plants in the segment of larger (over 28,000 tons/month) capacity and a decrease of 53 to 40 in the number of plants with capacity below that level. On the basis of a 6-day working week and eleven months activity per year, total installed capacity was 14.3 million tons/year.[14] In 1991 there were 40 firms operating in the branch, running a total of 56 plants.

As a whole, the industry is relatively modern but is not homogeneous. One type of differentiation is that there are now two well defined groups of plants in the industry: those that represent recent investment mostly for soybeans and sunflower seeds processing, and older plants processing flax. The new generation of plants belonging to the first group attain processing capacities of 1,500 tons of grain a day and include docking facilities for water transportation. The plants of the second group, smaller and mostly built before the 1970s, utilize basically continuous press technology[15].

The flax processing segment includes 16 older continuous-press plants, with monthly processing capacities below 8,000 tons (100 to 300 tons/day per plant). These plants were nationally owned. The other 40 plants producing the rest of the oils use solvent-extraction technology, 16 combining press and solvents-based processing, and the other 24, only solvents-based extraction. Such plants are generally multi-purpose, being prepared to switch between input grains according to their location, crops results, etc.. Firms also try to specialize. Thus, 28 plants generally process the two main inputs, soybeans and sunflower seeds. The production of finished products of refined oils for domestic consumption absorbs only a small proportion of overall production, but 20 plants have refining facilities[16].

The edible oils market is more stable and involves more value added products than bulk oil extraction. The refining capacity for edible oils is over 60,000 tons/month, 80 per cent belonging to the firms that own oilseeds crushing plants and 20 per cent belonging to specialized refiners. The first group supplies 50 per cent of the final domestic market. Concentration in this market has recently increased as the market leader firm has bought the plant and the trade brands of its main competitor[17].

Seven firms of this branch are foreign owned and five among the domestically owned firms are cooperatives. In terms of industrial concentration in the sector, the first four firms own 44 per cent of capacity and the first eight firms, 70 per cent. Nine firms owning a total of 19 plants are also exporters of both cereals and oil-producing grain[18].

Even though important economically in terms of contribution to GDP, the sector is not an important employer. Data on industry employment from an industry source, indicated at the end of 1992 that the participation of labor, including personnel doing manual work in the oldest plants, and administrative personnel in all plants, was very low in proportion to production value, estimating total branch employment at 10,000.

Constraints and prospects

The great importance of the resource base in the development and performance of this industry is undeniable. Its success and competitiveness is also a[n] extension of agricultural production under favorable conditions. Fast industrial development has certainly taken place, but, for products such as vegetable oils in which industrial value added is low in comparison to the value of raw materials from the primary sector, comparative advantage depends mostly on natural conditions. The down side is that production depends on possibly excessive exploitation of land fertility by means of double cultivation of wheat and soybeans. Soybean cultivation by itself, if not practiced with adequate rotation with other agricultural and cattle-raising activities, leads to acceleration of soil erosion. Previous methods of soybeans cultivation may not be sustainable.

Most of the Argentine production of vegetable oils and byproducts is oriented to the external market. Furthermore, any increase must come from the same source, as the local market is much smaller and saturated. On the other hand the production of poultry and hogs may demand more balanced foods based on byproducts of the edible oil industry. The internal market for vegetable oils consists of edible vegetable oils, and the production of margarine, mayonnaise and food dressings. As there is increasing use of Soya meal for human consumption in baked goods and as a meat substitute, there are reasons to believe that increased demand could result from greater market penetration for these uses. While consumers have not reacted as favorably as nutritionists would like, there are nonetheless indicators of increasing demand for this "by-product".

The vegetable oils industry has had a long period of very strong growth but in recent years it has encountered some difficulties. The main indicators are the low or negative profitability of the industry, at least up to 1993. For example, in late 1992 it was reported that the sum of fixed and variable industrial costs in the industrial processing stage was $18 to $20/ton, the price paid for a ton of oil/pellets was $205-$206/ton and the price of grain was $196-$197/ton[19]. Prices for grains, oils and pellets are determined in the international markets. Likely causes for the negative profit per unit weight are the prices of the grains, market distortions in trade from the EU and the US, and the reduced differential in export subsidies in Argentina. Since the Uruguay Round left many unanswered problems in the agricultural area, it is unlikely that the industry will be competing on a "level playing field" for some time.

Questions related to foreign subsidies and profitability are very important regarding the sector's viability. There is another important point to be made regarding the alleged subsidization of industry by differential taxes. This is the subject of a sharp debate between representatives of the agricultural producers and the industrial sector. In fact, it is the same debate faced by member governments of the EU and the United States, whose farmers have also benefited from subsidies.

The situation is therefore complex, as there are many factors, ranging from international market distortions to technical efficiency, that have discouraged processing and encouraged raw materials exports. However, it must also be kept in mind that, for the time being, the international frame of reference has started to change. The recent completion of GATT's Uruguay Round includes limitations on the further expansion of cultivation in Europe as well as a progressive reduction of the annual volumes of subsidized sales by the US. This is seen as the beginning of a change in the international trade and production framework in which, perhaps after some further rationalization of production or closure of uneconomic plants, investment in Argentina's edible oils industry will resume.

BEVERAGE CROPS, BEVERAGES, TOBACCO, AND SUGAR

Resource Base

The area sown for tea has increased only slightly since 1980, about 5 per cent. Typically, 90 per cent of the area sown is harvested. Production, however, has increased steadily, by about 7 per cent/year, indicating greater efficiency in yields. Barley harvests have increase by a factor of 2.5 since 1980

while the area under cultivation increased only slightly. Production, however, was not a smooth increase until the 1987 - 1988 growing season. Grapes production varied over the last 14 years and 1992 - 1993 production is the lowest output over that period. Farmers blame poor weather for much of the decline during that growing season. Table III.?? presents more detailed production data.

Table III.19 Production of Barley, Tea and Grapes, selected years, 000 mt.

	1980-1981	1985-1986	1990-1991	1991-1992	1992-1993	1993-1994
Barley	170	100	323	570	579	453
Tea	98	178	194	184	235	--
Grapes	2,946	2,411	2,751	2,953	1,955	--

Source: INDEC, Anuario Estadistico de la Republica Argentina, 1994, Buenos Aires, Tables 5.2.1, 5.2.3 and 5.2.4.

SUGAR

Resource Base

There is a long history of sugar production in Argentina, for which the climate is well suited. The crop is solely based on sugar cane. The extraction of the sugar yields a by-product, bagasse, which is also used in the production of cellulose for pulp and paper production. For one firm, declines in sugar production have resulted in declines in the output of corrugated cartons. See Table III.20 for the most recent data.

Table III.20 Sugar

	1991	1992	1993
Area harvested (1000 ha.)	280	260	240
Yield (Kg./Ha.)	67,857	71,154	70,833
Production (1000 mt.)	19,000	18,500	17,000

Source: FAO, "Yearbook of Production, 1993", Geneva.

Past trends

Adverse weather conditions have caused a decline in sugar production. Industry sources suggest that production in 1994 will also be down for the same reasons.

Constraints and prospects

TOBACCO

Resource base

The area given over to production of tobacco in Argentina has stayed constant while production has fallen due to bad weather. Tobacco growing requires sandy soil and a temperate climate. The majority of the production is from the major international tobacco firms. Table III.21 shows recent tobacco data.

Table III.21 Tobacco

	1991	1992	1993
Area harvested (1000 ha.)	58	57	58
Yield (Kg./Ha.)	1,518	1,528	1,379
Production (1000 mt.)	85	87	80

Source: FAO, "Yearbook of Production, 1993", Geneva.

Past trends

By law, 75 per cent of the content of cigarettes sold in Argentina must contain tobacco from

domestic sources. Demand for cigarettes declined in the late 1980s but has since returned to mid-1980s levels. While there is an active anti-smoking campaign, which did enjoy some earlier successes, resumption of smoking has accompanied the rise in incomes and the return of greater prosperity. Table III.22 shows the progression of demand for cigarettes.

Table III.22 Sales of cigarettes, millions of packs of 20.

1986	1987	1988	1989	1990	1991	1992	1993
2,004	1,883	1,693	1,677	1,657	1,727	1,845	1,929

Source: INDEC, Anuario Estadistico de la Republica Argentina, 1994, Buenos Aires, Table 5.7.1

Constraints and prospects

The international tobacco industry, especially Philip Morris, has mounted a campaign attacking regulatory efforts aimed at reducing cigarette smoking. In Argentina, whether as a result of this campaign or for other causes, increasing demand for cigarettes is likely to continue. All major brands are sold and consumers eagerly try new brands introduced locally.

BEVERAGES

Non-alcoholic beverages

Past trends

The majority of requirements are produced locally. The major components are sugar, flavorings, water, preservatives, packaging and Aluminum cans. Under earlier governments, prices in this industry were controlled. As the industry is capital intensive, bottlers were mostly small and inefficient. All controls have now been lifted and the industry is healthy and competitive.

There are some 60 plants and more than 20,000 people are employed in the industry. Sales in 1994 reached $2.1 billion but may fall off in 1995 due to lower incomes and cooler weather. While there are a number of small producers, two thirds of the market is met by Coca Cola. Pepsico (which also produces 7up®) has also recently taken up operations in Argentina and Cadbury is also a participant, as are Crush, Secco and Pent. Altogether there are some forty firms engaged in the manufacturing of soft drinks. Table III.23 shows the growth in sales from 1980 to 1995.

Table III.23 Total sales of non-alcoholic beverages in millions of liters, 1986- 1995.

1986	1987	1988	1989	1990	1991	1992	1993	1994	1995(1)
1,746	1,679	1,197	979	1,007	1,556	1,955	2,057	2,253	711

(1) Results for January to April.
Source: Camara Argentina de la Industria de Bebidas sin Alcohol, Buenos Aires.

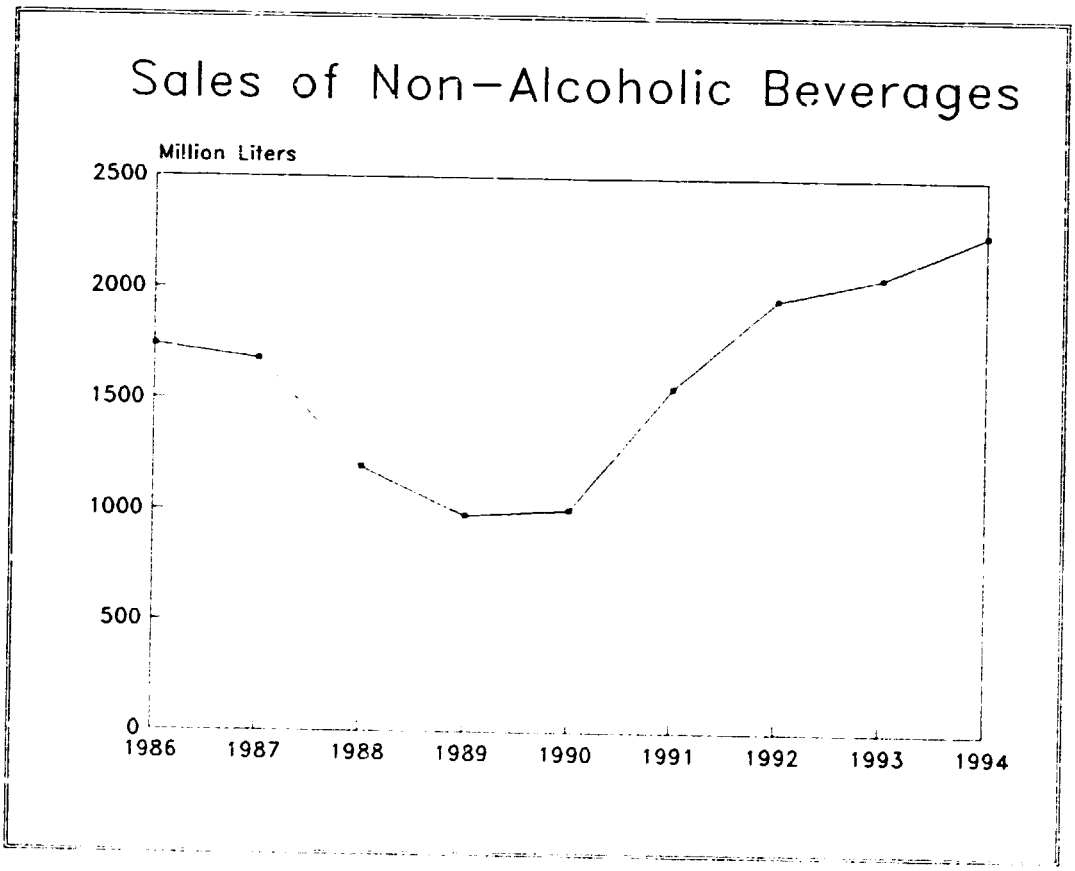
(Insert Graph Sales of Non-Alcoholic Beverages)

The industry has benefited from sharp increases in sales since 1989. In large part, this has been due to improvements in the overall economy and falling prices for inputs. Exports of concentrates and cans to Brazil, Paraguay and Uruguay have also increased.

Constraints and prospects

In addition to the current 21 per cent VAT, colas and tonics are subject to an additional 24 per cent tax. Fruit-flavored soft drinks are exempt from this extra tax. The cola flavors represent approximately 55 per cent of the market.

The industry is at the vanguard of the use of new technology and materials. Major investments are being made by most producers. Automation is one of the areas into which investment is moving. The new computerized systems will verify that basic materials are utilized at the proper steps in production. The Coca Cola Monte Grande facility in Buenos Aires, for example, can process 1,500


Sales of Non-Alcoholic Beverages
Million Liters
2500
2000
1500
1000
500
0
1986
1987
1988
1989
1990
1991
1992
1993
1994

cans per minute. Its modern facilities permit it to produce 600 million cans per year and it can operate around the clock. The new Pepsico plant in Nueva Pompeya, designed to produce bottles, runs 10 lines and can produce containers for both returnable and non-returnable use.

Industry trade associations expect demand will continue to increase by at least 6 per cent per year. Given the strong showing in previous years and the opening of the Mercosur market, it is possible that this growth may continue. Ultimately, however, the market must reach saturation, at which point manufacturers will need to diversify into other lines. Both Coca Cola and Pepsico have strong track records in branching out into other areas. Pepsico, for example, has Pizza Hut franchise operations which are already operating in Argentina.

ALCOHOLIC BEVERAGES - WINE AND BEER

Past trends

Argentina produces excellent wines that, only recently, have started to be exported. The quality runs the gamut from simple table wines to high quality reds and whites. Grape varieties are merlot, pinot blanc and pinot noir. The beer is also quite good and the area devoted to growing the hops has varied widely yet production of hops has steadily increased.

Wine consumption has been declining steadily since the mid-1980s while beer consumption has increased steadily. The most recent casual data suggests that wine consumption is recovering and beer sales are continuing to grow.

Table III.24 Sales of wine and beer, selected years, 000 hectoliters

	1986	1987	1988	1989	1990	1991	1992	1993
Wine	18,559	18,383	17,861	17,229	17,131	17,111	16,193	14,558
Beer	5,452	5,847	5,229	6,102	6,170	7,979	9,518	10,305

Source: INDEC, Anuario Estadistico de la Republica Argentina, 1994, Buenos Aires, Table 5.7.1.

Constraints and prospects

The successful wine exporter distinguishes his wine first, by quality, second by *appelation*, third by how produced and bottled and fourth by brand name. The wines travel well but sufficient experience with them has not lead to great knowledge of how long they should be stored nor which years are most desirable. Worldwide, consumption of wine has been increasing and many countries having little history with exports have moved into the richer international markets.

Especially when exporting wines to the European market, exporters face resistance through tariffs. In some European countries, imported wines, when admitted, are kept in the back of the shop and left unadvertised. Countries with a long tradition of wine growing label it, amongst other methods, by *appelation*. In Argentina, as in many other countries, wines are labeled by grape variety and by location. The application of *appelation* laws to wines allows better identifications of quality and taste.

ANIMAL HUSBANDRY

Resource base

Argentina is well suited to the large-scale breeding of livestock. The large grasslands, especially in the Pampas, produce a wide variety of animal feeds which result from the residues of oilseeds and carbohydrate crops. Argentina's farmers raise a wide variety of animals but the two major herds, cows and sheep, account for 60 per cent and 28 per cent, respectively, of the total. Other important herds are pigs and goats with 4 per cent and 4.7 per cent, respectively. Almost 180 million hectares of land is used for livestock production. Argentine beef is famous worldwide for its quality. As in other branches of Agriculture, livestock faces stiff international competition, especially from U.S.

and E.U. producers. As the cattle are mostly grain fed, the meat is more tender than grass fed cattle.

Dairy farming sector concentration has increased steadily with technological progress; management of resources, pastures, supplements and feeding has improved and fewer farms, using smaller areas, maintain more cows and produce more milk with greater productivity[20]. Efficiency measured by the amount of butyrous fat per unit area of land per year, has risen sharply recently in Argentina. There is, however, great dispersion of production rates and the best farms are much more productive than lagging ones. Taking cost in Argentina as a reference, unit cost is double in Brazil or the Netherlands, and three times higher in the U.S. but lower in New Zealand, while Uruguay's costs are 15 per cent above Argentina's[21].

Farmers' decisions about what to produce at any given time are related to relative prices of agricultural products (grain, beef, milk) rather than to the absolute price reached by milk. The recent increase in milk production in Argentina responds to high consumption rates in the population, and high demand and prices for milk (in terms of butyrous fat content) while other farming activities offer lower returns.[22]

Table III.25 shows the trend in consumption and export of cattle, pork and sheep. Globally, consumption of beef has been gradually declining, so livestock farmers have been diversifying into other areas such as raising cattle for milk and milk products instead of for meat. Production of hides is also a function of demand for beef, so as beef consumption has declined, prices for hides have increased. Hide prices are not high enough yet to justify raising cattle solely for this purpose. Consumption of pork and sheep has also been declining. Consumption of sheep has fallen by a factor of one half since 1980 as consumer tastes have changed while pork consumption has fallen by one third

Table III.25 Exports of Selected Livestock, selected years, head

	Cattle	Sheep
1980	1,789,050	1,140,174
1985	1,040,000	930,036
1990	1,723,949	936,855
1991	1,626,693	738,776
1992	1,391,582	613,073
1993	1,327,647	560,067

Source: INDEC. Anuario Estadistico de la Republica Argentina. 1994. Buenos Aires. Table 5.4.1

Table III.26, Value of Beef Exports, current $/mt

1989	1990	1991	1992	1993	1994 (1)
1,456	1,441	1,785	1,956	1,993	1,965

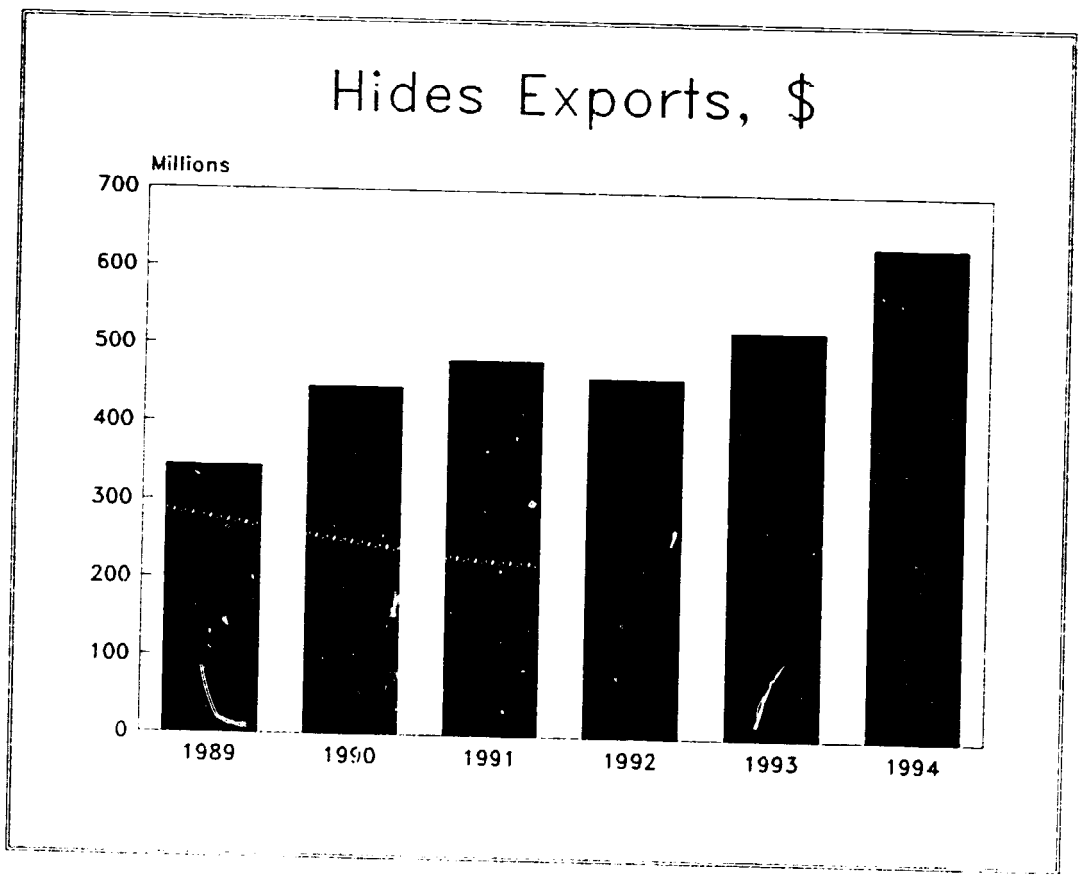
(1) First half year average.
Source: Sociedad Rural Argentina, Anales, Buenos Aires, 1994, p. 33

Consumers diets have moved away from meat into foods with higher carbohydrate and vegetable content in response to health warnings over diets high in animal fats. This trend does not seem to be changing. While demand for hides has not yet driven prices so high as to make cattle raising for this purpose alone profitable. Demand for leather products has been increasing, especially in Western Europe. Long term prospects seem, if not positive, at least tolerable as farmers move to more profitable crops. Fewer number of livestock being raised will also release feeds that would have been used for this purpose to other market segments, including exports. The large number of people currently employed in this sector will decline as farms merge in order to gain economies of scale.

MILK AND DAIRY PRODUCTS INDUSTRY

Past trends

The milk sector in Argentina produces practically all the usual products of an advanced dairy


Hides Exports, $
Millions
700
600
500
400
300
200
100
0
1989
1990
1991
1992
1993
1994

products industry. All industrialization stages are carried out in Argentina. It is not clear whether all establishments are using modern equipment and methods. Within the multiplant, multiproduct structure of the Argentine milk-products industry, it is possible to find marked heterogeneity in technology and production even among different plants of the same firm.

Over the period 1980-1993, total milk production increase by 2.4 per cent/yr. Production and consumption of eggs has remained relatively constant. While industrial use of milk over the same period increased by 2.8 per cent. Consumption increases were in line with population increases, or 1.4 per cent/year.

Table III.27 Milk Production and Consumption by use, million litters

	Industrial Use	Consumption	Total Production
1980	3.542	1.605	5.147
1981	3.547	1.573	5.120
1982	3.946	1.541	5.487
1983	4.125	1.572	5.697
1984	3.798	1.543	5.341
1985	4.387	1.575	5.962
1986	4.156	1.565	5.721
1987	4.477	1.713	6.190
1988	4.394	1.668	6.061
1989	4.980	1.540	6.520
1990	4.614	1.479	6.093
1991	4.354	1.583	5.937
1992	4.728	1.862	6.591
1993 (1)	5.100	1.920	7.020
1994 (2)	1.313	483	1.796

(1) Estimated.
(2) 1st quarter, 1994
Source: INDEC, Anuario Estadistica de la Republica Argentina, Buenos Aires, 1994, Table 5.4.3

Table III.28 Production of Milk Products, 1990 - 1993, total in millions of liters and percentage of total

	1990	%	1991	%	1992	%	1993	%
Liquid milk (1)	1.479	24.27	1.583	26.66	1.862	28.25	1.926	27.42
Condensed milk	18	0.30	21	0.35	27	0.41	29	0.41
Powdered milk	1.118	18.35	809	13.63	919	13.95	940	13.42
Hard cheese	547	8.98	525	8.84	648	9.83	613	8.75
Medium cheese	1.010	16.58	1.051	17.70	1.203	18.25	1.193	17.04
Soft cheese	953	15.64	997	16.79	1.143	17.34	1.381	19.72
Butter	738	12.11	665	11.20	490	7.44	558	7.97
Sweetened milk	111	1.82	121	2.04	133	2.02	158	2.26
Yogurt	110	1.81	150	2.53	149	2.26	189	2.70
Milk desserts	9	0.15	15	0.25	16	0.24	21	0.30
Total	6.093	100.0	5.937	100.0	6.590	100.0	7.002	100.0

(1) Pasteurized, including 45 per cent raw milk. Does not include casein, cream, liquefied cheese and whey.
Source: Ministerio de Economia y Obras y Servicios Publicos, Secretaria de Agricultura, Ganaderia y Pesca, "Informe Estadistico de Leche y Productos Lacteos", 1993, Buenos Aires, 1994, Table 7

Table III.29 Production and apparent consumption of fresh eggs

	1985	1986	1987	1988	1989	1990	1991	1992	1993
Production (000 dozen	395	425	389	314	333	351	375	401	393
Consumption/ capita	145	154	138	124	129	134	141	148	142

Source: INDEC, Anuario Estadistica de la Republica Argentina, Buenos Aires., 1994.

The industry should benefit from the country's natural-resources based comparative advantage, but it operates in the context of distortions in the world markets stemming from subsidized production and trade by the U.S. and European Union. As with all commodity exporters, it is also at the mercy of changes in international prices, with or without subsidies. In order to remain competitive, it has been going through restructuring, which has caused smaller operations to be taken over by larger ones. Depressed prices for output have also caused a number of smaller operations to go into bankruptcy. The price of prime farm land in the Pampas area has actually declined as so many firms have gone out of business.

Production of milk and dairy products in Argentina today is largely oriented towards the internal market, evaluated recently at $2.5 billion a year.[23] According to the same source, the average market volume for the 1980s was $1.5 billion but fell $1 billion in 1989, then recovered and surpassed all historical levels. On the other hand, export activity, even at its best years, has been traditionally low.

Table III.30 Evolution of selected dairy product prices, selected years, $/kg.

	1980	1985	1990	1991	1992	1993
Cheese	2.10	2.07	4.30	2.74	2.92	3.28
Butter	1.92	1.74	1.52	1.62	1.75	1.66
Powdered milk	1.14	1.15	1.14	1.50	1.75	1.89

Source: Ministerio de Economia y Obras y Servicios Publicos, Informe Estadistico de Leche y Productos Lacteos, 1993, Buenos Aires, 1994, pp. 25, 38 and 61.

There are 700 firms in the sector with 2,000 plants but 20 firms process from 80 per cent to 90 per cent of the milk input to industry.[24] There are three main business areas: fluid milk (including yogurts and other products), cheese and ice-cream. Six firms account for 45 per cent of the market.[25] The largest two of them have domestic ownership, a cooperative in one case (Sancor) and in the other, by a domestic business group (La Serenisima/Mastellone). These two concerns have a combined employment of 7,900 workers, while two other local groups (second tier firms) have 900 and 650 employees (Asociacion Union Tamberos-Milkaut, and Sucesores A. Williner), and two affiliates of transnational corporations (Nestle and Parmalat) have 550 and 520 workers.[26] The latter are more specialized and have business and technological characteristics that make them important participants in the Argentine and regional market in spite of their smaller size. Two other foreign groups have also taken interesting positions recently, one buying a cheese-making firm[27], and one entering the industrial ice-cream market also through the takeover of a local firm.

The operation of these firms or groups involves not only running the industrial operations, but also organizing and assuring the purchase and collection of fresh milk and running large and diversified distribution systems. Many firms, the largest as well as smaller ones, are multiplant, multiproduct operations, with overlapping lines of products but holding clearly differentiated leadership in different segments of the markets (fluid milk, powdered milk, cheese, butter).[28] The cost of the raw material is a large part of the cost of most products, but in different proportions, vis 77.9 per cent of the price of butter, 61.7 per cent in the case of soft cheese, 58.6 per cent for medium hard cheese, 59.6 per cent for bulk powdered milk, and 42.5 per cent in the case of hard cheese[29].

The largest subsector is the cheese industry in both monetary and volumetric terms, reaching $1 billion at present market value.[30] It constituted, on average, 45 per cent of output for the sector over the period 1985-1991.[31] Estimates of the total number of firms varies, but only the three main producers have a tradition of organized planning and marketing. The two largest firms account for approximately 25 per cent of cheese production, the two largest second-tier nationally owned firms have also shown good performance in the cheese segment and one of the recent transnational entrants is a leading international cheese producer (Parmalat) which took over a main local firm in the same specialty.[32] The orientation of the cheese industry changed in the 1980s due to the fact that hard cheeses need longer production cycles and financial costs have discouraged their production. Cheese manufacturers tend now to supply more soft and semisoft cheeses. On the other hand, hard cheeses are more tradable, as there is less price competition, and the U.S. has allowed an import quota for Argentina.[33]

Although in the past it did export, the Argentine milk products industry in recent decades has not developed business strategies for exporting, nor in making efforts to market differentiated products. Exports in recent years have responded to internal market variations and to promotion schemes and perhaps most recently to regional integration opportunities. Exports are commodities, not differentiated products and the main exports have been hard cheese (in bars) and powdered milk. At times of higher level of exports, Brazil is the main destination, receiving almost 60 per cent of shipping in 1990; other destinations are Algeria, U.S., Chile and Peru.[34]

More exports took place in the 1980s as a result of low internal market consumption, the assistance of a special fund set especially to compensate for foreign subsidies, and from the progressive reduction of export taxes. Foreign sales reached a maximum of $137 million in 1990 with almost no imports in the same year, but in later years the situation reversed. Imports were slightly higher than exports in 1991 but imports exceeded exports by more than $115 million in 1992. By 1993, exports were once again higher by almost $20 million. High exports in 1989-1990 are explained by a sharp increase in international prices and the depression of local consumption.[35] Therefore, the main characteristics of Argentine milk products exports are their low absolute and relative levels and their extreme variability. This is partly a consequence of international markets structure and price distortions, but it is also attributed to the low priority assigned by firms to exporting. Exports are marginal with respect to the internal market size.[36] The export and import situation and figures that reversed for 1991 and 1992 included large imports from the industrial segment buying milk from the international market for local industrialization. These imports were partly due to internal increases in prices due to the impact of new economic policies.[37] Imports could have been larger had it not been for a rise in international prices as Eastern Europe demanded more milk.

In the past, larger firms had no great time lags with respect to technical change in incorporating sophisticated and/or high productivity equipment or in adding new product lines. Larger firms have laboratories, and conduct product development activities, and some process development and equipment adaptation activities. This refers however to leading firms in various U.S. market segments, and is not true for other firms. Technology is at international levels in yogurt, fluid and powdered milk and cream cheese. With very few exceptions, it is obsolete in cheese making and at intermediate levels in butter making, and desserts production.[38] Technological incorporation has however taken place during the last two decades, combining both fundamental changes in sterilization, in powdered milk production, in gelification and separation processes, etc. There have also been increases in the average size of plants, more automated processes, higher quality standards and procedures, development of multi-pack products (e.g. combinations of yogurts with cereals in the same packaging), etc..

Some firms, both local and transnational, have recently added plants or started projects, e.g. to produce protein and lactose from cheese whey (WPC) or for sterilization of solid products with the latest technology.[39] A stocks management technique of recent application is the transformation of milk into powdered milk for storage from the high season to the low season to balance supply during the year.[40] Part of the observed technical progress is related to intense diversification and differentiation of products taking advantage of high income segments of the market. To what extent distorted international competition would justify technical progress in Argentina's milk industries other than that oriented to capturing shares of segmented internal markets is an open question. An adequate strategy for domestic firms or transnational affiliates will largely depend on the real possibility of the phasing out of dairy production subsidies in industrialized countries that export their surpluses.[41]

Competition in the domestic milk products market also has regional aspects, as several large cities have their own supply zones and large firms, often cooperatives, serving them. In fact the cooperative movements are very important agents operating in these markets. The largest national firm belongs to an association of cooperatives. Transnational corporations are not dominant participants in the production process in quantitative terms. One of them, Nestle, is a leader in powdered milk and a recent entrant. Parmalat, after hiring a plant for initial production, has started its own investment program to manufacture aseptic products and longlife milks, which do not require massive daily distribution schemes.[42]

In the views of some, competition in the milk product markets is not perfect. While there is no price-fixing, there is little competition. One measurement starts from the estimate that 88 per cent of milk that undergoes industrial transformation is processed by just 20 firms, and that such firms, operating as buyers of fresh milk from the farms, are regionally concentrated (they tend to buy within given areas). This makes local buying concentration higher than overall concentration, but prices are said not to be distorted due to that.[43]

One of the main policy changes since 1991 is deregulation with trade liberalization, but it does not seem to be the dominant one. According to most observers, the main impact of the policy changes has been an increase of about 20 per cent in internal consumption.[44] Also, the export tax was finally eliminated and a 5 per cent tax rebate on exports was established. As exports are only a marginal contributor to profits, the impact is not large, however. Imports increased, largely to supply raw materials to industry, but there was no decline in the price paid to primary producers as internal demand was high and international prices were also. Costs were reduced by the elimination of taxes such as the tax on bank operations or the export tax for financing the agricultural sector technological institute, and that some credits for small and medium firms as well as transport cost reductions due to transport deregulation (mostly relevant to foreign trade) also contributed to improving the profitability of the sector.[45]

FOB export prices from subsidized sources are clearly lower than the internal prices. FOB export prices of products imported by Argentina were $1,600/ton for powdered milk and the same for butter, while the internal market prices at the origin of the exports were $3,200 dollars/ton for powdered milk and $4,120 dollars/ton for butter.[46] This seemed to be a *prime facie* case of dumping. Local farmers and farmers associations felt that the attitudes of both the government that allowed those imports and the industry that bought powdered milk from subsidized areas as an input were unfair. In the end, the government established compensating duties on white cheese, semihard cheese and powdered milk, all of them from the European Community.[47]

Constraints and prospects

The Sancór Dairy Products Corp. has made an agreement with the National Council of Scientific and Technical Development to develop a new biotherapeutic milk that, it is hoped, will stimulate intestinal flora in humans. Parmalat, Sancór and La Serenisima will branch out into juice production as well.

Under the recent Uruguay Round, the E.U. and the U.S. agreed that, over a six year period, subsidies would be reduced in this sector by 36 per cent. The prospects thus bode well for increasing exports of milk products. Local and international firms located in Argentina must take decisions in a context defined by the combination of local, Mercosur and international markets. International markets are difficult to market in as competition from either the European system of production or from low-cost producers in the Southern Hemisphere is hard to overcome. Also, even assuming reduction of production and trade subsidies at international level, Argentina would still lack differentiated products for the more sophisticated markets. The latter problem also reduces profitability and MVA.

In the current situation, the relevant questions concern what are domestically owned firms doing and what are transnational firms planning to do. In the latter case, firms are already taking positions or widening their base in the market. Looking at the broadest picture, one hypothesis is that it is in the interest of such firms to develop operations in Argentina to be ready to tackle international markets from a low-cost country when the international market is eventually normalized. For example, when high cost European production, lacking subsidies, are no longer competitive. The history of subsidization in agriculture does not, however, lead to a sanguine view on the eventual elimination of all subsides or quotas.

The combination of excess demand in Brazil and the supply and the cost situation in Argentina and Uruguay explains why transnational corporations established in Mercosur should locate at least some stages of processing in Argentina. One must also believe that massive imports of powdered

milk for industrialization from subsidized suppliers cannot be a viable long-term option for transnational affiliates or local firms established in Brazil. Recent studies show that larger Argentine firms have explicit strategies for Mercosur, including taking measures to assure themselves an adequate supply of local raw materials, while medium-sized firms are also taking into account Mercosur in their investment plans.[48] In fact, reports in the local business press have not confirmed that impression. On the contrary, they have reported that the main Argentine firms "do not seem to have completed their definition of regional strategies".[49]

FISHING

Resource base

Fishing has not been a major industry in spite of landings increasing by a factor of 2.5 since 1980. More than 900,000 mt of fish were landed in 1993. The major port for landings is Mar del Plata, which handles one fourth of the total catch. Approximately one half of the catch is hake. Over-fishing by other countries has been a problem. Britain and Argentina, in the context of the Falklands/Malvinas, have been working to coordinate a strategy to reduce the problem.

Past trends

Table III.24 shows a breakdown of the major catches of fish. Consumption and export have been the major sources of demand. On an absolute and relative basis, shellfish and squid landings have increased dramatically. In 1986, together they totaled less than one per cent of the total. By 1993, they accounted for some 45 per cent. Hake landings increased by more than 70 per cent.

Table III.31 Landings of selected fish, 000 mt.

	1986	1987	1988	1989	1990	1991	1992	1993
Hake	272	306	305	301	350	417	381	468
Grouper	12	12	10	14	8	7	6	9
Whiting	13	10	18	10	9	5	10	6
Mackerel	5	4	5	8	4	6	5	7
Corvina	11	9	11	6	6	5	11	13
Shellfish	22	33	41	39	42	57	104	214
Squid	12	30	21	23	28	46	77	194
Total	411	449	483	476	544	630	692	919

Source: INDEC, Anuario Estadistico de la Republica Argentina, 1994, Buenos Aires, Table 5.5.3

Constraints and prospects

The industry is growing but, by international standards, is small. A lack of access to credit is the major complaint of the industry. Processing facilities are old and in need of improvements and additions. The fleet is also old and vessels are far below the capacity of the major competitors. The vessels also lack the sophisticated processing technologies associated with the Japanese, Russian and Spanish fleets.

B. TEXTILES, CLOTHING, LEATHER AND LEATHER PRODUCTS

There is one major characteristic common to almost all the branches of this industry: competition from Asia, especially China. Industry trade groups report that shoes made of synthetic materials from China land at Buenos Aires at $0.45/pair C.I.F. and retail for $5.00 in June 1995. They maintain that the same relationship exists for clothing and leather shoes. Other groups doubt that the spread is this wide and remark that the industry is looking for protection, which is a characteristic that it has enjoyed and benefited from for many years. The textile industry may also be looking to form hemisphere-wide associations that could jointly pursue anti-dumping allegations with the WTO. The Argentine industry finds itself in the same position as northern hemisphere countries, especially developed countries. The raw materials sell at international prices, manufacture

of the raw materials into textiles or leather and finally manufacture of the end-products. The labor intensive portion of the production chain is the segment where Asian countries have enjoyed a comparative advantage. It is to be expected that similar effects as experienced by other countries to this competition will affect the Argentine industry, absent tariff or non-tariff barriers - the ultimate disappearance of the local industry except in niche markets.

TEXTILES AND CLOTHING

Resource base

A major strength of Argentine textile resource base is the availability of most of the important natural fibers, cotton and wool, at competitive prices. The country is one of the main wool exporting countries, although as such it is subject to the problems that have recently made competition in those markets exceedingly difficult, especially depressed international prices brought on by mild weather conditions which depressed the demand for the garment and thus the fiber. The synthetic fibers segment is weak in spite of advances in the chemical and petrochemical industries.

Table III.32 Production of Wool and Cotton Fiber, selected years, 000 tonnes

	1980/81	1985/86	1990/91	1991/92	1992/93	1993/94
Wool(1)	--	138	125	110	103	92
Cotton	83.5	120	324	253	151	249

(1) Source: Sociedad Rural Argentina, "Anales", 1994, p. 70.
Source: INDEC, "Anuario Estadistico de la Republica Argentina", 1994, Buenos Aires, Table 5.2.3.

Wool price data are unavailable for after 1991. From 1984 to 1990, prices were as low as $5/10 kg. in 1990 to $119/10 kg. in 1987. Before 1987, they had been in the $50 - $70/10 kg. range. In 1993, cotton prices ranged, depending upon quality, from $1.41/kg. to $1.65/kg.

Argentina is one of the countries in which the use of natural fibers had a strong revival after the dominance of synthetic fibers. Argentina has developed its own varieties of cotton through the National Agricultural Technology Institute. The merit of such research was that it allowed the development of varieties appropriate for cultivation in the country. These new varieties resulted in very good yields in primary production. Such varieties, although not totally competitive in quality with the best long-fiber varieties available internationally, such as Egyptian cotton, supply a good input for local industry and also generate unprocessed exports, in the form of raw cotton and cotton bales. Demand for garments from synthetic fibers has been falling as consumers in developed countries have been favoring natural fibers. Argentina should be competitive at the input phase to synthetic fibers as it posesses ample petrochemical supplies.

Table III.30 Production of Synthetic Fibers, 1992-1994, tonnes

	1992	1993	1994 (1)
Spun cellulose	3,202	3,369	3,567
Synthetic fibers	19,143	13,827	14,496
Spun synthetics	31,809	32,184	33,771
Monofilaments	198	142	129

(1) Provisional
Source: Asociacion de Industriales Textiles Argentinos (ADITA), Base Textil, January - March 1995, Buenos Aires

Past trends

After starting the decade of the 30's with 83 per cent of imports in consumption of goods such as cotton-based manufactures, the import substitution model came into force, further accelerating with World War II, and continuing into the 1950s to 1970s with variations in the rate of growth, but almost always positive. This was followed by a trade liberalization period during the late 1970s. The recovery after 1983 coupled with further crises and liberalization thereafter, resulted in an outcome of overall decline or at best a very limited growth in the last 15 or 20 years.[60]

The total value of production of the textiles and garments sector in Argentina is estimated to be about $4 billion. Spinning, weaving and manufacture of garments constitute about 60 per cent of textile manufacturing value added.[51] Weaving is the most important of these activities, followed by production of clothes and spinning. Domestic consumption of textile products is 70 per cent for clothing, 20 per cent for household goods, and 10 per cent as an input for the industrial production of other sectors. In countries with a higher degree of development, the industrial use component tends to assume larger proportions.[52]

Industrial census data for 1973 and 1984 can be used for some indication of the evolution of the sector. Over this period, the whole textile and garments industry showed a decrease in the number of plants from 14,012 to 9,148 and a decline in employment from 173,217 to 141,064, with an increase of installed power (measured in horse power) from 512,454 to 645,039.[53] The number of plants declined in all three of the main segments (spinning, weaving and, most intensely, in clothing) while employment declined almost by half in spinning, 30 per cent in weaving, and increased only slightly in clothing. Installed power increased in all three segments, most strongly so in weaving by 30 per cent. Manufacturers engaged in more capital intensive operations in order to remain competitive.

Data for 1987 from one of the manufacturers' associations[54] supply an estimate of total employment and its breakdown. All textile activities, including made-up textiles but excluding clothing, employed 82,000 workers. The breakdown was as follows: 57,000 workers were involved in spinning and fabrics production including finishing, 15,000 in knitting, 3,500 in made-up textiles (excluding clothing), 1,100 in rugs and tapestries, 900 in cordage and 3,800 miscellaneous production. Clothing employed 38,000, and production of synthetic fibers, 4,000 workers, therefore the total number of workers in the textile industries in the broadest sense, were 120,000.

In 1978, 1,145,562 spindles and in 1983, 901,291. The number of rotors (then a newly-available open-end spinning technology) increased from 3, 250 in 1976 to 23,339 in 1983. One rotor replaced six spindles so there was a smaller decline in production than that indicated by the reduction in the number of spindles. Between industrial censuses there was a marked increase in installed power per worker, while the number of spindles/worker increased from 64 to 110. The average product per worker increased 82 per cent and the average product per active spindle showed a 20 per cent increase. There was an increase in productivity related to modernization in at least some segments of the industry.[55]

In yarn production, for the period 1973 to 1984, there was a decline of 27 per cent in the number of plants and 45 per cent in the number of workers. This implies large productivity increases or large reductions in production but cannot be determined as available production indices lump together spinning and weaving. During the years 1984-1989 the production of yarn averaged 160,000 tons/year, more than half of which was carded cotton. Other production included combed cotton, cotton mixed with other fibers, synthetic fibers and wool. Only 13,000 tons were exported.[56]

Information on the weaving segment is scarce. From 1976 to 1981 the total number of looms increased from 18,800 to 19,100. The industry has 16 per cent of production using shuttle-loess looms compared to the Federal Republic of Germany with 11 per cent, Italy with 14 per cent and and the Republic of Korea with 2 per cent. Production of fabrics follows the proportions already shown for yarns. Average production over the period 1984-1989 was 148,000 tons, without large variation. Value added in weaving gained in the total of the textile industry. However, the number of plants fell by 43 per cent and the number of workers fell 30 per cent. .

In clothing manufacture, in the period between censuses, there was a decrease in the number of plants (from 7887 to 5437), and a decrease in value added. There was however an increase, albeit slight, in the number of workers.

See Table III.31 for international trade in textiles. From 1976 to 1989, Argentine textile exports increased by 5 per cent annually while imports increased by 6.9 per cent. Total textile exports, including unprocessed raw materials, from 1976 to 1989, had oscillations but were never below a minimum level of approximately $240 million. The highest exported amounts were $507 million

in 1988, and $47 million in both 1978 and 1980. Physical volume of exports was 279,000 tons. in 1979 and 243,000 tons. in 1988. However, in terms of value, the main component of those exports has been raw materials. Raw materials exports have been on average $254 million per year, which represents, for the whole period, 72 per cent of total exports from this branch.[57]

Table III.31 International trade in textiles, 1990 - 1994, Thousands of $

IMPORTS	1990	1991	1992	1993	1994(1)
Fibers	43.656	54.048	56.468	82.333	34.703
Spun yarn	18.092	95.068	97.162	84.074	61.335
Fabrics	27.752	159.506	276.159	260.907	155.270
Clothing	5.421	81.378	276.851	291.605	184.789
Other	6.965	36.412	76.872	92.277	67.771
Total	101.886	396.412	783.513	811.196	503.868
EXPORTS					
Fibers	389.531	366.856	215.994	176.030	207.932
Spun yarn	69.131	63.317	50.509	68.908	38.292
Fabrics	75.688	51.712	50.016	63.284	38.882
Clothing	48.927	20.039	7.908	14.571	10.030
Other	9.494	8.498	8.104	13.682	2.651
Total	592.771	510.423	332.531	336.476	297.788
NET TRADE	490.885	114.011	-450.982	-474.720	-206.080

(1) Provisional.

Source: Asociacion de Industriales Textiles Argentinos (ADITA). Base Textil. January - March 1995. Buenos Aires

The overall growth rate for exports of textile manufactures over the period 1976-1988 was 10 per cent, but there were several very different stages: In the period 1976-1978, sales increased and reached an annual average of $96 million. From 1979 to 1984, amounts exported decreased and average exports were $77 million. From 1984 to 1988, there was an increase to an average of $142 million/year. From 1986 to 1988 the level of exports of manufactures was between $170-190 million, the highest levels of the period 1976-1988. Exports of manufactured textile products over the period 1976-1988 indicate that wool was the primary export earner at 38 per cent; fabrics were 24 per cent; yarns 21 per cent and finished textiles, 18 per cent. More recent data show exports of textile manufactures increasing until 1990, reaching a level of $203 million but decreasing from that year on, falling to $110 million in 1992. Thus, manufactured textile exports increased three times from 1986 to 1990 to fall almost by half from 1990 to 1992.[58] And while increasing in 1993, they fell again in 1994.

In the 1990s, manufactured textile imports grew rapidly. From 1990 to 1993, imports of clothing increased steadily and, while declining slightly in 1994, a clear trend has emerged as a harbinger of future developments. Since 1992, the sector has shown a negative balance of trade. The latest figures for 1994 continue to demonstrate a negative trade balance, albeit improved over the previous two years. The main worry for producers has been the increase of higher value added imports. As of 1995, casual data suggests that the situation has continued to deteriorate.

The evolution of clothing exports and imports is particularly noteworthy as they show two strong import peaks in the early 1980s and 1990s and an intermediate period of positive trade performance. In 1980 and 1981 imports of clothes were over $150 million in each year, in the mid 1980s, the level decreased to a few tens of million dollars per year, and in 1991-1992 imports again jumped to over $80 million and $240 million respectively.

Movements in exports were not so sharp. They peaked in 1989 with $61 million and have since declined. The factors that assisted the good performance in clothing trade before 1990 were temporary admission of materials of better quality, design and cost, and good quality of Argentine products. The decline in exports from 1990-1994 can be partly explained by adverse international conditions but also by an increase in internal demand. The picture for fibers imports is less clear as imports increased steadily from 1990 to 1993 then declined sharply in 1994. The same pattern is seen for fabrics

Constraints and prospects

The major sources for imports are China, Taiwan, Korea, Malaysia, Pakistan and Brazil. Brazil has also been an exporter to third countries but reoriented exports to Argentina. Many of these imports look like being at dumping prices. The EC has set quotas for imports of Argentine yarns, fabrics and wool tops and the U.S. established restrictions on imports from Argentina on items such as women's slacks. Part of the explanation for the wave of imports is that there are large surpluses in the world market. Another is that rising incomes and the lowering of tariff barriers made imports significantly more competitive than locally produced products. In part, the industry (or some segments of it) is constrained by old equipment, rigid labor policies and high wages. In some areas, this might be seen as a challenge to be overcome. The tendency has been, however, for textile industries in other countries to migrate to countries that have lower labor costs and this is the major underlying trend that has affected the Argentine industry.

Trade unions continue to denounce imports due to their strong negative effect on employment. According to textile trade union officials, from June 1, 1992 to July 30, 1993, there have been 6,476 layoffs and about 8,000 cases of reduced work-hours, suspensions, elimination of overtime, etc. The unions believe that small firms have been forced to close, that medium sized firms have had to reduce personnel to continue their operation, and that the largest firms started restructuring processes to continue in the market. Restructuring in this sense implies additional layoffs as well.[59]

In mid-1993, given the impact of the trade liberalization policy, the Argentine Government took the first of several steps towards selectively increasing protection of the local textile and garments industry. The first step was Resolution 811 of the Ministry of Economy, establishing minimum specific duties for 198 categories of textiles and garments. The instrument was designed to be applied only in cases where ad-valorem duties on the declared import value were lower than the new rate. The decision was justified in terms that, after a certain degree of market penetration by imports, the internal price would not fall any more, therefore there was no point in encouraging further imports that would damage the local industry with no benefit for the consumer.[60] Other sources indicated that the way in which the special duty was calculated was to make it equivalent to an 11 per cent tax for textiles proper, and 15 per cent for garments.[61] In December 1993, Resolution 1554 of the Ministry of Economy raised protection again and in January 1994 the duty on shirts was increased.

For yarns, a distinction must be drawn according to the type of material: cotton, wool, synthetic and artificial fibers. Argentina has adequate raw materials production for cotton yarns. The future of yarn production, however, is unclear. There are those who believe that a combination of comparative advantage in the raw material coupled with good technology will ensure a level of competitiveness. Others consider the industry in this particular segment to lack in economies of scale. Moreover, the costs of energy in Argentina may be too high to sustain competition from Brazilian producers who benefit from lower energy costs. Those who consider this energy cost asymmetry important suggest that size of this industry segment will be reduced through restructuring.

Wool yarns also compete against synthetic fibers. Problems have been exacerbated in the short term by sales of wool stocks held by Australia and New Zealand, depressing prices. Also, yarns manufacturers have not invested in new equipment. On the positive side, a group has been formed in Uruguay that specializes in high quality woolen materials production, successfully competing in the international market. This is a direction that could be followed by Argentine producers as well.

It is unclear whether there is a comparative advantage for Argentina in the production of synthetic yarns. As discussed below, in the petrochemical industry which produces the inputs, plants are mostly older and inefficient. The costs of locally acquired output from these plants exceed international prices. Once it is known whether the petrochemical industry will survive, it will then be possible to predict how well the synthetic yarns segment will do.

In weaving, cotton textiles could be in a good position as companies have recently concentrated on

increasing investments. However, even large local plants have low economies of scale in comparison to those in other countries. This segment is also burdened with high energy costs. On the other hand, it is a segment in which some large firms operate, and these should be in a position to adapt to new conditions. Argentine cotton textiles are in a relatively better competitive position than synthetic fiber textiles.

In low quality or low priced garments, Argentina may not be competitive at all, but in better quality segments and/or in differentiated products, firms have fairly good chances to survive especially since they have continued to get protection from the government. As internal relative prices continue to shift in response to the more open market, and as producers are forced to seek niche markets, it should become evident in two to three years whether garment making will continue.

LEATHER AND LEATHER PRODUCTS

Resource base

In 1993, there were some 52.6 million head of cattle in Argentina, most of them in the Pampas region. Cattle are raised primarily for their meat and secondarily for their hides. As global consumption of beef has been declining, the number of hides available for tanning has been declining as well. This has caused the price of hides to increase. Although the vast majority of hides come from cattle, some are also taken from sheep and pigs. Production of these animals in Argentina has been declining as well. In spite of declines in the total number of animals, hides output has been increasing. Industry sources report that this is possible due to more careful handling of the animal after slaughter. Many hides are inadvertently damaged as a result of meat preparation. Better handling techniques have contributed to increasing the amount of usable hides.

LEATHER HIDES

Past trends

There are over 200 firms engaged in tanning, 100 in exporting, 12 in supply hides and skins, and more than 20 engaged in producing machinery for the industry.

Table III.32 presents hides production figures and Table III.33 presents export data for cured leather hides from 1989 to 1994. While the weight of exports has increased significantly, the area of material increased only slightly. The value of exports has also increased significantly, largely due to better prices. The quality of the leather produced is very high but finished goods produced in Argentina are expensive as labor costs are high. The top export earner is Curt. Fonseca S.A. with almost 10 per cent of 1994 exports. Three other firms account for 8 per cent each of exports, Grunbaum, Daucourt and Federico Meiners. Of the almost 100 firms in the business, they range from multi-million dollar enterprises to firms selling less than $50,000 per year. The top ten firms account for 63 per cent of the market for exports. In 1994, the United States was the primary importing country, followed by Hong Kong, Italy, Brazil, Canada, Spain, Uruguay, Germany, the Netherlands and Taiwan. Together, these destinations accounted for 87 per cent of the exports. The top three destinations account for 56 per cent. Exports to Asia amount to approximately 24 per cent.

Table III.32 Hides production, tonnes

Source	1991	1992	1993
Cattle & Buffalo	370,347	351,180	383,000
Sheepskins	27,560	26,520	24,960
Goatskins	2,500	2,500	2,500

Source: FAO, "Yearbook of Production, 1993" Geneva.

Table III.33 Exports of leather hides by weight, area and dollar value.

	Net weight (kgs.)	Square meters	Dollar value

1989	52,158,256	31,722,301	$343,893,382
1990	61,230,333	34,711,336	446,250,428
1991	57,206,929	33,621,896	481,965 663
1992	57,743,326	29,430,614	460,906,566
1993	60,475,496	32,356,222	522,725,563
1994	81,254,181	35,972,241	653,468,752

Source: Camara de la Industria Curtidora Argentina. CUERO. 1995. Buenos Aires. p. 66.

(Insert Graph Hides Exports)

Constraints and prospects

Prospects for exports are good. Much of the material will be exported to North American and Asian countries and Brazil for further processing into finished goods. As long as prices remain high, companies will remain profitable. The restructuring the industry has been going through as a result of greater domestic competition have been healthy and manufacturers, while gloomy in the first quarter of 1995, will remain supportive of government policy. Demand for leather, unlike demand for beef, has been high and is likely to remain so for the foreseeable future. It is expected that manufacturers, tanners, exporter and related industry will continue, if not to prosper, then at least maintain market share. Those portions of the industry that are labor intensive, such as tanning, will decline due to lower labor rates in Asia and comparative advantages in Brazil.

LEATHER FOOTWEAR

Past trends

There are more than 500 manufacturers of leather footwear. Employment has steadily decline until, by 1990, it was less only 29 per cent of what it had been in 1970. Production has declined as well, to 44 per cent of the 1970 level. Production has had to become more capital intensive to keep pace with competition for imports. Manufacturers have been complaining of dumping and there may be reason to believe them. Landed prices (CIF) for leather shoes made in Asia are estimated to start at $6.50 per pair and retail for five times as much. Under the circumstances, manufacturers are under pressure to keep prices down but the production of shoes is labor intensive.

Constraints and prospects

The quality of the footwear produced is high as is the price consumers pay for it. Alternative marketing strategies are called for that can appeal to wealthier segments of the international market by emphasizing that the product is made in Argentina. There are going to be more firms seeking bankruptcy protection. Granted a comparative advantage in the inputs, no such advantage exists in the final products. There has also been and will continue to be a fundamental shift away from man-made inputs to synthetic ones. While local manufacturers may seize this opportunity, production processes are sufficiently different that it is unclear whether it would be profitable to make such a transition. The more the labor intensive the production, the more vulnerable to competition to lower labor cost areas. There is no doubt that consumers benefit from having access to cheaper shoes, but consumers are also potentially unemployed workers from this industry.

C. WOOD, WOOD PRODUCTS, PULP AND PAPER

The resource base

The forests that constitute the input for this industry are of three different species: eucalyptus, pine and bagasse. The latter is the residue from the production of refined sugar. In at least one case, the manufacturer uses the residue, not only for the cellulose as input to paper-making, but also to provide the industrial heat necessary for the process. In spite of this efficiency, this renewable resource has not allowed the firm to be profitable. Growers practice adequate techniques to avoid

over-farming resources, but, unfortunately, have only recently been shown the benefits of doing so. Wood and wood products, such as for use in furniture making, are not a major contributor to GDP. Pulp and paper, on the other hand, rely on many of the same inputs but are an important component.

Table III.?? Extraction of forest products, selected years, mt

	1980	1985	1990	1991	1992	1993
Logs	3,416,224	4,824,123	6,466,484	6,464,402	7,042,128	6,312,102
Firewood	1,025,263	1,506,985	895,475	938,071	1,078,522	1,102,098
Posts	205,511	107,025	68,008	102,636	113,112	86,869
Charcoal	368,234	273,772	245,492	265,993	331,520	320,486
Girders	29,262	83,528	2,343	662	798	769
Other	123,242	25,773	33,394	39,099	36,494	44,848
Total	5,167,736	6,821,166	7,711,196	7,810,863	8,602,574	7,867,172

Source: INDEC. Anuario Estadistico de la Republica Argentina. 1994. Buenos Aires. Table 5.1.2.

Table III.?? Production of selected wood products, selected years

	1980	1985	1990	1991	1992
Paper & cartons, 000 mt	713	864	890	927	977
Pulp, 000 mt	349	666	722	667	591
Tannin, 000 mt	97	62	67	62	65
Particle board, 000 m^3	268	189	142	133	242
Sawn wood, 000 m^3	846	901	950	950	1470

Source: INDEC. Anuario Estadistico de la Republica Argentina. 1994. Buenos Aires. Table 5.1.3.

PULP AND PAPER

The resource base

The pulp and paper sector is natural resource based. The main input is the wood from natural forests but production is now becoming increasingly based on replanted forests. Due to natural conditions, Argentina is in a position to develop a competitive forest products industry that can compete with the traditions suppliers from the northern hemisphere, especially North America and Europe.

The amount of development, however, requires large investments in reforestation and in large scale industrial processing at the pulp-making level and at the paper and other final products-making level. International trade has traditionally been by suppliers from the Scandinavian countries and the U.S., recently joined by Brazil. The natural comparative advantage of the four Mercosur countries creates the possibility of all of them becoming low-cost producers. This would, in the long-term, shift emphasis from a situation in which problems or opportunities stemming from intrarregional trade would be critical, to a situation of regional exports to the rest of the world and intra-Mercosur trade between equally competitive producers. At the moment, however, Brazil is the country in the region with larger scale production and more international trade experience. The Argentine industry is, however, not so sanguine about its prospects vis a vis Brazil in the production of cellulose and the standard line of paper product. Table III.34 presents a summary of costs for the four Mercosur countries.

Table III.34 Summary of Representative Forestry Plantation Costs, Growth and Delivered Pulpwood Costs for Mercosur Countries in 1992.

Cost/Growth	Argentina	Brazil	Paraguay	Uruguay
Forest Land Cost $US/ha	200-500	300-1000	200-2000*	500
Plantation Establishment ** $US/ha.				
- Pine	600-2000	600-1200	ub	300
-Eucalyptus	800-1500	800-1200	ub	300
Forest Incentives ***	No	No	Yes	Yes

Growth Average m^3/ha/yr.				
Pine - 1992	15-20	20-22	15	15-22
- 2010+	20-30	22-30	ub	22-25
Eucalyptus - 1992	22-25	22-35	22	22-26
- 2010 +	25-40	30-45	ub	30-33
Rural Labor Cost $/mo. including social	300-500	200-400	200	150
Delivered pulpwood cost $/$m^3$ ub (delivered mill)				
- Pine	18-22	16-19	NA	NA
- Eucalyptus	17-29	15-32	NA	20

NA= not available
ub = under bark

* Upper range includes agricultural land.

** Establishment costs variable, land clearing can add $US 500/ha. and tending costs included for only 2-3 years.

*** For Uruguay, up to 80 per cent of forest establishment costs with certain qualification plus "free port" zones; Paraguay incentives include 10 year tax holiday and up to 50 per cent of corporate income tax available for forest investment.

Source: UNIDO internal study.

Past trends

Up to 1993, there had been a global slowdown in paper and board consumption and indications of increased use of wastepaper in manufacturing. While paper growth slowed in 1991, this was not true for pulp, as new pulp capacity in Latin America was added.

Historically, Argentina largely depended upon imports of finished or intermediate pulp and paper products. The products were supplied by Canadian and European firms. South American plantations established in 1960s-1970s, primarily eucalyptus and pine, were not widely available for pulp and paper development. They were also considered to be of inferior quality relative to northern species.

In the 1970s, a large-scale newsprint project was started in Argentina, Papel Prensa and Tucuman, which called upon domestic sources of pulp. Typical firms are, however, small family-run companies whose facilities are dated. There are a few world-scale facilities.

Economies of scale are important in this sector and construction of larger plants at times of good prices contributes to the creation of excess supply capacity that, together with general cyclical variations in international economic activity, leads in turn to low prices period. International prices are currently depressed and there is little likelihood for an improvement in the near term. There are several reasons for this but one major issue, environmental impact, may be the most important. As consumers are recycling more waste paper, demand for trees declines. As production of paper using chlorine methods is also polluting, the fewer trees supplied, the lower the pollution. Also, for many years, traditional paper products were being replaced by plastic equivalents.

Table III.35 Summary of Representative Key Industrial Cost Factors for Pulp and Paper Production in Mercosur Countries, 1992

Cost Factor	Argentina	Brazil	Paraguay	Uruguay
Industrial Labor $US/mo. including social	900-1200	900-1500	450	900-1000
Social Costs %	NA	80-120	42	70-80
Purchased Power $US/Kwh	06-.107	035-.052	036	05
Self generation %	NA	41	0	NA
Fuel Oil $US/t	90	110	NA	130
Chemicals $/t				
- Caustic Soda	415	330	NA	400

- Sodium Chlorate	555	460	NA	900
Transport $/t	5-35	10-25	NA	500
Port Cost $/t	NA	7-40	NA	7 (e)
Taxes %				
- Income Tax	30	42-45	30	30
- Sales	NA	12/3 (Export)	0	0
- VAT	NA	0	10	NA

NA= Not available.
e= Estimated
Source: Internal UNIDO study.

Pulp consumption in Argentina has increased from 464,000 tons in 1980 to 633,000 tons in 1991, while production has increased in the same period from 338,000 tons to 667,000 tons. Surplus production is exported. Consumption of final products, paper and paperboard, over the same period increased from 933,000 tons to 1,117,000 tons and production increased from 705,000 tons to 963,000 tons.[62] The country is thus a net importer of paper and paperboard in spite of a marked increase in production. Production increased in 1992 but declined in 1993 in spite of the government's decision to curtail imports of some products after receiving complaints about import prices.[63]

Argentina had 0.25 per cent of world trade in 1988. In the 1980s exports increased at least ten-fold. In 1990, the value of exports was $166 million and imports $61.7 million. Exports included long fiber white kraft cellulose, some types of writing and printing papers, cardboard and papers for packaging.[64]

Trade in pulp varied in the 1980s, with a decline in imports toward the end of the period due to a pulp plant starting production. Exports also increased rapidly. In 1980 there had been no cellulose exports, and $68.4 million imports. The value of exports in 1990 was $62.7 million against imports of $9.5 million. Trade in paper showed exports of $103.5 million and imports of $52.2 million in 1990.[65]

In 1990, the composition of final products exports was 30 per cent printing and writing, 25 per cent paper and cardboard for packaging, 20 per cent newsprint and 15 per cent tissues and papers for household use. Imports included 30 per cent paper for printing, 20 per cent waterproof paper, and 4 per cent newsprint. The marked overall decrease in paper imports from 1975 to 1990 is due to domestic production of newsprint. In 1990 imports of all types of paper except newsprint started to increase and in the first half of 1991 imports were worth $44 million, close to the total imports of 1990.[66]

Production of cellulose is carried out at 27 plants in 21 firms, mostly for their own consumption.[67] Total capacity is approximately 948,200 tons/year but there are large differences in scale and efficiency among them. The eight largest plants, each one of them capable of producing 35,000 tons/year or more (including the largest, Alto Parana, with a capacity of 240,000 tons/year) account for 90 per cent of total capacity. Six of them, accounting for 65 per cent of capacity and are considered well equipped, with good production processes and good product quality.[68] On the other hand the average age of pulp-making equipment has decreased because of some plant closures and the opening of the large new plants of Papel Prensa, Alto Parana and Papel del Tucuman.

The final products segment of the industry includes production of newsprint, printing and writing papers and papers and boards for packaging. Production plants are different in integration, size, age of equipment and quality of production. Very few are rated as having a high production capacity, efficient operation, good equipment and processes and adequate quality.[69] Development of the sector in Argentina has been based on many small plants near the urban markets, while the current trend is to have larger integrated plants near the raw materials source.

The industry is dominated by many small mills and small paper-making machines, and the mills are old and undercapitalized, though industry leaders in various market segments are growing in size and in operating efficiency. Generally speaking, South America is a low cost softwood fiber

producer, and for hardwood pulpwood Brazil is also a low cost producer. Delivered pulpwood costs are similar between Mercosur countries. Furthermore, these shared advantages are expected to increase in the coming decades, as genetic advances increase the yield of the plantations and more mechanization in the forests is introduced.[70]

An analysis of overall Mercosur industrial costs - materials, capital, labor, energy - led to the conclusion that most costs are reasonable by international standards and roughly comparable between countries.[71] Some national costs are, however, out of line, e.g. energy costs in the case of Argentina, and social security and other wage-related costs in all countries. Wages are lower in Mercosur countries than in the U.S., but the overall cost of hiring labor is not much lower. A comparison of competitive factors based on ratings on a scale of 1 to 10, puts Argentina in the 7-8 range (although with a rating 5 for newsprint) in the category of natural resources factors; in technical management and know-how, Argentina is rated below international competitors' class; while Argentina has a rating of 9 for pulp and 4 or 5 in any other category.[72] It is clear that the combination of a generally poor industrial structure, some management shortcomings, and certain excessive labor and captial costs and production costs, makes Argentine paper industry much less competitive than it could be.

The following discussion is based on an internal UNIDO study. Celulosa de Argentina, the largest firm in the industry, has undergone a major transformation and rationalization, ending in 1993. It has down-sized operations, selling off non-essential business units to reduce indebtedness,, reduced operating personnel and staff by 37 per cent (2,700 positions) and concurrently increased production.

Massah, the second largest producer, recently completed an appraisal of several operations with recommendations for incremental investments and operating improvements to increase efficiency. It is understood these recommendations are under review, pending investment funding.

Constraints and prospects

The current situation and restructuring efforts in the industry must be placed in the context of excess supply/low demand in the international market and a large decrease in internal consumption in Brazil. In 1991 there had been an increase in consumption at the same time that imports were made easier by general liberalization of trade, the currency was overvalued (it remains so) and tariff preferences were given to Brazilian products. Exports became more difficult, largely for similar reasons and increase in internal costs. The effect on internal prices of imports is moderatec with the fall in prices around 10 per cent, but in a situation of rising costs, profitability have decline and in some cases, negative. Several medium sized firms are reported to have closed, other firms have interrupted production of some products, etc..

Table III.36 Pulp and Paper Import Tariffs and Tariff Reductions for Argentina under Mercosur, per cent

Product	Historic	Jan., 1992	Jan. 1993*	Jan. 1994	Jan. 1995+
Pulp	7.5	3.5	2.4	1.4	0.0
Newsprint	5.0	2.3	1.6	0.0	0.0
Brown (kraft) paper	15.0	6.9	4.8	2.7	0.0
Uncoated wood-free	15.0	6.8	4.8	2.7	0.0
MF groundwood	15.0	6.9	4.8	2.7	0.0
Coated papers (exc. LWC)	15.0	6.9	4.8	2.7	0.0
LWC - printing	15.0	6.9	4.8	2.7	0.0
- Magazine/book	5.0	2.3	1.6	0.9	0.0
Coated board	15.0	6.9	4.8	2.7	0.0
Tissue	15.0	6.9	4.9	2.7	0.0
Specialty	15.0	6.9	4.8	2.7	0.0

* With few exceptions, "salvaguardia" was declared by Argentina and a 10 per cent statistics tax applied to all products, as of early 1993. The "salvaguardia" does not apply to imports from Uruguay due to a prior bilateral trade agreement.

Source: Internal UNIDO document.

There are very few indications of what improvements are effectively being implemented in the Argentine paper industry. There are indications though that some important companies are beginning to get out of deep and long standing problems (often after changing ownership or in the process of doing so). In the case of one of the large companies, Ledesma one of the financial newspapers places it in the group of firms that have succeeded in adapting to the new context without major trauma.[73]

Regional studies suggest that in all Mercosur countries "adjustment moves" in the pulp and paper sector are underway, most apparently among industry leaders but sometimes with the lead of smaller firms. In addition, some capacity is still outmoded and should be mothballed. Pulp and paper subsector adjustment-related hardships are found to pose greater challenges to Argentina than to the other Mercosur partners and no easy solutions were identified.[74] A special case is the Alto Parana softwood pulp project, which has an appropriate design and has produced and exported pulp for about a decade but is changing hands, apparently because of problems that have arisen in the final product-firms that own equity in the pulp-making part of the enterprise. Also, two large-scale newsprint projects have encountered difficulties in the implementation stage.[75]

Celulosa, the dominant paper-making firm, has had substantial problems for almost twenty years and is now under the control of a group affiliated to Citicorp, the U S. bank. In the 1970s Celulosa was the main group in the pulp and paper sector, having a very good record in securing ample benefits of the promotional systems. It was the owner of Celulosa Puerto Piray, a project now finished but yet to start production and owned 50 per cent of the Alto Parana project in addition to some other expansion projects at affiliated firms. The firm however experienced problems with 1979-1982 trade liberalization and subsequent crises in the economy as well as from the decline of demand in the economy, financial difficulties, and differences and conflicts within its management ranks.[76]

The Puerto Piray plant is 42 per cent owned by Celulosa while the rest of the shares are in the hands of Citibank and other shareholders The project is reported to be under review. It is also reported that the project would require an additional $100 million investment and that Citicorp has decided it requires an international firm to operate it.[77]

Massuh also appears to be in difficulties. The firm has been the subject of an appraisal generating recommendations for incremental investments and operating improvements to increase efficiency. Such recommendations were reported to be under review while financing for the required investment was still pending.[78]

The Alto Parana plant is in the hands of Citicorp and group of other banks formed by creditors of Massuh. They are reported to have agreed to first make improvements in the plant and then try to sell it for a profit.[79] At the beginning of 1994, however, the Banco de la Nacion, state-owned and in charge of the remaining business of the closed Development Bank, became a partner in Massuh. The Massuh family now owns 58 per cent of the firm, and Continental, Chemical and Nacion banks together, own 35 per cent of the firm.[80]

A financial group managing U.S. funds has bought two mid-size plants and has made some unspecified agreement with a third one. Witcel, the special papers operation of the Cellulose group, has been sold in two stages to foreign owners (50 per cent at a time).[81] Another important event is the sale of Papel del Tucuman, a modern bagasse-based plant with a difficult history.[82]

The government has already been induced to cut competitive imports. The government's goal seems to be to allow an overall 20 per cent penetration of the local market by imports. Given the available data on production capacity to replace such curtailed imports by local production, analysts suggest that this decision will mostly benefit three firms, Celulosa, Massuh and Ledesma.[83]

The conclusion that the industry is now in a phase of redistribution of assets while improvements and other real investments are yet to come seems to be reinforced by reports on privatization and

takeovers by financial creditors. Another aspect is the fact that there are no projects under execution, and even those large projects which had been put forward until now were just pulp-making operations, as no investors had shown interest in investing at the paper-making stage. In any case, new pulp-making projects are indefinitely delayed.[84]

It is now important for the industry to reevaluate its competitive position, based upon these new intra-industry cost norms, and take into account a scenario of full trade liberalization and the accompanying deregulation. The challenge is to determine the longer term required changes. It may not be good enough to merely repair old machines, and changes in the product mix will be required. Tendencies in other branches, as a result of economic liberalization and the onset of Mercosur suggest that niche markets will provide the key to continued production. Rather than manufacturing a broad range of products, it is more likely that Brazil will produce the standard line and Argentina the niche line. Industry sources believe that moves are already being made in this direction.

D. PETROLEUM REFINING, PETROCHEMICALS, AND FERTILIZERS

PETROLEUM REFINING AND PETROCHEMICALS

The resource base

There are ample sedimentary basins of the type in which petroleum or natural gas are likely to be found. The area totals 700,000 mi.^{2}. There are seventeen basins offshore, three onshore and six which are both. Only five are currently being exploited. The Neuquen basin is the most productive and has been recently been running at 320,000 b/d of crude oil and 11,000 bcf of natural gas production.

Though not a significant producer of petroleum, Argentina has proven and probable reserves of 1.6 billion barrels of oil. Although production has increased by 50 per cent since 1990, reserves have declined significantly since 1990 when they were estimated at 2.3 billion. barrels. Too much emphasis should not be placed on this decline, however, as it may reflect a deliberate understatement in order to make the return on assets held by companies, look higher. At current rates of production, there are 7 years of reserves. Recent increases in production have been achieved through standard engineering repair work in the oil fields rather than through new finds. According to one source[85], the now privatized Yacimientos Petroliferos Fiscales (YPF) undertook little in the way of systematic, professional oil exploration. Privatization has transformed the corporation, turning it into a profitable, professional operation. Since privatization, YPF has cut its workforce from 52,000 to 6,000 and turned a profit of $700m in 1993. Its shares are publicly traded on the Buenos Aires stock exchange and as American Depository Receipts (ADRs) on the New York Stock Exchange.

In 1993, there were 42 active exploration rigs searching for oil. This should be contrasted with, for example, Indonesia, a major oil exporter, that had only 40 active exploration rigs in the same year. Companies have solid geological evidence for optimism in the discovery of new reserves. There are two areas of dispute that may have recoverable oil or gas reserves: Tierra del Fuego and the Falkland Islands (Malvinas). There is clearly a heightened interest in possible oil and gas finds here. Both will be offshore programs which are significantly more costly than land-based ones. The oil fields are located in Neuquen, Golfo San Jorge, Cuyana, Noroeste and Austral.

Production of natural gas doubled from 1980 to 1993 and stands at 26 billion m^3.[86] Natural gas reserves have increased from 22,700 bcf in 1993 to 26,520 bcf in 1994. Major gas fields are located in the same areas as the crude oil. Privatization in the gas industry has gone well, realizing the government $4.2 billion in receipts. British Gas and Nova Corp., Calgary have each purchased stakes in the distribution system. In Buenos Aires, British Gas purchased 70 per cent of the local distribution company. Of the remaining 30 per cent, up to one third could go to the local company's employees while the remaining two thirds will remain in state hands. Encon Corp. purchased a 70 per cent stake in Transportadora de Gas del Sur, S.A., the southern distribution system. In December, 1994, Home Oil Ltd., acquired 970 km2 of territory in Neuquen province. The

exploration will cover the Atuel Norte and Bajo Baguales blocks.[87] Northwest basin assets have been purchased by Pluspetrol SA and Ampolex Ltd. Sydney. Both purchases were from YPF.[88]

Table III.37 Historical crude oil reserve data (billion barrels oil)

1980	1985	1990	1991	1992	1993	1994
2.5	2.3	2.3	2.3	1.6	1.6	1.6

Source: Pennwell Publishing Co., International Petroleum Encyclopedia, 1994, Tulsa, Ok. p. 284.

Table III.38 Historical crude oil production data (1,000 barrels/day)

1980	1985	1990	1991	1992	1993
487.0	447.5	473.0	489.2	554.0	574.8

Source: Pennwell Publishing Co., International Petroleum Encyclopedia, 1994, Tulsa, Ok., p. 293.

The lack of reserves raises energy security issues (reliance on imported rather than domestic oil) but, given the current oil market, there are no causes for concern. As the oil export embargo against Iraq is still in place, 6 million barrels/day are not being sold onto the world market. When and if this production resumes, oil prices will likely fall significantly and further reduce incentives for exploration, world wide.

OIL REFINING

Past trends

Until 1970, the size of plants was adapted to local demand and not to economic efficiency. When demand increased in the 1970s, these small-scale facilities were inadequate. Eventually, promotion regimes took into account increased local demand and minimum economies of scale. This was an ex post facto realization that local demand was large enough to support such plants. See Table III.?? for current refinery output and ownership.

Refinery capacities from 1980 to 1992 remained more or less static but increased slightly in 1993. YPF operates 62 per cent of the installed capacity. Esso SAPA operates 16 per cent and Shell operates 17 per cent. The remaining refineries are mostly small, old and inefficient.

The second phase of modernization of the Shell Buenos Aires complex is underway. The refinery is being upgraded by Foxboro Co., USA. The upgrades are improved control and monitoring equipment and will cost $15.7 million.

Table III.39 Refinery ownership and output, 1994, bcd

Owner	Refinery Name	Crude Capacity	Catalytic cracking	Catalytic reforming
Destileria Argentina de Petróleo, SA	Lomas de Zamoro	3,585	0	0
Esso SAPA-Campana	Campana	93,000	29,600	8,300
	Galvan	18,400	0	0
Isaura SA	Bahia Blanca	25,200	8,800	0
Shell Co. Argentina de Petróleo SA	Buenos Aires	121,700	29,200	12,000
Sol Petroleo SA	San Francisco, Solana, Quilmes	6,000	0	0
YPF	Campo Duran	32,000	0	0
	Dock Sud	4,000	0	0
	La Plata	216,000	71,900	9,000
	Lujan de Cuyo	129,000	40,600	9,000
	Plaza Huincul	23,000	0	3,000
	San Lorenzo	37,600	0	0
TOTAL		709,485	180,100	41,300

Source: Pennwell Publishing Co., "International Petroleum Encyclopedia, 1994", Tulsa, Ok. USA. p. 271

Table III.40 Petroleum and Petroleum Products produced, metric tons

	1990	1991	1992	1993
Crude Oil	28,004	28,621	32,246	34,447
Total Products	26,478	26,454	28,385	28,391
Gasoline	6,907	7,544	7,924	7,861
Gas Oil	8,948	9,423	10,498	10,622
Diesel Oil	509	487	295	218
Fuel Oil	4,139	3,654	3,370	3,089

Source: INDEC, Anuario Estadistico de la Republica Argentina, 1994, Buenos Aires

Constraints and prospects

There are concerns that companies may be fixing prices. In spite of declining international prices of crude oil, the domestic price of petrol has not changed. In March 1994, the government decided to investigate the industry for possible "windfall" profits.[89] Although crude oil prices are, in May 1995, at around $18.50/barrel, up from 1994, there is still no great price incentive for oil exploration in spite of only 7 years of reserves. With roughly one third of Argentina's production going to exports (worth $1.5 billion in export revenues), there are obvious incentives for the government to encourage exploration, given that a market is found. To that end, Royal Dutch/Shell in 1994 announced plans to spend $1 billion over the next 5 years in exploration.

YPF acquired Maxus (U.S.) in 1994 and this acquisition augers well on a number of counts. Maxus owns reserves and production in the Gulf of Mexico and has significant experience in offshore oil exploration and production. Should the issue of sovereignty of the Falklands (Malvinas) be resolved and the area opened to exploration, YPF will be in a good position to launch an immediate offshore oil exploration program.

YPF is also working with Petrobras (Brazil) in offshore exploration in the Atlantic and the Gulf of Mexico. YPF exports crude oil to Chile and owns a chain of petrol stations in that country. It has purchased Petrochemico la Plata (formerly Mosconi) and the complex is generating a profit and expanding. Pipelines are under construction for natural gas exports to Chile and Brazil as well.

A recent suggestion by a former member of the British Cabinet to the effect that each citizen of the Falkland Islands (Malvinas) could be paid $100,000 and an election held to determine whether the islands should go to Argentina has been met with mixed reviews in Buenos Aires. Recent press reports indicate the government is taking the suggestion seriously, however, and may offer £500,000 to each family on the islands. Some such plan could cause offshore oil exploration to begin sooner rather than later.

While output of petrol is currently adequate to meet domestic requirements, increases in automobile ownership will drive up demand for refined products of petrol and lube oils. Rather than new capacity being brought on-line, existing adequate scale refineries are likely to be improved, with additional catalytic cracking and reforming facilities being constructed. While new vehicles will be more energy efficient, the number of vehicles per person will increase. (There are currently 10 vehicles per person.) This trend is already evident, as new vehicles being produced are supplanting the existing fleet rather than replacing it.

There are still several refineries not producing at world scale. As competition becomes more intense, especially at the retail level, these refineries are likely to be closed rather than refitted, especially in light of tighter environmental regulations being imposed on the industry. While the industry's prospects seem bright, all oil companies are at the mercy of crude oil prices.[90] As long as Iraqi production remains small, oil prices are likely to remain stable. If the extra 6 million barrels per day of potential Iraqi production ever comes on line, prices could drop to below $15/barrel.

PETROCHEMICALS

Past trends

Petrochemical production in Argentina is based on local natural resources of crude petroleum and natural gas. The country produces the oil it requires and has reserves of natural gas large enough to export it as fuel to Chile. Petrochemicals production accounts for approximately 4 to 5 per cent of Argentine hydrocarbons consumption. The industry had a tentative start in the 1940s, and a more ample but disorganized development in the 1960s, based on very small plants.. Supply of basic products (inputs for downstream plants) and the production of a larger number of final goods in plants of more adequate scale were developed in the 1970s and 1980s.

Sector development at different stages of its evolution has been accomplished with the participation of foreign firms, State capital, and later, with an important role of domestic private groups. Currently, the domestic groups are the most important private agents in the sector while the State has sold most of its holdings. The process of privatization took place at the same time that the main local groups already involved in petrochemical production found themselves in financial trouble, and the sector as a whole was adapting to changes in regulations and to new market realities including lower crude oil prices and stronger competition. The international market is feeling the effects of recession in some of the industrialized countries, and over-capacity in Asia, and prices are expected to remain low until for the foreseeable future. As the basic input is a commodity, forecasting future prices beyond 90 days is probably not realistic although potential production[91] indicates prices are more likely to decline than increase. .

The international market has helped shape the development of the petrochemical sector. The first oil shock (1973 - 1974) led to a high price mark-up policy by international petrochemical companies but the second shock (1980 - 1981) led to a restructuring process in which advanced countries reduced production of basic and commodity products to concentrate in higher value added products. Hence, developing countries possessing the relevant raw materials found a space in the production of petrochemical commodities, and Latin America increased its production.[92] The trend started reversing itself when oil prices fell after 1986.

Until 1970, the size of plants being erected was adapted to low local demand rather than to minimum economic scale parameters, a consequence of which was that their production capacities were overtaken by demand during the 1970s. The only products for which this did not happen were those requiring smaller investments, implying more easy entry for new producers. Eventually projects adapted to increased internal demand, as well as to requirements of minimum scale, were incorporated in the prerequisites for obtaining benefits from promotion regimes. From the second half of the 1970s, new plants were built at more adequate scales and the size of the internal market had grown to the point where it could support minimum economic scale plants.

At the time when availability of inputs was limited, private transnational companies advanced plans for establishing two petrochemical complexes (POLOs) to supply economically scarce raw materials. The Argentine state decided to take up such construction instead, and in 1970 and 1971 the construction of one olefin-based complex (Petroquimica Bahia Blanca) and of one aromatics-based complex (Petroquimica General Mosconi at Ensenada) were approved. State and private firms were to have different levels of participation in ownership of basic or intermediate product plants, and in satellite plants producing final products in each one of the complexes. Project implementation for plants corresponding to different production stages (basic, intermediate or final products) were poorly coordinated and, as a consequence, the ethylene plant at Bahia Blanca, erected in 1977, did not have ethane supplies until 1981. Moreover, neither did it have operative downstream producers to buy its ethylene when ethane supplies from a separating plant were made available and ethylene could be produced. As for the industrial utilization of the ethylene it started to produce, the planned satellite plants were even more delayed but initially unplanned polyethylene facilities were established by private producers. One of the new plants was in fact a floating state-of-the-art unit purchased abroad and sailed to Argentina to operate at a coastal location. Both at this "polo" and at the Ensenada complex, exports were due to the imbalance that developed as a result of uncoordinated promotion schemes by the government.[93]

The Argentine state has supported development of the petrochemical sector in many ways. The factor that is considered to have been the single most important stimulus to the development of the petrochemical sector in Argentina, is the government's policy regarding prices of raw materials. As Argentina has good national supplies of oil and gas which were controlled by State firms, it was possible for the government to give advantages to the petrochemical sector through the supply of feedstocks at low prices.

Promotional regimes and incentives were used to foster sector development, but possibly the most important incentive was the feedstock pricing regulations. These implied a strong subsidy for production, as most promotional regimes for the sector assured feedstock supply at low prices for industrial transformation. In 1984, prices paid by the industry for petrochemical inputs were between one third and one half the price paid by industry in industrialized countries.[94] In 1986 and thereafter, international prices for naphtha changed, but the price paid by the petrochemical industry was still lower and had a subsidy element in it.[95]

Subsidized prices for inputs were not passed along the value-added chain to the final consumer or to promote final products exports, but were often appropriated at the start of the chain.[96] Some examples are that Petroquimica General Mosconi exported its basic products at international prices based on the subsidies, while charging much higher prices in the internal market; and Petroquimica Bahia Blanca after 1984 established a cost and mark-up contract with its customers so that it sold ethylene at prices above the international price to them. After 1987, this was changed to a different contract system and the price began to approach international levels.[97]

The influence of the feedstock prices system can be seen both when it was in operation and when it was discontinued in the economic reforms process in 1990. The overall profile of the sector improved considerably in the 1980s as many new investments, largely by nationally controlled private firms, were made. A whole portfolio of large investment proposals is currently frozen, as changes in the economic regulations develop and the overall international sector situation becomes more complex.

The feedstock subsidies were considered the most important form of assistance to the sector, but the advantages were not passed forward along the production chain. The reason was that under high protection of petrochemical goods, and low competition in the internal market (most product markets were monopolies or oligopolies),[98] it was possible for producers to charge prices higher than international prices at practically all stages.

Protection was slowly reduced after 1984, starting by reducing non-tariff protection and then tariffs, mostly on final goods . But price discrimination continued to exist as firms charged higher prices in the domestic market than for export. For a sample of 19 products, it was found in 1987 that eight of them had a higher price in the internal market than for export. This shows discrimination in some, not all products. However, in 1990, 20 products had an export price below the domestic market price.[99]

As a consequence of the structure of protection, competition, and price formation just described, prices paid by producers along the chain and by other Argentine producers requiring petrochemical industry products as inputs for their industries, were higher than international ones and in fact even after considerable trade liberalization they continued to be so. It is interesting that at the same time the sector had become an important exporter, sector organizations discussed the viability of exports emphasizing the great sensitivity of such exports to feedstock prices.[100]

Input to the Petroquimica General Mosconi facility, the only large olefins plant, and not world scale, is from the General Cerri complex near Bahia Blanca. The feedstock is natural gas liquids (NGLs). The Mosconi facility is still state owned but is being sold. YPF has expressed interest in acquiring the facility. There is a new PVC facility being built by Electroclor in Bahia Blanca which will produce 41,500 mt/y and is expected to be completed in 1995. Additional propylene facilities are also under construction in Santa Fe, where a 120 mt/y facility was scheduled for completion in 1994. In an apparent reversal of privatization, the troubled PVC producer Indupa SA has traded a

51 per cent equity stake to the government to pay for delinquent taxes.

The Argentine petrochemical sector is at present a producer of over two and a half million tons of basic, intermediate and final petrochemical goods. See table III.41, III.42 and III.43 Sector growth was at the rate of 6.3 per cent per year from 1970 to 1988.[101] and capacity in 1991 was rated at 3,400,000 tons/year but there have been plant closures since these estimates were made.

Table III.41 Production of Basic Petrochemical Products

	1990	1991	1992	1993
Carbon sulfide	7.774	9.093	9.780	10.094
Ethylene	286.444	265.208	297.092	285.157
Ammonia	88.002	85.884	72.075	92.563
Benzene	146.250	152.108	144.965	119.550
Methanol	45.781	61.843	62.296	67.056
Xylene	21.010	20.600	21.712	21.600

Source: INDEC. Anuario Estadistico de la Republica Argentina. Buenos Aires. 1994.

Table III.42 Production of Intermediate Petrochemical Products

	1990	1991	1992	1993
Nitric Acid	28.200	26.204	25.786	24.342
Vinyl Chloride	160.546	129.379	95.911	89.558
Isopropanol	45.646	52.898	46.084	44.855
Styrene	71.300	77.900	77.980	81.150
sec-Butanol	8.066	8.493	8.809	9.851

Source: INDEC. Anuario Estadistico de la Republica Argentina. Buenos Aires. 1994.

Table III.43 Production of Final Petrochemical Products

	1990	1991	1992	1993
Urea	108.795	103.420	86.335	116.364
Polypropylene	55.700	59.564	101.017	118.518
Polyethylene	227.412	241.776	268.294	238.618
Polyvinylchloride	104.563	105.668	90.903	85.284
Polystyrene	34.298	46.042	52.350	49.200
Lampblack	36.683	42.914	39.367	39.312
Synthetic rubber	57.200	40.936	41.789	43.715

Source: INDEC. Anuario Estadistico de la Republica Argentina. Buenos Aires. 1994.

The relative weight of basic, intermediate and final production underwent changes as the structure of the sector evolved, firstly by adding capacity in basic plants and later through the commissioning of final product plants. Petrochemical exports are more related to internal market circumstances and problems than to the planned exploitation of comparative advantage. As suggested above, plants became larger simply because capacity for an expanded internal market was added. Lack of coordination as well as internal market recessions created situations in which there were no customers for production facilities operating at various stages of production. The feedstock price subsidy and/or price discrimination between the internal and the external market, in addition to the fact that plants were already operating at more efficient scales, made exports necessary.

In the early 1980s, there was a bias in exports towards basic products (35 per cent of production was exported) with very low export of final products (4 per cent). This was the result of opening the basic products plants before the final product "satellite" plants at the petrochemical complexes. In 1990, a more balanced production structure allowed final product exports to be proportionately higher (28 per cent) than basic product exports (19 per cent) or intermediate product exports (20 per cent). Also, relations between exports and imports at any level of production were different. For example, for basic products, exports in both 1981 and 1990 were much higher than imports, in intermediates, exports and imports were of approximately the same order of magnitude, and in final products exports were much lower than imports in 1981 but were slightly higher than imports in 1990.[102]

In Argentina, petrochemical industry plants in operation belong to different generations, corresponding to different investment cycles. Recent closures may be changing that state of affairs, but nominal reported capacity for certain products includes plants of the 1960s, which are small and technologically obsolete, together with plants of the 1970s to early 1990s.

The POLOs complexes were meant to be integrated production facilities for olefin-based and aromatics products. They were also designed to make other products in basic, intermediate and final goods at other plants which were not integrated into the complexes. Technical and structural change has involved the incorporation of of better, larger plants during the investment period of the 1970s and 1980s as well as the modernization of facilities.[103]

The overall size of the industry is not large and is similar in structure to just one of the existing Brazilian complexes. Local plants are, however, comparatively better in terms of productivity than during the early years. Scales are more adequate, plants are better integrated and capacities are more balanced. Many plants are now at the lower end of the efficient scale range and do not impose excessive penalties on economies of operation. As output moved closer to designed capacity, economies of scale began to have an effect. The cause of increasing output was greater domestic demand and compliance with promotional incentives for investment.

Data on actual Argentine plants and reference values on minimal economic scale were examined in an academic study[104] to try to determine if there is a pattern in scale or age, as a proxy of possible technology generation, for different productive capacities. The tentative conclusions were that only for a few products are existing plants of economic scale. For the remaining products, there is an ambiguous situation, where plants of different ages coexist.

The time at which investments were made is an important factor in the scale and the degree of obsolescence of the plants. On the basis of the listing of firms, scales and dates of commissioning, it was also determined that out of 40 Argentine plants commissioned before 1974, 34 have scales below the minimum accepted international size. Out of 22 plants that started operation after 1974, 16 have scales that are in the international range, and six have scales below minimum required scale.[105]

Under the first set of promotional measures that worked in the 1960s in the direction of inducing foreign companies to invest in plants in the first petrochemical investment wave, mostly it was foreign firms that entered production. Domestic groups or firms in which domestic groups had a controlling interest were more active later as investors in new capacity than foreign firms, and during the decade 1980-1990 the structure of ownership of the petrochemical industry became more oriented towards national ownership. Expansion from 1981 to 1988 involved investments of $1.2 billion made by 12 firms or groups. Only two of these economic agents were fully foreign owned while 8 out of 12 were under national control.[106] At the time of privatization, the question may be asked whether the same groups will purchase control of former state-owned assets. Experience to date is that during privatization of minority shares of mixed property firms in which the government held 30 per cent equities, no firms except those already holding the other 70 per cent ownership have shown interest in buying the State's part.

The State was also share-holder in the complexes (POLOs) and in at least one other firm outside them, Petroquimica Rio Tercero. The state also restricted imports to protect the development of the sector as a whole and established a regime of exemption and/or postponement of payment of different taxes, and exemption from payment of import duties on imported capital goods for the sector, at the same time that State-owned banks provided credit and guarantees for private investors.[107]

Constraints and prospects

Changes in the conditions of operation and profitability of the industry have been of two types: changes in the market and changes originating in deliberate structural reform. The fall in international prices was important. As to structural reforms, the main areas are trade liberalization,

privatization, and the elimination of all special advantages regarding inputs of raw materials.

The tariff has been set at 5 per cent for basic products and 13 per cent for final goods. At the same time, as in other sectors, the industry reached price maintenance agreements with the government. In the international market, prices have been declining. As to privatization, state holdings in the industry were:

- In the Petroquimica Bahia Blanca complex, a majority share in P. Bahia Blanca itself and minority shares in four other plants;

- In the case of Petroquimica General Mosconi the solution has been simpler. YPF was a creditor of the main Mosconi plant and gained complete ownership through capitalization of the debt.[108]

- The government also sold a 39 per cent share it had in Petroquimica Rio Tercero.[109]

In terms of the "Economic Emergency" law, and the oil industry deregulation decisions, all special regimes oriented to the supply of petrochemical raw materials in special or privileged conditions were discontinued. Prices are to be agreed through negotiations between suppliers and buyers and the oil or gas companies now have no obligation to give priority in supply to the petrochemical industry.

Under these new conditions, imports have become mostly final goods, changing the market shares of imports and local production due to higher consumption. The overall financial condition of local companies has become critical. Investments and investment plans have also been negatively affected, in 1990 two investments were completed, at Mosconi, a project for production based on olefins, and at Resinfor for methanol production; while in 1992 Petroken (a firm with Shell and Ipako as partners) completed a plant for polypropylene.[110] But no new announcements have been made since.

The government has taken several actions to alleviate the situation of producers. It has established a quota for high-density polyethylene from Brazil through establishing a higher tariff for imports above 14,655 tons and, on polyvinylchloride (PVC), established antidumping duties and reference prices for imports from Mexico and the U.S.[111] Finally the government-controlled Bahia Blanca plant has reduced the price of ethylene from $411/ton to $375/ton. This has two effects: it reduces costs for the now totally private satellite firms making polyethylene, and reduces the sale price for privatization of the main plant.

The situation in the petrochemical complex is difficult to evaluate. On the one hand, investments in the sector in the 1970s and 1980s have been significant. Plants built in the last 15 years have rather appropriate scales and many among them have accumulated production, management, and international marketing experience. On the other hand, today they face uncertainties at a time of increased competition and a deteriorating financial situation. There is logic in a domestic petrochemical industry due to the high transportation costs of the feedstock. Internal costs and old plants, however, make the industry less competitive than it could be.

AGROCHEMICALS - FERTILIZERS

Resource base

Production of agrochemicals is based on inputs from phosphorus mining, natural gas extraction, crude oil production and waste products. Most of the inputs are available in Argentina at competitive prices.

Past trends

Argentina has had one of the lowest application rates of fertilizers in Latin America. Most countries apply between 50-100 kg. of fertilizer per hectare of cultivated land while Argentine farmers applied only 6.1 kg./ha. Only wheat has been fertilized to any significant extent although the 1994-1995 growing season saw a change in the practice with the maize crop also coming under fertilizers. As a result of the lack of fertilizer application, there has been significant concern about the declining levels of nutrient extraction. Fertilizer consumption has increased significantly over the last 3 years and this suggests that the historic pattern may be changing. Nineteen ninety four consumption rose to 15.4 kg./ha. for crops extensively planted (cereals and oilseeds) and to 50.5 kg./ha. for intensive crops (fruits, vegetables and cash crops). Improvements in prices for some grains and cereals in 1994 have been cited as possible causes for the increase as well as exposure to the availability, techniques and machinery.[112]

PASA Petroquimica Argentina SA is the only indigenous fertilizer manufacturer. PASA produces 73,000 tonnes/year of ammonia and 118,000 tonnes/year of urea. It is domestically owned and is expected to inject new capital into the business. All other fertilizer products are imported.

Constraints and prospects

While the increase in application of fertilizers is encouraging, there is an imbalance not only in the crops fertilized but also in the nature of the fertilizer applied. Nitrogen constitutes 70 per cent of all nutrients applied. The National Agricultural Technology Institute (INTA) has the mandate of improving the productivity of farming and is working closely with farmers to increase production and ability to compete. INTA, however, suffers from a lack of funds so is actively trying to find potential partners in the sector.

PASA intends to increase its urea capacity to 180,000 tonnes/year by 1996. This will be accomplished by buying and transporting two mothballed ammonia plants located in Texas.

A Canadian concern, Coninco Fertilizers, is considering a project in Neuquen province. The plant would produce 650,000 tonnes/year of ammonia/urea. The project is estimated to cost $450 million and require 36-42 months to construct.

Other important companies marketing fertilizers are Cargill, Alecy and Glencore.

The *Fertilizer* project, a joint effort involving INTA and 16 companies, will be launched in 1995 to encourage the use of fertilizers through an education program.

PHARMACEUTICALS

Past trends

While the industry had been subjected to on and off price controls during the 1980s, these controls were lifted in 1989 and 1990. The industry ranks 13th in the world, with 1 per cent of global sales in 1993. For the same year, the value of production was $3.1 billion, and the industry took 31 per cent of South American sales with a 21 per cent growth rate over 1992.[113] Table III.?? gives a more detailed picture.

Excluding VAT, pharmacies enjoy a 34 per cent mark-up, on average, over wholesalers selling prices and wholesalers enjoy a 16 per cent mark-up over manufacturers. The leading producers are Roemmers, Bago, Sedus, Roche, Bayer, Ciba-Geigy, Montpelier, Temos Bostalo, Glaxo and Beta. Table III.?? shows 1993 sales in $US.

The industries' major sales product was antibiotics, although a broad array of ethical and over-the-counter (OTC) pharmaceuticals is available. Table III.?? shows a breakdown of sales by product type. From the list of leading products, Table III.??, it is evident that they deal with common complaints of infection and pain. Four of the top ten products alone are non-narcotic analgesics - pain relievers.

While the industry runs the gamut from distributors to exporters/importers to manufacturers, until 1981, local R&D spending was low. The industry is also well established in Latin America, as 8 of the top 10 firms were Argentine-owned. During the 1980s, local companies went out of business and many foreign firms quit the local market. In 1994, a number of overseas firms, especially from the U.S., were considering reentering the market.

Table III.?? Total Pharmaceutical Sales Through All Outlets, 1990-1993

	$USm	% Change
1990	1,558	+53
1991	2,190	+41
1992	2,645	+21
1993	3,169	+20

Source: IMSWorld Publication, "World Drug Market Manual" 1994, P. 15, London, U.K.

Table III.?? The Ten Leading Companies* in 1993.

$USm	
170-180	Roemmers
140-150	Bago
120-130	Sidus; Roche
70-75	Bayer; Ciba-Geigy
65-70	Montpellier
60-65	Temis Lostalo
55-60	Glaxo; Beta

* sales through retail pharmacies; ranked in descending order.
Source: IMSWorld Publication, "World Drug Market Manual", 1994, P. 15, London, U.K.

Table III.?? Ten Leading Product Classes* in 1993.

$USm	
260-270	systemic antibiotics
140-150	analgesics
120-130	systemic antirheumatics
110-120	cough and cold therapies
100-110	psycholeptics
95-100	systemic sex hormones; antacids/antiulcerants
80-85	antispasmodics/anticholinergics; gastroprokinetics
75-80	cerebral/peripheral vasodilators; vitamins

* sales through retail pharmacies; ranked in descending order.
Source: IMSWorld Publication, "World Drug Market Manual", 1994, P. 15, London, U.K.

Table III.?? Fifteen Leading Products 1993.

Brand Name	Manufacturer	Use
Amoxidal	Roemmers	broad spectrum penicillin
Lotrial	Roemmers	plain ACE-inhibitor
Bayasprina	Bayer	non-narcotic analgesic
Sertal CPTO NF	Roemmers	antispasmodic/analgesic combination
Lexotanil	Roche	tranquilizer
Trifacilina	Bago	broad spectrum penicillin
Voltaren	Ciba-Geigy	non-steroidal antirheumatic
Novalgina	Hoechst	non-narcotic analgesic
Buscapina Composi	Bochringen Ingelheim	antispasmodic/analgesic combination
Redoxin	Roche	vitamin C
Taural	Roemmers	antiulcerant
Flexicamin B-12	Sidus	antirheumatic/corticosteroid combination
Total Magnesiano	Temis Lostalo	other mineral supplement
Hepatalgina	Byk-Liprandi	bile therapy
Renitec	Sidus	plain ACE-inhibitor

* sales through retail pharmacies; ranked in descending order.
Source: IMSWorld Publication, "World Drug Market Manual", 1994, P. 1.6, London, U.K.

Constraints and prospects

The lack of adequate patent protection has become a major irritant between local producers and major U.S. and European competitors. The international industry has been pushing the Congress to tighten protection. A new draft bill would only come into force in 2003 and has drawn criticism, especially from the U.S.[114] There has also been friction between the executive and legislative branches on the content of the legislation, and, in May 1995, the executive vetoed the proposed legislation as inadequate. Ineffective patent protection will serve also serve to keep state-of-the-art medications out of Argentina. While this may not matter for some categories of drugs for which generic equivalents exist, it may be problematic for drugs designed for AIDS patients, vaccines for malaria, for those diseases which no longer respond to the existing broad spectrum antibiotics, such as tuberculosis and some other infectious diseases, and for biotechnology-engineered drugs that treat, for example, elevated blood pressure such as beta-blockers or experimental drugs such as interferon. Furthermore, domestic R&D spending on new medications will also be discouraged until such time as manufacturers are protected by fair patent protection. In the event that the government and the Congress can agree patent legislation, since Argentina has 30 per cent of the South American market, it would be well positioned to compete effectively across a large population base of Mercosur countries (200 million)

Quality control problems have also surfaced. Contaminated or sub-standard products have been implicated in a number of deaths. Congress has put forth legislation to deal with this problem but has not (as of July 1995) passed the legislation. Both imports and exports require authorization from the Secretaria de Industria y Comercio Exterior (Foreign Trade Secretariat). Companies report significant difficulties obtaining import licenses and imports are permitted only from certain countries.[115]

Other things being equal, the growth of sales of pharmaceuticals cannot be explained through increases in population. The return of more stable incomes from 1990 onward, in spite of real declines in wages and salaries and increased unemployment, also does not argue for increasing sales of pharmaceuticals. It is likely that some discretionary increase in demand is possible with greater economic stability but the fact remains that there have been large increases, for unexplained reasons, that may not continue into the future

E. BUILDING MATERIALS

CEMENT

The resource base

All necessary materials, sand, washed gravel and limestone, are available locally. Many small firms provide these materials but the major cement producers also are engaged in the business of mining the inputs.

Past trends

Given its low unit value and the long distance to markets, cement is usually a non-tradable good. Therefore, exports are limited and imports are not a threat to local production. The industry is, however, concerned with the effect of trade liberalization. Even though imports are not leading to a contraction and/or restructuring of activity, there are indications of changes related to local competition and to changes in technology. There has been an accompanying increase in concentration and in foreign participation, the latter not so much in ownership as in direct management, minority participation, and supply of managerial resources and technology to local plants by transnational firms.

After the purchase of a smaller firm that had a market share of 9 per cent, a major domestically owned firm, Loma Negra, now controls approximately 55 per cent of the market. Two more firms,

so far independent and with a combined market share of about 30 per cent, have come under the management of a European group. In 1990, seven firms were active in the production of portland type cement. The interfirm linkages that led to the increase in concentration were the purchase of the fourth firm (9 per cent of the market) by the market leader, and the coming of the second and third firms under management by one single foreign firm. Thus, even with practically no danger from imports, and therefore no signs of large scale restructuring in the industry, individual firms took initiatives, some in the direction of expansion and product line integration by acquisition such as, Loma Negra, and others through technical and administrative modernization with external credit and/or receiving technical assistance from a Swiss firm with extensive experience as a transnational producer. This may lead to a situation of increasingly concentrated oligopoly in a market isolated from foreign competition at a time in which it seems very likely that government policy will promote an increase in construction activity. The government is supporting an increase in housing projects and initiatives in infrastructure sectors. In the latter case, the construction activity itself has been transferred to private operators and construction firms but the government is expected to promote the projects.

The number of active cement plants in Argentina in 1990 was 15 with 5 in mothballs. Total yearly value of production is estimated at $600 million. Industrial sector estimates place the total installed capacity at 12 million tons/year, but this estimate must be revised in terms of age and efficiency. In any case, as production levels have varied significantly, the highest real production in the 1980s and early 1990s was just over 6.5 million tons in 1981, close to that figure in 1987-1988 and probably close to 6 million tons in 1994.[116]

Table III.?? displays production of cement from 1986 to 1993. Cement production has followed the business cycle rather than extraneous government policy or international prices. Production has increased steadily from 1990, following increases in GDP and consumer spending, especially on housing. Buenos Aires also had an increase in commercial construction in the early 1990s.

Table III.?? Production of Portland Cement, 1986 - 1993, thousand tonnes

1986	1987	1988	1989	1990	1991	1992	1993
5,553	6,302	6,028	4,449	3,612	4,399	5,051	5,647

Source: INDEC, Anuario Estadistico de la Republica Argentina, 1994, Buenos Aires, Table 5.7.1

The latest data suggest a sustained growth phase and, according to Government policy, involve the encouragement of construction. If the estimate of 12 million tons installed capacity is used, it can be seen that capacity utilization has varied between a maximum of 55 per cent and a minimum of 30 per cent in the decade. This implies that certain obsolete units never operate.[117]

Demand for cement is dependent on activity in public works and in private investment, home building, etc. The oscillations in the overall economy explain large variations in production during the 1980s. Characterized by recession and lack of housing credit, the period witnessed major problems for producers. The level of activity of the year 1990 was the lowest in 25 years. The earlier periods of higher activity in construction, which generated very good business for large contractors and suppliers, were followed by a sharp decline in public works and by the first phase of privatization of public services, during which the new companies did not make large investments. It was the private buildings construction sector that showed improvement, reflected in the cement sector. In the five year period 1986-1990, 79 per cent of cement production was absorbed by the private construction market, 17 per cent by public works and 4 per cent by exports.

Constraints and prospects

Cement plants have large fixed costs. Labor cost is also high. In the case of one main firm, the wage bill constituted 30 per cent of the cost. There are different grades of cement and engineering standards that apply to those grades. Product differentiation on the basis of quality is thus virtually impossible. The business tends to be regional, where one firm dominates the region but not the entire country. Input costs are also similar for all firms. The remaining variable is economies of scale and this argues in favor of manufacturers located in areas of high construction, i.e., cities.

When Loma Negra bought the fourth ranked firm, taking its controlling position in the industry to 55 per cent, through that purchase they also acquired a leading position in the specialized product, masonry cement, as the purchased firm was the leader in that segment. Another advantage for Loma Negra was that the firm taken over had added a state-of-the-art processing unit in 1991 while four out of seven main units of Loma Negra were 70 years old [118] Hence, the addition of another new unit strengthened the productive profile of the leading firm.

The second firm, J. Minetti, has recently improved its productivity significantly, as shown by its 1993 balance sheet, in which reported sales have increased from 1992 to 1993 from $77 million to almost $94 million while costs remained constant.[119] This firm had financed modernization investments with the IFC, and local stock-market analysts have reported it has increased production capacity and upgraded its technology.[120]

In 1991 and 1992, the third ranking firm, Corcemar, had losses it attributed to stable prices for cement and increases in the costs of energy and wages. This is also a firm with high financial costs arising from debt incurred for a modernization plan carried out 10 years ago. Corcemar's response was to sign a cooperation agreement with a Swiss-origin transnational cement producer who would take responsibility for its industrial, administrative and technical reorganization, geared to reduction of costs and better utilization of the technology already incorporated at the local firm. The foreign group provided a new general manager and a technical manager who should bring Corcemar to an international cost level and improved competitiveness. The local firm will pay a fee for the services received from the Swiss firm. The latter in turn was prepared to take an 8 to 10 per cent share in the Corcemar's capital through subscription of new shares to finance new investment in improvements of production technology defined by the new management team.[121] Furthermore, Corcemar has apparently approached Minetti, which then sold a share of its ownership to the Swiss firm. This combination will create a more powerful second competitor under a common management in the cement market.[122]

The ability to supply technological advances gives great leverage to those international firms with such capacity. This has led to strong foreign entry in countries such as Chile and Spain, where sector concentration has increased strongly.[123] An interesting question in the Argentine case is what are the technological and competitive assets of Loma Negra that will allow it to compete with an active combination of national and foreign firms.

In some strategically important sectors in some countries, such a high degree of concentration would lead to questions of anti-competitiveness and anti-trust. The local situation also seems ripe for price fixing and other restraint-of-trade issues. It remains an open question what, if anything, will be done to defuse a potentially damaging and anti-consumer situation.

CERAMICS

The resource base

As clay is the basic resource for tiles, there is an ample supply overall and in some areas, excellent. Clay mining and processing are not major activities. Production of the glazing materials is also undertaken locally, usually in connection with the manufacturing of paints.

Past trends

Production of ceramic tiles for floors and walls (paving tiles and wall tiles) is a $250 to $300 million industry in Argentina.[124] Five firms supply 95 per cent of this demand. Imports are increasing as lower cost tiles are coming from Brazil and Uruguay, and higher end designs and products from Italy and Spain. The three largest local firms supply 65 per cent to 70 per cent of the market.

There are two markets for sales: new construction and replacement or home renewal. Both are tied to the level of economic activity. Construction activity has increased with the present stabilization program. Recent disclosure of government's intention to launch plans for promotion of housing are a

positive signal for this industry.

Due to marketing needs, firms currently produce many different types and designs of ceramic tiles, and keep expanding the product line. Some firms also produce roof tiles, or glazed tiles. There are differentiation possibilities in designs and forms or sizes, and some firms' strategies aim at exploiting niches even if it implies competing with high end imports.

One of the leading firms, San Lorenzo, was owned by European investors and linked to European firms. Performance of this firm in the market after the purchase was quite weak, reportedly due to decreased demand and new competition from firms created with industrial promotion backing.[125] San Lorenzo strongly expanded its export activities, but according to industry observers, did not undertake modernization. Its owners recently sold 55 per cent of the equity to the Belgian group Eternit, through Chilean affiliates of the latter. Before buying San Lorenzo, the Eternit group bought one of the new competitive provincial firms and has other operations in Argentina as it diversifies from asbestos-made materials. San Lorenzo is now buying Italian designs for product line improvements. Another leading firm, Zanón, exports 25 per cent of its production, selling abroad 80 per cent of its floor tiles production and 20 per cent of its wall tiles production. [126]

Constraints and prospects

Three leading firms, San Lorenzo, Zanón and Cerro Negro, sell some $200 million a year while other firms supply 30 per cent of a near $300 million market. One of the other competitors, so far with a very low market share, is a former partner of Zanón. This new entrant hopes to achieve a large market share and has made investments geared to that goal. If the firm is successful and if imports increase, competition in the sector may become quite intense.

As the economy continues to grow and incomes increase, demand for high value-added tiles will increase. Of the basic tiles, demand will be tied to new construction, which is dependent upon population growth among other things. As this growth is only 1.2 per cent/year, this segment of the industry will need to increase exports and diversity product lines in order to increase profitability.

F. IRON AND STEEL

THE UPSTREAM INDUSTRY

The resource base

Iron ore mining has declined rapidly. In 1990, the peak year of production, 444 mmt of iron ore was produced. By 1993, this had declined to 1.3 mmt. The loss of government benefits to mining iron ore and imports of ore from Brazil are responsible for the sharp decline.

THE DOWNSTREAM INDUSTRY

Past trends [127]

The first large integrated Argentine industrial capability in steelmaking was established in 1961 by the State when demand for steel by private rolling mills was 800,000 mt/year. The highest level of steel consumption in the country was 4,654,000 tons in 1975. State intervention was supported by a 1947 national plan established by law (Plan Siderurgico Nacional) and the period of State intervention was closed with privatizations in the 1990s. During the intervening period, development of the sector was supported by financial incentives, purchase of steel products by the government at prices much higher than international levels, regulation and control of imports by the Direction of Military Industries, and support and guarantees for steel firms borrowing from multilateral lending institutions and export incentives.[128] Direct government participation included the development of the small integrated steelworks at Zapla and the large facilities of Somisa, where a first blast furnace (BF) was erected in 1961 and a second BF in 1974. From that point on,

additions to reduction capacity were made only by the private sector, as each one of two main private firms established direct reduction (DR) facilities in the late 1970s. Steelmaking and final steel products manufacturing since then have been mainly based on domestic pig-iron or sponge-iron, whether at the State-run integrated Zapla and Somisa, at the private integrated steelworks, or independent semi-integrated or final product makers, largely buying their inputs from Somisa.

The industrial structure, scale and operations of today's steel industry have not been substantially modified by the changes in public policy, including privatization of the two State-owned steelworks taking place in the early 1990s. The only exception is the new role of the now privatized small steel plant in Zapla, now oriented to the production of specialty steels. Today, Argentine steelmaking is done by four integrated operations, from reduction to final products making, organized around the reduction facilities. There is also one semi-integrated steelmaking and final products (no ore reduction) facility, plus some smaller, specialized, independent, rolling mills.

The main core of the industry today consists of three business groups in control of four operations involving six main plants. The three groups are Techint, Aceros Zapla and Acindar. The four operations are: two by Techint (a flat products operation, now known as SIDERAR and a seamless tubes operation, SIDERCA), the Zapla operation with one plant having a strong bias towards specialty steels and the Acindar operation with two main plants, one for non-flat products and one in specialty steel products.

The Zapla works include a small, charcoal blast furnace and an oxygen steel plant; recently privatized. It can produce 130,000 tons per year, 50 per cent of which will consist of specialty steels. A French group holds majority equity ownership in Zapla and supplies technology and management.

The Acindar operation has its own DR facility, steelmaking capacity and rolling mills with commodity production attached to the same works where the DR facility is located while specialty steels production takes place in another plant.

The Techint seamless tubes production facilities are integrated in a single plant, belonging to Siderca, a Techint group firm. Siderca has the second of the two DR installations already mentioned; seamless tubes production is carried out at a large, modern specialized facility and the products are largely exported.

The remaining operation, Siderar, which is a new firm created after privatization through a merger of former Propulsora and former Somisa (first privatized under the name Aceros Parana), produces hot and cold-rolled flat products and tinplate. Somisa had capacity for making both hot-rolled and cold-rolled products and the former Propulsora was restricted to cold-rolling, buying the input, hot-rolled coils, from Somisa. The merger of Somisa and Propulsora integrates under one ownership and management two activities that were already strongly linked by supply relations. Siderar has 80 per cent Techint ownership and two Brazilian minority partners (one an iron-ore mining company, and the other a steel firm also specializing in flat products) and a Chilean minority partner. Acindar has also bought a small equity stake in Siderar.

Production of established steel plants is mainly the result of the combination of three factors: the existence of important process capabilities that should operate without interruption, the effects of international prices and local economic conditions. Capacity utilization should be examined in two stages. The first is the reduction stage, changing iron ore to pig-iron or sponge-iron and the second transforming, where scrap can be introduced to the iron and produce steel.

Theoretical reduction capacity is near four million tons/year, coming from two large blast furnaces, one small BF and two DR facilities. A more realistic level at two and a half million tons, however, is more generally accepted.[129] In 1990, reduction capacity was 3,919,000 tons/year and in 1993 2,746,000 tons/year.[130] At the beginning of the 1980s, it was the same as in 1993. The increase in production capacity in the 1980s was not the result of new investment but of activating mothballed capacity.

In steelmaking, capacities for 1990 and 1993 were 5,103,000 and 3,933,000 tons/year,[131] both larger than reduction capacity in the same year. Each figure represents the sum of all capacities of different levels of efficiency being operational at the time.

Total production, employment, and production per worker at selected years (production in thousands tons) were as shown in Table III.??

Table III.?? Production, Employment and Productivity in Steel-making.

	Steel 000 t	Rolled Products 000 t	Workers Employed	Productivity in Steel	Productivity in Rolled Products
1980	2,702	2,653	36,786	73	72
1990	3,636	3,083	30,730	118	100
1991	2,972	2,815	21,629	137	130

Centro de Industriales Siderurgicos, Movimiento Industrial Argentina, Bulletin No. 20, September 1993.

Production decreased sharply again in 1992, in spite of increased consumption, and just recovered in 1993. Local supply of final products increased in 1993 compared with 1992, in 1993 imports fell after anti-dumping cases were won by local producers, and more specifically imports from Brazil fell strongly. Employment was further reduced, possibly below 20,000 workers.

For the period 1975-1993, the outstanding changes for the industry were the fall in employment and the increases in average productivity, corresponding to closure of plants and production rationalization, and modernization of facilities.

Available statistics lump together imports of raw materials, intermediate products and final products. The sector as a whole almost always appears to be in trade deficit, but in response to changes in local and international markets, the trade balance can change. For example, in 1989 imports of $276 million were lower than exports of $971 million, and the trade balance was positive by $695 million. In 1992, imports were $684 million, exports $456 million and the trade balance negative at $228 million.[132]

Production for the local market tends to average 60 per cent of total production. Exports were 36 per cent of production in 1978, 16 per cent in 1980 and above 50 per cent in 1989-1990.[133] Current distribution of exports by destination is 30 per cent to Latin America (no sales to Brazil), 40 per cent to Asia and the rest distributed between Europe, the U.S. and Africa.[134] The really competitive, internationally oriented production is of seamless tubes from one plant for the petroleum industry. The plant exports more than 80 per cent of its production and accounts for 15 per cent of world trade in seamless tubes for oil exploration and drilling.

About 75 per cent of production is done by continuous casting and firms have been active in technological updating and in the introduction of advanced production management methods. Specialization and service have also been given close attention, e.g. the specialty steels plants produce according to specifications and agreements with the automobile manufacturers, and the flat products plant has incorporated pre-painted and covered products. At least two of the plants have already obtained quality system certifications following ISO 9000 rules. The sector seems well up to date in production technologies and processes, having had access to technical information and training at Japanese and Brazilian plants. On the other hand, actual productivity, however improved, lags behind the productivity of the most efficient producers in the world.

Steel production capacity today is approximately matched to local demand. The seamless tubes plant is the only plant with a large export market. Argentina's capacity is well below 1 per cent of world capacity and is perhaps 10 per cent of Brazilian capacity. Brazil is a major steel exporter possessing more numerous and larger firms and plants than Argentina. The question seems to be whether the Argentine plants are appropriate to compete at home and perhaps abroad with their Brazilian counterparts, not whether there is competition in the Argentine market.

Argentina has one producer in flat products, one producer in seamless tubes and some diversity in non-flat and specialty steel products. Only imports create competition in flat products, as happened in 1992, and in seamless tubes. Imports in the latter case are unlikely because output is internationally competitive. No detailed data are available on the level of segmentation, differentiation and competition in this area. Under regulated conditions, imports were allowed at all levels (raw materials to final products) according to the needs of the internal market and local supply capacity. After deregulation and privatization, imports were 30 per cent in flat products and 10 per cent in non-flat products in 1992. This situation was partially reversed in 1993 through changes in marketing and supply strategies of local firms and through Government anti-dumping intervention.

Constraints and prospects

One basic input to steelmaking is metallurgical coal, used to produce coke in coke ovens. Argentina has very little coal and this is mostly low heating value lignite, unsuitable for coke. Thus, like Brazil, it imports coals, usually from the U.S.. Metallurgical coal prices have recently risen and this adds significantly to production costs as steelmaking is very energy intensive.

According to industry sources, after deregulation and privatization in oil and gas, and in electric power, prices of steel industry inputs have remained high. Continuing recession in Europe and Japan, even if accompanied by recovery in the U.S., has kept prices depressed and/or extremely sensitive to purchases or withdrawals from the market by large buyers such as China.[135] The overall trade environment is characterized by aggressive selling and pricing or dumping. Local firms accumulated very large losses in 1990-1992 and the situation for 1993 and 1994 remains in doubt.[136] The Argentine State has withdrawn from production and does not guarantee gas or energy prices to firms. On the other hand, it has eventually reacted against some imports.

Aceros Zapla, the smallest and physically most remote firm, has invested $30 million in revamping operations after privatization. The firm aims at reaching a 50 per cent share of the domestic specialty steels market. They have already exported large foundry products of 30 tons weight to Chile.[137] Acindar has announced a $100 million investment plan strictly in steelmaking, to be supported by the IFC. The plan is aimed at introducing more advanced products, improving costs, quality and service, including increasing quality and productivity in a welded tubes plant, increasing control and precision in the fabricating processes of its rolling mills, and partially shifting production to specialty steels in its main commodity plant.[138]

In the flat products markets, the Techint group controls SIDERAR, the firm emerging from consolidation after privatization. The firm now combines reduction, steelmaking and hot and cold rolling of flat products at the former Somisa plant and cold rolling capacity at its Propulsora plant. The firm's investments in 1993 were $100 million and current investment programs amount to $365 million. The investment program is aimed at modernization and installation of new equipment in four locations of SIDERAR's activities, the two main steelmaking and rolling mills and two other finishing and service plants.[139] SIDERCA, the seamless tubes producer, regularly exports 80 per cent of its production but low international prices have been a factor in its recent losses so is now working on further technical and organizational improvements.[140] Techint also now owns 23.6 per cent of TAMSA, a similar Mexican plant, and is in charge of managing its operation.

Protected by the same rules as apply to automobile production under Mercosur, the industry does not face direct competition from low-cost Asian suppliers although there have been some imports from Korea. In the longer term, should protection be removed, prospects would be grim. The question is whether Argentina has a comparative advantage in steel-making. High labor and coal costs, competition from Brazil and Asia and lack of economies of scale for most products seem to suggest that the industry cannot survive without government intervention.

G. NON-FERROUS METALS

The resource base

Among major elements, Argentina has gold, silver, lithium, copper, aluminum and zinc. At end 1993, there were 35 mining companies actively exploring. In most cases, these projects have reached the approval stage or have been commissioned.[141] The sector has been opened for foreign direct investment. Plans currently under way call for $1.5 billion in investment over the 1995-97 period.

The rigid mining policy that formerly obtained has been revamped. Investors are guaranteed 30 years' stable taxes and can deduct 100 per cent of the costs of prospecting, exploration and feasibility studies. There are no restrictions on imports of equipment.

The resource base is owned by the provincial governments. Royalties to them cannot exceed 3 per cent of the unprocessed value of the mineral. Border areas that in the past were off limits have been opened to exploration.[142]

Table III.?? Non-ferrous minerals, value of production, in 1992 pesos.

Year	1990	1991	1992	1993
Beryllium	20.758	22.329	-	-
Cadmium	130.000	141.600	142.800	96.000
Zinc	28.186.056	28.615.437	29.872.962	22.886.955
Copper	568.701	651.537	473.121	-
Tin	936.800	-	-	-
Manganese	183.590	265.265	82.500	-
Lead	7.453.435	7.559.343	5.727.964	3.772.494
Uranium	171.820	328.020	2.280.520	2.311.760
Gold	15.391.200	18.979.700	12.168.200	10.309.200
Silver	9.009.613	7.625.531	4.945.766	4.659.096
(Volframio)	40.560	33.800	-	-

Source: INDEC. Anuario Estadistico de la Republica Argentina. 1994 Buenos Aires. Table 5.6.4

GOLD AND SILVER

Past trends

Production of gold and silver have been declining for some time. Typically, the amount of gold or silver realized is measured in terms of grams per ton of ore extracted. In many cases, more than 4 tonnes of ore will need to be processed to yield one ounce of gold. There have also been a number of independent miners panning for gold. YMAD, a province-owned gold and silver mining operation was to have been privatized in 1993. The company produces 20,000 oz. of gold equivalent per year. Other privatizations were also scheduled but not completed.[143]

Constraints and prospects

International Musto and Anglo-American are actively exploring for gold, silver and copper. Typically, deposits are deep and development of the mine takes one or two years before production begins. As export commodities, gold and silver are traded at prevailing international (London Metals Exchange) prices. Without additional value added, perhaps in the form of jewelry or use in electronics, the industry is likely to remain small. CRA (Australia) has signed an agreement with a province-owned operation, YAMIRI, that permits CRA to explore and further develop the Famatina district in the north-west. El Dorado (Canada) purchased a tract near Chile.

ALUMINUM

Past trends

Since 1989, Argentina has produced from 155,000 to 170,000 mt./year of Aluminum or slightly less than 1 per cent of global Aluminum production. Consumption in 1993 was 63 per cent of production and there were no imports.[144] Aluminum production is energy intensive and constitutes almost 30 per cent of production costs The value of production in 1993 was estimated at $194 million, decreasing from $196 million in 1992. Global Aluminum prices have been declining since 1988 and fell in 1993 to $1,139.75/mt[145] while global output has averaged 15,000,000 mt./year over the 1989-1993 period and global consumption has increased by less than 1 million mt./year. .

Constraints and prospects

The Aluminum industry is one focus of environmental concerns in Argentina. The industry has been striving to clean up production but is still under pressure to clean up. The global market has not been improving and, while exports are 37 per cent of consumption, international prices have been reducing the value of exports. Demand in Argentina is likely to increase as more auto manufacturers incorporate Aluminum into production, especially in body and engine parts. The overall competitivity of the industry is unknown but seems likely to improve owing to investments in labor-saving equipment.

LEAD

Past trends

In 1989, Argentina was producing approximately one half of one per cent of world refined lead production. Since then, production has declined by about 20 per cent Reserves data are unavailable.

Constraints and prospects

Lead prices took a steep increase in 1994, increasing from $490/mt. in January to $634/mt. in December, after several years averaging about $350/mt.[146] As there are some 35 companies active in exploration for a broad range of minerals, there is incentive in higher lead prices to increase production of existing deposits.

ZINC

Past trends

Production of zinc in Argentina has been declining since 1989. Argentina contributes less than 1 per cent to global zinc production and, in 1993, imported 11,000 tonnes to consume one third more than it produced. Prices have also fallen since 1989 in spite of global declines in production. The major producer is Sulfacid, producing 30,000 tonnes in 1993. Its reserves have been in decline and no new deposits have been developed. The other producer, Cerro Castillo SA, has closed its mine operations and is looking for buyers.[147]

Constraints and prospects

Consumption in Argentina has been on the increase over the last 6 years, with the exception of 1990. The industry, dependent upon provincial governments, has little incentive for exploration. Mining conditions are difficult, the costs of ore extraction are high, and there has been labor unrest in the mines. The lack of an exploration program can, in part be explained by declining international prices and in part by failure of the companies to take advantage of the mining incentives program.

H. MACHINERY, TRANSPORT EQUIPMENT AND ELECTRICAL ENGINEERING

MACHINE TOOLS

Past trends

The situation confronting the machine tools industry is complicated and difficult. From 1987 to 1992, Argentina's share of world production of machine tools declined by almost 13 per cent. From 1991 to 1992, the share increased by 21 per cent. Over the period 1987 to 1992, imports increased by 96 per cent and exports declined by 68 per cent.[158] The industry has been restructuring for over 5 years and the process is still not complete. Imports of machine tools from China and Brazil are hurting domestic manufacturers who are, paradoxically, exempted by the Mercosur tariff structure. In order to become more productive, the industry has been laying off workers. In addition, sales to the automotive sector have made for some increases in production. As a result, the industry has been able to recoup some investments. First quarter 1995 results point to increased exports to Mercosur and the United States. Table III.?? shows a brief history of production and exports.

Table III.?? Production, trade and consumption of metal machine tools, $ thousands

Year	Production	Imports	Exports	Consumption
1980	58.608	82.201	28.023	112.786
1985	19.849	31.314	3.707	47.456
1986	33.053	16.426	4.711	44.769
1987	39.927	38.338	15.988	62.277
1988	48.623	44.640	32.590	60.682
1989	41.643	29.946	31.332	40.257
1990	44.835	32.135	31.698	45.272
1991	30.415	98.816	16.098	113.133
1992	31.838	71.153	7.880	95.110
1993	25.181	90.397	7.167	108.401
1994 (1)	24.661	118.619	6.226	137.054

(1) Provisional

Source: Asociacion Argentina de Fabricantes de Maquinas Herramienta, Accesorios y Afines. Maquinas Herramienta Argentina, 1995, Buenos Aires.

Exports to Brazil are mostly of specialized equipment rather than the standard mix of milling machines, lathes and drills. For specialized equipment, relative prices may favor manufacturers in Argentina and for standard equipment, manufacturers in Brazil. The majority of Argentine machine tool manufacturers who do try to produce the standard equipment line are in financial crisis and are unlikely to survive. Those firms producing specialized equipment are doing well. In addition to the regional competition, there is also strong competition from Italy, Germany and the United States.

There are no subsidies for the industry but it shares the tariff structure of the transport equipment sector. One major manufacturer, Automation Micromechanica, is doing well.

Constraints and prospects

Managers and owners are not experienced with the raising of capital through the flotation of equity issues. As current market interest rates are above 20 per cent, raising capital through this method is precluded. Thus, restructuring and/or expansion will have to be financed through sales. As most of the manufacturers of standard product lines are in financial crisis, it is expected by industry observers that these will go into bankruptcy. The expertise embodied in these firms will likely be used to establish companies that will repair the machinery made by the companies that survive.

Over the long run, successful companies will develop a niche market strategy that allows them to compete in specialty items. Due to a strong base of skilled engineers, the technical capacity to design the equipment will remain available. The lack of experience with equity financing will need to be rectified should the industry wish to successfully compete with China, Germany, Italy and the United States.

AGRICULTURAL MACHINERY AND EQUIPMENT

Past trends

There are still a great many small farming operations in Argentina but there is reason to believe that larger farms are being created. Over the period of 1990 to 1994, while other sectors were booming, most agriculture sectors were struggling. As concentration increased, economies of scale come more to the fore and it is possible that agricultural equipment can be used more intensively. As that process began to take hold, relatively higher productivity rates lead to equipment that, while not new, was none the less more efficiently utilized. The thrasher/harvester is the clearest example of this. Rather than each farmer owning his/her own, one device can be used to service a number of farms. Since the initial investment cost of these units is high, more efficient use of them results in a greater return on investment and thus higher productivity. Data show that compared to 1988, the number of tractors in use in 1991 has declined by 60,000. The age of the equipment points to the bulk of vehicles being older than 15 years, with only 10 per cent being less than 5 years old. Similar relations obtain for harvesters and combines.

Table III.29 Agricultural machinery in use

	1991	1992	1993
Agricultural tractors	204,000	205,000	206,000
Harvesters/threshers	48,500	48,800	50,000
Milking Machines	8,150	8,170	8,200

Source: FAO, Yearbook of Production, 1993, Geneva.

The farm machinery branch is a capital goods sector directly linked to demand for agricultural products and therefore influenced by all quantitative and qualitative shifts in the main activity's performance and orientation.

Demand for agricultural equipment has its origins both in the Pampas productive area, where cattle raising and cultivation of cereals and oilseeds alternate according to prices and profitability, and in the peripheral or regional areas, where more diversified agricultural production takes place. Purchasers of equipment are farm owners themselves, or independent contractors of land tilling or harvesting services, or, more recently, ad-hoc groupings or associations of land owners who have started machinery-sharing practices. The current stock of agricultural equipment in use is too old and already used far beyond its theoretical lifespan. [149]

One source of qualitative changes in demand is the onset of major technical changes in agriculture, such as the double cultivation of wheat and soybeans, stronger land conservation trends, direct seeding or no-tilling-no plowing (no ground breaking) agriculture, the more systematic utilization of pastures with collection and storage of grass or fodder for feeding the cattle, etc. Each one of these trends increases or creates demand for certain types of equipment. Also, there is a wider, conceptual change taking place now in Argentine agriculture in the sense of a more planned management of land resources and agricultural inputs, such as the supply of different feeds to cattle or dairy animals according to technical and economic conditions, time of the year, etc. Farmers who change their decision-making habits and manage their production systems more rationally tend to demand new and better, more specialized equipment, from the domestic industry or from importers of foreign equipment.

Some demand shifts are relatively easily taken care of by the industry, involving shifts of machinery production between well known, classical implements requiring only the typical workshop flexibility of the metalworking industry with little product engineering efforts. Other changes imply more fundamental innovation, whether by copy of more advanced or qualitatively different foreign equipment, or in some cases through research and development contracts with specialized units of the National Institute for Agricultural Technology (INTA).

As general background for the ....alysis of this sector, it is useful to recall that demand for its products can be unstable, with long cycle variations, shorter term variations, marked seasonality along the year, shifts in the types of products; qualitatively demanding, as farmers want the latest improvements even when their purchases are scarce and companies lack profits to finance product

development and sensitive to the availability and cost of finance.[150] It is also true that at any time, even times of crisis or of forced adaptation to new contexts, some farmers are more skilled than others at adapting to changes in the conditions of their business and quite often as soon as they can afford it, they replace old equipment. It is also true that shifts in demand and profitability from one agricultural product to create bursts of new demand that makes some capital goods firms suddenly prosperous. The current situation in the farm equipment sector has a mixture of many of these elements, but with the added twist that, as trade has been liberalized, some of the types of machines required as a consequence of recent trends in agriculture are being purchased from abroad. This creates additional problems for the local machinery producers.

The current estimated value of production of farm machinery is approximately $400 million not including tractors. The products of this industry are harvesters and several families of agricultural implements, such as implements for plowing and tilling, implements for planting, seeding and fertilizing, harrows, rollers, pulverizers, cultivators, weeders, haying equipment, sprayers and dusters, equipment for moving, storing and treating grain, etc.. Tractors in Argentina are produced by a few firms, the main ones foreign-owned, and are generally not included in more specific farm machinery analyses.[151] Tractors are the technologically more complex goods, followed by harvesters. Among those goods broadly known as implements there are machines and equipment of a certain complexity such as different types of sowing/seeding machines, motor-driven spraying equipment, etc..

The agriculture machinery sector had 15,800 workers in 1984.[152] In 1992 the manufacturers association estimated that the level of employment was about 12,000 workers and more recent reports claim that employment has continued falling rapidly.[153] There are no production data covering the whole of the 1980s. In the case of harvesters and other equipment, the number of units sold may have fallen in time because of a shift to larger, more productive units. It is nevertheless clear that production levels were extremely unstable, as production in 1983 was 1,115 units and in 1984, 1,222 units, falling to 260 units in 1987, climbing to 1,120 units in 1990 and falling again to 760 units in 1991.[154] Manufacturers association estimates for capacity utilization are 35 per cent to 40 per cent in the 1980s and about 55 to 60 per cent in recent years due to higher grain prices raising farmers' income and greater availability of funds.[155] The latest estimates from the same source for different types of equipment suggest that, in the period 1991 to 1993, the trend has been positive for production of some types of equipment such as cultivators and sprayers and dusters and negative for harvesters and seeding/sowing machines.

Up to date data are scarce but enough to give scope for some comparisons with earlier periods of sector development. For example, the highest level recorded of annual sales of domestically manufactured harvesters was 3,205 units in 1961 and total sales levels (including a small number of imported units) was well over 2,000 units for all years from 1960 to 1965. From 1966 to 1975 local production and sales were between 1,000 units in a very bad year and 1,890 units in the best year, going above 2,000 units again for the years 1976 to 1978.[156,157]

There were large falls in average production from the 1960s and 1970s to the 1980s and then again from the 1980s to the 1990s, while there are also subsidiary variations shown in more recent data. During the early period of the 1960s, demand from the farming sector was sustained not just by better performance in the sector but also by a generous credit system that disappeared after the 1977 financial reforms. The machinery sector is today a reduced version of what it then was. Events such as further losses of markets to recent imports contribute to further deterioration but the problem of the industry involves older and broader questions. This capital goods sector of proven productive capability, having the advantage of being in very close touch with the requirements of the efficient local agricultural sector, has developed problems related both to the lack of investment in agriculture and its own increasing lack of competitiveness. Exports by the Argentine farm machinery sector are currently estimated at 4 per cent to 5 per cent of sales but had been much higher in the 1970s. The average yearly amount exported from 1988 to 1990 was only $11 million.[158]

The industry is vertically integrated, producing all basic and metalworking processes, although some firms have started recently to incorporate foreign components. Product technology is an area of

constant innovation. Agricultural producers buy sparsely, but when they do they insist on the most modern equipment. This may be due to the effect of exposure to imports since the 1970s, more frequent travel abroad and diffusion of technical information in recent years. Process and organization technologies are not equally up to date. A recent study of a sample of 26 implements producers indicates that even when productive equipment in the workshops was partially renewed, this did not entail significant changes in production organization.[159]

The farm machinery industry is not geographically centralized. Many plants are located in medium-sized cities in the main agricultural provinces. Ownership is largely by foreign transnationals in the tractor sector while the main remaining producer of harvesters is also owned by a foreign tractors-producing firm. Most other equipment and implement producers are domestic, but a trend has lately appeared involving Argentine firms making agreements with or obtaining technology from Brazilian producers. Brazilian firms are suppliers of sowing machines and are much larger than their Argentine counterparts. Sowing/seeding machines and harvesters are the main machinery imported besides tractors. Argentine firms seem to be in a stronger position than Brazilian ones only in equipment related to cattle raising, such as haymaking or grass and forage packing equipment, but even in these cases they need of a Brazilian partner to sell in Brazil.[160].

Imports are reported to be making important inroads in harvesters and sowing/seeding equipment, as well as in tractors. Imports have not been stronger due to the weakness in internal demand. Unfortunately, no concrete data have been released and comments about imports mostly come from local producers and association representatives interviewed by agricultural magazines or specialized sections of newspapers. The main sources of imports of sowing machines is Brazil and imports of larger harvesting machines are brought in from the U.S. and Brazil by transnational corporations.[161]

Constraints and prospects

As most farming operations are still rather small, and as the historic access to capital is through debt rather than equity, farmers' abilities to acquire new equipment is a direct function of incomes. Current interest rates positively discourage borrowing and agriculture overall is not currently in a position of being able to afford modern, productive machinery. In addition, the cost of the equipment is high and loans are often based on projected crop yields. Several seasons of bad weather can bring about a situation where farmers heavily in debt to acquire the equipment may lose their land should the underlying commodity prices fall significantly.

The decline in this sector started in the 1970s as credit for investment in agricultural machinery practically disappeared and debt was indexed. It also suffered the consequences of all structural or cyclical changes in profitability leading to decline of investment by the agricultural sector, whether related to changes in international trade and prices, to government policies, or to technological change.

Some of the effects of this long term trend are obsolescence of the production base, lack of consolidation of product engineering capability, possibly a strong lag in process technology and in the organization of production. It is surprising that in a country as dependent upon agriculture as Argentina, manufacturers have not done more to keep up to date.

In recent years, imports of equipment were made cheaper by tariff reductions and exchange rate overvaluation. Even those farmers who make some investment in spite of poor profitability are attracted to buy competitive foreign equipment. Furthermore, Argentine machine producers added to their problems by agreeing to include their products in the "Common List" of imports negotiated with Brazil at the beginning of the then bilateral market integration process, without expecting their competitive position would eventually deteriorate so badly.[162] They also complain that the government, aiming at keeping import taxes for capital goods at zero level, has promised local producers a special refund of 15 per cent on capital goods sold locally, but that government agencies are not making the payments.[163]

Industry representatives reported in May 1993 that many firms were closing or enforcing suspensions of workers on the basis of low demand. At this stage they claimed employment fell in a

matter of months from 12,000 to between 9,000 and 10,000. When production kept at a steady level, stocks increased due to the lack of sales.[164]

No comprehensive survey or study is available of current conditions in the branch. No structured reconversion scheme has been announced. This does not rule out individual actions by some firms, perhaps helped by specific increases in the demand of the particular products or on the basis of a long-term firm's policy. Such firms may introduce new products, reorganize production, etc.. In fact, some sources maintain that a restructuring process is going on, in which many small firms close, some other firms seek associations with Brazilian firms, and some large firms modify their older and heavy structures through complex and difficult transformation processes[165].

When the underlying demand for agricultural products improves, when credit is cheaper, when small inefficient farms are formed into larger operations and when the industry decides that it wants to compete, then a turn-around may come.

MOTOR VEHICLES AND AUTOMOTIVE COMPONENTS

Past trends

In Argentina, automobile assembly and manufacture dates from before 1959, but the modern automobile industry as an aggregate of vehicle-making and parts-making firms was established under a promotion regime dating from 1959. Current production includes automobiles, trucks, pickups and buses (complete vehicles and their parts)[166]. There is also a healthy segment of manufacture wherein the chassis, engine and drive train of trucks and buses are built then exported to Brazil where the body is added. In fact, many of the imports from Brazil consist of this kind of production. Manufacturers associations believe that Argentina gets the majority of the value added in this more specialized production.

Production in 1980 was 281,793 units and the general trend for the decade was negative. In 1990 it was just below 100,000 units. Due to the combination of economic recovery and a special promotion regime that largely exempted the sector from trade liberalization, production recovered in 1992 to 262,000 units and went on to reach over 340,000 units in 1993. The highest level of production ever in the sector will probably be realized in 1994. Estimates place it at over 400,000 units. Most units of all types produced are sold in the internal market but more than 38,000 were exported in 1994.[167] In 1993, the car model with the largest sales sold 42,000 units, the longest annual run ever for the Argentine industry. In the case of commercial vehicles, production doubled from 1993 to 1994. .

Table III.?? Production per kind of vehicle, units

	Automobiles	per cent	Commercial Vehicles	per cent	Total
1990	81,107	81.4	18,532	16.6	99,639
1991	114,113	82.1	24,845	17.9	138,958
1992	220,502	84.2	41,520	15.8	262,022
1993	286,964	83.8	55,380	16.2	342,344
1994 (1)	303,000	83	112,000	17	415,000

(1) estimated

Source: Ministry of Economy and Public Works and Services, Argentine Industry in the 90s, Buenos Aires, 1994.

Both imports and exports have had significant increases since 1990 but imports have outstripped exports significantly. In 1994, the commercial trade balance for the industry will be negative by as much as $2.1 billion. Much of these imports are coming from Brazil. The down turn in the economy should reduce the trade balance in 1995. Table III.?? shows a breakdown of exports and imports for 1990 - 1993.

The Argentine automobile industry has been largely domestic-market oriented. The largest number of units exported in any year before the current arrangements for regional trade were established, was 15,443 in 1974. Final production in 1980 as well as in 1989 was 98 per cent oriented to the domestic market. In

1990, 5 per cent were sold abroad, to neighboring (mostly Brazilian) markets. In 1993, the record production year, almost 30,000 vehicles were exported, mostly to Brazil, to comply with "compensated" trade regulations. This represented slightly more than one third of the units imported.

Table III.?? Exports and Imports Per Kind, units

	Automobiles		Commercial Vehicles		Total	
	Imports	Exports	Imports	Exports	Imports	Exports
1990	855	316	318	810	1,173	1,126
1991	22,601	4,277	6,030	928	28,631	5,205
1992	94,404	15,213	15,812	1,140	110,216	16,353
1993	87,902	21,145	24,036	7,831	111,938	29,976

Source: Ministry of Economy and Public Works and Services, Argentine Industry in the 90s, Buenos Aires, 1994.

The highest number of units imported under current regulations was 100,000 units in 1992 and declined to 70,000 units in 1993. Imports were made in 1992 by car producers themselves, who imported 68,000 units at a preferential tariff rate by importers who imported 30,000 units at the highest level of taxes, and by private, individual importers, who imported 18,000 cars at an intermediate rate. Imported cars were thus 38 per cent of total sales, as exports were very low. Imports in 1993 were 19 per cent of local sales of 380,000 cars of which 340,000 were produced, 70,000 were imported and 30,000 were exported. Car assemblers practically had no finished imports in 1993 and now strongly criticize the allowance for individuals, which is based on importing the same brands and models that the final producers make in Argentina or import to Argentina.[168]

Automobile parts production is also reported to have increased significantly from April to January 1994.[169] There are however complaints from the part-makers about not obtaining the full benefits of the recovery, at least in comparison with the benefits obtained by the automobile manufacturers. Current regulations permit a higher imported component content in cars than in the past, and final-product makers find it is to their advantage to reduce the local content of the vehicles they manufacture. Lower local content puts more market power in the hands of the final product makers and, while some parts makers opted for reducing their prices and profits, other higher-cost firms just gave up the original parts market.

Direct employment in the final product plants (automobile assemblers, who also produce part of their components in-house) declined from around 39,000 in 1980 to less than 18,000 in 1990. Employment has been gradually increasing since 1990.[170] Currently, employment is at approximately 25,000. In parts-making companies, employment was 37,000 in 1980 and approximately 23,000 in 1990. Industrial census data show employment at vehicle-making firms falling from 37,000 in 1973 to 22,000 in 1984 and components-making plants staying relatively constant at the level of around 48,000 in the same period. Estimates placed it at 35,000 in 1989.[171] According to census data, companies making final products either closed or reduced employment sharply during the critical period of late 1970s to early 1980s. Parts-making companies made their adjustments later, between 1984 and 1989.

According to reports and releases from the vehicle manufacturer's association, in terms of value, total exports of automobiles in 1980 were $108 million of which $21 million were for finished vehicles and $87 million for parts and knocked-down (KD) units. In 1990, exports were $166 million of which $25 million were for finished cars and KD kits and $141 million for parts and assemblies. Total exports in the years 1991 to 1993 were, respectively, $243, $450 and between $800 and $900 million.[172]

In 1987 the Ford and Volkswagen affiliates of Argentina and Brazil were merged in a new firm, Autolatina, with management in Brazil. Brazil and Argentina had started as well a broad bilateral process of progressive economic integration through a basic Economic Complementation Agreement) (ACE No. 14) and specialized complementary agreements, "protocolos"; the governments of the two nations established in April 1988 the "Protocolo 21" to the ACE 14 agreement to define objectives for the motor vehicle industry and rules for the exchange of its products in the bilateral area (imports from any origin were at the time practically prohibited in both countries). The Annexes to the Protocolo 21 established reciprocal export allowances for finished

vehicles for 1989 and 1990 as well as a Common List of components that could be traded, but in fact none of these measures was applied until the two countries, joined by Uruguay and Paraguay, signed the Mercosur treaty in 1991, committing themselves to the start of a common market on January 1st 1995.[173]

Protocolo 21 was the governments' first large contribution to making the change in outlook based on regional exchanges possible. Firms with operations in both countries were the ones to adapt faster to the new trend, with investments in Argentina of $200 million in a state-of-the-art transmission components plant in one case, and with investments in transmissions and car engines production for at least $90 million in another.[174]

Trade data for components and engines for the years after 1985 show a trend towards quantitatively higher exports and concentration of exports in those components, a trend that is yet more visible in the case of exports to Brazil.[175] A trend towards Argentine specialization in large components and mechanical subassemblies apt to be produced with local qualified manpower in new economic scale plants (sometimes in plants transplanted from Brazil) seemed to be taking hold.

The Argentine market today accommodates three main automobile makers plus three main truck makers and some producers of buses. When the first promotional measures were introduced in 1959, 23 assembly and production companies applied and no fewer than 18 or 19 started production.[176] When Argentina started its 1976-1983 liberalization process, only seven of these companies remained and several more closed or merged shortly thereafter. As a consequence of several exits, plus the arrival of one transnational firm that was not present at the beginning, and the development of nationally owned groups that made partnerships with foreign producers, automobile makers in Argentina at the end of the 1980s were three firms. These three made five brands of cars. Renault, making its own cars and other vehicles. Sevel, an Argentine group associated with Fiat and a simultaneous licensee of Peugeot, and Autolatina, a partnership created in Brazil by Volkswagen and Ford, were the survivors. Truck and bus-making was carried out by Scania, by a local group making Fiat-Iveco vehicles, by Mercedes-Benz and by several other smaller firms, mostly locally owned and specializing in building buses or small trucks.[177]

Current developments on group ownership are the purchase of a controlling interest in Argentine Renault, now CIADEA, by a private Argentine-Brazilian group of component manufacturers and a stockbrokerage. Managerial control of the former Argentine Renault operations seems to be held by the new companies Argentine partners.[178] General Motors is also joining with CIADEA to produce trucks for export to Brazil.[179] Autolatina is also breaking up into separate Ford and Volkswagen operations[180].

The large groups also own important component and engine-making plants and have made, in recent years, substantial investments in them. Sevel is a partner with Fiat in an engine plant with 55 per cent control by Fiat. The Autolatina group built a state-of-the-art plant to manufacture transmission components and assemblies. Mercedes Benz and Scania have plans for the production of gear-boxes and other parts. All these groups operate within two agreements: a special arrangement with Brazil on vehicle production, and Mercosur.

The development of this sector in Argentina took place against a background of strong protection and the benefits of various promotion schemes and export incentives. Given the relatively small size of the Argentine market, and though rationalization has taken place, the question of appropriate scale is still only partially answered. The current arrangements are a great improvement over the situation of the 1980s when total production fell to one third of the highest levels achieved before without reducing the total number of models available. In 1973, the maximum and average runs for production of a given model were 20,000 and 5,300. In 1989-1990, after many firms had disappeared and the market was less than half of the early 1970s, the maximum and average runs were 17,000 and 3,500 respectively.[181]

Constraints and prospects

The automotive industry is becoming very successful. Total production in 1994 is expected to reach

420,000 vehicles.[182] General Motors, Mercedes Benz, Toyota and Chrysler are either returning or looking closely at setting up factories. Daewoo of Korea is doing a feasibility study to determine whether to produce in Brazil or Argentina.[183]

As production has increased, the stock of vehicles has been increasing in spite of the advanced average age of the fleet, at 15 years. A promotion scheme to be launched in 4 areas of the country in 1995 will offer a 20 per cent discount of the purchase of a new vehicle when an old one is traded in. The scheme will be financed by government and industry.

Although the special arrangement with Brazil has, as a characteristic, the specialization of Argentina in the production of certain main vehicle component parts and subassemblies, there is little in the arrangement to improve the position of independent part makers. It is largely the full affiliates of the vehicle-making companies that produce and exchange the complex, advanced components and engines involved.

In Decree 2677, passed in 1991, the government made explicit demands that firms should present to the government "reconversion" plans for restructuring production, product mix and model lines and to negotiate with their headquarters or partners and licensers abroad, the simultaneous launching of new world models in Argentina and the country of origin of the model. In exchange for this, firms were to receive important advantages in trade, implying in effect guarantees of profitability through dominance of the import business.

The Decree 2677 regulations are valid until 1999, as GATT rules will be strictly followed thereafter. But in many cases the new rules are explicitly specified only for the 1992-1994 period. As from January 1, 1995 the Mercosur rules, as agreed in the meantime by the member Countries, should apply. In addition to establishing a complex trade system with differential rights and advantages for different agents (most prominent among them the firms already included in the roster of vehicle-makers), the new regulations determine the degree of national integration through an increase in the allowed value of imported components to 40 per cent (as an average in the first years, and later model by model). They establish that each automobile maker must balance its foreign trade, in value terms, through different forms of compensation of value of imports with value of exports and with part of the amounts invested. Last but not least. Finally, the regulation introduces the concept of reconversion, as firms taking advantage of the new regulations must put forward credible investment and restructuring plans for government approval and monitoring.

The trade regime defines four categories of importers: the incumbent local producing firms, other foreign producers not having industrial activity in Argentina, the locally operating automobile traders and importers, and private individuals. Both locally established firms and overseas automobile producers can import parts and vehicles paying low duties: a 2 per cent rate plus extra taxes (as the statistics tax in the case of locally established producers), and 18 per cent plus any extra taxes for the international producers not produced in Argentina. In order to do so they must compensate imports with exports. Locally established producers that make reconversion investments may also add to the exports amount in the compensation account up to 30 per cent of the amounts invested in their plants. Therefore, local producers may add together as compensation exports:

- the value of their own finished vehicle exports (in which case every exported dollar will be counted as 1.20 dollars);
- plus the value of vehicle components they themselves manufacture, and of dies for production, that they may export;
- plus the value of exports of components made by independent producers arranged for by the final product makers;
- plus 30 per cent of the amounts invested in improvement or expansion programs.

Final product makers must give 25 per cent participation to products made by independent component makers in their exports. Imports from Brazil made under Protocolo 21 may be added to imports made under the new regime if the total firm's import-export trade is balanced.

To be entitled to enjoy the benefits of the new regime, the Argentine final product (vehicle) makers

must prepare and obtain approval of restructuring plans. Such reconversion plans should specify investments to be made by the firm, and should commit the firm to achieving ostensible reductions in variety of models, and to start launching new world models in Argentina at the same time their international owners or licensers do elsewhere in the world.

In order to pay the lower tax, foreign producers with no Argentine production can source local producers for parts. In 1995, they will pay the agreed Mercosur tax. Individuals may import themselves, vehicles also produced in the country or imported by the local producers, paying a 22 per cent tax plus any general taxes (e.g. the statistics tax that all goods pay).

An agreement reached by the representatives of the government, the industry and labor in the first half of 1993, established the remaining quotas for imports from Brazil, a limited wage increases schedule, and a continuation of the 1991 agreement to keep prices constant in the local market. At the same time, domestic prices are higher than international levels, especially compared to Japanese cars.

The vehicle makers of Argentina came up in the 1980s with a strategy of adding large, specialized capacity to their productive organizations so that they could produce chosen complex components and subassemblies which were meant to be their means of exchange in intrafirm trade with other affiliate or related companies. This did not provide any relief to independent component makers who faced falling and irregular demand in the 1980s. Decree 2677/91 determined that after January 1st 1992, the "terminales", or vehicle manufacturers, should include at least 25 per cent parts bought from independent Argentine producers in their "compensated exchange" trade flow.

The result of this evolution for independent component makers is that they have tended to become more heterogeneous as a producing group, as many have opted for serving the less demanding domestic replacement market. There are a few success stories in the development of exports to the international after market, incorporating equipment and technology to that effect.[184]

A high integration of components has been the result of a shift in the automobile regime regulations of 1971. These changes have not been well received by the "terminales".[185] They have suggested that the high cost problems of vehicles in Argentina were and are due to inefficiencies at the part-making segment of the industry and have obtained a gradual reduction of the compulsory local parts integration levels, either directly or through the "compensated exchange" rules. Another point made about independent component producers, is that during the current recovery the parts-making segment of the industry has been a bottleneck in supplies that has delayed delivery of finished vehicles. The decisions of the "terminales" to get the best from this conflicting relation have included concentrating the use of imported parts in newer models, leaving to local makers the supply of parts for highly integrated older models to keep the overall average local integration at the prescribed levels.

The independent parts-making sector is a conglomerate of foreign owned or foreign-licensed firms and nationally owned firms, some of them supplying in increasing proportions the spare parts market and some of them selling as well to the international after market. A recent important trend is as well that Brazilian component-makers, generally larger and sometimes significantly more advanced in technology and in organizational improvements than their Argentine counterparts, have acquired control of key independent Argentine firms.

One interesting aspect of the operation of the regime is that it is an arrangement between the government of Argentina and firms already making cars and heavier vehicles of European and U.S. origin in Argentina. Possible industrial participation of Japanese firms is under study by some of them but will apparently be restricted to the range of special vehicles or trucks.[186] The important question is not just whether the Argentine market and feasible Argentine participation in Mercosur and in international markets can sustain current and newly entering firms, but whether it can economically sustain all firms already operating in it. On the other hand, the combination of specialization in main components making, lower general local content and more participation of assembly operations, may help achieve economies in more flexible plants or through other means.

According to industry sources, effective investment in 1992 was $140 million and in 1993, $240 million, a total of $380 million in two years.[187] This refers to real investment, not to commitments made to comply with government guidelines. However, one question that always arises in relation to this sector is the breakdown between very specific expenses for production of the new models, such as tooling, dies, special machines or hoisting equipment, and investment for the general improvement of productive capacity. The former one is usually most important in this industry, but it also implies some of the latter. Expenses for new models are high and to a large extent, cannot be recovered. Total investment commitment by the firms in the context of decree 2677/91 is $1.6 billion for the period 1991-1999. Investment already made, $380 million, is almost 25 per cent of the total committed amount. It would be interesting to have an independent assessment whether this amount is good enough for a serious reconversion.

THE TIRES INDUSTRY

Past trends

The existence and evolution of a tires industry in Argentina is related, firstly, to the early build-up in the country of a significant stock of imported motor vehicles (453,900 in 1930) and secondly, after 1960, to the steady growth of such stock when a newly created local automobile industry started shipping several hundreds of thousands of cars per year. Other industries such as the agricultural machinery and tractor industries, the motorcycle and scooter industry and the bus and truck building industries also contributed to the large increase in the number of vehicles requiring tires.[188]

The build up in the number of vehicles, in addition to creating demand for tires for new vehicles, expands the replacement market. This segment is twice as large as the market created by the regular supplies to the vehicle manufacturers. In 1960, the vehicle fleet was 865,500 units. In spite of some years of poor performance by the automobile industry, that figure increased to more than five million by the end of the 1980s and is now growing at a rate of some 400,000 units per year (including imports) in the light vehicle segment alone (cars, pick-ups). Production in 1993 was expected to reach 6,500,000 units.

Until the late 1980s, estimates of the local supply of tires indicated that the industry supplied 96 per cent of the total demand. Production is carried out by four plants, three of them belonging to affiliates of transnational corporations, Firestone, GoodYear and Pirelli and one belonging to an Argentine diversified business group, Fate. The range of products is up to date, as steel-belted radial tires have been in production since 1982 and many specialized tires are produced for tractors, self-propelled machinery, etc.. Total employment in the sector was 7,000 in 1979, 5,500 in 1990 , and is estimated at 6,000 now.[189]

Production increased strongly up to 1979, reaching a high point of 5,600,000 units, after which it oscillated, until demand started to increase in 1982. It reached 4,740,000 units in 1991. The breakdown for 1992 by product (by type of vehicle using the tire), was as follows: for automobiles, 3,845,000 tires or 68.3 per cent, for pick-up trucks or vans, 858,000 or 15.2 per cent, for trucks/lorries, 662,000 or 11.8 per cent, and for tractors 263,000 or 4.7 per cent. Production then totaled 5,627,000 units. After 24 years, the major differences are a moderate increase in the percentage of automobile tires, and a loss of share of tractor tires.

In some years, exports compensated for a downturn in the local but the sector did not become an industrial exporter comparable to other branches of Argentine industry. In the second half of 1993, industry sources forecasted production of 6,000,000 to 6,500,000 units, which would represent at least a 25 per cent increase over 1989 figures. Projected market shares for 1993 of all four producers were within a narrow range, around 25 per cent. The largest share of the market goes to the domestic firm Fate, with 26.8 per cent and the lowest to Pirelli with 23.1 per cent. The value of total production is $350 million and replacement sales represent 70 per cent of the market. Imported tires now supply 25 per cent of the market.[190] The level of exports for 1991 and 1992 was in the range of 450,000 to 550,000 units while the level of imports in 1992 was close to 1,500,000

units. The transnational firms conduct intrafirm exchange with the Brazilian affiliates which account for most of the international trade. Exports for Firestone, Fate and Good Year in 1992 and 1993 were respectively $4.1 million and $12.1 million, $7.3 million and $10.1 million, and $1.1 million and $7.2 million. Total exports for 1992 were $12.5 million and for 1993, $29.4 million.

In spite of increased sales, the industry's profit situation is probably not good. Representatives say that firms attain profit margins of 1 or 2 per cent, and that they have had collective losses since the 1989 hyperinflation. The trade press finds such statements not consistent with the strong increases in sales. The costs of labor and the increase in competition may explain such apparent contradiction. After import liberalization, unit prices of locally produced car tires have fallen from $120-140 to $70-80 while some imports are even cheaper. Clearly, the consumer has come out ahead in the tires industry.

Firms did not limit their reactions to the new situation to lobbying activities. Some of them revised and tried to improve their operations, taking advantage of partial trade liberalization and integration. They also increased efforts at product differentiation and embarked on advertising campaigns emphasizing lower fuel consumption by using their products.

The current performance of the industry is in line with the historical record but circumstances have changed as a result of regional integration and the import liberalization policy. Low profitability could be one of the signs, while statements from industry managers say that at least one if not two of the existing plants are redundant.[191] Some observers indicate that the situation is unstable and believe that total production of the existing plants could in fact be 30 per cent higher. Seventy per cent capacity utilization is certainly at the lower end of management's desired output level.

Economic integration with Brazil started after 1987, date of the first bilateral trade agreement (Partial Agreement No. 1 of the Latin America Integration Association (LAIA). At first, the view in Argentina was that after 25 years of trade deficit with Brazil in these products the agreement would be beneficial for the country.[192] Disagreements between firms located in Argentina about the implementation of specific mechanisms for trade, however, soon arose and those disagreements have continued until now, as the four firms in the sector have divergent interests according to whether they are companies with regional affiliates or local firms with no regional partners.

Friction apparently arose as transnationals with affiliates in both Argentina and Brazil tried to accelerate the integration timetable. The fact that there was an integration process going on before the start of the Mercosur agreement may explain however why such firms expected to continue the sectoral integration process at a faster pace than the general Mercosur process. Economic press reports also stressed that the financial position of the transnational affiliates in Argentina was extremely bad at the time. The domestic capital firm opposed such moves beyond certain limits to which it had initially agreed. Furthermore, as import penetration took profits away from local production, in 1993 that same firm successfully promoted a Government decision based on a safeguard procedure to limit imports.

Constraints and prospects

Over the last decade and a half, the market has undergone strong oscillations in Argentina, but all four producers have stayed in the market. The main question however seems to be whether there is room in the market for four efficient plants. There is now a new element to take into account, the economic integration agreements between Argentina and Brazil, which could be used by the transnational affiliates to supply the Argentine market from their existing, and reportedly much larger plants located in Brazil.

Future market growth will be based on the continuing expansion of the vehicle fleet leading to sales of new tires as original equipment and expansion of the stock of vehicles on the road that require replacement tires. The large increases in vehicle production during the 1991-1994 period shows no signs of abating, despite a decline in first half 1995 car sales. Auto industry sources suggest that significantly higher levels of fleet size are not only possible but will happen Evidence suggests that they are correct. Moreover, the fact that increasing imports of vehicles detracts from domestic

output does not reduce the secondary replacement market.

Using 1988 comparisons, the scale of plant showed that while the domestic capital firm had a capacity of 4,000 tires/day, the GoodYear plants in the US had capacities ranging from 5,500 to 61,000 tires a day, and the US Firestone plants had capacities of 18,000 to 27,000 tires/day. Given that currently reported production levels at the individual firm level in Argentina show that no large capacity expansions have taken place since then, it follows that all local plants are several times smaller than most US plants. The transnational affiliates operating in Brazil also have a production capacity superior to the whole demand of the Argentine market.

Whether different firms have or have not tried to improve production methods and overall productivity is a matter of debate. The transnationals imply that all of them have taken measures to improve their product allocation and productivity, including cutting down the number of products and taking advantage of in rafirm specialization within. Foreign firm representatives have also implied that the national firm had not made the required adjustments, while the foreign firms were taking the new integration scenario seriously.

There has not been any investment in new plants or in large modernization projects by any firm in recent years. A local business newspaper indicated in 1991 that the domestic firm's plant was technically superior to the plants of the transnationals, adding that one of the transnationals had given up a plan for modernization, going to the extreme of shipping new equipment that was already in port for modernization of the Argentine subsidiary back to its Mexican affiliate[193]. Earlier reports about the same firm stated that at the time of the Argentine-Brazil bilateral agreement, it had closed the radial tires fabrication line in Argentina.

There are no visible prospects for any transnational firm locating its main regional plant in Argentina, and it would probably be too risky for the domestic firm to attempt a very large expansion in the present business climate. In theory, given the market integration process, the locally owned plant could just expand its capacity to reduce costs and be more competitive in the common market at large, but in practice it would have to solve all the problems of penetration of a large market with a strong industry in Brazil competing against it.

On the question of scale and efficiency, it may be interesting to analyze to what extent a process of specialization, reduction of number of lines per plant, and selection of products requiring different manpower inputs, shorter production runs, or application of new organizational principles, can compensate the absolute size factor, without requiring very large and risky new investments. If such were the case the role of Argentine plants could be redefined in that direction. In the longer term, it is unlikely that the industry can compete effectively against the Brazilian manufacturers without finding some area of specialization.

MOTORCYCLES AND BICYCLES

Past trends

Production of motorcycles only began in 1990. The branch has been growing almost as rapidly as for automobile and truck production. The vehicles are largely for domestic use and rarely exceed 250 cubic centimeters of engine size. Table III.?? presents a picture of procution. A motorcycle manufacturer, Zanella, defaulted on $10 million in euro-commercial paper and sought protection from creditors as a result of the Tequila Crisis.

Table III.?? Motorcycle production

1990	1991	1992	1993
55,683	93,618	135,817	124,991

Source: INDEC, "Anuario Estadistico de la Republica Argentina, 1994, Buenos Aires, Table 5.7.1

Constraints and prospects

This branch is not protected from imports. Most of the vehicles are designed for urban and suburban travel rather than for long distances at high speeds. In this engine size, they compete against mostly Japanese-made motorcycles and some small manufacturers in Europe.

I. ELECTRONICS AND ELECTRICAL APPLIANCES

Resource base

Argentina has a literate population and well-trained engineers. There is a problem in the education system with few students going beyond 7 years of required schooling. This has led to a lack of qualified technicians, which is an essential component in the electronics branch. In 1994, the government increased the minimum number of required years to 10 but it will take many years before this has a measurable impact on the kinds of manufacturing that can be successfully pursued. A 7 year education is satisfactory for a line worker in an electronics assembly plant but is not adequate for more complicated production.

Past trends

In 1993, value added by the electronics industry was $1.2 billion and employed approximately 15,000.[194] The sector is composed of manufacturers of entertainment, telecommunications, telephony, computers, broadcasting, television, advanced medical diagnostic equipment and electronics assembly. The industrial and technological strength of the industry places it, with exceptions, amongst the most developed in Latin America. It has significant export potential in some highly specific product lines. Major international manufacturers are Alcatel, Ericsson, Degussa, Dupont, Epson, Siemens and Xerox. There are, in addition, more than 40 local or regional firms as well. Local firms are at something of a disadvantage vis a vis Brazilian firms, as the former are not vertically integrated. Many produce in Argentina under license. Production facilities are in three main regions: Buenos Aires, Cordoba and Tierra del Fuego.

The least sophisticated portion of the industry, assembly, is located in Tierra del Fuego. In the 1970s, the government decided that in order to improve employment prospects for the inhabitants of this poor province, it would finance the development of this sub-sector. It continued to finance these operations until 1990. All such support has been removed by the present government.

Table III.?? shows production of selected electronics devices. It is clear from the data that demand for consumer electronics has been strong. Industry associations expect continued good performance in 1994 and a decline in demand in 1995 due to recession. Demand is expected in increase in the second half of 1995.

Table III.?? Production of Televisions, Video Players and Recorders, 1990-1993, thousand units

	1990	1991	1992	1993
Televisions	310	607	1,386	1,612
Video Players and Recorders	212	337	580	498

Source: INDEC, Anuario Estadistico de la Republica Argentina, 1994, Buenos Aires, Table 5.7.1.

A strong element of the industry is in instrumentation and telecommunications. Some research and development is done in Argentina but many of the international companies develop their technology elsewhere then adapt it for local use. The non-assembly portion of the industry is competitive and is looking forward to participating in the Mercosur market, in which it may enjoy a comparative advantage.

Constraints and prospects

Manufacturers of consumer electronics and computers face competition from the United States, Japan, China and Taiwan. In this segment, Argentina would not seem to have a comparative advantage and the profitability of this part of the industry could be adversely affected by exposure to

competition. Industry trade organizations state that the electronics assembly sub-sector located in Tierra del Fuego cannot survive as they clearly cannot compete cost-effectively with Taiwan or China. While the number of people employed in this sub-sector is not great, employment prospects for the inhabitants of Tierra del Fuego are grim when this branch collapses.

In an agreement between the United States Department of Commerce and the Argentine Ministry of the Economy, the U.S. market has been opened to Argentine manufacturers. The European market is somewhat less open but this applies equally to Japanese and U.S. manufacturers.

While it is too soon to determine whether Mercosur and access to the U.S. will have a great positive impact, the current situation, with the exception of the assembly industry, is stable. In the long run, innovation and reducing costs of production will determine whether the industry will prosper or merely get by.

NOTES TO CHAPTER III

[1] Agriculture is one area cited by economists as coming the closest to the theor of "perfect competition", having many companies producing identical production, with perfect information. In practice, agriculture is distored from this theoretical view by subsidies and tariffs. Price controls have been in force on some agricultural products in some countries since the 18th century. Farmers have insisted that purchasing power parities be maintained, for example, through the price of a particular kind of shirt manufactured originally in 1919.

The Uruguay round of the GATT managed to agree some changes in subsidies and Argentina was a member of the Cairns group that spearheaded negotiations in this area. While the Agreement did not go far enough to suit many, a start has been made. The politics of agriculture is still a priority in many countries, especially on the grounds of security of supply. As world trade has significantly since the first GATT negotiations, many trade specialists foresee a time when international pressure to remove subsidies will become too great to maintain them.

[2] Ministerio de Economia y Obres y Servicios Publicos, Economic Report Argentina, September 1994, No. 10, p. 15.

[3] Sociedad Rural Argentina, Anales, Buenos Aire, 1994, pp. 42-45

[4] Sociedad Rural Argentina, Anales, Buenos Aires, 1994, p. 49

[5] INDEC, Anuario Estadistico de la Republica Argentina, 1994, Buenos Aires, Table 5.2.2.

[6] Document CAA/03, op cit.

[7] Gutman, G., "Agroindustria, tecnologiay produccion alimentaria", Desarrollo Economico, No. 120, January - March, 1991.

[8] Obschatko, E., (1993), "Estudio de competitividad agropecuaria y agroindustrial. El complejo agro industrial argentino", Document de trabajo CAA/01, Secretaria de Programacion Economica.

[9] Document CAQA/01, op. cit.

[10] Gutman, op. cit.

[11] Document CAA/03, op. cit.

[12] Document CAA/03, op. cit.

[13] Gutman, op. cit.

[14] Document CAA/03, op. cit.

[15] Document CAA/03, op. cit.

[16] Document CAA/03, op. cit.

[17] "El Economista", April 15, 1994.

[18] Document CAA/03, op. cit.

[19] "El Economista", October 30, 1992.

[20] Document CAA/06. op. cit.

[21] Document CAA/06. op. cit.

[22] Document CAA/06. op. cit

[23] Perez Alonso. N. Ambito Financiero. June 4. 1993.

[24] Document CAA/06. "Estudio de competitividad Agropecuaria y Agroindustrial Productos Lacteos". Parellada G. Magio C.. Bousson. R. and Guardini. E. SPE/SAGY/IICA. Buenos Aires. October 1994.

[25] Mercado. December 1993.

[26] P. Alonso. op. cit.

[27] Infortambo. September 1992.

[28] Gutman G.. and Rebella. C.. "Subsistemo Lacteo"in Agroindustrias en la Argentina. ed Gutman. G. and Gatto. F.. Buenos Aires. Centro Editor de America Latina. 1990.

[29] Document CAA/06. op. cit.

[30] P. Alonso. op. cit.

[31] Sociedad Rural Argentina. Anales. 1994. Buenos Aires. P. 40.

[32] Infortambo. September 1992. and Mercado. December 1993.

[33] Doc. CAA/06. op. cit.

[34] Doc. CAA/06. op. cit.

[35] Gargiulo. G.. "Analisis de Competitividad de Productos Agroindustriales en el Mercosur. Informe Final". Buenos Aires. September 1991.

[36] Factors promoting milk exports can be seen in Doc. CAA/06.

[37] Garguilo. op. cit.

[38] Gutman. G.. Porta. F.. and Calvo. E.. "Situacion de la Industria Lactea en la Argentina". 1987 Gutman and Gatto. op. cit.. and Doc CAA/06. op. cit.

[39] "El Economista". April 9. August 8 and October 2. 1992.

[40] Infortambo. December 1993.

[41] See Gargiulo. op. cit.. for a comparison of local costs. subsidies and export prices from indistrialized countries and from Southern Hemisphere competitive. non-subsidized producers.

[42] "El Economista". August 21. September 4 and October 2. 1992 and May 21. 1993.

[43] Doc. CAA/06. op. cit.

[44] Doc. CAA/06. op. cit.

[45] "El Economista". June 19. 1992.

[46] "El Economista", March 15, 1991.

[47] "Resolucion", 1203/92.

[48] Doc. CAA/06, op. cit.

[49] "El Economista", June 19, 1992.

[50] FITA, Revista-Textil, Suplemento especial Inove 88, "La Industria Textil Argentina, Buenos Aires, 1988.

[51] IEERAL, "La Industria Textil en Argentina y Brasil", Cordoba, 1991.

[52] FITA, op. cit.

[53] IEERAL, op. cit.

[54] FITA, op. cit.

[55] IEERAL, op. cit.

[56] IEERAL, op. cit.

[57] IEERAL, op. cit.

[58] "Pagina 12", Suplement, July 25, 1993.

[59] Clarin, October 17, 1993.

[60] Clarin, July 31, 1993.

[61] "El Economista", August 6, 1993.

[62] UNIDO, "Medium-term Scenarios for Industrial Restructuring: the Pulp and Paper Subsector", Mercosur Series Report A.1, August 1993, Table 1, Vienna.

[63] Ambito Financiero, January 26, 1994.

[64] IEERAL, "La Industria de Celulosa y Papel en Agrentina y Brasil", Cordoba, 1991.

[65] IEERAL, op. cit.

[66] Working paper on paper exports, Research Project on Manufactured Exports, IDB/Instituto T. Di Tella, Buenos Aires, 1988.

[67] IEERAL, op. cit.

[68] IEERAL, op. cit., quoting BANADE, "Perfile Industrial Manufactura de la Madera", 1987.

[69] IEERAL, op. cit.

[70] UNIDO, op. cit.

[71] See UNIDO, op. cit, Table 8.

[72] UNIDO, op. cit, Table 12.

[73] "Ambito Financiero", September 8, 1993

[74] UNIDO, op. cit

[75] UNIDO, op. cit.

[76] Schvarzer, J., "Expansion, Maduracion y Perspectivas de las Ramas Basicas de procesos en la Industria Argentina", Desarrollo Economico, Vol. 33, No. 131, October-December 1993.

[77] "El Economista", July 7, 1993.

[78] UNIDO, op. cit.

[79] "El Economista", July 7, 1993.

[80] "Pagina 12", January 8, 1994.

[81] Cases reported in "Ambito Financiero", September 8, 1993.

[82] "El Economista" and other newspaper reports.

[83] "El Economista", July 8, 1993 and January 7, 1994.

[84] Schvarzer, op. cit.

[85] "The Petroleum Economist", June 1994, p. 85.
[86] INDEC, Anuario Estadistica de la Republica Argentina, 1994, Buenos Aires, Table 5.8.1.

[87] "Oil and Energy Trends", December 16, 1994, p. 14.

[88] Pennwell Publishing Co., International Petroleum Encyclopedia, Tulsa, Ok., 1994.

[89] The Economist Newspapers Ltd., "Cross Border Monitor", March 1994, p. 2.

[90] An oil company's share price may fluctuate more as a result of crude oil prices than the underlying fundamentals of its operatons.

[91] There is approximately 6 million barrels per day of oil currently not on the world market due to the embargo of Iraq.

[92] Ranal, M., "Polimeros plasticos y anhidridos", BID/Di Tella Project on Manufactured Exports, 1988.

[93] Ramal, op. cit.; Bekerman, M., "La Industria Petroquimica en Argentina y Brasil, Posibilidados de lograr una Integracion Sectoral, 1991; Gerchunoff, P., "Caso 5: la Petroquimica"in Las Privatizaciones en la Argentina, edited by Gerchunoff, P., Instituto T. Di Tella, Buenos Aires, 1992; Chudnovsky, D., Porta F., and Lopez, A., "Ajuste estructural y Estrategias Empresariales en la Argentina: un Estudio de los Sectores Petroquimicos y de Maquinas Herramientas", Buenos Aires, 1992.

[94] See Bekerman, op. cit., Table 11.

[95] Data from Ramal, M., "Industria Petroquimica Polimeros y Acidos Oxigenados Informe Final", BID/Di Tella, 1989.

[96] Givogri, C., "La Productividad del Capital", IEERAL, Cordoba, 1987, quoted by Lopez, op. cit.

[97] Lopez, op. cit.

[98] See Gerchunoff, op. cit., Table 3, p. 401.

[99] Chudnovsky et al, op. cit.

[100] Instituto Petroquimico Argentino, "Materias Primas: Su Gravitacion en el Desarrollo petroquimico Nacional", Buenos Aires, 1980.

[101] Bekerman, op. cit.

[102] See Lopez, op. cit., Table 6.

[103] See Lopez, op. cit., for a detailed discussion of technological strategies of petrochemical firms.

[104] As presented in Chudnovsky et. al., op. cit., Table 2-9 and Lopez., op. cit.

[105] This analysis was developed from Lopez, op. cit.

[106] Chudnovsky et al, op. cit.

[107] Gerchunoff, op. cit.

[108] "Clarin", January 10, 1994 and Lopez, op. cit.

[109] Ministry of Economics, Report on Privatizations, September 1993.

[110] Chudnovsky et al, op. cit.

[111] "Ambito Financiero", November 10, 1993 and January 5, 1994, and "El Economista", January 7, 19494.

[112] Fertilizer International, No. 344, April 1995.

[113] IMS World Publication, World Drug Market Manual, 1994, p 1.1, London, UK.

[114] PJB Publications, SCRIP, No. 2010, March 24, 1995, P. 21, London, UK.

[115] World Drug Market Manual, op. cit., P. 14.

[116] "Movimiento Industrial Argentina", Bulletin No. 3, February 1992, MIA Bulletin No. 18, July 1993 and "Ambito Financiero", March 15, 1994.

[117] In one case, it is known that 70 year old furnaces were used to produce lime rather than cement. From a plant owner's statement in "Ambito Financiero", August 14, 1992.

[118] "Ambito Financiero", August 14, 1992

[119] "Ambito Financiero", April 8, 1994.

[120] "El Economista", September 25, 1992.

[121] "El Economista", May 7, 1993.

[122] "Ambito Financiero", March 29, 1994.

[123] "Ambito Financiero", March 28, 1994.

[124] A 1992 estimate is production of 39 million square meters, a value of $200 million per year, from "El Economista", September 11, 1992. Another estimate is 28 million square meters with a value of $240 million in 1993, from "Panorama", November 1993.

[125] "El Economista", April 16, 1993 and "Clarin", October 19, 1992.

[126] "Panorama", November 1993.

[127] The first part of this case study of the steel industry is partially based on Soifer, R. "La Industria Siderurgica", in "Apertura, Productividad y Desarrollo Tecnologico en las Industrias Petroquimica, Siderurgica, Automotriz y de Maquinas Herramienta en la Argentina", Documento de Trabajo No. 116, Banco Interamericano de Desarrollo, March 1992. A valuable source also was Bisang, R., "Factores de Competitividad de la Siderurgia Argentina", in "Proceso de Industrializacion y Dinamica Esportadora: Las experiencias de las industrias aceitera y Siderurgica en la Argentina", Documento de Trabajo 32, CEPAL, Oficina de Buenos Aires, October 1992.

[128] For a summary of government's assistance to the steel sector, see Bisang, op. cit., Table 21.

[129] One BF was actually shut down and reopened during the 1980s. Also, Zapla had four BFs and all of them were closed. One has just been rehabiliated.

[130] Gerchunoff, P., Bozzala, C., and Sanguinetti, J., "Privatizacion apertura y concentracion: El Caso del Sector Siderurgico Argentino", Instituto T. Di Tella, Buenos Aires, 1993.

[131] Gerchunoff et al., op. cit.

[132] MIA Bulletin, op. cit.

[133] Soifer, op. cit. and Bisang, op. cit.

[134] MIA, op. cit.

[135] Business Week, January 10, 1994.

[136] "Clarin", April 18, 1993 and "Ambito Financiero", July 2 1993, based on firms' financial reports.

[137] Data on Zapla steelworks are from the firm's information releases and "El Economista", November 5, 1993 and "Ambito Financiero", December 12, 1993.

[138] Information on Acindar was obtained from "El Economista", April 16 and 23, July 8 and October 1, 1993 and "Clarin", Januuary 8, 1993, and "Mercado", Spetember 1993 as well as from the firm's own advertizements announcing its quality system ISO certification.

[139] Information on the privatization of Somisa, on Aceros Parana and on Siderer, gathered from "Ambito Financiero", June 16 and December 1, 1993 and "El Economista", May 21 and July 23, 1993 and "Panorama", July 1992 and July 1993.

[140] Information on Siderca and on the Tamsa operation are from the firm's annual report, from quarterly financial summaries published in the financial press and from "El Economista", June 6, July 7 and November 19, 1993.

[141] Mining Annual Review, 1994, London, UK, p. 91.

[142] Mining Annual Review, 1994, p. 91, London UK.

[143] Mining Annual Review. 1994. London. UK. p. 91.

[144] World Bureau of Metal Statistics. World Metal Statistics. Ware. Herts. UK. January 1995. p. 8 abnd 9.

[145] World Bureau of Metal Statistics. World Metal Statistics. Ware. Herts. UK. January 1995. p. 129.

[146] World Bureau of Metal Statistics. World Metal Statistics. Ware. Herts. UK. January 1995. p. 129.

[147] World Bureau of Metal Statistics. World Metal Statistics. Ware. Herts. UK. January 1995. pp. 114-117. p. 132

[148] American Machinist. Vol 33. No. 2. February 1989 and Vol. 137. No. 3. March 1993.

[149] References to economic behaviour of the agricultural producers and to the consequences for the activity in the capital goods sector. as well as responses from agricultural equipment manufacturers to demand variations and to general economic variations are presented and discussed at length in various agricultural and agrobusiness monthly publications. For a yearly review of the conditions and performance of machinery industries. conducted through individual interviews with industrial producers of agricultural equipment. see the "Panorama Industrial" section. "La Chacra" magazine. July 1992 and July 1993.

[150] For a discussio of the influence of agricultural credit. (non-indexed loans) under inflation. as a factor in strong agricultural equipment demand in Argentina until 1977. see Huici. N.. "La industria de Maquinaria en Argentina" in "La Agricultura Pampeana: Transformaciones Productivas y Sociales". Buenos Aires. FCE-IICA-CISEA. 1988.

[151] Production of tractors is far lower now than in the 1970s and even in some years of the 1980s. The negative trends in production of farm machinery that will be discussed below are largely paralleled by trends in the tractors sector.

[152] Delgobbo. A.. "La empresas de implementos agricolas del sur de Cordoba y Santa Fe frente al proceso de apertura e integracion subregional". Documento de Trabajo CFI-CEPAL No. 33. Buenos Aires. 1993.

[153] See Bulletins No. 6. May 1992 and No. 16. May 1993 of MIA.

[154] Data reported in "El Economista". various issues.

[155] MIA Bulletin. No. 6. May 1992.

[156] Data for tractor sales indicate that sales reached the level of 20.000 units as far back as 1974 and were over 22.000 in 1977.

[157] See Huici. op. cit.

[158] Delgobbo. op. cit.

[159] Delgobbo. op. cit.

[160] See "Brasil en Pergamino". "La Chacra". May 1992 and Delgobbo. op. cit.

[161] Delgobbo. op. cit.

[162] Statement by the President of the acricultural equipment manufacturers association, in "La Nacion", August 8, 1992.

[163] "Panorama Industrial", op. cit.

[164] MIA Bulletin No. 16, May 1993.

[165] Comment published in "Dinamica Rural", magazine in 1992.

[166] For the history and comprehensive analysis of the sector, see Sourrouille, J.V., "Transnacionales en America Latina: El complejo automotor en Argentina", Editorial Nueva Imagen, Mexico, 1980 and Soifer, R.J., La industria automotriz y de autopartes" in "Apertura, productividad y desarrollo tecnologico en las industrias petroquimica, siderurgica, automotriz y maquinas herramienta en la Argentina", Documento de Trabajo No. 116, Banco Interamericano de Desarrollo, March 1992.

[167] Asociacion de Fabricas de Automotores, "Information de Prensa", April 1995.

[168] Estimates of numbers of units imported in 1992 and 1993 and their breakdowns, from "Negocios", September 1993 and from roundtable discussions on the automobile industry published in "Pagina 12", economic supplement, August 22, 1993.

[169] "La Nacion", January 21, 1994 and "Ambito Finaciero", January 25, 1994.

[170] Data from Annual Report of ADEFA, the association of automobile manufacturers and from ADEFA, "Situacion y Perspectivas de la Industria Automotriz", Buenos Aires, 1991.

[171] See Kosacoff, B., Todesca, J., and Vispo, A., "La transformacion de la Industria Automotriz Argentina: Su Integracion con Brasil", CEPAL, Buenos Aires, June 1991.

[172] Estimates for 1991-1993 exports and export compensation deficits, from press interviews, Secretary of Industry, January 23, 1994 and interviews with the manufacturers association President, "Ambito Financiero", December 27, 1993.

[173] Soifer, op. cit

[174] "El Economista", June 23 and 29, 1993, "La Nacion", November 11, 1993 and Soifer, op. cit.

[175] See Kosacoff, op. cit, especially Section II and Table 3, 4, and 15.

[176] Sourrouille, op. cit.

[177] Soifer, op cit.

[178] "Prensa Economica", January 1994.

[179] Wards Automotive International, August 1994, p. 1.

[180] Wards Automotive International, October 1994, p. 1.

[181] Kosacoff, op. cit.

[182] The Economist Newspapers, Ltd., "The Economist", "Survey Argentina", p. 14., November 26, 1994.

[183] Wards Automotive International, April 1994, p. 5.

[184] Kosacoff, op. cit., and Moori Koenig V., and Yoguel, G., "Competitividad de las PYMES autopartistas en el nuevo escenario de apertura e integracion subregional", Document de Trabajo CFI-CEPAL no. 30, Buenos Aires, September 1992.

[185] Sourrouille, op. cit.

[186] "Ambito Financiero", August 20, 1993, "Panorama", November 1993 and "El Economista", December 3, 1993.

[187] Statement by the president of the manufacturers association, "Ambito Financiero", December 27, 1993.

[188] "Movimiento Industrial Argentino" (MIA), bulletin no. 14, March 1994.

[189] Ministry of Economy, Union Industrial Argentina Yearbook, and "Ambito Financiero", August 31, 1993.

[190] "Ambito Financiero", August 31, 1993.

[191] "El Economista", January 18, 1991.

[192] "El Cronista Comercial", August 1, 1988.

[193] "El Economista", January 18, 1991

[194] The Economist Newspapers, Ltd., "Business Latin America", London, UK, March 13, 1995, p. 1.