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Iran

Reconstruction and Economic Growth

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CURRENCY EQUIVALENTS

Currency Unit = Rial (Ri)

Annual Average Exchange Rates /a

<u>Fiscal</u> <u>Year /b</u>	<u>Rials (Rls) per</u> <u>SDR</u>	<u>US\$</u>
1979/80	91.2	70.5
1980/81	92.3	71.6
1981/82	92.3	80.0
1982/83	92.3	84.5
1983/84	92.3	87.2
1984/85	92.3	91.9
1985/86	92.3	87.7
1986/87	92.3	76.6
1987/88	92.3	70.0
1988/89	92.3	69.3
1989/90	92.3	72.0
1990/91	92.3	66.8

/a Official exchange rates against the dollar, computed on the basis of the rial's rate against the SDR, to which the rial is pegged. The official rate is applied to exports of oil, imports of essential goods (32 items at present), development project inputs and public sector capital transactions. Iran's current exchange rate system also consists of: i) the competitive rate (Rls 600/US\$) applied to imports of raw materials and spare parts on a list containing 247 items at present; and (ii) the floating rate (recently Rls 1350 to Rls 1400 per US\$), determined in a daily inter-bank market, and applied to non-oil exports and all other imports.

/b Iran's fiscal year is the same as its solar year, which begins on March 21 of the Gregorian calendar and ends on the following March 20.

This report is based on the findings of two missions to Iran. The first, from March 2 to 20, 1990, comprised: Gabriel Sciolli, mission leader; B. Blazic-Metzner; J. Guillot-Lageat; D. Kumar; G. Stuggins; A. Thorne; S. Cyon, consultant; and M. Hultin, consultant.

The draft report of the first mission was discussed with Government authorities and then updated by the second mission, which visited Iran from May 25 to June 2, 1991, and comprised: Parvez Hasan, mission leader; H. Fazel; G. Azarbajani; A. Banerjee; M. Nightingale and C. Sharma. At headquarters, G. Stuggins updated the report chapters on the energy sector.

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GLOSSARY

AB	Agricultural Bank
BCM	Billion Cubic Metres
BMJII	Bank Markazi Jomhuri Islami Iran (Central Bank)
CAO	Civil Aviation Organization
CPI	Consumer Price Index
CRCO	Central Rural Cooperatives Organization
dwt	dead weight tons
FFYP	First Five-Year Development Plan
GATT	General Agreement on Tariffs and Trade
ICAO	International Civil Aviation Organization
IDRO	Industrial Development and Renovation Organization
IEC	International Economics Department of the World Bank
IKIA	Imam Khomeini International Airport, under construction
IOOC	Iran Offshore Oil Corporation
Jihad, The	Abbreviated reference to MJ (see below)
LDCs	Less Developed Countries
LNG	Liquified Natural Gas
MBD	Million Barrels per Day
ME	Ministry of Energy
MHI	Ministry of Heavy Industries
MJ	Ministry of Jihad; refers to "Vezerat-e Jihad-e Sazandagi", literally "Ministry of Crusade for Reconstruction"; deals with rural development
MOA	Ministry of Agriculture
MOI	Ministry of Industries
NIC	Nationalized Industries Corporation
NIDC	National Iranian Drilling Company
NIGC	National Iranian Gas Corporation
NIIO	National Iranian Industries Organization
NIOC	National Iranian Oil Corporation
NIRPDC	National Iranian Refined Products Distribution Company
NITC	National Iranian Tanker Corporation
NPC	Nominal Protection Coefficient
NPCorp.	National Petrochemicals Corporation
NTB	Nontariff Barriers
NTP	National Transport Plan
O & M	Operations and Maintenance
OECD	Organization for Economic Cooperation and Development
OPEC	Organization of Petroleum Exporting Countries
PSO	Ports and Shipping Organization
Qanats	Iran's traditional irrigation system
RERI	Real Exchange Rate Index
TCM	Trillion Cubic Metres
TSE	Tehran Stock Exchange
WPI	Wholesale Price Index

COUNTRY DATA - IRAK

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AREA	POPULATION	DENSITY
1,648,000 per km ²	33.01 million (1980)	33.37 per km ²
	Rate of Growth (1985-90) 3.2%	92.70 per km ² of arable land

POPULATION CHARACTERISTICS (1988)

Crude birth rate (per 1,000)	41
Crude death rate (per 1,000)	9
Infant mortality (per 1,000 live births)	85

HEALTH (1987)

Population per physician	2780
Population per hospital bed	642

ACCESS TO SAFE WATER (1985)

% of population - total	71
- urban	90
- rural	52

ACCESS TO ELECTRICITY (1985)

% of population - total	80
- urban	97
- rural	61

NUTRITION (1988)

Calorie intake per capita per day	3100
Per capita protein intake (grams/day)	81
Index of food production per capita (1979-81=100)	85

EDUCATION (1988)

Adult literacy rate (%)	51
Primary school enrollment (%)	114

GNP PER CAPITA in 1990: \$ 2450 e/

GROSS NATIONAL PRODUCT (1989)

	US\$ b/ <u>Bn</u>	% of <u>GNP</u>	<u>ANNUAL RATE OF GROWTH (% constant prices)</u>			
			1980-85	1985-87	1988	1989
GNP at market prices	124.7	100.0%	7.9%	-3.6%	-5.1%	4.3%
Gross domestic investment	36.0	28.8%	-2.6%	3.9%	27.5%	20.0%
Gross national savings	33.4	26.8%	19.3%	3.1%	0.1%	-6.3%
Current Account Balance	-2.6	-2.1%				
Exports of goods & NFS	13.5	10.8%	12.8%	-0.6%	-4.7%	-0.3%
Imports of goods & NFS	14.6	11.7%	4.4%	-16.5%	-41.7%	4.4%

OUTPUT, EMPLOYMENT, AND PRODUCTIVITY IN 1988

	<u>Value Added</u>		<u>Labor Force</u>		<u>Value Added per Worker</u>	
	US\$ b/ <u>Bn</u>	% of <u>Total</u>	<u>Thous.</u>	% of <u>Total</u>	US\$ b/ <u>Total</u>	% of <u>Total</u>
Agriculture	28.8	20.7	4,185	29.0	6,442	71.4
Industry	23.4	18.1	3,590	25.0	6,516	72.3
Services	79.3	61.2	8,806	46.0	11,897	133.1
Total/Average	129.5	100.0	14,361	100.0	9,016	100.0

GOVERNMENT FINANCE

	<u>General Government</u>			
	<u>Billion Rials</u>		<u>% of GDP</u>	
	<u>FY89</u>	<u>FY88</u>	<u>FY89</u>	<u>FY88</u>
Current Receipts	6082.0	2988.3	16.7%	17.9%
Current Expenditures	4333.3	2548.1	11.6%	15.4%
Current Surplus				
Capital Expenditures	1760.1	765.2	4.6%	4.6%
Special Expenditures	450.0	302.3	1.2%	1.8%

a/ World Bank Atlas methodology.

b/ Data in Riials converted to US\$ using staff estimated of trade-weighted exchange rate:
Rls 176/US\$ in 1986/89, and Rls 226/US\$ in 1989/90.

c/ at factor cost.

.. denotes not available.

. denotes not applicable.

COUNTRY DATA - IRAN

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MONEY, CREDIT AND PRICES

	<u>FY85</u>	<u>FY86</u>	<u>FY87</u>	<u>FY88</u>	<u>FY89</u>	<u>FY90</u> a/
	(Billions of Rials Outstanding at end of period)					
Money Supply:	9282.8	10933.2	13049.9	16083.5	19037.4	21084.5
Bank Credit to Public Sector	5774.4	7423.4	8742.8	10337.2	11673.6	11346.9
Bank Credit to Private Sector	3508.9	3510.4	4307.1	5746.3	7363.8	9737.6
	(Percentages or Index Numbers)					
Money as percent of GDP	55.9%	60.4%	61.3%	68.1%	67.7%	60.3%
GDP Deflator (1974=100)	433.4	342.0	63.1	731.9	859.7	1012.0
Annual percentage changes in:						
GDP Deflator	4.8	19.5%	18.7%	16.8%	14.3%	17.7%
Bank Credit to Public Sector	12.6	28.6%	17.8%	20.5%	10.8%	-2.8%
Bank Credit to Private Sector	12.9	9.8%	15.0%	16.8%	29.7%	28.6%

BALANCE OF PAYMENTS

	<u>FY86</u>	<u>FY87</u>	<u>FY88</u>	<u>FY89</u>	<u>FY90</u>
	(In US\$ Millions)				
Exports of Goods	7171	11916	10709	13081	17812
Oil & Gas	6255	10755	9673	12037	16760
Imports of Goods	10385	12005	10448	13331	15900
Trade Balance	-3214	-889	261	-250	1912
Net Services	-1741	-2001	-1953	-2313	-2297
Net Current Transfer	0	0	0	0	0
Current A/C Balance	-5155	-2090	-1692	-2363	-385
Capital Account b/	3127	1711	262	3331	1728
Long-term	802	719	-37	831	8
Short-term c/	2325	992	299	2700	1720
Errors & Omissions	858	193	472	685	730
Overall Balance	-1172	-186	-958	1633	2073

RATE OF EXCHANGE

	<u>FY86</u>	<u>FY87</u>	<u>FY88</u>	<u>FY89</u>	<u>FY90</u>
US\$ 1.00 = Rials	76.55	69.98	69.34	72.03	66.80
Rial 1.00 = US Cents	1.31	1.43	1.44	1.39	1.50

MERCHANDISE EXPORTS (Ave. FY85-89)

	<u>(US\$ Mn)</u>	<u>% of Total</u>
Oil & Gas	10486	91.0%
Carpets	321	2.8%
Fresh & Dried Fruit	248	2.2%
Manufactures	132	1.2%
Other Goods	225	2.0%
Total	11410	100.0%

EXTERNAL DEBT, 1990 d/

	<u>(US\$ Mn)</u>
Medium & Long-term e/	1810
Short-term f/	2000
Central Bank Estimate	2000
OECD Estimate	6267

DEBT SERVICE RATIO, 1980/91:

3.0%

IBRD LENDING, June 30, 1991

	<u>(US\$ Mn)</u>
Outstanding & Disbursed	62.2
Undisbursed	250.0
Outstanding including Undisbursed	312.2

a/ First ten months.

b/ By local accounting practice, this item includes as inflows the release of some of the Iranian assets frozen abroad.

c/ Includes payments and receipts under bilateral arrangements.

d/ May include some undisbursed amounts.

e/ Initial estimate, end of Iranian FY90; i.e., end-March 1991.

f/ Estimate for end of calendar 1990.

.. denotes not available.

. denotes not applicable.

EXECUTIVE SUMMARY

1. This report reviews major economic trends and related policies in the Islamic Republic of Iran during the past decade, and, looking to the future, suggests policy actions, some priority expenditures and some studies to complement the country's own reforms envisaged in its First Five-year Plan (FFYP). Basically, the FFYP (1989-1993) aims to revitalize market mechanisms, which had been overshadowed in Iran--especially in 1980 to 1988--by pervasive government controls prompted by the long war with Iraq and other adversities.
2. Despite enormous difficulties, Iran's economy over the last decade has demonstrated considerable resilience, with no instances of long or widespread deprivation, nor major payments defaults. It even recorded impressive gains in, for example, food production, caloric consumption and primary schooling. But the war year economic distortions led to heavy inefficiencies which, unchecked, would have impeded post-war economic recovery. In this connection, the FFYP was timely and appropriate in stressing private sector development and progressive reinstatement of market-determined prices, while recognizing the need to support indigent people and also to set marginal-cost prices for public utilities.
3. Implementation of key elements of the Plan--reconstruction works, fiscal measures and relaxation of various controls--began two years ago, helping to generate high rates of economic growth and to lower budget deficits and inflation in 1989 and 1990. Since then, Iran has introduced more reforms.
4. The most recent reforms have included: a major simplification of the exchange rate system and large effective depreciation of the rial, especially for non-oil exporters; removal of non-tariff barriers on imports at the floating rate; liberalization of entry into foreign trading; decontrol of most domestic prices, along with dissolution of price enforcement courts; completion of draft legislation to revamp the tax system; steep increases in public utility rates; abolition of credit ceilings, and increases in bank deposit and lending rates; continued expansion of the Tehran Stock Exchange and Cabinet approval to divest 250 public enterprises. Further, the Government is aware that these remarkably positive measures need reinforcement.
5. For instance, continued exchange rate reform is central to Iran's economic adjustment. The authorities recognize that the three-tier exchange rate, while a major improvement on the old seven-tier, should be unified over the medium term. In particular, the official rate (Rls 70/US\$), applied to 32 basic imports and to public sector projects, is highly overvalued relative to the competitive rate (Rls 600/US\$) applied to most other imports and to the floating rate (around Rls 1350/US\$) applied to non-oil exports. It is suggested that the official rate be phased out, items imported and priced at that rate moved to an appropriately depreciated rate, and the tariff rates and structure reformed and rationalized. The resulting impact on domestic prices of basic items could be countered with targeted budget transfers. To meet such payments, revenues could be boosted substantially by using the depreciated instead of the official rate to value oil exports and to assess import duties.

6. The extra revenues thus mobilized could be used to finance public sector wage adjustments and a Social Safety Net Fund. Some resources could be devoted to an Enterprise Restructuring Fund to meet a variety of expenses associated with divesting public enterprises. As another option, some revenues could be placed in an Investment Fund to provide term finance to cooperatives and private entrepreneurs, preferably through banks.

7. In banking, following recent removal of credit ceilings, the Government might now consider removing ceilings on profit shares and lowering reserve requirements. The aim ultimately would be to set reserve requirements as prescribed by an improved system of prudential regulation, which needs to be developed to guide banking activities. The scope and efficiency of financial intermediaries, moreover, could be enhanced by greater involvement of the private sector.

8. The private sector has received important stimulus from recent exchange rate and pricing policy adjustments. In addition, fiscal reforms envisage that public deficits will be small and therefore not encroach on private savings. With these moves, there is need now to study and ease regulations governing private businesses. The operating conditions of firms and services that do remain public also should be freed and improved. Then, such enterprises should not require, nor be granted, preferential access to credit and budgetary resources.

9. The measures proposed above would encourage the most economically beneficial production and expenditures, including private and public investments. As to public investments, the Plan rightly stresses completion of ongoing projects and initiation of new ones directly complementing finished works. However, the numbers and the costs of projects proposed for various sectors in the Plan appear large relative to implementation capacities. Therefore, it would be important to review project execution closely and alter planned activities as necessary so as to avoid overcommitment of resources, the more so since some works not included in the Plan may need funds, as suggested in this report.

10. This report suggests, for example, that resources be provided in agriculture to complete irrigation networks, establish an extension program for farm level water management, and create an umbrella organization to coordinate research and extension in rainfed and irrigated areas. In transport, it is suggested that passenger bus terminals are needed in several cities, and the severely constrained air freight and passenger capacity warrants modernization and fleet expansion. Another proposal concerns resources for vocational, technical and agricultural education to help reduce shortages of middle-level technicians in the country. Additional investments may also be needed in the energy sector but these ought to be preceded with appropriate studies.

11. Pre-investment studies recommended in the report include power sector rehabilitation needs to increase the reliability and efficiency of existing plants and the development of a least-cost power generation program. Further, it is recommended that high priority be given to completing and implementing the ongoing study on how best to use the 30 percent of associated gas production currently being flared. In the same subsector, it is recommended

also that Government consider various options for natural gas in competing downstream sectors (e.g., power, fertilizer production, potential exports) and, in that context, reassess the proposed export of liquified natural gas.

12. Finally, among lower-middle income countries, Iran has an exceptionally low level of external debt relative to its income and exports. With its abundant natural resources, moreover, and its latest, plus proposed, economic reforms, Iran can be considered to have strong potential for long-term growth. To realize such growth potential, Iran could take additional loans for needed investments and still maintain low relative indebtedness provided its borrowing strategy emphasizes an appropriate mix of loans for the public and private sectors, as well as favorable sources and terms of financing for clearly viable projects.

SUMMARY AND CONCLUSIONS

The Setting

i. The Islamic Republic of Iran is a very large, topographically highly varied country with an area of 1.6 million square kilometers, just over twice the size of neighboring Turkey, and a population close to 57 million people, about that of Turkey. An IBRD member since December 29, 1945, Iran received 33 Bank loans between 1957 and 1974 for projects in agriculture, infrastructure, population and education. In financing those projects, the Bank disbursed US\$1,023 million, virtually all now repaid, with US\$62.2 million, including exchange adjustment, outstanding at the end of June 1991. Following a long period of Bank inactivity in Iran since the mid-1970s (the last loan was approved in 1974 and the last economic report was produced in 1976), an economic mission visited the country in March 1990 and another, short one, visited in May 1991. In the meantime, in the wake of a severe earthquake which hit the northern part of the country in June 1990, the Bank approved, on March 14, 1991, a US\$250 million loan to Iran as an emergency recovery operation, which became effective on July 3, 1991.

ii. Iran's principal natural assets are its petroleum and natural gas deposits. It has recoverable oil reserves of approximately 95 billion barrels (about 10% of the world total) and proven gas reserves of nearly 15 trillion cubic meters (close to 20% of world total and second largest in the world). At the rates of production planned for the medium term, the country's petroleum deposits could last 70 years and its natural gas deposits 300 years, not counting new discoveries of both oil and gas reported over the past two years, but not yet fully assessed. In addition, Iran has sizable deposits of other valuable minerals (e.g., chromite, coal, iron ore, copper, zinc, lead, gemstones), and substantial agricultural and water resources.

iii. When last reported in the mid-1970s, Iran's GNP per capita stood at US\$2,060 in 1976 (see the World Bank, 1978 World Bank Atlas, page 6). In subsequent years, Iran's economic statistics became scant and irregular, making annual estimation of per capita incomes difficult and unreliable--a situation which persisted until GNP and population time series, still subject to refinements, were compiled for the latest economic missions. The estimation of per capita incomes for international comparisons was further complicated by Iran's system of multiple and highly divergent exchange rates. The missions then used annual trade-weighted average exchange rates in the Bank's Atlas Methodology to estimate recent per capita incomes.

iv. By those estimates, Iran's GNP per capita was US\$2,550 in 1989 and US\$2,450 in 1990, with the decline in dollar terms in 1990 explained by a large effective depreciation of the rial during the year. Another very large effective depreciation of the rial occurred in January 1991 so that, when data for the whole year become available, the GNP per capita for 1991 in US dollars is expected to be lower than the 1990 estimate. The basis and methodology underlying these estimates are explained at the end of Annex VI in Volume II of this report.

v. This report first reviews major economic trends and related policies in Iran during the past decade and analyzes recent policy reforms. It then looks to the future, suggesting policy measures and some priority expenditures and studies to strengthen the country's prospects for economic growth and development.

Overview

vi. Iran's economic policies and performance in the last decade were influenced by two major events: the popular revolution in 1979 and, beginning soon after, the long war with Iraq from 1980 to 1988. In the same period, Iran's economy bore a series of other shocks, including trade embargoes and financial sanctions from abroad; the collapse of the world price of oil, the country's main source of export earnings and public revenues; a huge influx of refugees; and severe natural disasters. Further, in the wake of revolution and war, many skilled workers and entrepreneurs departed, and large sums of capital were transferred out. In these conditions, successive administrations were compelled to step in to manage abandoned firms and properties. Also, largely in response to the war situation, the administrations extended their regulation of the economy into areas such as prices, distribution and external trade. Such interventions led to growing economic distortions, extracting, in the end, major sacrifices in terms of incomes and employment foregone.

vii. Under these circumstances, Iran's economic performance last decade was mixed, with a fast rate of economic growth in the first half followed by a distinct slowdown of growth and rising inflation in the second half. Before the decade closed, however, Iran began liberalizing the economy in the context of post-war reconstruction, thus laying the basis for an impressive economic recovery now taking place. Provided this process is sustained and reinforced, Iran should be able to overcome past economic decline and go on to consolidate its gains in food production, nutritional standards and educational opportunities, particularly among women and in the rural areas, these being the country's notable achievements in the 1980s.

Economic trends in the 1980s

viii. Iran attained a relatively high, if uneven, real economic growth in the first half of the 1980s. Spurred mainly by the growth of oil and agricultural outputs, and that of public services, real GDP growth averaged 8% per year in 1980-85. In the second half, between 1985-88, the economy declined at the rate of about 3% per year as a result of the virtual collapse of oil prices, and severe damage to oil production and export points as the war with Iraq intensified.

ix. Throughout the war years, notwithstanding the growth of the armed forces, the rate of unemployment (10% to 15%) remained high. This was because the incentives regime impeded the growth of productive sectors--manufacturing, for example--that would have generated jobs and also because, in the latter half of the decade, a severe recession followed the decline of oil revenues and the attendant retrenchment of government expenditures.

x. Government finances over 1980-88 indicate Iran was able to contain deficits, despite the war. The budget deficit was reduced from 17% of GDP in 1980 to 9% in 1988, even as oil revenues in those years fell from 13% of GDP to 3%. The deficit, however, was financed almost entirely by borrowing from the central bank. In the process, annual inflation, which had averaged 14% in 1980-85, rose, averaging 24% in 1985-88 and putting more pressure on the balance of payments.

xi. The balance of payments deteriorated sharply between 1982 and 1986, with the current account turning from a US\$5 billion surplus to a US\$5 billion deficit. The main factor behind this deterioration was a steep drop in oil export receipts, from US\$20 billion to US\$6 billion. The situation improved thereafter as oil exports rose while imports were restrained, so that, by 1988, the current account deficit had been cut to about US\$2 billion. Non-oil exports, relatively small to begin with, fell during 1980-85 when the real exchange rate appreciated quickly, but began rising from 1986 when their traders were provided preferential exchange rates.

xii. In response mainly to the war and to other adverse external conditions, Iran's exchange and trade system became increasingly restrictive and complex in the 1980s. Beginning in May 1980, the rial was pegged to the SDR at a basic official rate (Rls 92.3=SDR 1) which, unadjusted, diverged more and more from the market rate that, by 1988, was 15 to 20 times below the official rate. In between, several other administered rates for exports and imports were introduced, but the bulk of transactions in 1980-88 took place at the overvalued basic official rate. Reflecting this, most domestic prices remained at artificially low levels, distorting financial and economic signals to producers and consumers, and giving rise to inefficiencies which, if not addressed, would have held back post-war reconstruction and economic growth.

xiii. However, soon after the war with Iraq ended in mid-1988, Iran designed a sound strategy for revitalizing its economy over the medium term, 1989/90-1993/94, covered in the country's First Five-Year Plan (FFYP). This Plan aims to reorient economic management away from the largely war-induced pervasive government intervention and towards greater reliance on market mechanisms. While Parliament formally ratified the Plan at the beginning of 1990, the Government started implementing key elements of the Plan--notably, reconstruction works, public deficit reduction and relaxation of economic controls--from 1989.

xiv. Since then, GDP growth has picked up and been strong: 4% in 1989 and an estimated 10% in 1990. At the same time, the economy has stabilized considerably, helped last year by the fortuitous increase in oil prices as well as profits from official sales of foreign exchange at highly depreciated rates on the open market. The general government deficit came down from an equivalent of 9% of GDP in 1988 to 4% in 1989 and an estimated 2% in 1990. As a result of the lower deficits, the growth of net credit to government and, correspondingly, that of broad money declined between 1988 and 1990, helping to lower inflation, from 29% in 1988 to 17% in 1989 and around 10% in 1990. The external accounts also improved, especially last year when oil prices surged briefly, such that overall balances were close to US\$2 billion each in 1989 and 1990.

xv. Iran is entering the 1990s with a small external debt relative to its income and exports. Initial estimates show the stock of Iran's medium and long-term debt at the end of March 1991 (the end of Iranian fiscal year 1990/91) was around US\$1.8 billion (equivalent to only 2% of FY90/91 GDP). There were, in addition, short-term debts and revolving credits of between US\$2 billion (Central Bank estimate) and US\$6 billion (OECD estimate) at the end of 1990. Given its abundant natural resources and economic potential, Iran can, therefore, contract additional debt for needed investments and still maintain low relative indebtedness provided it establishes a strong, growth-oriented incentives regime, builds adequate infrastructure efficiently, and sustains the momentum of recent economic reforms.

Recent Economic Reforms

xvi. Iran's recent economic reforms have touched most elements of macroeconomic policies, aiming, in the main, to reduce various price distortions and financial imbalances of the war years. A far-reaching change in pricing policy took place early in 1991 when the number of multiple exchange rates was reduced from seven to three, these now being: the official rate (Rls 92.3 per SDR, or around Rls 70 per US dollar), the competitive rate (Rls 600 per US dollar) and the floating rate (recently, Rls 1350 to Rls 1400 per US dollar). In the same instance, over a hundred items were shifted from the list of imports bought at the official to one bought at the competitive rate, implying a substantial depreciation effectively of the exchange rate applied to imports.

xvii. On the export side, all surrender requirements for non-oil exports were abolished and traders allowed to exchange their proceeds at the floating rate, thereby obtaining a tremendous boost in incentives. Many barriers to entry into foreign trading have been lifted and trade procedures greatly simplified. As a result, export-import traders and their respective clients now also benefit from substantial time savings.

xviii. Along with the above exchange rate and trade action, Government has lifted price controls on all except those essential commodities still imported at the official rate. The price-controlled items now number 22, constituting 5% of all items included in the Iranian CPI and carrying 3% of the value weight in the CPI. In contrast, in 1988/89, the items numbered 296, constituted 75% of items included in the CPI and carried 74% of the value weight in the CPI.

xix. Sector pricing policies are also being adjusted. In agriculture, Government has replaced the system of fixed prices and public procurement of eight strategic crops (selected foodgrains and oilseeds) with that of guaranteed prices set below expected market prices, and has abolished compulsory public procurement. In the other sectors, after many years, several public utility tariffs and charges have been raised, in some cases quite steeply, electricity being an example with rates raised by a minimum of 35% for households, 60% for public lighting and 240% for industrial use. To the extent, however, that the various utility prices may still be well below full cost, valuing foreign exchange at the competitive rate, further

adjustments will be necessary, with the proviso, of course, that the truly needy would obtain targeted relief for very basic services. The Government's own ability to provide such relief will no doubt depend on effective measures to mobilize fiscal revenues.

xx. On the fiscal front, recent measures have been appropriately directed at strengthening tax administration, with very positive initial results, and at examining the tax system with the aim of improving its efficiency and equity. In connection with the latter specifically, a revised income tax scheme has been submitted to the Majlis proposing to reduce the number of tax brackets, raise the tax threshold and slash the top marginal rate. The Tax Department has also prepared a system and legislation for a value added tax (VAT), and is continuing to strengthen tax design capability and administrative machinery to prepare itself to implement the VAT when the system is approved. Such revenue improvements, plus careful expenditure controls, are expected to lead to lower fiscal deficits envisaged in the FFYP and thereby ease monetary expansion.

xxi. Monetary policy and management were improved last year with increases in bank deposit and lending rates such that, given the decline in inflation, most of the rates turned positive in real terms for the first time in many years. In the event inflation picks up, these rates should of course be reviewed to continue mobilizing savings and deploying them efficiently. Long-term savings are now encouraged by newly introduced deposits of 2 to 5 years' maturity. The minimum rate of return on 5-year deposits was set at 13% per annum and was expected to guide returns on other maturities determined by banks on a competitive basis. In another measure, credit ceilings administered by banks were removed recently, though guidelines for sectoral allocation of credit were still being issued by the central bank. Overall, a good start has occurred towards raising the efficiency of monetary policy and making it more responsive to the needs of the private sector.

xxii. Development of the private sector has also been pursued more directly in recent years with the activation of the local capital market and with moves to divest public enterprises. The former began earnestly with the revival of the Tehran Stock Exchange in September 1989. Within a year to eighteen months, the number of firms listed on the Stock Exchange had risen from 56 to 90; the volume of shares traded, from 3.5 million to 10 million; and the value of shares sold, from Rls 9.5 billion to Rls 51 billion. In the divestiture program, close to 700 public sector firms were being examined for sale at the time this report was prepared and, in the first phase, the Council of Ministers had already approved 250 firms for divestiture. Before that, the Government had already augmented private participation substantially in the mining and export of non-metallic minerals, selling off mines, dissolving regional holding companies and relaxing licensing practices.

xxiii. In all, guided by the FFYP objectives, Iran has been moving firmly towards establishing a peace-time economic policy environment conducive to efficient growth of output, employment and exports. As the Government is well aware, however, the process of reorienting the country's economy--not to mention daily production, business and administrative practices--is by no

means over. Additional measures, as suggested below, will be required to extend or complement the reforms adopted in Iran in recent months.

The Next Steps in Economic Reforms

xxiv. Given that financial imbalances at present are relatively small in Iran, the reform agenda can concentrate on deploying the exchange rate to put in place an appropriate price system which will facilitate development of the non-oil economy without involving a major initial compression of economic activity. As such development is a very important objective of the FFYP, Government should press on towards exchange rate unification at an appropriate rate and lift, correspondingly, the remaining price controls and generalized subsidies. The resulting impact on domestic prices and cost of living would require compensatory mechanisms such as wage adjustments and social safety nets, at least until inflation moderates and /or incomes rise after various reforms. The Government is already looking into the issue of compensatory mechanisms to finance which it will need to mobilize domestic resources.

xxv. A major means to mobilizing domestic resources would be to discontinue using the official exchange rate for valuing oil exports. Another would be through tariff reforms, which are necessary anyway to synchronize tariffs with the recent and intended exchange rate action. In the first place, when assessing customs duties, using at least the competitive instead of the official exchange rate to convert imports to rials would capture a large amount of potential revenue. In the same move, following the ongoing review by the Ministry of Commerce and the Customs Department, Government might take the opportunity to rationalize the tariff structure by reducing the level and the dispersion of duties, and eliminating other import charges, such as the Commercial Benefit Tax.

xxvi. The extra domestic resources mobilized as above would provide Iran significant options for public expenditure policy. The Government could use such resources to finance public sector wage adjustments and a Social Safety Net Fund. It could devote some resources to an Enterprise Restructuring Fund set up to meet a variety of expenses associated with divesting public enterprises. And, as another proposal, some resources could be set aside in an Investment Fund to provide long-term finance to cooperatives and nascent private entrepreneurs at market rates, preferably through the financial system.

xxvii. In the financial sector, following the recent removal of credit ceilings, the monetary authorities might consider removing ceilings on profit shares and lowering reserve requirements. The aim ultimately would be to set reserve requirements as prescribed by prudential regulations, which need to be developed to guide banking activities. The scope and the efficiency of banks and other financial intermediaries, moreover, could be enhanced by promoting greater participation of the private sector in banking.

xxviii. The private sector in Iran has received important stimulus by way of the recent exchange rate and pricing policy adjustments. In addition, fiscal reforms envisage that public deficits will be small and that, therefore, private savings will not be preempted. Complementing such

liberalization measures, a practical step needed now would be to study Iran's regulatory environment governing private businesses and design necessary changes to facilitate development of the market economy.

xxix. Finally, while developing the private sector, it will also be necessary to instill efficiency into those enterprises--for example, natural monopolies--that remain in the public sector. These public enterprises will need to be reformed by making them accountable to independent boards, and by granting them financial and managerial autonomy. As their operating conditions are thus freed and improved, these enterprises should no longer need preferential access to credit and budgetary resources.

Medium-Term Prospects

xxx. In the medium term in Iran, there is very considerable potential for economic growth, especially in productive sectors (agriculture, oil, gas and other mineral, and manufacturing), if underpinned by continued reforms of the exchange, trade and price systems. Real GDP growth in 1991-95 could feasibly average 5% to 6% per year, rising from between 4% and 5% in 1991 and accelerating to 7% by 1995 as the reforms take hold and productive investments are put in place. If, moreover, the fiscal and monetary measures envisaged in the FFYP and in the reform program are carried out, public sector deficits and monetary expansion will remain moderate even as the government finances a targeted safety net scheme for a temporary phase and undertakes much needed public investments. The continued growth of output and exports in a stable fiscal and monetary setting would help strengthen Iran's balance of payments over the medium term. Projected current account deficits of around 3% of GDP over the next few years would be sustainable and could be financed with medium and long-term external funds.

xxxi. Iran's external financing requirements would amount to at least \$12 billion to \$15 billion of disbursements over the next four to five years. This substantial amount of capital should, however, be contracted on maturities and terms with careful regard to maintaining relatively low level of indebtedness. Assuming appropriate terms for external borrowing are assured and the momentum of sound policy reforms is maintained, Iran would be creditworthy for external borrowing to rebuild what is potentially a highly dynamic economy.

xxxii. It should be noted in the end that the projections referred to in the above two paragraphs are illustrative only. Their sole purpose is to focus attention on the underlying policy framework and to depict the direction in which the economy could evolve under some combination of economy-wide and sectoral development policies.

Sectoral Performance And Issues

xxxiii. A number of problems, ranging from the inadequate build up of capacity and maintenance to serious price distortions resulting from the exchange rate regime and from a war time economic system, have beset the various sectors of the economy. Agriculture and industry were most affected by controlled input/output prices, while large infrastructure projects,

especially dams and power plants, suffered in the past from an inadequate selection process in determining least-cost solutions. Furthermore, education was adversely affected by inadequate expansion in the number of teachers and in the availability of materials. Iran's most recent macroeconomic reforms are expected to reduce the financial and economic distortions that had hindered sectoral performance. Those reforms, however, will need to be sustained and deepened before solid results are seen at the sectoral level. The Government, in addition, will need to attend to the variety of sector-specific policy, institutional and expenditure issues summarized in the following sections.

Agriculture

xxxiv. The Government, from the early 1980s, placed particular emphasis on developing rural areas. The agricultural sector has enjoyed a high output growth (5 to 6 percent per annum since 1981/82) with particularly good performance for traditional cereals, wheat and barley. These results reflect: (i) the low priority and mediocre development of agriculture prior to 1980; (ii) the existence of a large inventory of basic equipment at the beginning of the 1980s; (iii) the impact of incentive policies at the producer level, including support prices and the subsidization of input prices; and (iv) the subsidization of prices at the consumer level for major staples (wheat, barley, and, in particular, rice) while fruits and vegetables were subject to free-market pricing. Such incentive policies, in turn, reflected one of the major aims of the Government; namely, self-sufficiency in grains.

xxxv. The results of these policies, however, have not been entirely positive. First, they did not raise the productivity of cereal agriculture, where yields generally stagnated at very low levels; in addition, the increase in output did not match the increase in demand, and imports continued to grow. Second, distortions were introduced in relative prices, and scarce resources concentrated on low value-added products, especially grains. Third, the support policies were not matched by investment. Capital expenditure for agriculture fell drastically and, in 1989, was one third its 1982/83 value in real terms. This decline has generated an increasing need for rehabilitation and maintenance of existing infrastructure.

xxxvi. Major soil and water resources continue to be untapped or underutilized, and there is substantial scope to increase yields by introducing improved technology. The water balance shows that some 50 billion cubic metres (about 40 percent of total water resources) remain unharnessed. Water resources, however, remain poorly utilized because of incomplete equipment (e.g., the lack of distribution networks for irrigation or the lack of drainage) and inadequate technology leading to low water-use efficiency (30 percent on average for the country). Improving irrigation efficiency (by 5 percent) would allow the irrigation of an additional 1 million ha. There is also substantial scope for improving yields in rainfed agriculture, which comprises about 65 percent of all cultivable land.

xxxvii. Still, constraints exist to the expansion of agriculture. The most important of these is undoubtedly the distorted structure of incentives emanating from exchange rate and pricing policies which, however, are being

improved now. A second major constraint is the inadequate investment in irrigation and other capital works. The program to build dams and other large structures needs to be weighed against the rehabilitation and completion of existing schemes, which are the real bottlenecks. This is, indeed, Government policy. A third constraint is the lack of a successful extension service for teaching modern irrigation and dry farming techniques. Finally, institutional constraints include the lack of coordination among the various agencies dealing with agriculture, and land tenure and property consolidation problems. Without property consolidation, as the Government rightly emphasizes, more efficient modern technology cannot be introduced.

xxxviii. Economically, there may well be a contradiction between the continuing drive towards self sufficiency in low value-added cereals and the effort to raise the technological level of agriculture. Generally, a strong move away from normative planning is necessary to attain a more efficient allocation of resources. The first step in this direction would be to change price signals, together with the complementary trade measures that this implies. Government should consider phasing out input subsidies to help production costs and farmgate prices move along market-determined lines. This would increase the relative profitability of higher value crops, in particular fruits and vegetables, and match domestic demand trends with potential export opportunities.

xxxix. The technical aspects of the Plan can also be improved. First, investment should be focused more on rehabilitation and the completion of existing works. The economic justification of the dam construction program from the standpoint of both agriculture and power should be carefully studied. Second, a plan of action for irrigation should be prepared covering the completion of networks; the establishment of an extension program for water management at the farm level; and a crash research program in the establishment and management of pressurized systems, since many issues appear to be site-specific. Third, an "umbrella" organization should be established to coordinate the various aspects of research, extension and training to help resolve the socio-political problems that seem to hamper the dissemination of new technical packages in both rainfed and irrigated areas.

Industry

xl. Over the last several years, the industrial sector in Iran had been protected by quantitative restrictions, pricing policies and foreign exchange allocations. In addition, the sector was subject to pervasive control by the Government. Today Iran has a sizeable industrial base consisting mainly of import-substituting industries operating, on average, at less than 50 percent of installed capacity. A large portion of the industrial sector as a whole, and the vast majority of medium and large industries, are currently owned or managed by the public sector, though privatization is being pursued seriously now.

xli. Until recently, most industries producing import-substituting intermediate and capital goods were provided foreign exchange at the official rate, which is significantly overvalued. When an appropriate and unified exchange rate policy is adopted, these industries could face difficulty.

Concurrently, inputs to most consumer goods industries and many finished products were imported at a variety of much depreciated exchange rates, thus generating all sorts of market signals and prices, depending upon what rate of foreign exchange and what pricing regime the various industries come under.

xlii. The Government is committed to reformulate industrial sector policies and to launch the sector on an efficient growth path. The administrative procedures and regulations affecting industrial investment, production and trade are being simplified. In addition to the most recent exchange rate action, several measures to encourage non-oil exports are under consideration, including institutional support measures in the form of a foreign exchange revolving fund and an export development fund. However, the operational aspects of these measures remain to be worked out. With the liberalization of pricing and foreign exchange policies, many industries which survived under restrictive and protective conditions would need technical, financial and operational restructuring in order to adjust to the new environment. Some industries, where such restructuring is not feasible, may have to be phased out to make way for new industries that are competitive and based on Iran's comparative advantages.

xliii. Finally, in this sector the large amount of public investment outlay called for in the FFYP and the relatively small contribution from the private sector are causes for concern. The Government should consider ways and means of generating a private sector led industrial sector growth. If public investment is indicated (because all efforts to attract private sector fail) rigorous procedures for screening all major investments based on economic criteria would help ensure that heavy capital-intensive industries are not promoted automatically when greater returns could be achieved by restructuring or rehabilitating viable existing industries that are underutilized and would not require large investments to generate growth.

Energy

xliv. The energy sector has a considerable rebuilding and rehabilitation program ahead of it, considering the destruction from the war and the deferred maintenance resulting from financing constraints. The Five-Year Plan proposes to address these problems. However, the schedule of Plan investments appears ambitious and would tax the implementation ability not only of the energy sector, but also of some other sectors.

a) Power

xlv. The power subsector has improved its ability to supply demand in a short period of time. Blackouts, which had been as long as six hours a day in some parts of Tehran, have been reduced to a limited number of rotating blackouts. However, given that the current peak demand of about 9,000 MW is only marginally being met with an installed plant capacity of about 12,000 MW, substantial potential for increasing the output of the existing system exists. The reconstruction element of this exercise is currently being given top priority; however, it should be complemented with a rehabilitation program that increases the reliability and efficiency of existing plants. Hence, it

is recommended that a study of the rehabilitation needs of the sector be initiated as soon as possible.

xlvi. The proposed investment plan was reviewed to a limited extent, revealing a few projects whose economic merits appear to be questionable. As a normal component of synthesizing a generation investment program, a least-cost plan is usually analyzed in detail to assess the relative merits of alternate investments in a system-wide context. It is understood that such an analysis has not been undertaken for the proposed investments in the Five-Year Plan. It is recommended that such an analysis be carried out urgently.

xlvii. The current average tariff of about 8.5 Rls/kWh came about following a 64% increase in March of 1991; but it still does not reflect the full cost of supply. Meeting the long-run marginal cost of supply would require that electricity prices be about three to four times their current rate (assuming a substantial program based on natural-gas-fueled generation plants and the cost of foreign exchange approximated by the competitive rate). It is understood that the Government intends to set electricity prices such that full cost recovery is achieved by the sector during the Plan period. The responsibility of achieving this target rests solely with the Ministry of Water and Power.

xlvi. An ambitious rural electrification program covering 10,000 new villages is contemplated for the plan period. This program should be closely coordinated with the supply-side development program to ensure that there will be sufficient capacity in the system to meet the growing demands of the subsector. Because of the relatively low load factor that typically characterizes such developments, it is important that plans to mitigate this potential problem (such as load management by time-of-use pricing schemes) be proposed at the design stage.

b) Oil and Gas

xlix. The oil and gas subsectors were particularly hard hit by the 1980-88 war; much of their infrastructure was destroyed. As these subsectors are the prime source of foreign exchange income, the Government has placed heavy emphasis on their reconstruction, with considerable success. The Government has conservatively estimated that foreign exchange revenues from this subsector would amount to US\$76 billion during the plan. Parallel to the reconstruction effort, the Government proposes to gradually reduce the imports of petroleum products so that all domestic consumption would be met by production from Iranian refineries by the end of the plan. In addition, the growth in the domestic consumption of petroleum products is expected to be curtailed by substituting this demand with increased natural gas supplies. This proposal would not only benefit the economic cost of energy supply, but it would also help to reduce the environmental problems in major cities, particularly Tehran.

1. Approximately 30 percent of associated gas production is currently being flared, thus wasting a valuable natural resource. The Government is now studying how this problem can be rectified. This study and its implementation should be given high priority to ensure appropriate utilization of flared

associated gas. The optimal utilization of natural gas in competing downstream sectors (such as power, fertilizer production, potential exports, etc.) should be assessed in terms of relative potential net benefits. The proposed export of liquefied natural gas should be reassessed in this context as well, focussing on the expected net benefits, given the risks of natural gas liquefaction, and the potential sales and benefits of gas use in competing downstream sectors.

li. With gasoline priced at half its world price, and other fuels at about 10 percent of the world price (all converted to rials at the competitive exchange rate), domestic consumers enjoy a large subsidy on petroleum products. The Government should consider adjusting the domestic prices in such a manner as to ensure that the benefits of the subsidies are targeted on the poorer segments of the population. This would increase the revenue base and decrease the growth in consumption, thus freeing up more petroleum products for export and reducing air pollution problems.

Urban Sector

lii. The housing situation improved during the 1976-86 period, despite the war and the rapid population increase. Nevertheless, there is still an estimated shortage of some 1.6 million dwelling units. The plan foresees the construction of 2.2 million units to handle the existing backlog and meet the demand created by the increasing population. Implementing the entire program, however, would only marginally increase the housing stock per capita in the large urban areas due to the priority given to rural areas. Furthermore, the targeted number of units is unlikely to be reached due to bottlenecks in the supply of building materials and construction equipment, as well as insufficient capacity to manage implementation.

liii. Potable water and electricity supply facilities appear to be adequate, and service coverage is considered good. The supply of natural gas is limited to certain large urban areas. With few exceptions, sewage collection and disposal facilities consist of soak pits and septic tanks. There is evidence of some groundwater contamination in several urban areas, including Tehran, but the plan foresees the introduction and expansion of sewage collection and disposal systems.

liv. Large cities, including Tehran, have insufficient public transport facilities. In addition, traffic management and regulation enforcement are inadequate. Noise and air pollution are prevalent. Although the construction of a subway system is under way in Tehran, it is unlikely that it would be in operation before the end of the current plan. It is, therefore, critical that the planned expansion of the bus fleet proceed unimpeded, if any medium-term improvement is to be realized. Urban roads appear to be fairly well developed, although their state of repair varies considerably.

lv. Planned investments in the urban sector are relatively high. Attention should be given to removing resource bottlenecks, and emphasis needs to be placed on increasing operating efficiency. Project planning and preparation could be rationalized and made more flexible in order to better

respond to local demand. In this respect, the devolution of some of the functions to regional and local administrative levels could be beneficial.

lvi. There is an urgent need to enhance the capacity and improve the building methods of the construction industry. This concerns the materials and equipment used as well as the need for manpower training. Establishing local production facilities for certain materials and equipment might augment efficiency. Import substitution schemes, with or without the participation of foreign groups, might also be appropriate and should be urgently considered.

lvii. It appears that the cost of urban services is not fully recovered through user charges. Cost recovery should be strengthened; otherwise, the lack of funds may lead to insufficient maintenance and the gradual deterioration of existing networks, plant and equipment.

Transport Sector

lviii. The transport sector has not fully recovered from the consequences of the war. In general, the transport networks need to be rehabilitated, modernized and expanded. The railway system can not meet the needs of both freight and passenger trains. The plan foresees an extension of railway service to Bandar Abbas, covering a total of 500 km, to better link the main ports with the major cities. Passenger service is to be improved through the acquisition of passenger cars, track rehabilitation and extensions and electrification. Plans are also underway to improve management, introduce computerization and step up manpower development activities.

lix. The road network is also going to be improved with emphasis on maintenance and rehabilitation of existing roads. Freeways are to be constructed with private financing. At present some 90 percent of all passenger traffic is by road, and passenger bus terminals are needed in several cities, regardless of future plans to move more passengers by plane and rail.

lx. Air transport is provided by Iran Air and another small domestic carrier. There is a shortage of aircraft, and the ability to transport freight and passengers is severely constrained. Modernization and the expansion of the existing fleet is needed. While it appears that operating costs are recovered from users, the substantial investments required to modernize and expand the fleet and other facilities may result in increased fares and charges, and pricing studies would be needed. A new international airport outside Tehran and 10 provincial airports are under construction. The cost of constructing the international airport is being partly covered by a special airport tax. Finally, increased traffic would require organizational reforms both in the civil aviation authority and in the airlines.

lxi. With the exception of developing a few new small ports, the plan concentrates on the rehabilitation, improvement, modernization and rationalization of existing port facilities. Upgrading would include organizational and managerial improvements, as well as the acquisition of new handling equipment and computers, particularly at Bandar Khomeini and Bandar Abbas.

Education

lxii. Iran has a long educational tradition. However, universal education is a recent goal and represents a formidable task for the Government. The education of farmers and of women, moreover, is critical considering the high positive correlations between education and farm productivity and between women's education and family planning. These are urgent concerns, given Iran's high population growth and insufficient food production. Development is also hampered by the shortage of skilled middle level and high level staff in several economic sectors.

lxiii. Education has expanded considerably, especially during the last decade; the overall literacy rate increased from 47 percent in 1979 to 64 percent in 1989. This is, nevertheless, a low percentage in a country of Iran's economic and social level. The high population growth implies, furthermore, that the absolute number of illiterates has increased, by at least 0.6 million in ten years, despite a concomitant increase in the literacy rate. Enrollments at the primary level appear to have grown by 8 percent per annum during the 1980s with net enrollment ratio at present of 78%. Notably, the girls' enrollment rate rose faster due to a rapid expansion of girls' schools in rural areas. The overall share of females in the primary enrollment is 45%. However, there has been a lag in the development of senior secondary education. The net enrollment ratio of 19% at the secondary level compares unfavorably with other lower middle income countries. Similarly, higher education suffered for several years after the Revolution and it is only in the last three or four years that enrollment has begun to pick up sharply.

lxiv. There are about 500,000 teachers in 81,000 schools, which gives a reasonable student/teacher ratio of 28:1 and a student/school ratio of 170:1. However, classes and schooling vary considerably. There are urban classes with 40-50 students each, as well as rural, multigrade classroom schools with only 30 students in total. Repeaters and dropouts are common and account for as much as 20 percent of some grades. Schools are often very overcrowded, especially in urban areas, and housed in buildings not intended to be used as schools--there are even classes in basements. Appropriate facilities and equipment are often lacking, and the maintenance is very poor because of the dearth of funds.

lxv. Vocational/technical/agricultural education forms a comparatively small part of the senior secondary and postsecondary system, with about 0.2 million students out of a total of 1.6 million students at this level. A vocational/technical/agricultural enrollment increase, from 15 percent to 30 percent of the total number of general secondary education students, would reduce the current serious shortage of middle-level technicians in Iran.

lxvi. In higher education institutions, there are 290,000 students and 16,000 staff in facilities planned for 125,000 students. The overcrowding is considerable. An exodus of academically trained personnel has created a shortage of staff in several enterprises--the lack of trained managers has been particularly noted. Government expenditures for education amount to 3.1

- 3.2 percent of GNP. This is a low figure by international standards, and an increase to 5 percent would be well justified to improve both the quantity and quality of education. At the highest educational level, fees might be considered.

lxvii. It is the expressed policy of the Government to pay close attention to the social demand for education, thus going beyond manpower requirement estimates. This policy may easily lead to the unemployment of persons with high academic qualifications, but it also implies that the country has at its disposal an educated pool of manpower and the potential for economic and social development when needed. It should, however, be said that encouraging students to proceed to the next level of education primarily to postpone entrance to the labor market (and possible unemployment) is an expensive way for a government to deal with unemployment problems. It should also be stated that more education, as such, does not create more jobs (other than for teachers).

lxviii. The above situation is especially relevant for Iran's 250,000 secondary school graduates who enter the labor market each year. It is true that the vocational/technical/agricultural education system is going to expand, but it is particularly important for the Government to provide incentives to employers to conduct in-service training, perhaps of the Latin American type; to make farming an economically attractive activity; and to support labor-intensive enterprises in industry, commerce, construction, etc.

lxix. The Government plans to expand and improve primary education. It also has a considerable vocational/technical education program covering many of the sectors. The program would require considerable training both for new and existing teachers. Capital funds for the construction of new and the upgrading of existing facilities would be required. Equipment requiring foreign currency must be purchased. A well-planned and well-administered maintenance program must be put into operation, perhaps by mobile government units.

PART I: MACROECONOMIC ISSUES

CHAPTER I: THE WAR ECONOMY AND THE ROAD TO RECONSTRUCTION

A. BACKGROUND

1.1 In the last decade, the economy of the Islamic Republic of Iran was influenced profoundly by two major socio-political events; namely, the 1979 revolution, which established the Islamic republic, and the protracted war with Iraq from 1980 to 1988. During the same period, Iran faced various trade and financial sanctions from abroad; contended with the virtual collapse of the world price of oil, its major source of export earnings and public revenues; and incurred large expenses accommodating a growing number of refugees from neighboring Afghanistan and Iraq. Iran's economy was further affected by substantial outflows of skilled labor, entrepreneurial talent and financial capital. Against this background, Iran's economic institutions and structure during 1980-88 underwent marked changes, notably the reorganization of the country's financial system along Islamic doctrine and principles, and, largely in response to war conditions, the extension of the role of the public sector in the economy.

1.2 The financial system was reorganized in a phased manner aimed at replacing fixed interest rates with profit-sharing modes of finance. The public sector became increasingly prominent for three main reasons. First, the departure of former owners as well as skilled workers in the aftermath of the revolution compelled the government or its agencies to step in and manage various businesses and properties. Second, the decision to bring strategic industries and activities under state control led to nationalization of certain major enterprises and services. Third, the exigencies of war prompted the government to extend its regulation of the economy into areas such as prices, distribution and external trade.

1.3 Over the war years, the various forms of price interventions and the increasingly complex regulatory framework led to growing economic distortions and financial imbalances. In the latter half of the 1980s, moreover, financial imbalances were exacerbated by the collapse of oil income on the one hand and, on the other hand, the mounting war-related expenditures. Following the cessation of war in mid-1988, Iran formulated its post-war reconstruction policies and priorities, which seek to reorient economic management and which have been incorporated in the country's First Five-Year Plan (FFYP) spanning Iranian fiscal years^{1/} 1989/90-1993/94.

1.4 The FFYP by and large charts out a sound strategy for correcting the economic distortions and financial imbalances that had emerged in Iran. The Plan is described and assessed in the next chapter. The rest of the present chapter analyzes the extent and the severity of the war-year

^{1/} The Iranian fiscal year runs from March 21 to the following March 20 and is the basis on which most national economic statistics are compiled. Wherever calendar year notations are used in this report to refer to national economic data, the convention followed is to identify fiscal years by the calendar years in which they begin. Thus, 1980 means fiscal year 1980/81; 1988 means fiscal year 1988/89.

distortions, and the reconstruction initiatives undertaken in 1989 and 1990. The focus here in Part I of this volume is on macroeconomic developments, including foreign trade, public finances, and money and banking. Part II focuses on the policies and performance of selected sectors, such as agriculture, industry, energy, infrastructure and education. Regarding Part I, it has to be noted that the analysis presented in the first chapter was based on data still requiring and undergoing refinements. For the purpose of the text of this chapter, some adjustments, explained below, were made in the national income accounts.

B. THE ADJUSTED NATIONAL ACCOUNTS ESTIMATES

1.5 Analysis of the Iranian economy is hindered by several deficiencies in the available data. First, there are wide fluctuations in the items, "Statistical Discrepancies" and "Increase in Stocks" in the national accounts. The former increased from 0.7 percent of GDP during 1980-82 to 11 percent in the period 1982-85, and then fell to 6 percent during 1986-88. These magnitudes are higher than the rates of change of GDP during most of those years. Similarly, the increase in stocks fell from 7.7 percent of GDP in 1980-82 to 0.6 percent in 1982-85 and increased to 9 percent in 1986-88. As in many other countries, changes in inventories can easily mask inconsistencies in the national accounts. Second, there is a problem with the valuation of international trade flows. In the national accounts, both exports and imports are valued at the official exchange rate. However, in practice and in the balance of payments, some of the trade flows were valued using different exchange rates. As a result, trade data from the national accounts and from the balance of payments do not match. Third, data on the cost of the war is presently unavailable. Presumably, this explains the large statistical discrepancies and increase in stocks when measuring GDP. If so, the size of the public sector may be underestimated. Moreover, this may also be distorting the sectoral components of the national accounts. Fourth, the national accounts place the enterprises nationalized after the revolution in the private sector, when, in practice, they belong to the public sector. This is particularly a problem in the analysis of private sector investment.

1.6 As a result of these problems, it is difficult to answer some questions clearly. For example, when using the official national accounts, it is not possible to ascertain whether the economy grew since the late 1970s, since the reported statistical errors could turn the positive rate of growth implied by the data into a negative one. There are also differences to be sorted out in the values of items--such as exports, imports, net foreign assets, etc.--appearing in various accounts. This said, however, Iran's national accounts problems are not atypical when compared to other countries. Also, the official bodies responsible for compiling statistics are aware of, and continue to rectify, the problems posed by discrepancies among the various sources of published data.

1.7 For this chapter, official national accounts estimates were adjusted in the text. The most important adjustments were made: (i) to the estimates of exports and imports of goods and non-factor services to reflect the changes in exchange rates in 1987-89; and (ii) to public sector

consumption. To adjust the exports and imports, the estimates for 1987-89 were recalculated using trade-weighted average exchange rates. Public sector consumption was corrected by treating it as a residual. Specifically, the correction entailed taking the GDP figure directly estimated from value added and deducting from it the other directly estimated components of aggregate expenditure: private consumption (estimated from household surveys), exports and imports of goods and services, and fixed investment.

C. MACROECONOMIC TRENDS IN THE 1980s

1.8 Against the backdrop noted in paragraphs 1.1-1.3, Iran's economic performance in the 1980s was mixed, with a fast rate of economic growth in the first half of the decade followed by a distinct slowdown of growth and rising inflation in the second half. Before the decade closed, however, post-war reconstruction policies were initiated, laying the basis for a remarkable economic recovery now taking place. During 1980-85 the economy grew rapidly at above 8 percent per annum. This fast growth was the result of a combination of external and domestic factors. First, oil prices were high. In early 1979, international oil prices were at their highest levels; they remained above the 1979 levels until 1984. This provided the economy with a strong external stimulus through greater oil revenues. Second, the economy was characterized by a very low output level coupled with under utilized capacity at the start of 1980. This situation provided the economy with excess supply, which stimulated growth. Finally, growth was also stimulated by the expansion in aggregate nominal demand, with consumption especially rising rapidly.

**TABLE 1.1: COMPOSITION AND GROWTH OF GROSS DOMESTIC PRODUCT
(in percentages)**

	Shares of GDP				Annual Real Growth Rate		
	1980	1985	1988	1989	1980-85	1985-88	1989
A. Consumption	70.7	81.9	82.1	79.4	10.8	-7.3	2.0
Private	53.3	58.1	63.2	66.0	7.4	-5.5	2.6
Public /a	17.4	23.7	18.9	13.4	21.0	-11.2	0.4
B. Gross Fixed Capital Formation	21.2	17.2	12.4	12.0	7.5	-15.5	13.8
Private /a	10.9	10.6	7.2	7.1	12.4	-15.7	6.6
Public	10.4	6.6	5.2	4.9	2.7	-15.2	22.9
C. Change in Stocks	11.2	1.1	6.9	10.7	48.4	87.5	59.3
D. Domestic Absorption	103.2	100.1	101.4	102.2	7.2	-6.1	8.6
E. Resource Balance	-3.2	-0.1	-1.4	-2.2	--	--	--
Exports GNFS /b	13.3	7.6	8.3	10.4	13.4	10.0	25.4
Imports GNFS /b	16.4	7.6	9.6	12.5	4.5	-15.0	65.5
E. GDP at Market Prices	100.0	100.0	100.0	100.0	8.3	-2.7	4.4

/a Includes some public enterprises and foundations; see paragraph 1.5.

/b Adjusted as explained in text above; see paragraph 1.7.

Source: Statistical Appendix Tables 2.3, 2.4, 3.1, and Bank staff estimates.

1.9 The situation, however, changed dramatically in the second half of the decade. First, the international price of oil fell steeply to US\$14 per barrel in 1984, from US\$34 per barrel in 1981. Second, during 1984-86 the intensification of the war with Iraq resulted in major losses of export facilities, and oil transport through the Persian Gulf was drastically reduced. These factors together accounted for a fall in oil revenues from a peak of US\$21 billion in 1983 to US\$6 billion in 1986.

1.10 The drastic drop in oil income should have been countered with a change in the price system and devaluation of the rial. However, the authorities opted more to control prices and tighten exchange allocation believing that a devaluation and price liberalization might fuel inflation. Meanwhile, the lack of corrective measures led to excess nominal demand in 1985-88 and high inflation which, in turn, repressed the excess nominal demand by contracting aggregate real demand.

1.11 The rapid growth of public sector consumption in 1980-85 (Table 1.1) was the most important factor in the expansion of nominal aggregate demand. Public sector consumption increased from 17 percent of GDP in 1980 to 24 percent in 1985, while private consumption increased from 53 percent to 58 percent during the same period. The proportion of resources allocated to income-generating activities fell in 1980-89, though it may reflect, in part, relative price distortions. The proportion of expenditures allocated to fixed investment fell during most of the last decade, going from around 20 percent to 12 percent of GDP between 1980 and 1989. In particular, private sector investment fell rather sharply in 1985-88 from 11 percent to 7 percent of GDP.

1.12 In terms of financing, the economy sustained its output growth in 1980-89 by depleting accumulated net foreign exchange reserves, even as Iran was facing economic and financial sanctions. The use of net foreign exchange reserves to finance expansion in consumption is indicated by a domestic absorption greater than the gross domestic product. This is also shown in Table 1.1 by the negative resource balance, implying higher imports than exports.

1.13 Aggregate demand was further upheld by wage and employment trends, enabling private sector consumption to increase in the early part of the 1980s. In the late 1980s the fall in private consumption was slowed by an increase in employment. The rate of growth of employment, after a brief slowdown, reached a maximum by the late 1980s (Table 1.2).

1.14 In the absence of data on the overall wage structure in the economy, information on wage developments are only indirectly obtained from the annual disposable income of rural-urban families during 1982-88, industrial wages during 1982-86, and the 1986/87 population survey which

TABLE 1.2: RATES OF GROWTH OF LABOR FORCE AND POPULATION
(annual averages in percent)

	<u>1976-80</u>	<u>1980-82</u>	<u>1982-85</u>	<u>1985-86</u>	<u>1986-88</u>
Total Labor Force	2.5	3.8	3.0	1.2	5.2
Employed Labor Force	2.1	2.5	2.5	0.8	4.8
Total Population	2.7	3.1	4.0	3.2	3.7
Rate of Unemployment/a	10.1	13.8	13.2	14.0	14.6

/a Defined as the ratio of unemployed to total labor force and expressed as a percentage.

Source: Central Bank of Iran.

provides data on government salaries by salary levels and years of service.^{2/} The data on annual disposable incomes indicate that wages and salaries (including bonuses) for the government sector for urban families increased by an average annual rate of 8 percent and for rural families by 14 percent, during 1982-88. Private sector wages and salaries for urban families increased by 10 percent and for rural families by 16 percent during the same period. Much of this increase for urban families was concentrated in the first two years of the period while in the case of rural families major increases occurred during 1986-88. Industrial wages increased by an annual average rate of 8 percent during 1982-87 with much of the improvement occurring during 1982-85. During 1986/87 industrial wages increased by 1 percent reflecting severe recession in the industrial sector; wages and salaries in the majority of subsectors declined in that year. The 1986/87 population survey indicated that 80 percent of government employees who participated in the survey earned less than Rls 60,000 per month, which represents 70 percent of the average salary of industrial workers in the same year. Only 7 percent of government employees earned salaries equal to or higher than the average salary of industrial workers. Three years later, the situation had changed very little for government employees: in 1989/90, about 85% of them earned less than Rls 100,000 per month, considered a bare minimum for a small urban family. In general, the increase in nominal wages and salaries during the 1980s was substantially below the rate of inflation.

1.15 Price controls and exchange rate policies played a major role in generating excess nominal demand by discouraging the production of tradeables and encouraging the production of nontradeable goods. Such controls, combined with the expansion in public sector consumption and access to low-cost credit, shifted relative prices which, in turn, resulted in transfer of resources from exports and import-competing activities (the tradeable sector) to the officially designated priority sectors (mainly the nontradeable sector). The shift in relative prices led to an inefficient use of resources as the relatively low cost of tradeables encouraged consumption and production to become more import-intensive. As this pattern continued, the economy required more foreign exchange per unit of output; or, given the restricted availability of foreign exchange, the economy could generate less output.

^{2/} The source of these data are various publications of the Iran Center for Statistics.

1.16 The effect of the above policy on relative prices is shown in Chart 2 at the end of this Chapter. Relative prices shifted as a result of the combination of: (i) the nominal exchange rate policy; (ii) the stimulus of nominal aggregate demand; and (iii) the subsidy to the designated priority sectors. These effects are measured in Charts 1 and 2 by (i) the official real exchange rate index;^{3/} (ii) the foreign exchange gap^{4/} between the free and official exchange rate indices; and (iii) the relative price of tradeables-nontradeables^{5/} respectively.

1.17 The real official exchange rate index measures the loss of international competitiveness or real appreciation as a result of controlling the nominal exchange rate. This index, therefore, measures how much more attractive it is for a consumer and/or producer to purchase an imported good relative to a domestic one, thus stimulating an excess demand for tradeables and discouraging their domestic production. This excess demand for tradeables is measured by the foreign exchange gap. The increase in excess demand in the late 1980s is apparent from the sharp increase in the foreign exchange gap index during the same period. The tradeable-nontradeable relative price more accurately measures the price incentives to production and consumption.

1.18 Relative prices, as measured by the indices in Chart 2, responded to and contributed to the expansion in excess aggregate demand. The expansion in aggregate demand shifted relative prices by increasing nontradeable (domestic) prices faster than tradeable prices, since it was easier to control the prices of tradeables than those of nontradeables. The prices of nontradeables in fact increased more rapidly than the official nominal exchange rate. Also, some nontradeable prices are responsive to excess demand situations. This is the case, for instance, with construction and/or real estate prices. Overall then, the increase in the price of nontradeables and the controls on the official nominal exchange rate resulted in a fall in the relative price of tradeables vis-a-vis nontradeables. Therefore, the greater the excess nominal aggregate demand, the greater the shift in relative prices.

Excess Nominal Demand and the Inflation rate

1.19 The absence of corrective measures to reduce excess nominal demand eventually led to an increase in the rate of inflation as well as market segmentation. The rate of inflation, measured by changes in the official Consumer Price Index (CPI), increased from about 10 percent in 1984-85 to 28 percent in 1987-88. Other proxies for the increase in prices indicate that prices increased faster in 1985-88 (see Chart 3). The increase in the

^{3/} The 1975 base is relatively arbitrary and was chosen because this was the last year when both exchange rates converged. The fall in real exchange rate indexes (RERIs) in Chart 1 denotes an appreciation, and an increase denotes a depreciation. Weights used in estimating the international weighted average rate of inflation correspond to Iran's share with her main trading partners. Data on Iran's prices were consumer price indexes (CPIs) obtained from the central bank; data on international prices were also CPIs obtained from the IMF. Although wholesale price indexes (WPIs) would have been more appropriate, these were not available for the period 1970-89.

^{4/} The foreign exchange gap is defined as the ratio of the free market to the official exchange rate, minus one.

^{5/} The tradeable/nontradeable relative price is defined as the ratio of the price indexes of food, beverages, tobacco and clothing to housing and construction. Services were excluded since their tradeability and nontradeability component is not easily defined.

inflation rate most affected those groups least equipped to defend themselves from price increases.

1.20 Market segmentation contributed further to the fall in real incomes. The excess demand for tradeables segmented foreign and domestic goods into a "free" and an "official" market. Consumers and producers who could not access the official market had to pay the much higher "free" market prices and thereby endure very sharp fall in their real incomes. Moreover, as the difference in the free and official prices widened, real income fell further, working as an additional mechanism to reduce real aggregate demand. At the same time, firms and individuals with direct or indirect access to both the official and free markets could profit vastly through rent-seeking activities.

D. THE FOREIGN SECTOR

1.21 In the 1980s, the foreign sector was affected by measures taken to cope with the war situation and other emergencies. Policy makers had to confront: (i) the international sanctions that restricted Iran's access to international markets for exports and imports; (ii) the freeze on Iran's foreign assets held abroad; and (iii) the capital flight which started in the late 1970s and increased during the war. Policy makers reacted to these developments by restricting trade and capital flows, but the cost to the economy was the establishment of a highly distorted environment leading to a weakening of the external current account.

Foreign Exchange Controls and Trade Policy

1.22 The foreign exchange budget is the instrument used in Iran to allocate most available foreign exchange among its different uses and to ensure a balance between the sources and uses of foreign exchange. Through most of the last decade, foreign exchange earners had to surrender their proceeds to the central bank at the officially prescribed exchange rates. Similarly, all importers had to purchase their assigned foreign exchange from the central bank. The foreign exchange budget, together with the fiscal budget, is sanctioned every year by Parliament. In these documents the Government defined its expenditure and foreign exchange priorities and determined the allocation of foreign exchange among different users (e.g., consumer, intermediate, defense, capital goods and service payments). The foreign exchange budget also established a maximum ceiling by use and by type of project. This budget, once converted into law, allowed for very small margin for reallocations (no more than 15 percent)^{8/} and/or for new allocations.

^{8/} A specially designed committee was empowered with responsibility of overseeing the reallocation of foreign exchange. This committee includes the Minister of Finance (Director); the Governor of the Central Bank; the Ministries of Industry, Agriculture and Oil; two representatives of Parliament (with no voting power); and the Vice-President, as head of the Plan and Budget Organization. The Central Bank is responsible for the administration of the foreign exchange allocation and for processing foreign exchange applications and letters of credit.

1.23 In addition to these quantity restrictions, imports were also subject to a combination of duties (assessed using the official exchange rate) and other charges. However, the binding factor was access to foreign exchange and not import prices. Therefore, certain goods with very high import duties could not be imported, in practice, because there was no foreign exchange allocation. The most important trade taxes are: customs duties, the commercial benefit tax and the tax on letters of credit. In addition to these, some items, such as cars, are subject to specific taxes.

1.24 Although there is no study on effective protection and/or the anti-export bias that resulted from the above trade restrictions in the 1980s, the analysis of customs duties, commercial benefit taxes (nominal protection) and nontariff barriers suggested the following conclusions. First, import duties were subject to generous exemptions. This was indicated by the average effective import duty rate (measured as the ratio of import duties collected to total imports), which was lower than the simple arithmetic average of nominal import duties. For example, while the arithmetic average of nominal import duties was above 100 percent, the average effective import duty rate was, on average, 30 percent. Second, effective protection was low taking into account the official exchange rate (only price effects), but was high when it included the effect of foreign exchange rationing (nontariff barriers). Third, effective protection showed a wide dispersion as a result of government intervention and the dispersion in nominal protection. The Government biased effective protection by granting direct and indirect subsidies to the designated priority sectors, and by giving those sectors preference in the allocation of foreign exchange. In particular, higher protection (as discussed in Chapter V) was concentrated on sectors such as heavy industry, food and some other low value-added industrial products in which Iran was considered to have a comparative advantage.^{2/}

1.25 Non-oil exports in the 1980s were also subject to restrictions designed to prevent under-reporting of foreign exchange earnings by exporters. In brief, exporters were required to sign a foreign exchange contract or consignment agreement that established the amount of foreign exchange they would surrender to the central bank. (Until late 1986, 100 percent of all these proceeds had to be turned over.) Before making their export commitment, firms had to negotiate with the Government (the Export Promotion Center) the minimum international price at which they would sell their exports. This price, after allowing for a small discount, was used to compute the foreign exchange contract. The price discount was fixed by the type of non-oil export and was used by the Government as an export promotion instrument, since exporters could retain and/or sell in the free market any excess foreign exchange above what was recorded in the foreign exchange contract.

1.26 In 1985/86, the authorities, aware of the problems posed by the excess demand for foreign exchange on the balance of payments and on the economy, introduced additional, more depreciated, exchange rates for certain imports and exports as a way of correcting distortions. This amounted to a

^{2/} Details on import duties and other trade restrictions were contained in: Law and Regulations of Imports and Exports (Tehran: Ministry of Commerce, 1988).

devaluation in the weighted-average exchange rate for imports from 79 rials per US\$1 in 1986 to 190 rials per US\$1 in 1989. The Government limited the number of goods that could be imported at the official exchange rate (the so-called essentials) and introduced the more depreciated "preferential" exchange rate of 420 rials per US\$1 for all other authorized imported goods in the foreign exchange budget (the nonessentials). Furthermore, in October 1989, in an attempt to restrain the rapid devaluation of the free market exchange rate, the Government started selling foreign exchange at the "competitive" rate of 900 rials per US\$1 for a list of imports that were not in the foreign exchange budget but for which a strong demand existed. Any other permitted imports, for which no allocations were provided, had to be imported at the free market exchange rate. In addition, the authorities introduced similar changes (i.e., more flexibility and a more depreciated exchange rate) for service payments by the private sector.

1.27 The Government also introduced some measures to encourage non-oil exports. These measures resulted in a devaluation of the trade-weighted average non-oil exports exchange rate: from 79 rials per US\$1 in 1986 to about 200 rials per US\$1 in 1989. In brief, the Government enabled certain non-oil exporters to opt for two alternative schemes: (i) surrender only 89 percent of their foreign exchange earnings, for which they would be paid the "preferential" exchange rate, and keep the remaining 11 percent or sell it in the free market; or (ii) exchange 100 percent of their foreign exchange earnings for an import certificate or declaration, which exporters could either sell to other importers or use to import certain goods. The price at which the exporter could sell this import certificate would be determined by the market. Furthermore, exporters could also benefit from any excess foreign exchange they made, i.e., foreign exchange earnings in excess of the amount committed to the central bank in the foreign exchange contract.^{8/}

Trade Flows and the Current Account

1.28 Trade flows and the current account are reported in Table 1.3. The current account data indicate rapid deterioration in the second half of the 1980s, turning from a surplus of more than US\$5 billion in 1982 to a deficit of more than US\$5 billion in 1986, with an average deficit of more than US\$2 billion during 1987-89. The current account went into deficit mainly because the trade balance turned from a strong surplus of about US\$8 billion in 1982 to a deficit of over US\$3 billion in 1986; the trade balance improved thereafter, and registered a sizable surplus in 1990 when oil prices rose steeply. The most important factors behind the deterioration in the current account between 1982 and 1986 were the sharp fall in international oil prices, the hostilities and the lack of domestic adjustment policies. Imports rose rapidly during the early 1980s, helped by the sharp increase in oil prices and the expansion in demand; however, when oil revenues fell in the second half of the 1980s, imports fell less rapidly.

^{8/} In addition, non-oil exporters could have a portion of their import duties paid back. Although the procedure was time-consuming, it provided an additional stimulus to non-oil exporters.

**TABLE 1.3: SUMMARY BALANCE OF PAYMENTS
(US\$ million)**

	1980	1982	1984	1985	1986	1987	1988	1989	1990
Trade Balance	1450	7900	2358	2169	-3414	-89	-250	-1037	1812
Exports	12338	20452	17087	14175	7171	11816	10709	13081	17812
Oil & Gas	11893	20168	16726	13710	6255	10755	9673	12037	16700
Other	845	284	361	465	916	1161	1036	1044	1112
Imports	10888	12552	14729	12006	10585	12005	10448	13331	15800
Services (net), of which:	-3886	-2167	-2772	-2645	-1741	-2001	-1953	-2313	-2287
Net Investment Income	806	385	451	293	289	140	141	248	302
Freight & Insurance	-2533	-1793	-2103	-1715	-1242	-1231	-1071	-1335	-1590
Unrequited Transfers (net)	2	0	0	0	0	0	0	0	0
Current Balance	-2438	5733	-414	-476	-5155	-2090	-1692	-2563	-385
Capital Account /a	-8238	-1847	-2818	544	3127	1711	262	3531	1728
Long-term Capital	-5281	-1866	-421	-160	802	719	-37	831	8
Short-term Capital /b	-2977	19	-2397	704	2325	992	299	2700	1720
Errors & Omissions	873	1052	-906	549	858	193	472	665	730
Overall Balance	-9728	4938	-4138	817	-1172	-188	-958	1833	2073

/a Large annual fluctuations reflect accounting treatment of freezing (recorded as outflow) and partial release (recorded as inflow) of Iranian assets abroad.

/b Includes payments and receipts under bilateral arrangements.

Source: Statistical Appendix Table 3.1.

1.29 Price distortions continued to stimulate the demand for imports. While Government responded by tightening exchange controls, in 1985/86 the official exchange rate was quite overvalued and the foreign exchange gap reached its peak, thus encouraging--rather than discouraging--the demand for imports. It was not until the latter years that Government sought effective instruments to curtail imports and/or stimulate non-oil exports.

1.30 Table 1.3 also highlights the response of non-oil exports to the changes in trade policies described above. Non-oil exports show a deterioration during the period 1980-85, when the real official exchange rate appreciated and the foreign exchange gap increased. In fact, this was the period when the anti-export bias was at its highest. Thereafter, non-oil exports rose as Government provided the traders a more devalued exchange rate, and also allowed them to convert 11 percent of their earnings at the free market exchange rate. In fact, available information indicates a positive, though small, response in industrial non-oil exports^{2/}, which increased from 7 percent of total non-oil exports in the early 1980s to above 10 percent in the late 1980s.

Capital Account

1.31 Developments in the capital account and in net foreign exchange assets indicate that in 1980-88 Iran deployed a large amount of its foreign

^{2/} Preliminary regression results, reported in Annex V, suggest that non-oil exports are sensitive to the real exchange rate and, in particular, to the foreign exchange gap.

assets to finance current account deficits. Iran also lost foreign exchange assets as a result of capital flight,^{10/} which was stimulated by the increase in the foreign exchange gap. In addition, Iran replaced its long-term public sector external debt with short-term debt.

1.32 Owing to some differences in data, it is difficult to provide accurate estimates of net foreign exchange assets. First data on net foreign reserves is unavailable.^{11/} Second, the balance of payments treat frozen foreign assets as a reduction in net foreign exchange reserves; the balance of payments also do not disaggregate the fall in net foreign reserves by type of use, thus masking the amount of foreign assets used to finance the current account deficit. Third, there are differences between the overall balances in the balance of payments and the change in net foreign assets^{12/} (compare Tables 1.3 and 1.4). Data in Table 1.4, presumably are also influenced by valuation effects in certain assets, such as gold, and/or of the effect of the unfreezing of some assets.^{13/}

**TABLE 1.4: CHANGES IN NET FOREIGN ASSETS OF THE BANKING SYSTEM
(US\$ million)**

	<u>1980</u>	<u>1982</u>	<u>1984</u>	<u>1985</u>	<u>1986</u>	<u>1987</u>	<u>1988</u>	<u>1989</u>	<u>1990/c</u>
Total Net Foreign Assets	-4322.0	-1476.0	-1455.1	1203.7	20.3	-512.2	-778.9	1313.6	5868.4
Monetary Authorities	-5401.1	-1735.6	-1970.5	-1059.8	403.8	75.6	-966.8	1101.2	5293.2
Foreign exchange /a	-5801.9	-2100.4	-3154.5	370.1	1643.0	-1441.4	49.5	1123.4	5983.4
Bilateral Balances	-233.7	545.4	1721.6	-608.4	-1216.4	71.4	-36.4	-493.0	-55.3
Commercial & Specialized Banks	1079.1	-259.6	515.4	143.9	-383.4	-587.7	187.8	212.5	575.2
Memorandum Items:									
Public MLT Debt /b	2875.9	2168.0	1330.1	925.4	589.4	444.6	312.4	255.8	

/a Excludes gold and IMF subscription and includes foreign assets of Iran held in domestic banks and in foreign bank branches.

/b Public Medium & Long-term Debt Outstanding.

/c Ten months.

Note: Changes in net foreign assets are defined as changes in foreign assets less changes in liabilities.

Source: Statistical Appendix Table 6.5.

^{10/} Capital flight took other forms as well, e.g., the over- or under-invoicing of imports and exports and, thus, was not necessarily recorded as a financial flow.

^{11/} The IMF, in its 1990 Recent Economic Developments Report, estimated net foreign assets at the end of Iranian fiscal year 1989/90 (i.e., March 1990) at US\$10 billion.

^{12/} These estimates are problematic when used as estimates of foreign exchange reserves. They (i) treat foreign exchange deposits held by Iranians with commercial banks and foreign branches as foreign assets, while balance of payments estimates do not; (ii) include valuation changes arising from fluctuations in the dollar against the SDR in the estimates; and (iii) treat bilateral credits differently from the balance of payments estimates.

^{13/} In fact, the BOP and the foreign assets data differ for other reasons too. First, the balance of payments estimates for the late 1980s record the unfreezing of foreign assets as net inflow of capital, while this distortion is not present in the net foreign assets estimates; second, net foreign assets estimates include the gold revaluation as an increase in assets. Although the item "foreign exchange assets" provides a more accurate indicator of changes in net foreign assets, it also includes individual holdings of foreign exchange assets. One anomaly in the balance of payments estimates is the positive sign of the item "errors and omissions," which indicates a positive inflow of a large magnitude, especially during the early 1980s. Bearing in mind the unstable political environment and the relatively low rate of return on domestic-denominated financial assets (the domestic interest rate) during this period, one would have expected an outflow, i.e., capital flight.

1.33 External debt in the last decade was carefully contained and the stock of public sector medium and long-term debt was reduced significantly, from about US\$4.5 billion at the end of 1980 to an initially estimated US\$1.8 billion at the end of 1990. Iran also obtained short-term, trade-related and other revolving credits which, according to OECD data sources, averaged around US\$3 billion annually between 1983-89. At the end of 1990, the stock of such short-term credits is estimated to have been between US\$2 billion (Central Bank estimate) and US\$6 billion (OECD estimate).

E. THE PUBLIC SECTOR

1.34 The Iranian public sector consists of financial and nonfinancial enterprises and agencies. The financial public sector consists of the central bank, the public banks and the nationalized banks. The nonfinancial public sector includes the general government, local governments, some public enterprises, pension funds, the nationalized industry corporation (NIC) and the foundations. The mission, however, only reviewed general government information and the accounts of the central bank.^{14/} Indications are that the size of the other entities--NIC, the foundations and public and nationalized banks--is substantial when compared to the general government. The present section reconstructs the role of the public sector based on the available information, policies pursued and other evidence collected. Conclusions should be considered preliminary and subject to future correction as more information becomes available. In the first part, the main trends and policy changes in general government revenues and expenditures are analyzed. In the following part, a broad estimate is made of the total public sector deficit.

General Government Revenues and Expenditures

1.35 The information available on general government includes: (i) the revenue and expenditures of the general government--the central government and the 24 provincial governments; (ii) the recorded transfers from the general government to the municipalities, the pension funds, some public enterprises, NIC and the foundations; and (iii) the recorded transfer of profits from public sector enterprises. The general government accounts, therefore, do not record the total activities of NIC and the foundations.

^{14/} NIC and the foundations are considered by the Government as private sector enterprises, yet the public sector is their major shareholder. NIC, a holding corporation, is organized under the National Iranian Industrial Organization (NIIO), which is under the supervision of the Ministry of Industry. Foundations also perform semi-governmental activities and, in most cases, are holding companies owned by the public sector banks. (This was chiefly the case with the so-called specialized banks.) The largest foundation is the Foundation for the Oppressed, a holding company for enterprises that belonged to the Shah; it provides funds for relief of the poor. NIC includes enterprises that were abandoned by those fleeing the country, as well as enterprises that defaulted on their loans with domestic banks. The Housing Foundation was created from the donations given to the Ayatollah Khomeini and from contributions to the cause of the Islamic revolution. These resources were used, in part, to finance the war and, in part, to build houses for the poor in rural areas. However, starting in 1985, the foundation received financial support from the central government.

1.36 The past decade saw important changes to the composition of general government revenues and expenditures.^{15/} The most important revenue changes were the collapse of oil revenues in the latter half of the decade and the declining proportion of revenues from international trade taxes. On the expenditure side, an increasing proportion of resources were assigned to social services, priority sectors, and war-related expenses. Authorities used revenue instruments (tax exemptions) and expenditures to benefit the priority sectors. This was the case with agriculture and certain industrial subsectors, notably heavy industry.

1.37 A summary of government revenues and expenditures is presented in Tables 1.5 and 1.6, respectively. They suggest a very steep drop in both revenues and expenditures for the period 1980-88. The declining trends in both total revenues and expenditures were affected by the very fast appreciation of the official exchange rate during the second half of the 1980s. The overvaluation of the official exchange rate imposed a sharp reduction in oil revenues. This was accelerated in 1985-88 with the nominal overvaluation of the official exchange rate. The overvaluation, however also sharply reduced expenditures, which were affected by price controls and their effect on public sector expenditures. However, the decline in the relative price of tradeables vis-a-vis nontradeables and in the real official exchange rate indicates that the effect was stronger for revenues than for expenditures.

TABLE 1.5: SUMMARY OF GENERAL GOVERNMENT REVENUES
(percentage of GDP)

	1980	1982	1984	1985	1986	1987	1988	1989	1990
Total Revenues (A+B+C)	21.6	24.2	19.7	17.9	11.1	11.8	10.6	12.8	16.9
A. Oil and Gas Revenues	13.4	15.1	9.1	7.2	2.3	3.6	2.8	2.7	3.1
B. Non-oil Revenues	6.6	7.3	8.8	8.9	7.1	6.6	6.0	8.5	12.4
1. Tax Revenues	5.1	5.5	5.9	6.2	5.7	4.8	4.2	4.2	4.7
Income Taxes	(2.0)	(2.6)	(2.7)	(3.2)	(3.2)	(2.9)	(2.7)	(2.3)	(2.5)
Taxes on Production and Consumption	(0.8)	(0.9)	(1.0)	(1.4)	(1.2)	(1.0)	(0.8)	(0.6)	(0.7)
Taxes on International Trade	(2.4)	(2.0)	(2.3)	(1.7)	(1.2)	(0.9)	(0.6)	(1.2)	(1.4)
2. Non-Tax Revenue /a	1.5	1.8	2.9	2.7	1.5	1.8	1.6	4.3	7.7
C. Special Revenues /b	1.6	1.8	1.8	1.3	1.7	1.6	1.8	1.6	1.4

/a Includes profits from public enterprises and gains from foreign exchange sales.

/b Revenues from fees and charges under the control of and earmarked for particular uses by various ministries and government agencies.

Note: The general government comprises the central government and 24 provincial governments and the transfers to and from public enterprises, but excludes NIC and the foundations.

Source: Statistical Appendix Tables 2.1 and 5.1.

1.38 The decrease in revenues shown in Table 1.5 was due to a drastic drop in oil and gas revenues, from 13.4 percent of GDP in 1980 to 2.5 percent in 1988, and by a fall in tax revenues from 5 percent to 3 percent during the

^{15/} These changes were not sanctioned by law until 1988/89 and not enforced until the following year; before, changes were recorded as amendments to the old law.

same period. Most of the drop in oil and gas revenues is closely associated with the overvaluation of the official exchange rate and with the war-related hostilities, which targeted oil production centers and refineries.

1.39 The drop in tax revenues is explained by a sharp fall in international trade taxes from 2.4 percent of GDP in 1980 to 0.6 percent in 1988, and by the fall in production and consumption taxes. The drop in international trade taxes is explained by restrictions, such as import rationing, and by the overvaluation of the exchange rate, which reduced the import duties tax base. The low level of taxes on production and consumption is due to absence of a broad-based indirect tax such as the VAT and/or a general consumption tax. Indirect taxes in Iran are based on excise taxes.^{19/} Proposals to introduce a VAT have been prepared for Parliament, which has not approved the scheme pending improvements in tax administration.

1.40 The other factors which also contributed to the drop in tax revenues were (i) tax evasion; (ii) the existence of widespread tax exemptions; and (iii) the effect of the fall in real income in 1985-88 on the income tax base. Regarding tax evasion, until the most recent initiatives, treated later, only 50 percent of those subject to taxes actually paid. Tax evasion was compounded also by the lack of an efficient tax administration, very high marginal taxes and a very low tax threshold.^{17/} Also very liberal tax exemptions have been provided, notably to agriculture, some subsectors in industry, the military, the Government and newly established firms. In addition, a significant number of charitable institutions and foundations, accounting for a large proportion of the national income, are tax exempt; this is also the case for enterprises belonging to these institutions. Individuals and/or businesses that contribute a significant portion of their income (i.e., up to 30 percent) to charitable institutions are granted generous tax deductions as well.

1.41 Reported expenditures show a very sharp drop since 1980. The fall in reported government expenditures (Table 1.6) was accounted for by a drastic cut in capital and current expenditures. Capital expenditures fell from 9 percent of GDP in 1980 to 3 percent in 1988; within capital expenditures, "economic services" took most of the cuts. Current expenditures fell from 26 percent of GDP in 1980 to 13 percent in 1988. The most important cut took place in general services and other expenditures. However, the general government expenses do not represent total nonfinancial public sector expenditures. The former exclude expenses incurred by public enterprises, local governments, the NIC and the foundations.

^{19/} Certain items have very high tax rates as a way of limiting their demand. The most important are: cars, cigarettes, telephones, refined oil, caviar, tapes, video cassettes and industrial alcohol.

^{17/} For instance, there are only 3,500 tax administrators, and the tax system has 19 tax brackets, with a high marginal tax of 75 percent and a low marginal tax of 12 percent. For the Five-Year Plan, authorities intended to increase income tax revenues by: (i) reducing the tax brackets to 10; (ii) increasing the tax threshold; and (iii) increasing the efficiency of tax administration, e.g., by hiring more tax administrators and establishing a register of business and personal tax payers.

**TABLE 1.8: GENERAL GOVERNMENT EXPENDITURES
(percentage of GDP)**

	<u>1980</u>	<u>1982</u>	<u>1984</u>	<u>1985</u>	<u>1986</u>	<u>1987</u>	<u>1988</u>	<u>1989</u>	<u>1990</u>
Total Expenditures (A+B+C)	36.3	30.2	24.0	21.8	19.1	18.7	19.7	16.9	10.3
A. Current Expenditures	26.1	20.2	16.3	15.4	13.3	13.7	14.4	12.0	11.9
General Services	3.8	3.1	2.5	1.7	1.5	1.4	1.4	1.2	1.3
National Defense	5.7	3.0	2.4	2.9	2.6	2.2	2.2	2.3	1.8
Social Services	9.1	6.0	5.8	5.7	5.7	5.3	5.6	5.5	5.5
Economic Services	3.6	2.3	2.0	1.4	0.7	1.2	1.2	0.8	1.1
Other Expenditures	3.8	5.7	3.7	3.7	2.8	3.6	3.9	2.2	2.3
B. Capital Expenditures	8.6	8.2	5.8	4.6	4.1	3.4	3.5	3.3	5.0
General Services	0.4	0.3	0.2	0.2	0.2	0.1	0.2	0.2	0.4
National Defense	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Social Services	2.5	1.6	1.2	0.9	0.6	0.8	1.0	1.0	1.1
Economic Services	4.8	4.8	3.9	3.0	2.6	2.1	1.8	2.0	2.6
Other Expenditures	0.8	1.5	0.5	0.6	0.7	0.4	0.5	0.2	0.9
C. Special Expenditures /a	1.6	1.8	1.8	1.3	1.7	1.6	1.8	1.6	1.4

/a Expenditures financed with special revenues; (see footnote /b under Table 1.5).

Source: Statistical Appendix Tables 2.1 and 5.3.

The Measurement of the Total Public Sector Deficit

1.42 A wider measure of the total public sector deficit is obtained by including the central bank cash transfers to the rest of the public sector, though this estimate may still hide the subsidies provided by public banks to NIC and the foundations. Those banks implicitly subsidized semi-public enterprises by offering a constant stream of low-cost credit (below inflation). This did not show as public bank losses because of the way banks operated, paying depositors the rate of return that they (the banks) obtained on their assets.

1.43 The total public sector deficit was estimated by: (i) computing the public sector deficit from the increase in the net domestic liabilities of the public sector vis-a-vis the total banking system (by measuring the deficit from below-the-line); and (ii) estimating the cash losses generated in central bank operations. The latter is also known as the cash quasi-fiscal deficit of the central bank. An advantage of using the financial sector information is that, unlike the government accounts, it classifies NIC and the foundations as part of the public sector. The financial public sector deficit is defined as the difference between the total public sector deficit estimated from below-the-line and the reported government deficit (revenues less expenditures in Tables 1.5 and 1.6), plus the cash central bank quasi-fiscal deficit.

1.44 These estimates are reported in Table 1.7, showing that, in 1980-88, the difference between the fiscal deficit estimated from below-the-line and the reported general government deficit (see item "Gap in Domestic Financing") was above 2 percent of GDP in 1980, 1982, 1984 and 1986. The table also indicates that most bank finance was provided by the central bank, and in Section F it is shown that this was done by expanding base money, i.e., inflationary finance. On average, the central bank accounted for close to 100 percent of total bank financing. There were years, such as 1985, when the central bank provided more

than 100 percent of total bank financing, enabling the public sector to repay commercial and specialized banks.

TABLE 1.7: FINANCIAL PUBLIC SECTOR DEFICIT CALCULATED FROM CHANGES IN DOMESTIC NET LIABILITIES (percentage of GDP)

	<u>1980</u>	<u>1982</u>	<u>1984</u>	<u>1985</u>	<u>1986</u>	<u>1987</u>	<u>1988</u>	<u>1989</u>
Total Bank Financing								
Net Increase in Assets with:								
Total Public Sector (A+B)	12.7	6.9	5.9	4.6	9.0	5.7	8.1	5.1
Government	14.3	8.3	5.4	3.9	9.1	6.2	6.8	4.7
Public Corp. & Agencies	-1.0	1.1	0.1	0.3	0.3	-0.5	1.3	0.5
Other /a	-0.6	-0.3	0.4	0.4	-0.4	-0.1	0.0	-
A. Central Bank	14.7	5.0	5.6	5.5	8.2	5.6	7.5	4.4
Government	15.0	6.3	5.2	4.7	8.8	6.3	6.9	4.3
Public Corp. & Agencies	0.2	-1.1	0.0	0.3	-0.2	-0.7	0.6	-
Other /a	-0.6	-0.3	0.4	0.4	-0.4	-0.1	0.0	-
B. Commercial and Specialized Banks	-2.0	1.9	0.4	-0.9	0.8	0.1	0.6	0.8
Government	-0.8	2.0	0.2	-0.8	0.3	-0.1	-0.1	0.4
Public Corp. & Agencies	-1.2	0.0	0.1	-0.1	0.5	0.2	0.7	0.4
Memorandum Items:								
Gap in Domestic Financing /b	2.3	2.8	3.1	1.5	2.0	-0.5	-0.2	0.7
Quasi-Fiscal Deficit /c	n.a.	0.9	0.4	0.4	0.5	0.5	0.5	0.5
Total Financial Public Sector Deficit /d	n.a.	3.7	3.5	1.9	2.5	0.0	0.3	1.2

/a Import deposits of the public sector held in the central bank.

/b Increase in net liabilities of the public sector (first row of this table) less total reported bank financing less the discrepancies item in Table 5.1 of the Statistical Appendix.

/c Estimated from Profit and Loss Statements of the central bank. This is an estimate of the cash-flow deficit of the central bank.

/d Equals the sum of the Gap in Domestic Finance and the Quasi-fiscal Deficit.

Note: The estimates in this Table are calculated from the consolidated balance sheets of the central bank and the commercial and specialized banks and correspond to a below-the-line estimate of the deficit financed using domestic sources. They are an estimate of the domestically financed portion of the total public deficit and are calculated as changes in net liabilities of the public sector with the banking sector. Changes in net liabilities are defined as change in liabilities less change in assets of the public sector with the banking system.

Source: Statistical Appendix Tables 2.1, 5.1, 6.1, 6.3, 6.6, 6.7.

1.45 The estimate of the quasi-fiscal deficit (see Memo item in Table 1.7) from the profit and loss statements of the central bank reveals that during the period 1982-86 the central bank incurred a deficit and was also financed by expanding base money (inflationary finance).^{18/} On average, this deficit fluctuated around 0.5 percent of GDP. There are, however, three qualifications to make to this estimate. First, it assumes that all central bank assets were performing, which was not the case. The central bank made no provisions for its bad loans and had not received any payment on its loans to the Government since 1980. Public sector loans account for over 90 percent of total central bank assets. Had central bank profits been adjusted for nonperforming assets--i.e., force provisions on the nonperforming assets--the quasi-fiscal deficit would have been larger.

^{18/} The formal definition for the quasi-fiscal deficit used is provided in Annex V. In Iran, the quasi-fiscal deficit mainly consists of the unpaid interest on the central bank debt with the general government.

1.46 Second, the central bank effectively advanced resources to the Government without necessarily reflecting them in its balance sheet and/or profit and loss statements. An example of this was in 1985, when the central bank started selling gold at book value to the National Bank, which later sold the gold to the public at close to market value. Gross estimates of the resources the Government obtained in this way suggest that they fluctuated between 3 percent and 5 percent of GDP.

1.47 Third, the nominal appreciation of the official exchange rate since the mid-1980s generated an artificial foreign exchange gain to the central bank and the public sector. As the rial appreciated in nominal terms, the central bank realized a gain by repaying the public debt and limiting its negative effect on foreign assets. This artificial gain also reduced the size of the quasi-fiscal deficit. This effect, however, would be even more pronounced if the quasi-fiscal deficit were estimated at purchasing-parity, as is indicated by the strong real overvaluation of the official exchange rate in Chart 1.

1.48 The above qualifications indicate that the estimated quasi-fiscal deficit understates its true size. They also indicate that the size of the public sector deficit would have grown, had the economy entered a big decline. If this had happened, the accrued asset losses would have been realized. Moreover, the realization of the losses of the public sector banks would have added to central bank losses. This would have been the case particularly had the inflation rate increased or the economy fallen deeper into a recession. Both situations would have had the effect of reducing the volume of deposits financing the bad assets, and forcing the central bank to resort more and more to inflationary financing.

TABLE 1.8: ESTIMATED TOTAL PUBLIC SECTOR DEFICIT
(percentage of GDP)

	<u>1980</u>	<u>1982</u>	<u>1984</u>	<u>1985</u>	<u>1986</u>	<u>1987</u>	<u>1988</u>	<u>1989</u>
Total Public Sector Deficit /a	17.2	9.7	7.7	5.8	10.5	6.9	9.2	5.2
Non-financial Public Sector /b	14.0	6.0	4.2	3.9	8.0	6.9	8.9	4.0
Financial Public Sector /c	3.2	3.7	3.5	1.9	2.5	0.0	0.3	1.2

/a The sum of Nonfinancial and Financial public sector deficits.

/b The "Overall Deficit" in Table 5.1, Statistical Appendix, expressed as a proportion of GDP.

/c From Text Table 1.7; 1980 are staff estimates.

Source: Statistical Appendix Table 5.1 and Text Table 1.7.

1.49 When the nonfinancial (the reported general government deficit) and the financial public sector deficits are added the deficit becomes larger. On average, Table 1.8 indicates that in 1980-86, the omission of the financial public sector deficit understated the total public sector deficit by more than 2 percent of GDP. The corrected public deficit depicts a trend consistent with that of aggregate nominal demand and, thus, with the inflation rate and the foreign exchange gap (shown in Chart 2). This is evidence of the role of the fiscal deficit in generating the excess aggregate demand of the late 1980s. The inflation rate increased in the early 1980s (see Chart 3) when the public sector

deficit was above 10 percent of GDP; it fell in 1985 after the deficit was cut from above 10 percent of GDP in 1980 to 6 percent in 1985; it picked up again in 1986 and 1988 when the deficit increased to 10 percent and 9 percent of GDP, respectively. Furthermore, the foreign exchange gap (see Chart 2) showed its steepest increase during the period 1985-87. The similarity in these trends, therefore, establishes the impact of the deficit on the rest of the economy and, in particular, underscores its role in generating the excess aggregate nominal demand in 1985-88.

F. THE MONETARY SECTOR

1.50 Monetary policy during the 1980s was marked by the increasing borrowing requirements of the public sector, in particular during the war years. That same period was marked by a lack of instruments for controlling monetary expansion.

TABLE 1.9: SOURCES OF EXPANSION IN CENTRAL BANK BASE MONEY
(percentage of GDP)

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989
A. Net Foreign Assets /a	-5.7	4.3	-1.3	-1.1	-1.2	0.6	0.2	0.0	-0.2	0.1
B. Domestic Credit	16.6	7.6	5.4	4.2	5.8	4.5	7.9	5.7	7.5	3.9
1. Net Public Sector	14.7	7.3	5.0	4.2	5.6	5.5	8.2	5.6	7.5	3.4
Government	15.0	7.4	6.3	4.5	5.2	4.7	8.8	6.3	6.9	2.5
Public Corporations	0.2	-0.1	-1.0	0.5	0.0	0.3	-0.2	-0.7	0.6	1.1
Other	-0.6	-0.1	-0.3	-0.9	0.4	0.4	-0.4	-0.1	0.0	-0.2
2. Banks	1.9	0.3	0.4	0.0	0.3	-0.9	-0.3	0.1	0.0	0.5
C. Other Items, Net	-4.2	-4.0	2.7	-0.5	-1.5	-1.1	-1.8	1.3	0.6	-0.1
D. Base Money	6.7	7.9	6.8	2.5	3.1	4.0	6.3	7.0	7.9	3.8
Currency	4.6	2.1	2.6	1.5	0.9	0.8	2.6	1.6	2.2	1.0
Bank Deposits	2.2	5.9	4.1	0.9	2.3	3.3	3.8	5.4	5.7	2.9
Other /b	0.0	-0.1	0.0	0.1	-0.1	0.0	0.0	0.0	0.0	0.0

Memorandum Items:

Inflation Rate (%) /c	26.5	20.2	17.8	12.3	8.2	9.5	27.5	29.0	30.5	19.3
Inflation Tax/GDP (%) /d	6.3	5.2	4.5	3.0	2.1	2.6	7.4	8.1	8.6	5.3

/a Equals Items D-B-C in the table.

/b Private sector import deposits with the central bank.

/c Annual changes in end-of-period CPI, end-of-period being the end of Iranian fiscal year.

/d Difference between seignorage (i.e., expansion in base money) and the increase in real money base.

Note: Estimated from central bank balance sheets as annual change in stocks divided by GDP.

Source: Statistical Appendix Tables 2.1, 6.2 and 6.3, and Bank staff estimates.

Expansion in Base Money

1.51 Base money expanded most rapidly during 1980-82 and 1986-88 when it averaged 7 percent of GDP. These periods coincided with periods of fastest expansion in central bank credit to the public sector, which averaged 9 percent of GDP during 1980-82 and 7 percent of GDP during 1986-88. In fact, the expansion in base money was the most important liability used by the central bank to fund credit to the public sector. During the early 1980s, the central bank also complemented expansion of base money with a reduction of its net foreign assets.

1.52 The growth of base money provoked expansion of nominal aggregate demand that resulted in an increase in the rate of inflation. The high inflation rate implied transfer of resources from asset holders (chiefly the private sector) to the public sector, through the inflation tax; i.e., the tax levied on currency and low-yielding assets.

1.53 In addition, the central bank deployed higher reserve requirements to increase base money: reserve requirements between 1978 and 1983 were revised from 17 percent to 27 percent for sight deposits and from 15 percent to 25 percent for nonsight deposits. As a share of total liquidity--i.e., M2--total reserve requirements increased from 12 percent in 1980 to 42 percent in 1989. The increase in reserve requirements provided the central bank with additional sources of finance and, by increasing the tax base of the inflation tax--i.e., the money base, it also provided more inflation-tax revenues.

The Banking System

1.54 Analysis of the banking system (Table 1.10) also indicates that most of the expansion in private liquidity was channelled to the public sector. On average, during the 1980s, the increase in credit to the public sector exceeded the expansion in private sector liquidity, indicating that the main factor behind the expansionary monetary policy was public sector borrowing.

**TABLE 1.10: SOURCES OF EXPANSION IN PRIVATE SECTOR LIQUIDITY
(percentage of GDP)**

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989
A. Net Foreign Assets /a	-4.5	3.8	-1.1	-0.8	-0.8	0.7	0.0	-0.2	-0.2	0.2
B. Domestic Credit	20.0	11.8	12.2	10.5	7.5	8.1	11.8	9.8	13.3	8.8
1. Net Public Sector	12.7	8.9	9.8	5.0	5.9	4.8	9.0	5.7	8.0	4.4
Government	14.3	8.3	10.8	5.3	5.4	3.9	8.1	6.2	6.8	2.8
Public Corporations	-1.0	0.6	-0.7	0.8	0.1	0.3	0.3	-0.5	1.3	1.8
Other	-0.8	-0.1	-0.3	-0.8	0.4	0.4	-0.4	-0.1	0.0	-0.2
2. Prvt. Sector & Banks	7.3	1.9	2.4	5.5	1.8	3.5	2.7	3.8	5.2	4.5
C. Others, Net	-3.8	-6.5	0.0	-1.8	-3.8	-2.5	-2.3	-0.9	-1.5	-1.1
D. Liquidity, M2	11.8	9.3	11.8	7.7	3.0	6.3	9.5	8.2	11.4	7.8
Money, M1	8.1	6.0	7.0	2.7	4.5	2.2	4.9	4.5	5.8	3.7
Quasi-Money	3.8	3.2	4.8	5.0	-1.8	4.0	4.6	4.6	5.8	4.2
Memorandum Items:										
M2/GDP /b (%)	57.8	55.0	52.4	49.7	48.8	50.2	53.0	52.8	52.1	47.1
M1/GDP /b (%)	29.2	28.1	28.4	25.6	28.5	27.5	28.7	28.3	27.6	24.5
Income Velocity /c	1.7	1.8	1.9	2.0	2.0	2.0	1.9	1.9	1.9	2.1
Growth in Income Velocity /d (%)	n.a.	4.7	4.8	5.4	0.0	-1.0	-5.3	0.3	1.5	10.0

/a Equals Items D-B-C in the table.

/b These ratios have been corrected for price differentials, i.e., by converting stocks to mid-year prices so that they could be divided by real GDP that is also valued at mid-year prices.

/c The ratio of real GDP to real M2.

/d The annual growth rate of income velocity.

Note: Estimated from the consolidated banking system balance sheets as the annual change in stocks divided by GDP. Estimates for 1988 and 1989 were consolidated from the balance sheets of the commercial and specialized banks.

Source: Statistical Appendix Tables 2.1 and 6.1, and Bank staff estimates.

1.55 The expansionary monetary policy, by increasing the level of inflation and the depreciation of the rial in the "free" market, induced a

portfolio shift. As the inflation rate and foreign exchange gap increased, foreign-denominated assets became more attractive to asset holders than currency and/or rial-denominated assets.^{19/} The expansionary policy thus turned the free market exchange rate into an outlet for private sector savings; the return on this market was higher than that offered by the financial system, and, in addition, it provided a hedge against the increase in prices.

1.56 The upshot of the past monetary policy was that inflationary instruments to finance the expansion of the public sector rendered the financing strategy unsustainable. Inflationary finance had its limits because: (i) asset holders (who bear most of the cost of inflation) responded by reducing their demand for rial-denominated assets, thus limiting the ability of these instruments to continue transferring resources from the private to the public sectors; (ii) asset holders, by switching to foreign currency denominated assets, accelerated the devaluation of the free market exchange rate and hence the fall in demand for rial-denominated assets; and (iii) tax collection declined in real terms due to the time lags in collection (the Tanzi-Oliviera effect). Typically, in such conditions, the greater the lags and the higher the inflation level, the lower the tax collection in real terms. Furthermore, as inflation increases, total tax revenues, including the inflation tax, decline. Then, more revenues from inflation tax can only be obtained by inducing higher inflation rates which, however, in turn, induce an even greater reduction in base money. After a certain level of inflation is reached, the volume of low-cost resources starts declining, even if the inflation level increases. Usually, this type of financing strategy results in hyperinflation.

G. THE TRANSFER OF RESOURCES

1.57 Here, the analysis of preceding sections is drawn together in a national savings-investment framework to help answer two important questions. First, what impact did past public sector expansion have on private sector behavior? Second, what are the long-term implications of using an exhaustible resource, such as oil, to finance consumption?

1.58 Table 1.11 provides estimates of net savings. This table uses the adjusted total public sector fiscal deficit of Table 1.8. The current account deficit, denoting foreign savings, was estimated evaluating exports and imports of goods and services at their respective exchange rates. On average in the 1980s, the public sector deficit was financed with an external net transfer (current account deficit) and an internal net transfer (positive net private savings). While, in aggregate, public sector net savings rose from -17 percent of GDP in 1980 to -9 percent in 1988, this was attained by drastic cut in investment, from 12 percent to 6 percent of GDP. This method of cutting the deficit, necessitated by war, ultimately weakened the productive base of the economy.

^{19/} Econometric calculations indicate a strong positive elasticity of money demand with respect to the foreign exchange gap and the inflation rate. See Annex V.

1.59 The public investment cuts notwithstanding, the public sector deficit that still prevailed had important influence on private sector behavior. The mode of financing the public deficit (see section F), crowded out private sector investment, which fell in 1980-88, from 10 percent to 5 percent. In addition, private investment was negatively affected by the risks associated with domestic upheavals and the Iran-Iraq war.

1.60 In the same period, war-time price controls led to the development of parallel markets for goods and foreign exchange, forcing some subsectors to pay premium prices for necessary goods and/or foreign exchange. Prices for goods and foreign exchange in these markets were several times the "official" prices. Producers, who would have been efficient in a price system where relative prices reflected relative scarcities, were forced to pay a penalty (a bonus price) for staying in the market. This discouraged production of goods and encouraged misallocation of resources, resulting in production losses. A more efficient use of resources would have led to a higher income growth. Instead, consumers had to pay higher prices for goods; national income was lower than it would otherwise have been; and efficient producers had to pay excessively in the parallel market.

TABLE 1.11: NET SAVINGS
(percentage of GDP)

	<u>1980</u>	<u>1982</u>	<u>1983</u>	<u>1984</u>	<u>1985</u>	<u>1986</u>	<u>1987</u>	<u>1988</u>	<u>1989</u>
Total Net Savings (=A+B+C)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
A. Foreign Sector /a	2.6	-4.3	-0.2	0.2	0.3	2.2	1.1	2.1	2.1
Non-Interest Current Account /b	3.2	-4.0	0.2	0.5	0.4	2.4	1.1	1.4	2.3
B. Public Sector /c	-17.9	-9.7	-7.2	-7.7	-5.8	-10.5	-6.9	-9.1	-5.2
Savings /d	-7.5	-0.2	1.8	0.6	0.8	-4.7	-2.0	-4.4	-0.3
Investment /e	10.4	9.5	9.0	8.3	6.6	5.8	4.9	4.7	4.9
C. Private Sector /f	15.3	14.0	7.4	7.5	5.5	8.3	5.8	7.0	3.1
Savings /g	26.2	20.8	18.9	19.6	16.1	16.8	13.4	13.7	10.2
Market Determined /h	19.9	16.3	15.9	17.5	13.5	9.4	5.0	6.5	
Inflation Tax /i	6.3	4.5	3.0	2.1	2.6	7.4	8.1	8.6	
Investment /e	10.9	6.8	11.5	12.1	10.6	8.5	7.6	7.2	7.1

/a For the period 1980-86, the current account deficit plus net unrequited transfers are converted to rials using the official exchange rate. For 1987-88 the multiple exchange rate system is taken into account, and trade flows are converted to rials by applying the corresponding exchange rate. It, therefore, includes the taxes (subsidies) implicit in a multiple exchange rate system. These are reported in the memorandum item in the table.

/b The noninterest current account deficit is defined as the current account deficit less net factor payments. This is an estimate of the net flow of resources transferred from abroad. It was converted into rials by using the same method as for the current account.

/c The total public sector deficit is as defined in Table 1.8, i.e., corrected by adding to the general government deficit the financial public sector deficit.

/d Estimated as the difference between total public sector deficit and public investment.

/e This is the public and private sector GFCF. Public investment is underestimated (and private overestimated) because national accounts record nongovernmental public sector investment as private investment. This form of classification only affects the savings breakdown and not the net savings estimates.

/f Estimated as a residual after estimating the external and public sector net savings.

/g Obtained as a residual after calculating private sector net savings and investment.

/h Obtained as a residual by deducting the inflation tax from private sector savings.

/i From Table 1.9.

Note: Net Savings defined as the difference between total savings and investment; ex-post, the value is zero by definition.

Source: Statistical Appendix Tables 2.3, 3.1, and Bank staff estimates.

1.61 It was pointed out in Section C that considerable oil resources in the last decade were used to finance public and private sector consumption.^{29/} This is confirmed by the negative public sector savings (total revenues less total expenditures, see Table 1.11). With efficient allocation of oil resources, the public sector could be in surplus. These resources could be used to increase the income stream of the country by augmenting the stock of productive capital and/or increasing the rate of saving.

1.62 The above can best be explained by using intertemporal consumption analysis. The oil reserves in an oil-producing country, such as Iran, are a very important component of the country's net worth; therefore, when the oil revenues are only used to finance present consumption (as has been happening), the country depletes its net worth and thus reduces future consumption. This is similar to financing present consumption with debt. Debt payments can only be financed by reducing consumption, if no new income is generated. One type of net worth should, optimally, be used to finance the acquisition of another and, thus, maintain the country's permanent consumption level.

1.63 In the case of oil, moreover, a country can gain by optimizing the timing of oil extraction. This is explained by the fluctuating nature of oil prices, which generates windfall gains. With oil prices, a boom is usually followed by a contraction. In fact, the extraction of this resource should be conceived as a portfolio reallocation: the total variance of the portfolio should be reduced by investing the stock subject to greater variance (oil) into a stock subject to smaller variance (productive capital). Moreover, this portfolio shift should be done by maximizing oil revenues, i.e., when prices are at their highest levels. This strategy would enable the country to maximize its permanent consumption.

1.64 This analysis also has important implications for market prices and, in particular, for the equilibrium real exchange rate. Treating oil as an income stream and not as the depletion of an asset tends to provoke a "dutch disease" problem by generating an excess supply of foreign exchange, which results in an equilibrium real exchange rate that discourages non-oil export producers and income-generating activities. The relatively high real exchange rate stimulates an excess demand for tradeables relative to nontradeables, thus encouraging the consumption of these oil revenues (and not their investment in income-generating activities). However, to the extent that these oil revenues are temporary, consumption will fall when oil prices fall. This usually results in a more vulnerable economy. The economy would be unable to sustain past consumption levels because of the lack of income-generating activities and because of the greater need for foreign exchange.

1.65 This has been the experience of most oil-producing countries. In the first oil shock of the early 1970s, most oil-producing countries experienced a "dutch disease" problem. However, in the second oil shock, some countries, like Indonesia, sterilized part of their oil revenues and devalued their currency by

^{29/} There is a very extensive literature that analyzes this problem. See Partha Dasgupta on the subject of exhaustible resources. For an illuminating analysis along these lines and for the effects of oil shocks on other oil-producing countries, see Alan Gelb op.cit.

30 percent. This was in response to highly fluctuating oil prices and to the "dutch disease" problem faced in the first oil shock. In fact, estimates (see Gelb) indicate that Indonesia outperformed other oil-producing countries. This became apparent when the downturn of the oil price cycle started in the mid - 1980s. Other developing countries, such as Chile (with copper) and Colombia (with coffee), also sterilized their foreign revenues with very successful results in terms of export diversification and output growth, which are among the objectives Iran was able to start focusing on after the 1980-88 war period.

H. POST-WAR ECONOMIC TRENDS, 1989-90

1.66 While Iran repaired the most critical war-damaged assets even during active combat, concerted efforts at physical reconstruction and peace-time economic policy formulation began after the fighting ended, with the appointment, in August 1988, of the high ranking Council of Policy Making for Reconstruction. The Council's guidelines were incorporated in Iran's FFYP (1989/90-1993/94) submitted to the Majlis in May 1989 and intended to be enacted before the Majlis was to break that Summer. The debate on, and enactment of, the Plan had to be delayed, however, as the nation mourned Imam Khomeini's demise in June 1989 and as, later that year, Presidential elections followed by appointment of a new Cabinet took place. The FFYP was formally approved by the Majlis in January 1990, but Government started implementing key aspects of the Plan strategy--notably, reconstruction works, public deficit reduction and relaxation of economic restrictions--from 1989.

1.67 Economic growth in 1989 was 4.3%, led by a resurgence of oil output (which grew 15% over 1988) made possible by quick repair of vital installations and infrastructure, especially those relating to exports and offshore production. In other sectors, restoration of water, power, housing and communications facilities further boosted overall growth and also enabled manufacturing output to begin growing for the first time since 1984. Agriculture in 1989 recovered from the preceding year's drought, which had affected wheat and sugar beet production in particular. As conditions improved in 1989, agriculture grew nearly 6%, close to the trend rate of growth of this sector in the 1980s.

1.68 In 1990, the rate of economic growth accelerated, reaching 10%, and was, once again, broad-based, with oil, manufacturing, mining (other than oil) and construction providing the main impetus to total GDP growth. Agriculture in 1990 was set back as a result of the severe Manjil-Rudbar Earthquake, which hit Iran's principal areas growing basic foodgrains (wheat, rice and barley). The earthquake also destroyed prosperous treecrops (olives, almond, pomegranates, tea), livestock (sheep, cattle, poultry) and vegetable-growing located in the affected provinces (Gilan and Zanjan). The disaster-related rescue, relief and temporary rehabilitation expenses by the government accounted for a good part of the 3% expenditure overrun in 1990/91. Despite these extra expenses, Iran's overall fiscal position was not impaired because, as in the preceding year, revenues increased much more than expenditures.

1.69 As a proportion of GDP, budgetary expenditures declined slightly, from 20% in 1988 to 19% in 1990. Total revenues, on the other hand, rose from the equivalent of 11% of GDP in 1988 to 17% of GDP in 1990. The overall deficit was

thus reduced from 9% of GDP in 1988 to 2% of GDP in 1990. The deficit reduction, itself a result of revenue boost, was due in large part to profits from the sale of foreign exchange. Such profits accounted for 58% of the incremental revenue between 1988 and 1990; the other 42% came from higher tax receipts (19%), greater oil and gas income (12%), and additional receipts from a variety of government sales, fees and charges (11%). As a result of the lower deficits, the growth of net credit to government and, correspondingly, that of broad money declined between 1988 and 1990, helping to bring down inflation, from 29% in 1988 to 17% in 1989 and, by preliminary estimates, around 10% in 1990.

1.70 Due mainly to an upsurge of imports after years of compression, the external current account in 1989 worsened, despite a 26% increase in oil export volume. Because of a slight decline in the average oil price received by Iran in 1989, current receipts (90% from oil) rose 24% that year while imports (c.i.f.) rose 27%. Consequently, the current account deficit widened, from US\$1,692 million (1.3% of GDP) in 1988 to US\$2,563 million (2.1% of GDP) in 1989. However, the current deficit in 1989 was offset by net capital flows (including errors and omissions) and the overall balance was a positive US\$1,633 million.

1.71 The overall balance improved further in 1990, equalling an estimated US\$2,073 million. That improvement resulted mainly from a sharp reduction of the current deficit to US\$385 million (0.3% of GDP), from US\$2,563 million the previous year. An important factor in 1990 was that oil export receipts rose 38%, made up of 29% price and 7% volume increase. Although fortuitous, the oil price increase in 1990 enabled Iran to raise its imports and the rate of capacity utilization in the economy for the second successive year after the long war years.

1.72 In conclusion, during the war years Iran's economy had to endure many forms of controls and administrative interventions in, for example, determination of prices of various goods and services, domestic and external trading, investment decisions, and ownership of firms and enterprises. Such interventions inevitably distorted financial and economic signals to producers and consumers both in the public and the private sectors. The result was a misallocation of the country's financial and economic resources at an increasing cost to the people, especially those--such as the ones on low and fixed incomes--most vulnerable to unstable economic conditions. Soon after the war ended, however, Iran focused its attention on improving the economic policy environment in which to undertake the massive task of reconstruction and economic growth facing the country.

1.73 Economic growth has picked up and been strong over the last two years. At the same time, the economy has stabilized considerably, helped last year by the fortuitous increase in oil prices. Further development in the medium to long term, however, will depend on implementation of wide-ranging economic policy reforms aimed at sustaining economic growth in a stable financial setting. Iran itself is very much aware of the needed economic reforms. A number of these reforms are stated clearly in the FFYP described and assessed briefly in the following chapter, which also relates some most recent policy initiatives and proposes complementary measures for the years ahead.

CHAPTER II: RECENT ECONOMIC REFORMS AND THE ROAD AHEAD

A. BACKGROUND TO RECENT REFORMS: THE FIVE-YEAR PLAN

2.1 Drafted soon after the war with Iraq ended in mid-1988, Iran's First Five-Year Plan (1989-93) was in many ways a precursor of the encouraging changes instituted most recently in the country. Basically the Plan aimed to reorient economic management away from the largely war-induced pervasive government intervention and towards greater reliance on market mechanisms. In addition to comprehensive sector strategies, policies and expenditure proposals, the Plan's economy-wide objectives included progressive elimination of financial imbalances, decentralization of economic decision-making and privatization of state enterprises in various parts of the economy.

2.2 To eliminate budgetary imbalances, the FFYP proposed raising revenues and containing expenditures whereas, to eliminate imbalances in the external accounts, it envisaged rationalization of the exchange rate and the trade and payments systems. The decentralization policy proposed devolving local taxation and expenditure authority to provincial and town councils, and the promotion of urban and industrial centers outside existing conglomerates. The privatization policy required the state sector to sell off shares in various enterprises by public tender or through the local stock exchange.

2.3 The progress to date in implementing the FFYP policies and the next steps required are treated in this chapter. This chapter deals mainly with the macroeconomic measures and issues; the chapters that follow deal with key sector policies and issues. By way of background, this chapter will first describe the main targets of the Plan and then proceed to the policy reform process.

Aggregate Output and Expenditure Targets of the FFYP

2.4 Based largely on projected reconstruction, rehabilitation and higher rate of manufacturing capacity utilization, the FFYP has targeted real GDP to grow at 8 percent per year, on average; gross domestic investment by 12 percent per year in real terms; real private consumption by 6 percent per year; and government consumption by 4 percent per year in real terms. With consumption growing at a lower rate than output, national savings is targeted to rise, from around 30 to 35 percent of GDP during the Plan period.

2.5 The principal sectors of the economy have been projected to grow annually as follows in the FFYP: agriculture at 6.1 percent; manufacturing and mining at 15 percent; oil at 9.6 percent; water, electricity and gas at 14.7 percent; services at 6.7 percent; and construction at 14.5 percent. The shares of agriculture and services sectors in GDP (respectively, 23% and 54% in 1988) are projected to decline in the Plan period, while the share of industry (including construction and utilities) is projected to increase. Table 2.1 below contains the growth and government finance projections of the Plan.

**Table 2.1: FIVE-YEAR PLAN PROJECTIONS
(in percentages)**

	Share of GDP	Rates of Growth					
		1988	1989	1990	1991	1992	1993
A. Output Growth							
Agriculture	23.2	4.2	4.8	6.8	6.5	8.5	6.1
Oil	8.1	21.4	9.6	3.4	11.3	3.0	8.6
Manufact. & Mining	7.2	14.8	15.3	14.6	18.4	13.8	15.0
Manufacturing	6.3	14.8	13.0	13.9	15.6	13.9	14.2
Mining	0.9	15.0	30.3	18.5	21.2	13.5	18.6
Water Power & Gas	2.0	6.4	7.2	11.7	5.3	47.8	14.7
Construction	5.5	29.0	15.7	12.4	10.1	6.5	14.5
Services	33.9	5.1	7.1	7.2	7.0	7.1	6.7
Transportation	4.0	5.1	5.7	4.6	4.4	5.6	5.1
Other	50.4	4.2	7.2	7.4	7.2	7.2	6.6
GDP at Market Prices	100.0	7.9	9.2	6.8	8.5	8.4	8.2
GDP Per Capita	1.9	3.0	5.8	3.7	5.1	4.8	4.5
B. Consumption & Investment Growth							
Private Consumption	58.7	2.6	4.7	6.7	7.3	7.6	5.8
Govt. Consumption	12.8	-4.1	9.0	2.8	5.2	6.7	3.8
Gross Domestic Invest.	14.5	26.4	31.9	2.9	-0.2	1.2	11.6
Non-Governmental a/	7.7	34.7	17.0	4.6	1.7	5.9	12.2
Governmental b/	6.8	17.0	51.4	1.2	-2.3	-3.9	11.0
C. Government Finances (as % of GDP)							
1. Revenues:							
Taxes	3.7	4.0	5.5	6.5	7.6	8.8	6.5
Direct	2.4	2.4	3.3	3.9	4.6	5.3	3.9
Indirect	1.3	1.5	2.2	2.6	3.1	3.5	2.6
Oil	2.5	3.1	3.3	3.6	4.0	3.7	3.5
Other	1.7	15.4	18.2	18.8	18.6	18.1	17.9
2. Expenditures:							
Current	13.0	11.9	12.8	13.2	13.2	13.0	12.8
Development	3.1	3.5	5.4	5.7	5.5	5.1	5.0
BUDGET DEFICIT (= 1-2)	-8.1	-4.5	-5.1	-4.2	-2.2	-0.3	-3.2
Sources of Finance							
Return from Prev. Ye	0.5	0.3	0.4	0.4	0.3	0.3	0.4
From Banking System	7.7	4.2	4.7	3.8	1.8	0.0	2.9

a/ Includes private savings and the Banking System.

b/ Includes development budget and savings of Government institutions.

Source: First Five-Year Plan.

The Public Sector and The Government Budget

2.6 The Plan stipulates that a portion of public service costs should be borne by beneficiaries. This is to be done by instituting higher prices and user fees; by designing a new tax system which would increase taxes on personal income, wealth and property; and by improving the collection of taxes. Total taxes are projected to grow from 3.7 percent of GDP in 1988 to

8.8 percent in 1993. The FFYP also proposes to reduce the burden of government expenditures, by, among other means: (i) transferring some activities to the private sector; (ii) transferring some services in education and training (public, technical, etc.) to the private sector and using the savings to improve the quality of those services remaining in the public domain; (iii) reducing the current expenditures of loss-making publicly-owned firms; and (iv) maximizing oil production and exports to increase earnings in rials and foreign currency.

2.7 The budget deficit is estimated to decline from 9.6 percent of GDP in 1988 to 0.3 percent in 1993. Total revenues as share of GDP are estimated to double over the plan period from 9 percent in 1988 to 17 percent in 1993. Tax and oil revenues are projected to total 44.8 percent and 24 percent, respectively, of all government revenues. Budgetary expenditures relative to GDP are estimated to decline, from 18.6 percent in 1988 to 17.3 percent in 1993.

External Trade

2.8 Exports of oil in the FFYP are projected to rise from 1.5 million barrels per day (MBD) in 1988 to 2.3 MBD by 1993. The price of oil is projected to increase from \$14.2 per barrel in 1988 to \$21.4 in 1993. The total projected export revenues of oil and gas during the plan are \$83.1 billion, while earnings from non-oil exports (e.g., agricultural products, carpets, minerals and manufactures) are projected at \$17.8 billion (Table 2.2). The Plan points out that in generating foreign exchange, it would be important for Iran to promote non-oil exports via appropriate policies, particularly with regard to the exchange rate.

2.9 Total imports during 1989-93 are estimated at \$114.3 billion. During the Plan, the proportion of consumer imports in total imports would be reduced, and the shares of capital goods and intermediate products increased.

**Table 2.2: EXTERNAL BALANCES OF THE FIVE-YEAR PLAN
1989-93**

	Billions Of US\$
Total Exports	100.9
Oil & Gas	83.1
Non-Oil	17.8
Services	2.8
Foreign Exch. Receipts of Investment Acct	2.6
Other Foreign Exch. Receipts = External Gap	14.4
Total Exports of Goods & Services	120.7
Imports of Goods	114.2
Services	4.5
Capital Account	0.9
At President's Disposal	1.0
Total Imports of Goods & Services	120.7

Source: First Five-Year Plan.

Money Supply and Inflation

2.10 Money supply is projected to grow during the Plan at 8.2 percent per year, a significant slowdown from 14 percent per year during the five years preceding the Plan. Net foreign exchange assets are assumed to stay constant at 724 billion rials. (Net government assets held by the banking system, which were 27.3 percent in 1988, are projected to grow at 8.4 percent per year during the Plan.) The annual increase in the assets of government firms held by the banking system is projected to equal the annual increase in total government banking deposits (Table 2.3). The Plan projects that the banking system would finance 47.8 percent of private sector investments. The projected annual growth in money supply (taking into account the changes in net foreign assets, net government liabilities and private sector liabilities) is as indicated in Table 2.3.

Table 2.3: PROJECTED MONETARY AGGREGATES AND INFLATION
(growth rates in percent)

	(Actual) 1988	1989	1990	1991	1992	Average 1993	1989-93
Net Foreign Assets	2.4	0.0	0.0	0.0	0.0	0.0	0.0
Net Gov't Sector Liabilities	27.3	12.4	13.5	9.8	5.2	1.7	8.4
Private Sector Liabilities	11.8	10.4	9.8	9.1	7.4	6.8	8.7
TOTAL	20.1	11.2	11.7	9.2	5.9	3.5	8.2
Money Supply	21.0	10.8	11.7	9.2	5.9	3.5	8.2
Inflation (CPI)	28.6	28.5	20.5	16.8	14.3	11.4	8.9

Source: First Five-Year Plan.

Assessment

2.11 The main objectives of the FFYP are well considered and, when fully accomplished, would strengthen the country's economy significantly. Iran's resource endowments and its current reform-oriented economic policy stance would point to very considerable potential for attaining relatively high growth rates in the medium to long run. Actual attainment of such growth will depend on, among other factors, the implementation capacity of the public sector and the supply response of the private sector. Here, it should be noted that Iran does possess elements of highly dedicated and technically well qualified public sector personnel. It will be important, therefore, to deploy financially and administratively feasible options to retain and continue motivating such personnel. Iran also has a tradition of a highly enterprising and resilient private sector. This sector too can be expected to respond strongly towards meeting the Plan objectives, provided the incentives framework and the regulatory environment are continuously liberalized, and adequate infrastructure made available efficiently. In this regard, Iran can be said to have moved distinctly in the appropriate direction through some very recent economic reforms.

B. RECENT ECONOMIC REFORMS

2.12 Iran's recent economic reforms have touched most elements of macroeconomic policies and have, in the main, attempted to reduce the distortions and imbalances that had set in during the war years. The account provided below is by no means exhaustive, if only because new measures were being designed and considered even as this report was being prepared. It appears clear nevertheless that the policy environment evolving from the recent measures would be more conducive to efficient growth of output than the one which prevailed prior to the reforms presented below under different categories titled pricing, trade, fiscal, financial sector and private sector development policies.

Pricing Policy

2.13 A far-reaching change in Iran's pricing policy was effected early in 1991 when the Government reduced the number of multiple exchange rates from seven to three.^{21/} The three rates instituted at the time the change was made on January 28, 1991 were: the official rate (Rls 70 per US dollar);^{22/} the competitive rate (Rls 600 per US dollar); and the floating rate (in recent months, Rls 1350 to Rls 1400 per US dollar) determined in a daily market comprising commercial banks, licensed brokers and the central bank. While reducing the number of multiple rates Government also shifted over 100 items from the list of imports bought at the official to one bought at the competitive rate.^{23/} This shift implied a sizable depreciation effectively of the exchange rate pertaining to imports. On the export side, Government freed non-oil exporters entirely from surrender requirements (previously between 89% and 100%), letting them exchange their proceeds at the floating rate and thereby providing them a tremendous boost in incentives.

2.14 Concomitant with the above exchange rate action, the domestic pricing system and prices were changed. In the first instance, all items imported at the competitive and the floating rates were deleted from the list of price-controlled items. This list was being shortened since 1989 when it was first cut from 296 to 196 items and then to 132 items last year. At the time of the January 1991 reforms, it was cut further to 22 items, which

^{21/} The seven rates, employed before the changeover to three, included: i) the official rate (Rls 92.3 per SDR, to which the rial is pegged) applied to exports of oil, imports of essential goods, military items, certain raw materials and machinery, allowances for certain invisibles, and public sector capital transactions; ii) two "incentive" rates (official rate + Rls 350/US\$ and official rate + Rls 270/US\$) applicable to non-oil exports; iii) a "preferential" rate (Rls 420/US\$) applied to imports of spare parts used in production of some durable goods; iv) a "preferential competitive" rate (Rls 800/US\$) applied to imports of raw materials and spare parts for the production of a list of 131 items by public and some private enterprises; v) a "service" rate (Rls 845/US\$) applied to payments for selected invisibles (medical and educational services); and vi) a "free" market rate (Rls 1200 to Rls 1400 per US\$) applied to all other transactions, with only Iranian nationals residing in the country allowed to operate in that market.

^{22/} The official rate proper is still the one with the rial pegged to the SDR at the rate of Rls 92.3 per SDR. For ease of reference and accounting, however, the official rate is often stated in US dollar terms at Rls 70 per dollar, this having been the rough average, since 1987, of the rial rate per SDR translated into US dollars.

^{23/} At this time, 32 items (comprising, as examples, basic foods, some construction materials, fertilizers, educational supplies, defence items) and national development project inputs are imported at the official rate; 247 items (mostly industrial raw materials) are imported at the competitive rate; and the rest at the floating rate.

constitute 5% of all items included in the Iranian CPI and which carry 2% to 3% of the value weight in the CPI.^{24/} Along with reducing the scope and coverage of price controls, Government abolished the special courts and sub-courts (numbering 20 at one time) that, jointly supervised by the Ministries of Commerce and Justice, used to enforce price controls in the country.

2.15 A landmark price reform has also been effected in agriculture, where Government has replaced the system of fixed prices and public procurement of eight strategic crops^{25/} with that of guaranteed prices set below expected market prices, and has abolished compulsory public procurement. In the other sectors, in an attempt to pass through the exchange rate depreciation to key public utility prices, several tariffs and charges have been raised in recent months. A few examples, also noted in the sector chapters in Part II, include the tariffs for telecommunications, road transport, railways, water and power, and airfares. These public utility prices will still need to be adjusted regularly to pass through fully the necessary exchange rate changes and thereby keep reducing financial and economic subsidies to consumers all round. As expounded in the FFYP, the guiding principle here should be to cover the full domestic and external costs of providing these services, while devising explicit means of targeting any necessary assistance to the low-income users.

Trade Policy

2.16 Recent reforms in trade policy have focused on simplifying procedures and preparing to synchronize the tariff system and structure eventually with the exchange rate changes taking place. Iran is also currently engaged in talks to join the GATT and, on completing the talks, expects to devise its tariff scheme to conform with GATT rules. Meanwhile, with the opening up of the import business at the floating exchange rate, all non-tariff barriers on imports at this rate have been lifted. There are only 20 items now facing prohibitions on religious and national security grounds. While imports purchased at the floating rate are still licensed, this is done purely for statistical purposes, with licenses issued automatically within a day. Imports at the competitive rate of exchange are licensed in less than a month now, compared to four or five months before the recent streamlining of procedures. Licensing authority now rests largely with the Ministry of Commerce whereas, before, permissions had to be obtained all the way from the Council of Ministers.

2.17 The easier access to imports has helped exporters too. In addition, export procedures themselves have been simplified. Exporters, for example, are no longer required to deposit the equivalent of officially set prices for their sales. Instead, indicative export prices, based on import content, are provided for the information of traders. By Commerce Ministry estimate, as a result of the smoother exchange control and export procedures,

^{24/} While 32 items are imported at the official rate, only 22 widely-consumed ones are price-controlled; the others (e.g., defence and security-related, and specialized imports), not in wide use, are not.

^{25/} Wheat, barley, corn, rice, sugar beet, cotton, soya, sunflower seed.

it now takes about two weeks to fill an export order,^{28/} compared to four months before the recent procedural reforms.

Fiscal Policy

2.18 On the fiscal front, recent measures have been directed at redressing the problem of low tax effort^{27/} and examining the tax system thoroughly with a view to improving its efficiency and equity. To improve tax effort within the existing system, the Income Tax Department has been very active strengthening tax administration. Over the past year or so, income tax rolls have been computerized, cross-checks introduced with bills of lading and Customs declarations, and individual notifications instituted in place of voluntary filing. In this way, the Tax Department has succeeded in identifying many new payers. In Tehran alone, for instance, 150,000 guild and self-employed payers were identified for the 1990/91 tax year, compared to 10,000 who had filed voluntarily in 1989/90. Overall, the recent measures appear to have succeeded in slightly improving the tax effort, which had been declining from 1985.^{28/}

2.19 A revised income tax scheme now before the Majlis proposes to reduce tax brackets from 19 to 9, raise the tax threshold and slash the top marginal rate from 75% to 54%. The new scheme is clearly intended to facilitate the operation and improve the equity and efficiency of the income tax system. Intensive efforts have also gone into preparing a system and legislation for a value added tax (VAT). These efforts included a study of the experiences of 52 different countries and visits by Iranian officials to Turkey and the Republic of Korea to learn about the VATs of those countries. Passage of a VAT Bill was postponed by the Majlis, which deemed the administrative machinery still inadequate. Accordingly, the Ministry of Finance, with technical assistance from the IMF, is continuing to strengthen tax design capability and administrative machinery.

Financial Sector Policy

2.20 A good start has been made in strengthening monetary policy and management. Specific measures adopted recently have been to raise five-year deposit rates from 6% to 13% and also to offer other depositors guaranteed minimum returns. Lending rates too have been raised. Where previously they ranged between 4% and 12%, now they range between 6% and 19%, with credit to industry, construction and services sectors at rates ranging between 11% and 19%, and coming out positive in real terms in 1990/91. Inflation in 1990/91 was estimated at around 10%. Should inflation pick up with further price liberalization, the deposit and lending rates would need to be reviewed.

^{28/} This refers to the period between when an export order is received and loaded on a ship.

^{27/} Measured by tax revenue:GDP ratio.

^{28/} The tax:GDP ratio had declined steadily from 6.2% in 1985/86 to 4.2% in 1988/89. This decline was halted in 1989/90 and turned around slightly in 1990/91, when the tax:GDP ratio rose to 4.7%.

2.21 In another recent move, credit ceilings were eliminated, providing commercial banks more flexibility in their operations. Commercial banks have also been improving their customer facilities, expanding the range of their activities (e.g., participating in foreign exchange and money market operations abroad) and seeking joint ventures with banks overseas.

Private Sector Development

2.22 Since the end of the 1980-88 war, promotion of the private sector has been stepped up, with reference to explicit Constitutional provisions (Articles 44 and 47) concerning private enterprise and to a July 1979 law,^{29/} which sought to "prevent government monopoly and encourage and support non-public activities and private initiatives". Important elements of Iran's private sector development strategy thus far have been the price and trade reforms recounted above, and activation of the local capital market along with divestiture of public enterprises.

2.23 Development of the local capital market began earnestly with revival of the Tehran Stock Exchange in September 1989. Within a year to eighteen months, the number of firms listed on the Stock Exchange had risen from 56 to 90; the volume of shares traded, from 3.5 million (of which, none were government-owned) to 10 million (of which, 5.1 million were government-owned); and the value of shares traded, from Rls 9.5 billion to Rls 51 billion (Rls 26 billion in government stocks). At the time of preparing this report, Government was examining prospects for divesting close to 700 public sector firms and, in the first phase, the Council of Ministers had already approved divestiture of 250 firms.

2.24 Before this, the Government had already succeeded in augmenting private participation substantially in the mining and export of non-metallic minerals. As 700 mines were sold off and their regional holding companies abolished, and as the regulatory practices were relaxed, the share of private sector production doubled (from 30% to 60%) within two years, royalty receipts tripled and the open market prices of non-ferrous metals came down owing to increased competition and efficiency. Encouraged by this experience, Iran has now also earmarked large scale metallic mining and smelting (copper and aluminum) for joint venture with local and foreign private firms. Such flexible and pragmatic approach to promoting efficient post-war growth will serve the country well in furthering its economic reform process.

C. THE NEXT STEPS IN ECONOMIC REFORMS

2.25 Several reform measures suggested in this section either extend or complement the changes instituted more recently in Iran. The Government is thus aware of many of the required follow-up steps, so that some proposals herein will have been adopted by the time this report is read. The proposals which follow are organized in the same way as the preceding section and,

^{29/}

The Law for the Protection and Development of Iranian Industries.

together with the actions described there, would constitute policies conducive to sustained economic growth in a stable financial setting.

Pricing Policy

2.26 While much improved by recent reforms, Iran's price system is still beset with distortions emanating mainly from the widely differing exchange rates. In particular, the official rate (Rls 70/US\$) is artificially highly overvalued relative to the competitive (Rls 600/US\$) and the floating (Rls 1350-1400/US\$) rates. The rial prices of imports converted at the official rate (see footnote 23) do not reflect the true costs of those imports to the economy and convey wrong signals to users of those imports.^{20/} Under these conditions, there is bound to be profligate use and, conceivably, speculative resale and/or smuggling out of imports priced so cheap in rials. Many observers in the country itself have noted wasteful use of bread for example, wheat and flour imports being among commodities subject to the official rate. Others have observed resale of medicines, also priced at the official rate, and farmers, it is said, take the opportunity to divert fertilizers, imported at the official rate, from low- to high-priced crops.

2.27 An artificially overvalued rate also is bound to discourage domestic production of import substitutes that might have been viable otherwise. Indeed, besides the war situation, this form of disincentive would have been an important factor inhibiting industrial growth in Iran in the 1980s, especially in the latter half when exchange rate differentials grew wider. Thus, measured by value added in constant prices, manufacturing output by 1988/89 had declined steadily to 22% below the peak reached in 1984/85; even in 1990/91, the output was still 10% below that in 1984/85.

2.28 The next step in reforming the price system, therefore, should be a speedy abolition of the current official exchange rate and a corresponding adjustment, including decontrol, of domestic prices of the items affected. The Government is very rightly concerned that such a step would entail sharp increases in the prices of essential commodities, requiring significant wage adjustments and possibly an increase in financial subsidies, at least for a period. Hence studies are underway within Government to design a suitable safety net program. Iran's ultimate aim is to adopt a single exchange rate at an appropriate level. To that end, the differential between the competitive and the floating rates also needs to be reduced, possibly via some trade-related measures.

Trade Policy

2.29 In regard to trade policy, there is an immediate need now to undertake tariff and duty reforms consistent with the recent and intended exchange rate action. In the first place, the old practice of converting all imports to rials at the official rate to assess Customs duties will need to be

^{20/} By a quick estimate, the differential between the cost of wheat, rice and sugar consumed last year converted at the official and the competitive rates was around Rls 1,050 billion, equivalent to nearly 3% of GDP. This, in other words, represented the economic cost of the subsidy implicit in the deployment of the official rate.

altered.^{31/} A changeover to the competitive rate for Customs valuation will give a more straightforward indication of the cost in rials of importing a product. The changeover will also capture potential revenue and remove the need for other parallel charges on imports, such as the Commercial Benefit Tax. In the same move, following the ongoing review by the Ministry of Commerce and the Customs Department, the Government might take the opportunity to rationalize the tariff structure, reducing the level and the dispersion of duties as a trade promotion measure. Government might also consider a temporary import surcharge^{32/} to further depreciate the effective import rate, thereby narrowing the differential between the competitive and floating exchange rates and facilitating their eventual unification.

2.30 In the interim, the non-oil export incentives since this year's January measures should be reviewed as well. It is possible that these incentives may be excessive now, because exporters of such items receive rials at the floating rate while paying for imported inputs at the competitive rate or--in the case of certain wage goods--even the official rate. If the suggested review finds the latest incentives to be excessive indeed, Government might consider levying some form of export duties for a time until the exchange rate is unified at an appropriate level.

2.31 Subsequently, the exchange rate should be monitored constantly to guard against undue appreciation in real terms. In the past, many oil exporting countries, including Iran, saw their currencies appreciate significantly in real terms when oil price booms led to excess supplies of foreign exchange. The currency appreciation then reduced the incentives for production of other tradeables in those countries. To avoid such a problem should excess foreign exchange build up in future, Iran could consider some means of sterilizing the excess resources.^{33/} There may be various ways of doing this. For example, the excess foreign exchange might be treated as an increase in the net worth of the central bank. The important principle would be to prevent these resources from translating into, successively, large expansion of the money base, high inflation relative to trading partners and, in the end, rapid real appreciation of the rial.

Fiscal Policy

2.32 Fiscal discipline and financial stability are among key objectives of Iran's FFYP. To that end, as noted in the preceding section, good progress has been made already in designing a new income tax schedule, in preparing legislation for a VAT and in strengthening tax administration. The next steps should be to expedite passage and implementation of the income tax and VAT proposals. In this regard, it should be pointed out that it will be important not to complicate the new schemes with many discretionary exemptions, which tend to be difficult to administer and which also forego revenues, sometimes

^{31/} Since this practice resulted in extremely low effective duty rates, a parallel Commercial Benefit Tax, ranging from 0 to 440% of import values, was applied at Customs entry points.

^{32/} Exempting basic necessities, if it so wishes.

^{33/} Chile and Columbia used such a scheme successfully in the past, and Venezuela is working on one now.

unnecessarily. Revenues, moreover, would be boosted substantially in Iran when the use of the official exchange rate for valuing oil exports and assessing import duties is discontinued. The deployment of such extra revenues are expected to provide significant options for public expenditure policy.

2.33 Extra expenditures will be required first to adjust public sector wages to offset to some extent the impact of exchange rate and other price adjustments. There will be a need also to provide transitional assistance to low income and unemployed persons in other parts of the economy. It would be advisable to provide such assistance in the form of well targeted direct transfer payments, possibly out of an annually budgeted Social Safety Net Fund. The cost of this fund could be reduced progressively as real incomes and employment grow in the wake of policy adjustments.

2.34 The adjustment process, furthermore, also involves restructuring the public enterprises sector, including selling off firms and businesses best operated in the private sector. Some enterprises, however, may require injection of finance to prepare them for sale. So, a portion of the proceeds of exchange and revenue reforms might be used to constitute an Enterprise Restructuring Fund to meet a variety of expenses (closing audits, paying off old debt, severance payments, etc.) that would be associated with closing and/or selling public enterprises.

2.35 Another possible use of potential extra revenues, when they accrue, might be to create an Investment Fund to enhance cooperative and private sector investments. After initial establishment, the fund could be replenished whenever revenues, especially from the volatile oil market, surge up.^{24/} Resources of the Investment Fund could be lent long-term to the cooperative and private sector at market prices, preferably through the financial system. The Treasury may, moreover, design a system that would encourage financial institutions to compete for these resources, as they do for deposits.

Financial Sector Policy

2.36 To complement the price, trade and fiscal reforms proposed thus far, the efficiency of Iran's financial system should be improved by exposing banks and other financial institutions to greater competition, while respecting the Islamic principles the country has chosen for itself. The important economic principle guiding monetary policy would need to be sound management of base money deploying the wide variety of instruments already developed in the country. Following the removal of credit ceilings, which took place recently, the monetary authorities should consider removing ceilings on profit shares and lowering reserve requirements. The aim ultimately should be to set reserve requirements in line with those prescribed by prudential regulations designed to guide banking activities.

^{24/} In the other direction, the Treasury could tap the fund when oil income fell below some threshold, thus using the Investment Fund also as a device to stabilize public revenues and borrowing requirements.

2.37 As yet, banking activities are subjected more to direct controls and instruments, such as reserve requirements, than to market instruments. A more efficient system would be to invite greater private sector participation and develop sound supervision and prudential regulations to govern commercial banks. These banks, in turn, ought to be relieved progressively of the burden they still carry of owning and managing firms and businesses in the non-financial sector of the economy.

Private Sector Development

2.38 Iran's ongoing policy reforms aiming to reduce and eventually eliminate various anomalies in the incentives regime are expected to lead to greater opportunities for the growth of the private sector in the country. More specifically, the liberalization of prices and investments and the strong encouragement now provided to non-oil exports constitute important stimulus to the private sector. Fiscal reforms, moreover, envisage that public sector deficits will be small and private savings will not be preempted. Along with liberalizing the economy, a practical action needed now would be to study Iran's regulatory environment governing private businesses and design necessary changes to facilitate development of the market economy.

2.39 The development of the private sector will also depend closely on strengthening and instilling efficiency into those enterprises, such as natural monopolies, that remain in the public sector. Inefficient public enterprises, especially if they are protected by virtue of their links to government, ultimately pose extra costs to the private sector. Hence, the reform of public enterprises--involving, as examples, the establishment of independent boards, and financial and managerial autonomy--will need to proceed side by side with private sector development. As the operating conditions of public enterprises are thus reformed, Government will need to limit preferential access to credit and budgetary resources previously available to those enterprises.

D. MEDIUM-TERM PROSPECTS

2.40 This section presents, in very broad quantitative terms, the likely evolution of the economy taking into account: i) the recent economic reforms instituted in Iran as recounted in Section B above; and ii) the agenda of pending reforms proposed in Section C.^{35/} It should be emphasized here that, as with all such exercises, the quantitative projections which follow are illustrative only; they should not be viewed as forecasts of any sort. The main purpose of the projections is, in fact, to draw attention to the policy reform package and depict the direction in which the economy could evolve in response to the reform measures.

^{35/}

The economic model used to derive these illustrations is detailed in Annex V, Volume II.

after falling in 1991-92 will grow moderately in real terms over the next several years. The main sources of growth, underpinned by continued reforms of the exchange, trade and price systems, are expected to be the commodity-producing sectors. In particular, the shift in relative prices towards tradeables will strengthen the industrial growth rate while the agricultural growth rate can be maintained at a high level through increased investment and institutional support. Finally, the very large gas reserves in Iran can make an important contribution to electricity generation as well as provide the basis for important petro-chemical and metallurgical industries, such as steel, copper smelting and aluminum refining. Real GDP growth in 1991-95 could feasibly average 5% to 6% per year, rising from between 4% and 5% in 1991 and accelerating to 7% by 1995.

2.42 Provided further that the fiscal measures envisaged in the reform program are carried out, government revenues, both oil and non-oil, could increase sharply, enabling a strong recovery in much needed public investments as well as giving Government the means to finance a targeted social safety net program for a temporary period. Under the reform program, moreover, public sector deficits, if any, would be small and the private sector would not be crowded out.

2.43 Despite dips in oil prices in 1991-92, Iran's export earnings in the medium term are expected to remain healthy, partly owing to concerted ongoing efforts to increase oil production and export volumes, and partly owing to the reform-induced steady increases in non-oil exports, although the latter, it must be noted, constitutes only around a tenth of total exports. Export receipts overall would be sufficient to finance the imports required for the growth of GDP, with the external current account deficit sustainable at between 3% to 4% of GDP. Such levels of current account deficits could be financed with external capital. Iran's external financing requirements would amount to at least \$12 billion to \$15 billion over the next four to five years. This substantial amount of capital should be contracted, however, with careful regard to maintaining the country's low level of indebtedness while the needed economic reforms are being put in place.

2.44 Iran is entering the 1990s with a small external debt relative to its income and exports. Initial estimates show the stock of Iran's medium and long-term debt at the end of March 1991 (the end of Iranian fiscal year 1990/91) was about \$1.8 billion (2% of FY90 GDP). There were, in addition, short-term debts and trade-related credits of between \$2 billion (Central Bank estimate) and \$6 billion (OECD estimate). Taking into account all debts, the debt service ratio in 1990/91 was about 3 percent. While the stock of debt may be expected to rise as Iran undertakes reconstruction and other investments, it is expected that the debt service ratio will remain manageable. This assumes, however, a foreign borrowing strategy emphasizing careful identification of likely sources and terms of financing for clearly viable projects, as well as attention to an appropriate mix of financing for the public and private sectors. Adhering to such a strategy in the medium term, and based on its current low indebtedness and its exemplary payments record, Iran could be considered creditworthy for external borrowing to rebuild what is potentially a highly dynamic economy provided the momentum of sound policy reforms is maintained.

TABLE 2.4: MODEL PROJECTIONS AND ASSUMPTIONS

REFORM SCENARIO

I. Projections 1/	Actual			Projections				
	1988	1989	1990	1991	1992	1993	1994	1995
A. Current Account Balance, US\$ Mn (=1-2) (As Percentage of GDP)	-1692 -0.6%	-2563 -0.4%	-385 0.0%	36 0.0%	-3147 -4.1%	-2215 -3.5%	-2504 -3.6%	-2141 -2.8%
1. Total Exports	10,709	13,081	17,812	18,198	16,357	18,237	20,286	22,725
Oil and Gas	9,673	12,037	16,700	16,775	14,931	16,727	18,598	20,697
Non-oil	1,036	1,044	1,112	1,423	1,426	1,511	1,688	2,028
2. Total Imports and Net Services, US\$ Mn	12,401	15,644	18,197	18,163	19,504	20,452	22,790	24,866
Contribution to Sterilization Fund 2/ (As percentage of GDP)	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%
B. Public Sector Deficit (=1+3+4+5+6-2) 3/ (As Percentage of GDP)	10.1%	6.1%	3.3%	0.1%	4.9%	5.2%	4.7%	1.1%
1. Total Expenditures	19.7%	17.0%	18.2%	24.6%	27.5%	30.0%	32.6%	32.7%
Current	14.4%	12.0%	11.9%	17.9%	20.3%	22.3%	24.4%	24.0%
Capital 4/	3.5%	3.4%	4.9%	5.5%	6.0%	6.5%	7.0%	7.5%
Special 5/	1.8%	1.6%	1.4%	1.2%	1.2%	1.2%	1.2%	1.2%
2. Total Revenues	10.6%	12.9%	16.9%	30.5%	30.7%	36.9%	37.9%	37.6%
Oil Revenues	2.8%	2.7%	3.1%	17.8%	19.7%	20.6%	24.6%	23.2%
Tax Revenues	4.2%	4.2%	4.7%	7.2%	7.9%	13.5%	12.1%	13.4%
Other 6/	3.6%	6.0%	9.1%	5.5%	3.1%	2.7%	1.3%	0.9%
3. Quasi-Fiscal Deficit 7/	1.0%	2.0%	2.0%	2.0%	1.0%	1.0%	1.0%	1.0%
4. Restructuring and Safety Net Funds 8/ Enterprise Restructuring Fund	0.0%	0.0%	0.0%	4.0%	4.0%	6.0%	4.0%	0.0%
Safety Net Fund	0.0%	0.0%	0.0%	2.0%	2.0%	3.0%	2.0%	0.0%
Safety Net Fund	0.0%	0.0%	0.0%	2.0%	2.0%	3.0%	2.0%	0.0%
5. Contribution to Investment Fund 9/	0.0%	0.0%	0.0%	0.0%	3.0%	5.0%	5.0%	5.0%
6. Contribution to Sterilization Fund 10/	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
C. Required Net Private Savings(=A+8-5)	9.5%	5.7%	3.3%	0.2%	-2.3%	-3.4%	-3.9%	-6.7%
Of which: Inflation Tax 11/	8.5%	2.3%	3.2%	5.6%	2.3%	3.6%	1.7%	2.0%
D. Real GDP Growth	1.7%	4.3%	10.1%	4.3%	4.7%	6.1%	5.2%	6.7%
E. Inflation Rate	30.4%	6.9%	13.0%	32.8%	14.5%	29.0%	13.8%	17.9%
F. Policy Exchange Rates: Official RERI (1990=1)	0.09	0.08	0.08	0.52	0.72	1.00	1.00	1.00
G. NonPolicy Exchange Rates:								
Free Market RERI (1990=1)	1.27	1.35	1.35	1.21	1.10	1.00	1.00	1.00
Trade Weighted-Average RERI (1990=1)	0.24	0.26	0.33	0.60	0.91	1.00	1.00	1.00
Non-Oil Exports RERI (1990=1) 12/	0.63	0.58	1.00	1.21	1.10	1.00	1.00	1.00
Total Imports RERI (1990=1)	0.17	0.21	0.28	0.56	0.83	1.00	1.00	1.00
H. Gross Fixed Capital Formation (As Percentage of GDP)	12.2%	11.7%	12.8%	14.7%	16.9%	19.1%	21.8%	22.5%

TABLE 2.4: MODEL PROJECTIONS AND ASSUMPTIONS (continued)

	REFORM SCENARIO							
	Actual			Projections				
	1988	1989	1990	1991	1992	1993	1994	1995
II. Assumptions:								
Increase in Dollar World Price 13/	2.5%	-0.6%	4.4%	4.2%	4.2%	4.2%	4.2%	4.2%
OECD GDP Growth 14/	4.3%	3.5%	2.9%	2.9%	2.9%	2.9%	2.9%	2.9%
Growth in Real Wages	-6.4%	-5.3%	10.0%	-5.0%	0.0%	2.0%	2.0%	0.0%
Growth in Real Fixed Investment	-27.5%	20.0%	20.0%	20.0%	20.0%	20.0%	20.0%	10.0%
Oil Price in US\$ 13/	13.6	16.2	21.2	20.5	17.3	18.5	19.6	20.9
Oil Exports MBD 15/	1.65	2.07	2.22	2.24	2.36	2.48	2.60	2.71
Oil Production MBD 15/	2.54	2.93	3.10	3.19	3.29	3.39	3.49	3.59
Growth in Import Price 13/	8.2%	13.1%	4.8%	802.8%	53.8%	67.2%	10.0%	16.0%
Growth in Non-oil Export Prices 13/	-3.9%	-9.0%	-18.8%	12.8%	19.8%	-6.8%	-4.1%	-2.7%

1/ Variables are as defined in Chapter I and Chapter II. This table has been estimated using the net savings framework discussed in Chapter I.

2/ Sterilized foreign exchange reserves (in millions of US dollars).

3/ Equals total general government outlays. However, to the extent that the deficit includes the contribution to the Sterilization Fund, its effect on domestic demand is smaller.

4/ Capital expenditures are as projected in the Five-Year Plan.

5/ 'Special expenditures' are assumed to be the same as in the Five-Year Plan.

6/ Includes the earmarked 'special revenues.'

7/ Includes the deficit originated in the central bank and other discrepancies in sources of finance.

8/ Estimates of the cost of enterprise restructuring and safety net programs.

9/ The "Investment Fund" is a revolving fund to encourage private sector productive investment, which would also serve as a oil-price stabilization fund.

10/ Sterilized foreign exchange reserves (as percentage of GDP).

11/ Inflation tax is defined as in Chapter I.

12/ An estimate of the real average exchange rate received by non-oil exporters.

13/ World Bank (IEC) projections.

14/ OECD projections.

15/ 1988-1990 are actuals; 1991-95 Bank staff estimates.

SOURCE: See Model in Annex V.

PART II: SECTORAL PERFORMANCE AND POLICY ISSUES

CHAPTER III: OVERVIEW

3.1 The war left deep marks on the various sectors of Iran's economy, adversely affecting, with equal impact, basic infrastructure, education, health and housing, irrigated agriculture and industry. In the case of industry, the main problems have been largely unutilized capacity due to the scarcity of imported intermediary products; as for basic infrastructure, problems of inadequate capacity and distribution networks have dominated; education, health and housing have not been able to keep up with the rapid increase in population at more than 3 percent p.a.; and, in the case of irrigated agriculture, the failure to complete the required irrigation network has limited the productive capacity of the sector. Finally, insufficient resources for maintenance have characterized all sectors.

3.2 As will be clear from the discussion of individual sectors, capacity utilization and expansion have not been the only problems. More fundamental issues of efficient use of available resources developed during the war years as a result of pervasive price and other controls. Agriculture and industry were severely affected by distortions of input and output prices, and the energy sector has suffered from subsidized oil prices. Dominant among distorted prices has been the exchange rate, as discussed in Chapter I. In addition to price distortions, poor design choices also affected large infrastructure projects, essentially as a result of inadequate "selection" procedures. As to the social sectors, education has paid a very high price to the war effort, both in terms of the number and quality of teachers and of materials available to students. Housing and transport have suffered more in the rural areas than in the larger urban centers, with the exception of Tehran, where traffic congestion has increased continuously.

3.3 Under the Five-Year Development Plan, strong post-war economic policy reforms have been initiated. Important economy-wide reforms were presented in Chapter II; key sector-specific reforms are pointed out in the respective chapters which follow. The lion's share of the FFYP investment program (35 percent) goes to construction (residential and public buildings) and to transport and communications (31 percent). The other sectors-- agriculture, oil, manufacturing, and water and power--receive about 8 percent each. The apparently modest shares allocated to these sectors are in fact explainable by unutilized capacity, at least for agriculture, manufacturing, water and power. Whether allocated resources are sufficient to expand and rehabilitate the distribution networks for agriculture, water and power is still not known, but should be kept under review. As to construction, the bulk of residential building is expected to be carried out by the private sector, with some support from the Housing Bank. Direct public housing construction in Iran has traditionally been very modest. As discussed below, the available resources and absorptive capacity may not be sufficient to meet the plan target of 2.5 million units per year.

CHAPTER IV: AGRICULTURE

A. INTRODUCTION

4.1 Agricultural development policies underwent a drastic change under the Islamic revolutionary regime. The pre-revolution policies which focussed on developing agriculture mainly through large and highly mechanized agribusinesses and agricultural corporations were replaced by support for traditional and medium-size farms through an array of support policies and to dismantle large agro-industrial concerns. As a result, agricultural value-added increased by 55 percent in constant terms from 1980 to 1988. In spite of this spectacular increase in production, Iran continues to have a large and growing agricultural trade deficit. The demand for food products reflects the interplay of various factors: the increase in total population (about 3.2 percent per year); the deficit in basic staples, most notably grains; and consumer subsidies, which have fueled the consumption of basic products.

4.2 The expansion of agriculture was exceptional in the context of a stagnating, or even deteriorating, economy with a very inward orientation and a tendency, generated by the war, to self sufficiency almost at any cost. While considerable price distortions and overvaluation of the exchange rate led to subsidization of food imports, agriculture production was sustained through high support prices and large subsidies on agricultural inputs. The growth of agricultural production and the Government's support policies do not seem to have markedly improved the lot of the rural population; however, it prevented excessive rural-urban migration and some 46 percent of the total population was still considered "rural" as of the 1986 census (a ratio which apparently still pertains). Statistics are unclear about the share of agriculture in total employment, but it is recognized that there is disguised unemployment, together with pockets and periods of labor shortages. More importantly, average rural income is estimated at about 50 percent of urban income, and income distribution remains skewed against the farmers.

B. THE SETTING

4.3 With 165 million ha, Iran is a vast country; however, about half of this land is mountains or desert. Soils are deep and fertile over extensive areas, but they are subject to erosion and require irrigation. It is estimated that only about 40 million ha of the total geographic area is suitable for agricultural production.^{28/} Overall, about three fourths of the country receives less than 250 m/m of rainfall per year; almost 48 percent of all crops are irrigated (including 35 percent of the wheat) thanks to the extensive storage capacity developed over the past 20 to 25 years and to the traditional conveyance and irrigation systems (qanats). Cultivated land expanded by some 1.5 million ha during the 1980s to the current total estimated at around 13.5 million ha, of which 5.9 million ha is under

^{28/} A soil survey is under preparation.

irrigation and 7.6 million ha supports rainfed agriculture. In addition, about 8 million ha are fallow, pastures extend over some 10 million ha, and forest and scrubland 19 million ha.

4.4 Of the total cultivated area, wheat occupies about 50 percent (of which 65 percent is rainfed) and some 20 percent is devoted to barley (mostly rainfed), giving traditional rainfed cereals the lion's share among crops in terms of land use. Rice, sugar beet, cotton, oil seeds, tree crops and forage occupy the remainder of cultivated area (See Annex I, Attachment I). In the mid-1970s, it was estimated that 80 percent of the country's farm families were engaged in traditional agriculture, and this proportion appears to have changed little. Land holdings average 6 to 7 ha, and livestock rearing is almost entirely traditional.

4.5 Agricultural affairs are handled by several government and quasi-government institutions, although activities in agriculture and rural development are mostly controlled by three ministries: the Ministry of Agriculture (MOA), the Ministry of Energy (ME), and the Ministry of Jihad (MJ). ME is responsible for the construction and maintenance of dams and main canals. MOA was originally responsible for all aspects of policy planning and production support for Agriculture. The Jihad Sazandighi (meaning Crusade for the Reconstruction), was founded by Imam Khomeini at the start of the revolution as a movement to coordinate efforts for consolidating the revolution, organizing the war effort, and developing the agricultural sector to achieve self-sufficiency in basic foods. The Jihad was transformed into a Ministry in 1990 and now has responsibility for natural resources, encompassing livestock, rangelands, forests and fisheries. When MJ was created, the existing personnel employed by MOA were divided between the two organizations. Although MOA and MJ are supposed to coordinate their actions, in particular at the agricultural service centers, the division of technical responsibilities is causing some difficulties, including some duplication in work and even some competitiveness.

4.6 The Agricultural Bank (AB), born from the merger of the Agricultural Development Bank and the Agricultural Cooperative Bank and supervised by MOA, practices Islamic banking, i.e., it provides loans free of interest. Like other specialized banks, it can receive deposits (with Government guarantee). It is also allowed to maintain checking and savings accounts and, while the latter bear no interest, the bank's profits (minus its expenses and fees) are distributed among depositors. However, deposits have not been forthcoming, despite some subsidization to compensate for the insufficient return on assets. Therefore, AB has had to rely on advances from the central bank. A crop insurance system, originally established for wheat, rice and soya, was extended in 1985 to cover cotton, sugar beet and cattle. The crop insurance fund is financed by voluntary contributions from the farmers, with 50 percent being provided by the Government, and it covers farmers against losses due to cold, storms, fire and other natural disasters, and against pests such as locusts. In addition, there is a "catastrophe" fund, entirely financed by the Government, to provide protection against natural calamities.

C. PAST PERFORMANCE AND POLICIES

4.7 With an average growth rate of 6.3 percent p.a., the growth of agricultural production in the past decade was exceptional. The performance of grains and other basic staples was particularly remarkable and reflects: (i) the relatively low priority and mediocre development of agriculture before 1980; (ii) the existence of a large inventory of infrastructural equipment at the beginning of the revolution, in particular multipurpose dams and primary irrigation networks; and most importantly (iii) an all-out effort by the Government in the 1980s to promote self-sufficiency in basic staples. However, the growth was mostly achieved through expansion in production area rather than yields, which remain low.

4.8 The current policy of the Government is to achieve self-sufficiency in wheat and rice by the mid-1990s. This policy has been pursued since the revolution through subsidies for both producers (output and input prices) and consumers (particularly for bread). Guaranteed prices are established by the Government for basic staples (wheat, rice, potatoes), meat, and other products such as sugar beet, cotton and oil seeds. Previously, the guaranteed price was coupled with additional incentives^{27/} and active government procurement. Government's wheat procurement reached about 2.5 million tons (about 85 percent of farm surplus) which severely limited the role of the private sector in marketing. This level of public sector wheat procurement was possible, due to: (a) the increased availability of barley, leading to a decrease in the use of wheat as animal feed and, therefore, greater availability for human consumption; (b) the tendency among farmers to market a higher proportion of their wheat and buy subsidized bread for their family needs; (c) a reduction in the demand for wheat by the private sector because of the high level of subsidy in the public sector; and (d) increased procurement prices, coupled with premiums, which may have influenced farmers to sell a greater proportion of their surplus wheat to the public sector. However, most of these inducements were eliminated in 1990 and the private sector is re-establishing its role in marketing.

4.9 As for input subsidies, the Islamic Republic has applied a policy of continued low prices for fertilizers and pesticides. The unit prices of DAP and urea have not changed since 1979 and 1982, respectively. The Government also implemented a massive mechanization program at subsidized prices. The price index of agricultural machinery slowed down considerably in the early 1980s, although it accounted for an increasing share of fixed capital formation in agriculture through the mid-1980s with significant expansion in numbers of tractors, tillers and combines. With respect to consumer price policy, the current policy concerning major staples is a combination of subsidization/controlled pricing and two-tier pricing with coupon allocation for certain categories of the population. The subsidy for wheat is particularly high: the 1988/89 farm gate price was Rls 105/kg and the selling price to flour mills Rls 17.5/kg; including procurement, transport and milling costs, total subsidization reached Rls 91.5/kg, almost 80 percent

^{27/} In 1984, the Government introduced a system under which farmers were entitled to utilize 25 percent of the payment for wheat received from the Government for the purchase of consumer goods at official prices, i.e., substantially below market prices.

of actual cost. There is also an element of subsidization in the price of flour sold by mills to bakeries. The price of bread was pegged at Rls 30/kg throughout the 1980s and, as there was no rationing, this resulted in high wastage. The consumer price was raised to Rls 50/kg in 1990. Conversely, subsidization of rice is restricted to sales through cooperative stores and most of the production is milled and distributed at free market prices. There are dual markets for meat and milk and, with reductions in the availability of coupons, free market prices are playing an increasing role in food prices. The consumer price of most nonbasic staples, notably barley, fruit and vegetables, is not controlled or subsidized.

4.10 The highly interventionist policies of the 1980s, which were partly explained by the war situation, had a profound impact on agricultural activities. While their cost in terms of resources is difficult to assess, the major objectives of these policies, in terms of the promotion and protection of the rural world and of food self-sufficiency, do not seem to have been achieved. In terms of the explicit financial burden on the Government, the subsidies do not appear to be a major element in the fiscal situation. However, in economic terms, considering the differential between the official and competitive exchange rates (respectively, Rls 70 v/s Rls 600 per US dollar), the consumer subsidies on wheat remain substantial even after the recent increase in the price of bread, but at the same time the subsidies to producers at the competitive exchange rate are relatively modest.

4.11 Government intervention in the 1980s resulted in price disparities within the agricultural sector as well as between this and other sectors. Within the sector, for instance, barley fetches a much higher price than wheat (for which the price is guaranteed through government purchase). The reasons are that (i) barley is mainly used as feed and reflects the high price of meat in the open market while the price of bread has been kept at an artificially low level; and (ii) there is no fully developed private sector market for wheat. For similar reasons, the price of bran is higher than that of flour. These distortions in relative prices have induced changes in production as well as in consumption patterns and trends. The increase in the production of barley is a case in point, as is that of meat, for which quantities offered at the guaranteed price substantially exceed government supplies. (Subsidized forage and feed make meat production very attractive.) More important, however, because more permanent, are changes in consumption habits. For example, the constant price of bread compared with other foods led to increased bread sales of 14 percent per year through 1980-87. In addition, a proportion of the rural population, who previously retained their own wheat for consumption, have been selling it to the government purchasing agency to buy cheaper subsidized bread.^{22/}

4.12 Agriculture has benefitted from consistently favorable terms of trade vis-a-vis its major supplier of inputs, i.e., manufacturing. The Government's policy of promoting the rural world has been obtained at a hefty

^{22/} The evolution of the terms of trade for agriculture cannot be calculated directly on the basis of the data available. As a proxy, we have used indices of relative prices (value added at current prices divided by value added at constant prices) for agriculture and other sectors during the period 1983-1988 (see Annex I, Table 5).

cost and it is now recognized that changing product prices to achieve these terms of trade is likely to be unsustainable.

4.13 The increase in agricultural production under the revolution was concurrent with a substantial increase in input utilization and mechanization. The increase in output, however, was the result of an increase in cultivated area more than of yield improvements. Total fertilizer consumption triggered by concessionary pricing increased by almost 65 percent between 1979/80 and 1987/88, from 1.0 million tons to 1.6 million tons. The average consumption per ha in 1988 remained modest, with about 64 kg of nutrient (DAP and urea), which is less than 30 percent of the European average. However, if we assume that most fertilizer goes on irrigated areas, this about doubles consumption, which then becomes relatively high. The results of this massive effort appear quite disappointing when compared to yields, which varied little over the past decade and are still generally low (see Table 4.1).

**TABLE 4.1: YIELDS OF SELECTED PRODUCTS
(kg/ha)**

	<u>1979-81</u>	<u>1985-87</u>	<u>Percentage Increase</u>
Wheat	1,063	1,140	7.24
Barley	1,000	1,200	20.00
Rice	3,215	3,547	13.00
Potatoes	14,324	15,782	10.00
Onions	15,491	18,297	25.00

Source: Ministry of Agriculture.

4.14 Yields are not recorded for fruits and vegetables; for other crops, they range from low (notably wheat, barley and sugar beet) to moderate (rice, soybean and potatoes); only sugar cane yields are good, reaching about 85 tons/ha. The improved output, in particular for basic staples, was not in line with the increase in inputs, which demonstrates the general inefficiency of the input pricing policy followed by the Government.

4.15 The government mechanization program brought the number of tractors in the country up from 71,000 in 1979 to 135,000 in 1985 (the last year for which we have figures), which is an increase of 90 percent; the number of tillers and combines also increased during the same period. Undoubtedly, more tractors and tillers helped facilitate the increase in cultivated area, 19 percent for irrigated farming and 12 percent for rainfed cultivation during the 1980s.^{22/} Overall, the government subsidization policy did not generate an improvement in production technology and, in the case of inputs, proved a rather inefficient way of raising output.

4.16 The Profitability of Agriculture. Throughout the 1980s, the Government periodically adjust guaranteed prices (particularly for cereals) so as to restore the incentives eroded by inflation. It is questionable whether such policies did preserve the profitability of those very basic crops which

^{22/} It is also likely that one of the reasons for the increase in cultivated area is that under the first land reform, ownership was transferred to those tenants who had cultivated the most area prior to the reform; in addition, farmers now tend to occupy much more land.

the Government intended to support. The example of wheat, which amounts to about 24 percent of total crop value, is a case in point. The real price of wheat is definitely lagging behind consumer prices, as well as behind other agricultural prices. One major factor for this lag is the Government's desire to contain inflationary pressures; this would also explain the popularity of premiums among farmers. However, the lack of precise criteria and automatism for price increases is likely to appear as a lack of long-term commitment to price support on the part of the Government and to act as a further disincentive to farmers.

4.17 Agricultural Capital Formation. Government capital expenditure for agriculture declined and changed structure during the 1980s. Between 1983 and 1989, a period for which consistent figures are available, the nominal increases in government budgetary allocations for capital expenditures did not compensate for inflation and went through a steep decline in real terms (from 40 to 35 billion Rls).

4.18 The allocation of development expenditures (i.e., salaries and other costs together with capital expenditure) changed drastically under the Islamic Republic. In 1979, 75 percent of disbursements went to agro-industrial and large agricultural units, as well as to agricultural cooperatives and corporations. This reflected the policy emphasis at that time for modernizing the sector through agro-business. Conversely, since 1983, about two thirds of all disbursements have to preserving and exploiting natural resources, agricultural service centers and another 23 percent has been devoted to improving of farm and livestock products and various services to farmers. Finally, the availability of credit since 1983 increased from 220 to 383 billion Rls.

4.19 Consumption and Imports. Generally, increased food production was unable to meet the steady increase in total demand over the past decade (see Annex I, Attachment 4) stimulated by population growth and the subsidization of basic staples. As a result, imports continued to grow, although less steeply than in the 1970s. Consumption growth was mainly centered on basic products and accelerated for wheat and other locally grown crops such as pulses and vegetables. The annual growth in wheat consumption from 1980 to 1986 increased to almost 6 percent per year, as compared to less than 5 percent from 1970 to 1980; at the same time, the wheat self-sufficiency ratio, which hovered around 87 percent in the 1970s, deteriorated to 73.4 percent from 1984 to 1986. The position of other food products remained about even. There was a substantial deceleration in the rate of growth of imports, reflecting the chronic shortage of foreign exchange. Still, total food imports (mostly staples and particularly wheat) increased from an overall \$1.98 billion per year in 1979-81 to over \$2.26 billion in 1987-89, topping \$2.4 billion in 1989.

4.20 The lag in production and the squeeze on imports combined to induce a profound change in the structure of consumption: there has been a return to traditional basic foods and a decline in the purchase of higher protein products (see Annex I, Attachment 7). Per capita consumption of wheat, spurred by the scarcity of other food products at affordable prices, increased by about 17 percent from 1979-81 to 1984-86; indications are that it

peaked in 1987 and has been decreasing slowly since. Simultaneously, per capita consumption of meat and milk decreased as did that of "luxury" import items such as coffee.

4.21 Overall, Iran has not been very successful at promoting self-sufficiency in basic staples. The terms of trade were relatively favorable to agriculture, but it can be argued that this was due as much to the disincentives for manufacturing as to the agricultural policy. Capital formation seems adequate in terms of on-farm individual equipment but lacking in terms of collective equipment requiring government intervention. Other indicators show that government policies (particularly food self-sufficiency) did not attain their objectives and may have had contradictory results, which could jeopardize their sustainability. Price distortions tended to negate the country's comparative advantages and the production of major staple crops has probably not been profitable.

D. OUTLOOK

4.22 Agriculture in Iran is not yet constrained by a lack of natural resources. There are still substantial untapped or underutilized resources in water and probably soils, as well as scope to increase yields by the introduction of improved technology.

4.23 Water Balance. Under average conditions of 240m/m of yearly precipitation equivalent, the water balance of Iran is about 120 billion m³. Currently, the supply of water to agriculture from existing works totals about 70 billion m³, including qanats. Additional needs to be covered under the First Five-Year Plan total 6.1 billion m³. This leaves some 40 to 50 billion m³, or over 40 percent of economic water resources, still available for harnessing. While considerable works have already been constructed, equipment is incomplete, essentially because tertiary and quaternary on-farm distribution networks are missing. As a result, national water use efficiency is estimated at only 30 percent. This should be a priority for improvement: an increase in irrigation efficiency of 5 percent overall would allow an additional 1 million ha to be irrigated. Gains from water savings and agricultural production could be obtained by adopting improved water harvesting technologies, rehabilitating dam command areas, and improving and completing distribution networks.

E. CONSTRAINTS

4.24 The most important and obvious constraints to agricultural production include: price distortions, an increasing backlog in capital stock maintenance and creation, limitations in technical know-how, and institutional shortcomings.^{40/}

^{40/} Other potential constraints: credit allocation, labor shortages due to long-term rural-urban migration, and high labor mobility generated by land reforms which have left little incentive for landless peasants to stay on farms.

4.25 Relative Prices. The major constraint imposed by the distortion of relative prices, which does not match relative scarcities and results in grave inefficiencies in the allocation of resources. Subsidies provide wrong signals to producers and consumers. The combined effect of widely dispersed rates of exchange and subsidization creates even worse distortions vis-a-vis world prices. Table 4.2 shows the variations in the nominal protection coefficients (NPC) for a few selected agricultural products and inputs. Protection rates are very high for agricultural products when calculated at the official exchange rate. However, they are much more moderate for fertilizers, which turn negative even with the trade-weighted rate. Under the circumstances, economic choices become almost impossible. This confusing incentive framework facing agriculture should clear up somewhat when the economy-wide reforms proposed in Chapter II are implemented. In addition, it is recommended that a systematic review and evaluation of agricultural pricing policies (including producer prices and profitability, and consumer prices and subsidies) be carried out urgently to determine the most efficient means of attaining the FFYP's multiple objectives (e.g., food security, export production, competitive cropping patterns, etc.) for the agricultural sector. Thereafter, prices should be reviewed systematically each year.

TABLE 4.2: LEVEL OF PROTECTION

	1989 Produce Price Rls/t	1989 Average World Price in US\$/t	Border/a		Border /b		Border /c	
			Price 70	NPC	Price 600	NPC	Price 1400	NPC
Wheat	100,000	181.25 /d	12,687	7.88	108,750	0.92	253,750	0.39
Rice	450,000	320.2	22,414	20.08	182,120	2.34	448,280	1.00
DAP	28,500	172.8	12,096	2.36	103,680	0.27	241,920	0.12
Urea	22,000	132.2	9,254	2.38	78,320	0.28	185,080	0.12

/a Official rate.

/b Trade weighted rate.

/c Free market rate.

/d Average Canada - USA.

Source: Bank staff estimates, using figures from MOA and Commerce.

4.26 Investment. Government capital expenditure for agriculture and water resources, which took a nosedive in the past decade, was not completely compensated for by private, largely on-farm, investment. Considerable infrastructure was completed prior to the revolution and is still the basis of economic activity. However, there are many unfinished works downstream of the major dams and at the local and village level. There have also been virtually no additions to the capital stock of agriculture-related infrastructure, and there is an enormous backlog of deferred maintenance. For instance, many retention schemes suffer from heavy siltation, which reduces their life span and the conveyance networks in dam command areas need to be rehabilitated.

4.27 Know-How. Technical know-how in agriculture requires upgrading as, over the past ten years, Iran has experienced a considerable lag in acquiring new technologies. Research expenditures were cut by more than 80 percent from 1979 to 1984 and, although budget provisions have now been restored, there is a backlog of work to catch-up on. The situation at the farm level is unclear; however, there seems to be a combination of technological, sociological and institutional factors hampering the

dissemination of improved know-how. Extension systems appear fragmented and weak, crop rotations appear to have deteriorated and the suitability of technical packages needs to be reviewed.

4.28 Institutions. The ministries and agencies in charge of agriculture are poorly coordinated in several areas, notably policy implementation in the field for extension, research, and irrigation, and pricing and tariffs. Field action seems to be an area of competition for MOA and MJ. The ability of the Jihad to mobilize energies cannot be doubted, nor its closeness to the rural populations and their needs and aspirations. However, its program is so broad that it may jeopardize its coherence, efficiency and sustainability as needs in the future will be quite different from those of a war economy. There is no unique entity or coordinating body in charge of irrigation policies. As a result, action is wanting for on-farm development and drainage, as well as for setting and collecting water charges.^{41/} All irrigation policies urgently need to be reviewed and coordinated. Pricing and tariff setting for agricultural products and inputs are handled by the Ministry of Commerce, under the supervision of the High Economic Council. The quality of the input from MOA needs to be reviewed.

4.29 Other key institutional issues which need to be resolved concern land tenure. Since formal titles were never distributed at the time of the first land reform, there has always been considerable worry over the long-term security of land ownership. Clearly, any long-term program of agricultural development based on private sector activity should state the Government's intentions in an unequivocal way; define the roles to be played by the private and the public sectors; and confirm or reconfirm private property titles. Property consolidation is also needed because of the many small and misshapen plots, which impair the modernization of cultivation practices. Any consolidation will take a very long time and should be started as soon as possible.

4.30 Credit availability does not seem to have posed a quantitative problem; however, the efficiency and financial viability need to be studied. Similarly, labor shortages, seasonal or otherwise, should be examined.

F. THE FIVE-YEAR PLAN

4.31 For the agricultural sector, the two basic objectives of the plan are food security and irrigation rehabilitation. Food security has been a goal since the revolution; it aims at ensuring self-sufficiency in basic staples for the fast growing population, fighting the increase in malnutrition, and freeing the nation from dependence on imports "which are in the hands of a few countries or multinational companies." The main instrument for achieving food security would be to ensure Iran's self-sufficiency in wheat, based on improved dry farming and water husbandry techniques. The plan envisages that irrigation systems would be provided or improved on close to 1

^{41/} Water charges for modern systems are set by the Ministry of Energy (under the Supervision of the High Economic Council) at very low levels; the charging system, which converts a contractual fee per cubic meter into a payment per ha, does not discourage overuse or waste.

million ha. The planned construction would aim essentially at saving water through covering open canals, rehabilitating the command area of dams and modernizing perimeters under traditional schemes. Efficiency in the new and rehabilitated areas would be increased to 45 percent, bringing the national average up to 35 percent. The need to increase the technological level of agriculture is also emphasized in the plan, with the twin objectives of increasing production and yields, as well as rural incomes. There are provisions for strengthening research, in particular for rainfed cultivation, and to train extension workers in disseminating more advanced technologies. The effort to improve technology would be shared between the Ministry of Agriculture and the Jihad, specifically for dry farming.

4.32 Generally, it seems that the above agricultural program is going in the right direction: raising the technological level of agriculture and improving yields are well chosen objectives. The major unresolved strategy issue is whether to give priority in resource allocation to irrigated or rainfed agriculture. There is no assessment of the comparative advantage of the various regions. A long-term choice seems to have been made in favor of irrigation, if one takes into account the number and size of the new dams to be constructed, as well as those already completed; however, the detailed water balance would have to be reviewed. No economic justification of the proposed investment is available. A second critical problem is centered on the institutional responsibility for deciding and implementing agricultural policies. The dichotomy between MOA and MJ will obstruct the realization of the Plan objectives and requires urgent resolution. Overall, there are some doubts that the plan can be carried out as is. The projected rate of growth of the agricultural sector is, indeed, in line with that of the past decade. There are doubts, however, about the continuation of such a growth rate. It is questionable whether technology changes can be brought to bear quickly enough to increase aggregate production elasticity. It is, therefore, likely that the continuation of current policies would result in shifts of resources among crops without substantial increases in output, and at a growing economic cost.

G. STRATEGY PROPOSALS

4.33 In order to protect capital inventory and to increase the economic rate of return of the resources put at the disposal of the sector, certain macroeconomic, investment, and irrigation adjustments are critical. Since macroeconomic policies are discussed elsewhere in this report, it suffices to say here that adjustments in the exchange rate, pricing, subsidies, and trade regulations can help to resolve the basic contradiction between the two essential objectives of the plan, i.e., the drive towards self-sufficiency in low value-added cereals and the effort to raise the technological level in the sector.

4.34 As to investment adjustments, several technical aspects of the First Five-Year Plan can be improved. First, investment should be redirected as much as possible towards the rehabilitation and completion of existing works. The economic justification of the dam construction program, from the standpoint of both agriculture and power, should be carefully studied. The

benefits from such schemes may take a long time to come, given the need for complementary investments. The dam construction program should be critically reviewed and resources diverted towards the deferred maintenance of reservoirs and conveyance canals and towards the construction of unfinished on-farm distribution networks, on the basis of a master plan defining economic priorities.

4.35 An action plan to address irrigation issues should be prepared and should include the following:

- (i) a program to complete networks and improve the technical quality of distribution structures;
- (ii) a review of the prospects and constraints for the increased use of groundwater; the almost trebling of the number of deep wells since pre-Revolution times raises the fear that certain aquifers may be depleted (e.g. the area south of Shiraz);
- (iii) an extension program for water management at the farm level, based on a study of the factors impairing current practices and a review of prospects for increased O&M cost recovery (farmers seem ready to pay more than they are presently asked, as evidenced by the increase in the use of expensive underground water)^{42/}; and
- (iv) a crash research program on the establishment and management of pressurized systems. The areas selected for development should be carefully chosen, as well as the techniques and requirements in terms of equipment and spare parts.

4.36 Certain institutional improvements should be implemented immediately. An umbrella organization should be established to coordinate the various agencies in charge of research, extension and training. Help is needed to resolve the socio-political problems which seem to hamper the utilization of modern techniques in both rainfed and irrigated areas.

^{42/}
water.

Estimates are that the cost of groundwater can be as high as 5 RIs per m³, as compared to 0.5 RIs per m³ in O&M costs for surface

CHAPTER V: INDUSTRY

A. INTRODUCTION

5.1 It should be recognized at the outset that Iran's industrial sector has now entered a transitional phase after over a decade of war, neglect and poor performance. These factors have also eroded the information base to assemble a coherent picture of the industrial sector. The task of rebuilding physical infrastructure and redesigning the policy and institutional framework is massive and complex. This is recognized both within the Government and by the people of Iran. During the 1980s, the industrial sector in Iran suffered negative growth, low capacity utilization, aging technology (except in oil-based industries), stiff regulations, a strong governmental role in industrial production and investment, and a stagnating private sector. To overcome these problems, the Government has to undertake a serious and consistent program of deregulation, a greater market orientation and competition, increased private sector participation, and trade liberalization. Starting in early 1991, the Government has made a beginning through gradual and specific reforms in the areas of foreign trade and exchange liberalization, deregulation of domestic pricing, governmental production and investment, the rehabilitation of existing viable industries, and to overcome institutional inertia.

5.2 The industrial sector in Iran accounts for 15 percent of GDP. Manufacturing value-added amounts to about 55 percent of industrial output. For most of the 1980s, industrial growth was negative (Table 5.1). Yet, industrial exports have shown a positive trend in recent years, increasing from about US\$20 million in 1982 to over US\$120 million in 1989 (Table 5.2). There are an estimated 350,000 industrial units in Iran, of which 13,000 are medium and large enterprises having more than ten workers. Medium and large industrial enterprises account for about 70 percent of industrial value-added. A vast majority of these enterprises are owned or managed by the public sector.

5.3 Iranian industry is heavily dependent on imported inputs: about 70 percent of all inputs are imported. Such dependence is highest in capital goods (85 percent), followed by intermediate products (70 percent) and consumer products (65 percent). Under the Five-Year Plan, the domestic production of intermediate and capital goods is emphasized, thereby reducing Iran's dependence on imports. However, large investments in import-substituting industries must be assessed carefully to ensure that they are economically viable and do not saddle the economy with heavily protected, inefficient and uncompetitive industries.

B. POLICY ENVIRONMENT

5.4 Several factors contributed to the last decade's poor performance of the industrial sector in Iran: the uncertainty associated with the prolonged war with Iraq; the predominance of the public sector in industrial

TABLE 3.1: ISLAMIC REPUBLIC OF IRAN: PRODUCTION INDEX FOR LARGE MANUFACTURING ESTABLISHMENTS (1982/83 = 100)

Year ended March 20	Weights	1980/81	1981/82	1982/83	1983/84	1984/85	1985/86	1986/87	1987/88	1988/89	First Half 1989/90
Food, beverages, and tobacco	13.65	95.1	95.4	100.0	109.4	114.0	120.7	104.1	95.2	92.6	70.8
Textiles, clothing, and leather products	26.83	76.3	93.3	100.0	115.6	120.2	121.8	102.4	95.3	84.6	74.6
Wood and wood products	1.22	83.9	75.8	100.0	107.0	116.2	102.3	96.4	99.6	97.2	88.4
Paper and paper products	2.40	84.3	74.3	100.0	116.4	131.7	117.8	81.2	77.7	88.2	83.0
Chemical, basic materials, and products	12.23	80.0	84.9	100.0	122.8	134.0	127.9	108.7	113.6	97.8	105.0
Nonmetal, mining products (except oil and coal)	12.36	77.3	86.6	100.0	108.5	114.7	116.6	108.5	115.3	108.4	112.5
Basic metals	5.75	89.5	81.5	100.0	148.5	171.4	166.1	133.6	105.0	109.0	103.6
Fabricated metal products, machinery and equipment	25.36	70.2	88.9	100.0	136.8	151.0	133.4	83.6	71.6	66.5	55.0
Other manuf. industries											
Overall Index	100.00	77.3	87.5	100.0	121.9	131.3	126.9	100.6	94.2	87.4	79.6

Note: Large firms are defined as those with more than 50 workers.

Source: Bank Markazi Iran.

TABLE 3.2: ISLAMIC REPUBLIC OF IRAN - COMPOSITION OF EXPORTS (EXCLUDING OIL) (in million US dollars)

	1980/81	1982/83	1984/85	1985/86	1986/87	1987/88	1988/89	1989/90
Agricultural and traditional goods	<u>601.7</u>	<u>255.3</u>	<u>295.0</u>	<u>371.0</u>	<u>780.7</u>	<u>990.7</u>	<u>770.3</u>	<u>894.4</u>
Carpets	425.1	67.0	88.8	115.1	356.0	482.1	308.8	344.7
Cotton	5.3	--	--	10.6	11.1	10.0	0.4	--
Fresh and dry fruits	61.9	78.8	79.8	113.3	272.4	271.7	252.6	319.1
All kinds of skins and leathers	49.5	40.6	48.7	60.5	60.6	103.0	78.2	94.2
Caviar	15.3	18.9	21.9	19.8	15.7	33.9	43.5	35.7
Casings	24.1	17.6	11.4	12.5	12.5	22.1	28.4	25.4
Gum tragacanth	0.4	2.3	3.1	2.1	2.1	1.7	1.7	2.0
Cumin	1.6	4.3	1.2	1.1	8.7	7.8	8.6	12.0
Others	18.5	25.8	39.1	36.0	41.6	58.4	48.1	61.3
Metal Ores	<u>19.5</u>	<u>7.1</u>	<u>38.8</u>	<u>30.0</u>	<u>24.9</u>	<u>38.3</u>	<u>32.8</u>	<u>26.9</u>
Industrial goods	<u>24.0</u>	<u>21.3</u>	<u>28.0</u>	<u>64.0</u>	<u>109.8</u>	<u>131.8</u>	<u>232.7</u>	<u>122.6</u>
Detergents and soaps	--	0.4	0.1	--	0.8	2.8	0.4	3.8
Inorganic chemical products	0.2	0.1	0.1	4.5	11.0	17.4	32.6	34.2
Shoes	2.8	1.7	2.8	3.0	1.4	4.4	0.2	0.3
Copper, ingots, sheets, and wires	2.7	--	--	29.0	60.8	41.8	143.3	17.0
Ready-made clothes, knitwear and all kinds of fabrics	10.5	9.6	14.3	8.8	15.4	9.9	6.9	5.4
Cement, stones, tiles and construction materials	0.1	3.4	1.1	0.8	3.3	10.2	4.5	6.2
Transportation vehicles	0.3	1.5	0.2	0.3	2.4	2.2	1.9	1.8
Others	7.4	4.6	6.9	17.6	14.8	43.1	42.9	53.9
Total	<u>645.2</u>	<u>283.7</u>	<u>361.1</u>	<u>465.0</u>	<u>915.5</u>	<u>1,160.8</u>	<u>1,035.8</u>	<u>1,043.9</u>

Source: Iran's Foreign Trade Statistics.

production and investment, and the subsequent crowding out of the private sector; negative effects from the then existing structure of prices and incentives, which did not encourage the efficient production or allocation of resources; cumbersome regulations and procedures which inhibited efficient industrialization and private sector initiative; the lack of institutional coordination, which fueled a sense of uncertainty in investment and management decisions; and a lack of resources to upgrade the technological base of industry.

5.5 Investment Incentives. Until recently incentives to encourage private sector investment were nonexistent. In fact there were many disincentives, as discussed earlier. The Government is developing ways to encourage private investment and provide institutional support. Tax exemptions are being offered to some investors. To get the full benefit from such incentives explicit criteria and guidelines for approving such incentives need to be developed further. The structure of incentives and protection must be rationalized to ensure a neutral investment climate for all viable productive activities and trade.

5.6 Exchange Rates. Normalizing exchange rates is perhaps the single most important issue facing the economy as a whole, and more specifically the industrial sector. Until recently, with the official rate of around 70 rials to a dollar, the parallel market rate fluctuated between 10 to 20 times the official rate. Several preferential exchange rates were applicable to exports and strategic and nonstrategic imports. Strategic imports were allowed at the official rate. Importers of consumer goods and inputs for these industries paid about Rls 800 per US dollar. Finished consumer goods and restricted import items could be imported at the parallel rate. Exporters were given about Rls 400 per US dollar. The exchange rate regime was essentially discretionary. In early 1991, the Government replaced this with three rates as described in Chapter II. With the recent changes the bulk of industry sector transactions take place at the free market rate of exchange.

5.7 Pricing Policy. Along with the policy of multiple exchange rates, prices were also controlled in Iran. Foreign costs of imports were determined on the basis of exchange rates which varied according to the type of import. The prices of inputs procured domestically were predetermined by the cost-plus method, which also specified profit and distribution margins. Consequently, the final price of a product depended on who the producer was and how production inputs had been purchased. Prices of interchangeable products varied widely in the market. There was hardly any price competition or incentive to reduce costs or increase efficiency. Managerial attention was limited to achieving break-even status and to meeting production targets. The pricing system, therefore, was a major obstacle to reviving industrial growth and private sector participation. Along with the partial rationalization of the exchange rate, the Government has also decontrolled prices for those items which are now using the Rls 600 per US dollar rate for their import requirements. The Government has also freed all non-oil exports from any surrender requirements for their foreign exchange earnings. As the number of items (32) which are presently imported at the official exchange rate are reduced, the Government also intends to liberalize price controls on these items.

5.8 Privatization. The role of the private sector has been relatively small, as a result of the pervasive government control of pricing, production and investment. Private entrepreneurs have been primarily active in the area of small-scale industry. In recent years private investment has concentrated on services and trade, rather than on manufacturing. Policy uncertainty and the unfavorable business climate (para. 5.4) have severely constrained private sector participation in the sector.

5.9 In recent months, the Government has encouraged the private sector to participate in rebuilding the economy and in reviving the investment climate. Some shares in large industries are being gradually transferred back to the private sector. The National Iranian Industries Organization (NIIO) and the Bank of Industry and Mines are taking the lead in privatizing assets held by them. While some initial positive steps have been taken to relax the policy environment, the privatization effort is likely to be a risky, expensive and long, drawn out process. There is a need to develop a clear privatization policy, strategy and program. Criteria for selecting enterprises to be privatized and a program for restructuring potentially viable enterprises have to be developed. The institutional structure and decision making process on privatization need to be spelled out. The approach to privatization up to now is protracted, based on a formula which requires a phased and limited transfer of assets; in each phase, only 15-20 percent of assets can be sold to private investors. A program also needs to be designed to include complementary policies and measures in restructuring, financing and the liberalization of pricing and trade policies.

5.10 Trade Policy. Trade policy in Iran was quite complicated, with import protection provided through quantitative restrictions and variable tariff and exchange rates. All imports for commercial purposes used to require an import license; there was a long list of "unauthorized" items and, in addition, there were hundreds of products subject to "conditional" status, which could be relaxed from time to time for specific imports. Imports of all goods that could be produced domestically were restricted. Where domestic production was lacking or inadequate, imports were allowed, subject to a wide range of tariffs and taxes. The sum of tariffs and taxes on many imports could exceed 500 percent of import value. The range of import tariffs and taxes on selected product groups is shown in Table 5.3. Actual tariffs and taxes charged appear to be determined on a case-by-case basis, and since the official exchange rate is used for custom valuation purposes, the effective duties are actually very low (import duty collections including special surcharges etc. were only 1.4% of GDP in 1990/91). Given the distortion in exchange rate policy, the restrictive trade policy and high tariffs followed. With the recent liberalization of exchange rates a reform of tariffs and trade regime is urgently needed.

TABLE 5.3: TARIFF AND TAX RATES ON SELECTED IMPORTS

	Tariff Rate (%)	Commercial Benefits Tax Rate (%)
1. Live animals and animal products	5- 50	10-200
2. Vegetable products	5- 70	5-225
3. Vegetable oil, canned food, etc.	5- 50	10-125
4. Food products, beverages, tobacco	0-100	15-350
5. Mineral products	3- 45	5- 85
6. Chemical and related industries	0-100	0-250
7. Artificial plastic, tire, linoleum	0-100	0-100
8. Skin, leather	20-100	0-200
9. Wood, cotton, straw products	0-100	0-225
10. Paper and cardboard	0- 50	0-150
11. Artificial fiber, silk, cotton, etc.	0-100	0-300
12. Shoes, hats, artificial flowers	25- 50	260-300
13. Stone, concrete, cement	10- 75	5-440
14. Pearl, precious stones, and metals	0-100	0-400
15. Metals and artificial metals	0-100	3-300
16. Mechanical and electrical machinery, etc.	0- 30	0-220
17. Moving vehicles and parts	0- 75	0-355
18. Optical instruments, watches, stereo, TV	0- 50	0-200
19. Guns, artilleries, etc. -- all forbidden	50	50-150
20. Other	0-100	0-300
21. Collector's items (art and antiques)	50	100

Source: Ministry of Commerce, "Rules and Regulations of Trade," 1988.

5.11 The composition of Iran's imports (Table 5.4) shows heavy concentration on intermediate and capital goods, amounting to about 80 percent of total imports during the 1980s. Imports of consumer goods account for the remaining 20 percent. The share of industry and mines has been about 60 percent of total imports.

TABLE 5.4: ISLAMIC REPUBLIC OF IRAN - COMPOSITION OF IMPORTS
(in million US dollars)

	1980/81	1982/83	1984/85	1985/86	1986/87	1987/88	1988/89	1989/90
Raw materials and intermediate goods	<u>6.207</u>	<u>6.861</u>	<u>8.310</u>	<u>7.411</u>	<u>5.461</u>	<u>5.498</u>	<u>4.829</u>	<u>7.548</u>
Industries and mines	4,580	5,321	6,065	5,570	4,017	4,161	3,492	5,859
Construction	517	436	576	391	405	407	424	488
Services	770	679	1,224	1,136	724	644	596	748
Agriculture and animal husbandry	340	425	445	314	315	286	317	453
Capital Goods	<u>1.738</u>	<u>2.308</u>	<u>3.867</u>	<u>2.421</u>	<u>2.199</u>	<u>2.209</u>	<u>1.869</u>	<u>2.915</u>
Industries and mines	882	1,183	1,849	1,110	1,190	1,223	1,128	1,375
Services	708	922	1,808	1,078	887	954	665	1,421
Agriculture	148	203	210	243	122	32	76	119
Consumer Goods	<u>2.899</u>	<u>2.676</u>	<u>2.317</u>	<u>1.576</u>	<u>1.695</u>	<u>1.662</u>	<u>1.479</u>	<u>2.344</u>
TOTAL	<u>10.844</u>	<u>11.845</u>	<u>14.494</u>	<u>11.408</u>	<u>9.355</u>	<u>9.369</u>	<u>8.177</u>	<u>12.807</u>

Source: Islamic Republic of Iran, Foreign Trade Statistics. These data, based on customs recording, differ from Balance of Payments data.

5.12 Although import charges are not applied consistently, total charges (customs duties and taxes) ranged between 10 and 15 percent of the total value of imports during the 1970s and between 15 and 28 percent during the 1980s (Table 5.5). The relative importance of import taxes has also increased in recent years, often exceeding the customs tariffs collected.

However, it should be borne in mind that, during the 1970s, the exchange rate was free and uniform whereas a controlled multiple exchange rate system prevailed during the 1980s. Consequently, import tariffs and charges are not comparable between the two decades.

TABLE 3.5: ISLAMIC REPUBLIC OF IRAN - SUMMARY OF IMPORT CHARGES
(in billion rials)

Year	Value of Imports	Customs Tariff Paid	Other Charges Paid	Tariffs and Charges as % of Import Value
1974	448.1	34.0	21.8	12
1975	800.8	46.3	31.2	10
1976	901.8	67.8	37.0	12
1977	1,034.2	94.6	51.5	14
1978	732.3	67.2	38.5	14
1979	684.5	61.7	33.9	14
1980	776.8	100.9	50.8	19
1981	1,082.0	103.5	55.0	15
1982	1,002.3	78.0	78.0	16
1983	1,892.0	128.7	142.7	16
1984	1,262.8	139.1	136.7	22
1985	1,058.3	106.8	112.9	21
1986	688.2	76.0	119.0	28
1987	658.9	67.3	84.6	23
1988	567.9	51.4	55.6	19

Source: Ministry of Commerce.

5.13 Foreign Investment. The door to foreign investment is being opened in Iran, with the exception of some "strategic" industries such as oil. The objectives are to attract foreign capital and technology, and open markets for non-oil exports. The major task ahead is to reestablish a favorable investment climate. Some signs of recovery are already evident. External assistance from Japan is under discussion, including \$1 billion for the rehabilitation of the Bandar Khomeini Petrochemical Complex (total cost \$4.5 billion). Assistance from South Korea and some European countries is also expected in this major rehabilitation program. Export credit cover has been reinstated by Germany and France. Trade and investment discussions are also underway with China, Canada, Sweden, Italy, Turkey and Australia. A comprehensive trade agreement was concluded with the Soviet Union in mid-1989, covering trade and investment in petrochemicals, metallurgy, machine tools and building materials. Similarly, a trade agreement with China, based on convertible currencies, includes the paper and tire industries, as well as other manufacturing plants. There are also other bilateral agreements in the power sector.

C. SECTOR ORGANIZATION

5.14 Until the most recent changes to peace-time policy environment, private sector involvement was limited to small-scale industry in Iran. Medium and large industries fell under the public sector, for ownership and/or management. Various ministries, banks and other organizations are responsible for segments of the industrial sector, but this situation is being changed. The Government's primary role in industry is divided among three ministries: the Ministry of Industries, the Ministry of Heavy Industries, and the Ministry

of Mines and Metals. All three ministries are involved in the execution and management of medium and large industrial projects.

5.15 Ministry of Industries (MOI). MOI has broad responsibility for industrial development and supervises a large number of industrial units. Six departments oversee different subsectors including textiles, food and pharmaceuticals, chemicals, electrical and electronic products, and certain mineral and nonmineral products. MOI also certifies eligible projects for start-up or expansion. With about 150 staff, MOI conducts industrial surveys at the provincial level and makes factory visits.

5.16 The main executive body of MOI is the National Iranian Industries Organization (NIIO). NIIO was established after the revolution when it inherited about 500 medium and large companies that were nationalized. Of these, about 100 companies were transferred to the direct control of the 3 ministries and 50 to the private sector. Of the remaining 350 companies under NIIO, 250 are in manufacturing and 100 in the service sectors. NIIO companies are divided among nine subsectoral departments. Total employment in these companies stands at about 140,000. NIIO retains 2 percent of gross sales from all companies which are managed, without regard to cost efficiency or managerial accountability. The NIIO companies are heavily import-dependent. Their average capacity utilization rate is less than 50 percent of installed capacity. It is anticipated that NIIO will retain its control over large "strategic" companies and privatize the remainder. NIIO plans to privatize about 100 companies through the Teheran Stock Exchange, and some others directly on its own. Meanwhile, additional new projects are to be implemented by NIIO. Eventually, it is expected that NIIO will have control over 150-200 large industries at all times, probably concentrating on industries producing intermediate products. This strategy needs to be reevaluated and consideration given to privatize all NIIO holdings.

5.17 Ministry of Heavy Industries (MHI). The main responsibility of MHI is the planning, expansion and operation of heavy engineering industries, including transport vehicles, machine tools, shipping, construction machinery and other metal products. The MHI controls a large number of companies (about 10,000), although only some 200 of these can be called major industrial units (producing some 85 percent of the value added). All of the smaller units and a substantial proportion of the larger companies are managed by the private sector. Although some companies in these subsectors are controlled directly by the Ministry, most come under the purview of the Ministry's main executive body--the Industrial Development and Renovation Organization (IDRO)--an organization parallel to NIIO in the Ministry of Industries.

5.18 Ministry of Mines and Metals. The main responsibilities of this Ministry are the expansion of geological exploration and mining, and the development and operation of metallurgical and steel industries. Apart from hydrocarbons, Iran's main mineral resources are iron ore, coal, copper, lead, zinc, bauxite and phosphate. Exploration efforts are planned or underway in these areas, and major capacity expansion is expected over the next 5-10 years. About 100 exploration projects are included in the FFYP.

5.19 In addition, there are a number of other government organizations involved in the industrial sector. The Ministry of Oil and Gas covers petrochemicals and oil refineries. The Ministry of Armed Forces and Logistics controls many industrial units producing tools and supplies for the army. The Oppressed and Veterans Foundation covers a large number of industries which were transferred from the former Pahlavi Foundation. The Ministry of Jihad has responsibility for entrepreneurship development in small-scale industries, in addition to a variety of other programs for the development of rural infrastructure. A large number of industrial units are also under the control of other technical ministries and various foundations. Specialized and commercial banks are partners in numerous industrial projects.

5.20 The Teheran Stock Exchange (TSE) was established in 1968. In the following ten years, it witnessed phenomenal growth. The level of transactions increased from 13 million rials in 1968 to 44 billion rials in 1977. However, transactions declined after the revolution. They dropped to 4 billion rials in 1979 and to a low of 9 million rials in 1983. With the modest beginning of the privatization effort in the mid-1980s, TSE gradually became more active. In 1987, total transactions reached 1.7 billion rials. As policy reforms were stepped up from 1989, the TSE growth boomed and total transactions exceeded 50 billion rials in 1990/91. A number of industrial units under NIIO control are being offered for phased privatization through TSE.

5.21 TSE policies are directed by a nine-member council, and its operations are managed by a five-member Board of Directors. Companies accepted by TSE should have at least 75 percent Iranian ownership and be incorporated as a public joint-stock company, with at least 100 shareholders and no one holding more than 10 percent of total shares. The company should be engaged in economically useful activities and have management approved by the TSE Board.

5.22 Institutional Issues. The main institutional issue in Iran's industrial sector is the absence of policy coordination for the sector as a whole. Different ministries cover different aspects of industry. They are engaged primarily in implementing and supervising industrial projects. Their preoccupation with operational matters concerning the companies under their supervision does not leave much time for policy analysis and formulation. Although industrial issues are discussed at various levels, coherent industrial policies and a clear incentive structure are needed. An analytical framework must be developed and consistently applied to matters of pricing, investment, trade, and finance. Even where rational policies are being developed, such as in the area of privatization, complementarity with pricing, exchange rate, tariff and tax policies are essential for success. Development of such policy complementarities are at their early stage now. The time is ripe for the Government to quickly review the institutional structure for industry and make appropriate changes to strengthen policy-making and coordination in the sector, separate policy function from the operational function for the publicly-owned industrial enterprises, streamline administrative procedures, and reassess the number of organizations involved in the sector and their respective roles.

D. THE FIRST FIVE-YEAR PLAN (FFYP)

5.23 The FFYP (1989-93) recognizes recent developments and the rehabilitation needs in the industrial sector. It sets out ambitious goals for growth and policy reforms; however, more attention is needed to ensure correspondence between objectives and policy, and between stated policies and their implementation.

5.24 The general objectives of the industrial sector are to reduce dependence on imported inputs, upgrade the technological base, encourage non-oil exports, rehabilitate damaged and underutilized industrial capacity, and improve sector management. Investment priority is given to intermediate and capital goods industries in order to reduce such imports and upgrade indigenous technology. Expanding the role of private entrepreneurs and small-scale industries is also mentioned in the plan. A total of US\$20 billion is expected to be invested in industry by the Government, with a further US\$8 billion expected in private investment. The large amount of public investment outlay called for in the FFYP and the relatively small contribution from the private sector are causes for concern. The Government should consider ways and means of generating a private sector led industrial sector growth.

5.25 After negative growth during the 1980s, the plan stipulates a growth target of 14.2 percent p.a. during the plan period. Within the sector, the plan anticipates a shift away from consumer products toward intermediate and capital goods. The share of consumer products in manufacturing value-added is to decrease from 45 percent in 1989 to 28.6 percent in 1994; the share of intermediate goods to grow from 49 percent to 63.1 percent, and capital goods to grow from 6 percent to 8.5 percent. The respective annual growth targets are 4.2 percent for consumer products, 20 percent for intermediate goods, and 24 percent for capital goods. A large part of this growth is expected from an increase in capacity utilization: from about 40 percent in 1989 to 62 percent by 1994. In addition to these high-growth targets, the plan stipulates that non-oil industrial exports would generate \$9 billion in foreign exchange over the five-year period.

5.26 Most consumer goods industries are projected to grow at the rate of population growth, except dairy products, sugar, pharmaceuticals and textiles, where higher growth rates are targeted. About 10 percent of the total plan investment is allocated to consumer goods. The share allocated to the intermediate goods industries is about 70 percent. High-growth, intermediate product groups include iron and steel, non-ferrous metals, paper products, synthetic fibers, chemicals and fertilizers. Many large projects in these areas are being implemented or planned. Capital goods industries, another high growth area, has been allocated 20 percent total fixed investment to support projects in agricultural machinery, transport vehicles and equipment, electrical machinery, and power generation equipment. The foreign exchange components of investment are \$4.2 billion for consumer goods, \$8.4 billion for intermediate goods and \$5.9 billion for capital goods. Some expenditures are also planned for rural industries, both for renovation and new capacity. Technology is also mentioned in the plan, but not much beyond an emphasis on heavy industries and on basic research and development.

5.27 Various labor and tax laws are to be reviewed with the intent of granting exemptions and other privileges to increase the profitability of large, import-substituting industries. This is an area where caution is necessary in order to avoid supporting inefficient industries solely because of their import-substituting function. Instituting a structure of incentives to promote efficient industrialization would require considerably more analysis before policies could be set in motion. Similarly, all significant investment projects must be carefully appraised and economically justified using appropriate exchange rate and input/output costs. Projects viable in the existing regime could quickly become a burden on the economy and a drain on public resources after the pricing policy and the exchange rate are fully adjusted. Thus, it is critical that the Government announce its medium-term policy goals in matters of pricing, trade, exchange rate, incentives and private sector involvement so that the potential investors base their decisions on appropriate price signals. If public investment is indicated (because all efforts to attract private sector fail) rigorous procedures for screening of all major investments based on economic criteria would help ensure that heavy capital-intensive industries are not promoted automatically when greater returns could be achieved by restructuring or rehabilitating viable existing industries that are underutilized and would not require large investments to generate growth.

5.28 The plan sets the target of a 14 percent annual growth in industrial output and a several-fold increase in non-oil industrial exports. However, the supply response necessary to generate the high growth in output and exports will not materialize by waiting for policies to be set right. Even if all major policy reforms--including the liberalization of foreign exchange, trade protection, domestic prices and private ownership--are implemented early in the plan period, the impact on both the growth in output and exports is unlikely to be quick enough to achieve plan targets. Additional measures are also required to increase capacity utilization, without large investments, and to remove the input constraint on those industries which are likely to be viable under a liberal pricing and trade environment. Technical assistance may be required to select this group of industries, to prepare the program for the delivery of inputs, to improve management and the production process, and to ease the availability of raw materials and spares in a selected "core" group of industries. In addition to the changes in the exchange rates, the Government last year allowed some US\$ 6 billion worth of imports of raw materials for the medium and heavy industries, thus mitigating the problems of raw material shortages and capacity utilization to a certain extent.

5.29 Although the plan stipulates ambitious growth targets based partly on increasing capacity utilization, the need for restructuring or rehabilitating many existing industries has not been considered fully. Similarly, the emphasis on import-substitution in intermediate and capital goods industries has been put forward without due consideration to the cost of protection in terms of losses in efficiency and competitiveness. The potential role and benefits of private sector participation may not be harnessed if industry remains dominated by the Government. While taking encouraging steps in the areas of exchange rate, pricing and trade policies,

the Government also needs to act rapidly with respect to institutional reform, approaches to private sector development, and a privatization program. In these areas, and on the technology front, considerably more preparatory work is needed to develop suitable action and implementation plans.

5.30 Another important area deserving early attention is the complementarity among policies and objectives. For example, the privatization program has to be accompanied with continued liberalization of pricing policy; the development of non-oil exports sector would require completing rationalization of the exchange rate regime; and a greater utilization of existing capacity must be based on a careful screening of potentially viable industries, assuming rationalization of the exchange rate and the decontrol of prices, and on the technical and financial restructuring of these enterprises. In other words, it is necessary to formulate and effectively carry out policies that facilitate the achievement of plan objectives, and to modify these objectives if their achievement seems improbable or proves too costly to the economy.

E. CONCLUSIONS

5.31 The industrial sector in Iran is now at a turning point. After years of negative growth, the sector has the potential to achieve high growth rates; however, whether high growth would be sustainable in the long run remains open to question. The environment in which the industrial sector operated in the 1980s was heavily distorted by quantitative restrictions, price controls, foreign exchange allocations, public sector dominance and a apathetic private sector. Today, Iran has a sizeable industrial base consisting mainly of import-substituting industries operating, on average, at less than 50 percent of installed capacity. Thus, potential for a quick increase in output exists and should be exploited urgently. A large portion of the industrial sector as a whole, and the vast majority of medium and large industries, is currently owned or managed by the public sector, although a policy to divest public ownership is to be pursued. A transformation of this ownership structure to significantly increase private sector share will have important economic benefits and this issue would continue to be emphasized.

5.32 The recent, as well as the envisaged, exchange rate policy reforms will have profound impact on the industrial sector. When an appropriate and unified foreign exchange policy is finally adopted, many of the heavily import-dependent industries would face difficult restructuring. Currently, inputs for most consumer goods industries and many finished products are imported at a mix of different exchange rates, generating a variety of market signals and market prices depending upon what rate of foreign exchange and what pricing regime the various industries come under. Unification of exchange rate is urgently needed to provide a uniform signal to current and potential investors. Given the magnitude and direction of the exchange rate adjustment it can be expected that the profitability of import substitution industries with high local content will significantly increase. This will represent an important area for new investment and growth.

5.33 The Government is making serious and laudable efforts to reformulate industrial sector policies and to launch the sector on an efficient growth path. These efforts are focussing on a number of problem areas. First, the exchange rate reforms will provide a much needed boost and right signal to the industrial sectors. Second, the administrative procedures and regulations affecting industrial investment, production and trade are going to be simplified. Third, several measures to encourage non-oil exports (of which, 10% - 15% comprise industrial goods) are under consideration, including tax-free and simplified procedures for exports, institutional support measures in the form of a foreign exchange revolving fund, and an export development fund. However, these measures need careful study. Experience elsewhere suggests that a realistic exchange rate is the best and most powerful incentive for generating exports. In the absence of such an exchange rate the incentives do not help. Also, in the area of export development, complementary institutional measures should proceed hand-in-hand with measures to phase out distortions in input and output prices. Some of the measures needed to boost exports are in the process of being introduced; the first steps have been taken towards the unification of the exchange rate and prices of certain industrial outputs have already been decontrolled. The Government intends to act on the remaining agenda in the next two years.

5.34 With the liberalization of pricing and foreign exchange policies, many industries, which have survived under restrictive and protective conditions, would need technical, financial and operational restructuring in order to adjust to the new environment. Some industries, where such restructuring is not feasible, may have to give way to new industries which are competitive and based on Iran's comparative advantages.

5.35 The FFYP contemplates a large amount of investment in the industrial sector. To ensure that investments are compatible with, and viable in, the competitive policy and market environment now taking shape, it is imperative that all major new investments in industry are economically justified at a realistic rate of foreign exchange. For this purpose, it is important that the government prepare and announce its medium term policy objectives in areas such as pricing, trade incentives, exchange rate, private sector development and private sector policies. The Government should also exercise extreme caution in undertaking new public sector investments in the industrial sector and should instead, design and implement measures to stimulate private sector investment. In case some public investment in industry is deemed absolutely necessary it should be subject to a rigorous economic and commercial evaluation.

F. REFORM AGENDA AND STATUS

5.36 The three interrelated needs of Iran's industrial sector are: policy and institutional reform; greater participation by the private sector and the infusion of market forces; and the rehabilitation of viable existing enterprises through technological uplift. The Government has started addressing some of the issues. The status of these necessary reforms and further action necessary are summarized below:

Policy and Institutional Reform

- (i) Reforms in the exchange rate, pricing policy, and trade liberalization need to be continued. The exchange rate should be unified at a realistic level. Input/output pricing based on the cost-plus approach should be done away with. Import protection should continue to be relaxed to increase efficiency and competitiveness and to reduce the burden of unviable, but protected, industries. First steps towards a gradual unification of the exchange rate have been taken. Input/output prices for industries affected by the revised exchange rate policy have been decontrolled substantially. The Government intends to review the system of tariffs in the near future.
- (ii) The Government ought to review the institutional framework in the industrial sector and implement the changes necessary to strengthen policy planning and coordination, reduce the predominance of the public sector in industrial production and investment, increase private sector ownership and activity in the sector, and curtail the risk of existing institutions working out of harmony with sector objectives. The Government is only starting to focus on this very important issue.
- (iii) In addition to simplifying the regulatory environment for domestic investment, a clear statement of policy and procedures would be useful for foreign investment and joint ventures to facilitate the transfer of technology and strengthen the existing technology infrastructure. The Government is finalizing a policy document towards this end.

Private Sector Development

- (iv) A review should also be done of the potential role to be played by private entrepreneurs and the institutional support to be provided by the public sector, followed by the implementation of chosen programs in these areas. For instance, out of the 85 organizations which are presently under IDRO's control, only 10 are expected to remain so by the end of the next five year plan. This is an area which will need further detailed study and the Government may wish to seek technical assistance in this regard.
- (v) The privatization programs being initiated by various organizations in the industrial sector require some direction and assistance. There is an urgent need to develop a clear privatization policy and strategy and establish appropriate institutional structure and procedure to enable efficient implementation. Without appropriate policy complementarity, proper phasing, and financial and technical backing, the privatization program could remain protracted. This issue could be addressed along with study mentioned in item (iv) or can be the subject of a separate study.

Industrial Restructuring

- (vi) To generate a quick supply response, while privatization and restructuring are being pursued, a program is needed for increasing the production in those enterprises that produce some of the basic consumption goods and who have underutilized capacity. For such enterprises a "crash program for increasing production" should be launched. In parallel, a review of these enterprises' long-run viability and privatization prospects should be undertaken. The Government intends to seek both technical and financial assistance to achieve this objective.

CHAPTER VI: ENERGY

A. INTRODUCTION

6.1 The energy sector is expected to play an important role in the reconstruction of Iran. Oil revenue plays a major role in the economy as it has been the primary driving force behind GDP growth. The deterioration of international oil prices, starting in 1982 and accelerating in 1986, had a substantial impact on Iran's economy. The decline in oil revenue from oil price decreases was further exacerbated when oil facilities became primary military targets during the war with Iraq. Until 1990 Iran was not able to increase oil production to meet its OPEC quota. However, as world oil demand continues to increase and output from non-Opec countries decreases, oil pricing over the medium term is expected to revert once again to OPEC. Unless world oil prices remain high for an extended period of time^{43/} or increase dramatically (which is generally considered unlikely), only four countries are expected to have the capacity to respond to increased demands for oil: Saudi Arabia, Iran, Iraq and possibly Kuwait. Therefore, over the medium to long term, Iran is in a relatively healthy position with regard to oil revenue.

6.2 The revenue from oil exports is expected, to a limited extent, to be complemented by gas exports to the USSR. Gas exports were restarted in March 1990 after a ten-year hiatus and are expected to average 3 billion cu. m/yr (BCM), with the possibility of increasing to 10 BCM. Revenues at the current rate of export are expected to earn Iran about \$300 million per year^{44/}. As Iran has the second largest natural gas reserve in the world (second to the USSR), the potential for export revenues and domestic interfuel substitution is considerable.

B. INSTITUTIONAL STRUCTURE

6.3 The energy sector falls under two ministries: the Ministry of Petroleum and the Ministry of Energy (power and water). Within the Ministry of Petroleum, the National Iran Oil Corporation (NIOC) is responsible for the development of oil reserves and the distribution of petroleum products; the National Iran Gas Corporation (NIGC) is responsible for natural gas development; and the National Petrochemical Corporation (NPCorp.) is responsible for the petrochemical facilities.^{45/} The Ministry of Jihad also plays a role in the energy sector as it is responsible for extending the distribution of electricity and petroleum products to the rural areas. It has been quite successful in accelerating the electrification of new villages

^{43/} Oil prices during the first half of 1990 were low due to overproduction by some OPEC members. The prices surged up in the latter half, but are now expected to be about \$20/bbl in the medium term.

^{44/} At the time of the mission, the selling price had not been finalized.

^{45/} Within NIOC there are four subsidiaries: the Iran Offshore Oil Company (IOOC); the National Iranian Tanker Corporation (NITC); the National Iranian Drilling Company (NIDC); and Khala Nafi, a company responsible for trading in oil products. NIGC has one subsidiary that is responsible for looking into the export potential of Liquefied Natural Gas (LNG).

during its first nine years. In the First Five-Year Plan period, the ministry proposes to connect 10,000 new villages to the grid, an achievable goal given that 940 villages have been electrified during the first nine months of FY89/90.

C. DEMAND FORECAST

6.4 Domestic demand for petroleum products accelerated rapidly during the 1970s, from 165 thousand barrels per day (TBPD) in 1970 to 545 TBPD in 1979, for an annual growth rate of about 14 percent. As a result of the war, consumption grew during the 1980s at the much more modest rate of 6.6 percent, reaching 852 TBPD by 1988. During the First Five-Year Plan, the annual growth rate is expected to decrease to 6.1 percent, largely due to the increased penetration of natural gas in the domestic market. With a population growth of about 3.2 percent per annum, continuing growth in energy consumption can be expected. However, as the Government has stated, it intends to reduce subsidies in general (which presumably would include domestic energy prices) and increase the supply of natural gas; domestic demand for petroleum products should, therefore, be modest.

6.5 The domestic consumption of natural gas has grown at an irregular pace. Because natural gas has been supply constrained, it has been difficult to forecast demand. However, given that the Government has set a goal of doubling the number of cities supplied by natural gas, from 100 to 200 during the plan, natural gas consumption is expected to accelerate rapidly. This growth in residential consumption would be augmented by the implementation of gas-fired thermal power stations, particularly base-load combined cycle plants, and by exports.

6.6 Electricity sales in Iran increased by 10 percent per annum over the FY80-88 period, despite the impact of the war on industrial growth. During this period, agricultural consumption grew at 20 percent per annum and industrial consumption at 3.7 percent. However, this trend is expected to be reversed with industrial electricity consumption projected to grow at an annual rate of about 20 percent. With a relatively large growth in industrial consumption, the system load factor is forecast to stabilize at about 60 percent, decreasing the relative size of the peak of the demand curve and thus increasing the utilization of the capital stock, which would lead to the reduction of the total cost of supply. In the period immediately following the war, up until about October 1989, there was substantial load shedding resulting from damage to the physical assets in the sector. The high priority given to reconstruction resulted in the power system becoming marginally stable as of March 1990, with rotating blackouts. A considerable level of suppressed demand still exists.

6.7 Over the first plan period, electricity sales are projected to grow at an annual average rate of 9 percent, led by industrial sector growth (20 percent). Sales are expected to be even higher should the supply constraint problem be resolved. Assuming the Government's projected growth in the economy of 8 percent per annum, the implicit GDP elasticity of electricity demand of 1.1 is unusually low for an economy expected to rebound after ten

years of war. This reflects an expectation that the sector will remain supply constrained. On the other hand, the GDP growth forecast appears to be optimistic, which would indicate that the projected growth of electricity sales of 9 percent may be too high.

D. RESOURCE BASE

6.8 Iran has one of the largest hydrocarbon asset bases in the world, with about 93 billion barrels of proven crude oil reserves (the fifth largest supply in the world, representing about 9 percent of the world's total) and about 17 trillion cubic meters (TCM) of natural gas (the second largest supply in the world behind the USSR, representing 12.2 percent of the world's total). At production rates for oil of about 3.2 million b/d, the reserves to production ratio is about 80 years. In addition there is reasonable potential for increases in reserves with further exploration. The production of natural gas in 1989 was about 30 BCM, for a reserve to production ratio of a staggering 567 years! Exports to the USSR, which resumed in March 1990, could increase to 10 BCM/yr. Although this would dramatically increase production levels, the reserve to production ratio would still remain above 400 years. The exploitation of natural gas resources needs to be refocussed, especially given the fact that about 30 percent of total gas production in 1989 was flared.

6.9 Oil revenues have the potential for modest growth in Iran. World oil consumption continues to grow at a rate of about 2.8 percent per annum, partly driven by low oil prices (in real terms, crude oil is selling below its 1974 price level) and partly by environmental and safety concerns associated with nuclear and coal technology. Many of the oil exporting countries are expected to require substantial capital outlays and technical assistance to increase production. Iran is, therefore, in a good position to respond to increased demands in the global oil marketplace.

6.10 Iran's hydroelectric potential is also substantial, amounting to about 20,000 MW on the Karun and Karkheh rivers alone. Two sites have been studied at prefeasibility level and one at feasibility level on the Karun River. The Government has invited bids for the implementation of the Karun III Project which are under evaluation. With the extensive developments proposed for the Karun River watershed, a comprehensive watershed development plan is urgently needed. Environmental and resettlement aspects need to be reviewed in the context of a water resource management study to establish the optimal sustainable development of the Karun River system and the potential for increased benefits through conjunctive operation of reservoirs.

6.11 The Government has adopted a policy of increasing the exploitation of its enormous natural gas reserves for domestic consumption and exports. In relative terms, natural gas is expected to be the fuel of the future for Iran, given the size of the resource and its relatively acceptable impact on the environment. There is substantial potential for the export of natural gas to Europe (either using the USSR conduit or via Turkey) and to Pakistan and/or India. A study of the feasibility of a gas pipeline to Pakistan is currently being contemplated.

E. CAPITAL STOCK

6.12 Capital stock in Iran has been hard hit during the past ten years. Many of the oil refineries were primary targets during the recent war, along with some of the electricity generating stations. Since the end of the war, the Government has put high priority on a reconstruction effort, and some refineries have already undergone the first phase of their redevelopment. In the power subsector, the reconstruction effort has made substantial progress in decreasing the load shedding problem.

6.13 In addition, some dams appear to be unstable, and unacceptably large earth movement has been detected at certain sites. The cause of this movement is not known, but war, seismic events, inadequate geotechnical analysis at the feasibility and design stage and/or poor detailed design may be at the root of the problem. The Government has initiated a monitoring system of these dams to detect the extent of the problem and possible solutions. It is strongly recommended that a panel of experts be engaged to examine the safety of these dams.

6.14 As a result of the financial constraints imposed by the war, investment and maintenance were also deferred. Much of the capital stock is in dire need of rehabilitation to bring the equipment back to its design capability. The generating stations are generally running at unacceptably low levels of efficiency, with about 2,400 MW (17 percent) of the installed capacity operating at efficiencies of less than 25 percent. Outages due to equipment breakdown are excessive as a result of deferred maintenance and the lack of spare parts. Given that the effective load-carrying capacity of the system is only about 9,000 MW, with an installed capacity of about 12,000 MW, there clearly is the potential for solving the current supply/demand gap by upgrading capital stock.

F. RESOURCE MOBILIZATION

6.15 Given that Iran is still primarily an oil economy, this sector will be of crucial importance in reviving economic growth. The crude oil production rate during 1989 was about 5 percent less than Iran's OPEC quota. The Government has conservatively estimated that foreign exchange revenues from this subsector would amount to \$76 billion during the first plan. By gradually reducing the import of petroleum products during the plan period, the Government is trying to ensure that all domestic consumption would be met by production from indigenous refineries by the end of the plan. In addition, the growth in the domestic consumption of petroleum products is expected to be curtailed by substituting increased natural gas supplies for oil. This would not only benefit the economic cost of the energy supply but would also help reduce the environmental problems in major cities (particularly Tehran).

6.16 The power subsector has improved its capacity in a short period of time. Blackouts, which were reported to be as long as six hours a day in some parts of Tehran during 1989, now are under control. However, given that the

current peak demand of about 9,000 MW is only marginally capable of being met with an installed plant capacity of about 12,000 MW, substantial potential for increasing the output of the existing system still exists. The reconstruction element of this exercise is currently being given top priority; it should be complemented with a rehabilitation program which increases the reliability and efficiency of existing plants. It is strongly recommended that a study of the rehabilitation needs of the sector be initiated as soon as possible.

6.17 The proposed investment plan for the first and second plan periods was cursorily reviewed, revealing some projects whose economic merits appear to be questionable. As a component of a generation investment program, a least-cost plan is usually analyzed in detail to assess the relative merits of alternate investments in a system-wide context. Such an analysis has not been undertaken for the First Five-Year Plan. It is highly recommended that such an analysis be carried out as soon as possible in order to reassess the proposed investments for both the First and Second Five-Year Plans. It is recommended that a consultant who is fully conversant with computer models be engaged to assist in completing this task and in training counterpart staff. In particular, given the abundance of natural gas in Iran, the option of increasing generation capacity fueled by natural gas should be directly addressed by such a study.^{48/}

G. PRICING

6.18 Iran suffers from the same problem as most other oil producing countries: the domestic prices of most petroleum products are heavily subsidized in terms of their opportunity cost. This problem has been seriously exacerbated by the overvaluation of the exchange rate. As of May 1991, kerosene, gas oil and fuel oil are all sold at less than 10 percent of their international equivalent, the result of only one price increase in the past ten years (March, 1986). Gasoline, on the other hand, had been priced close to its international equivalent, when the trade weighted average value of the Rl was estimated at about 300 Rls/\$. However, based on an exchange rate of 600 Rls/\$, gasoline would be priced at about half of world prices. Given that Iran is expected to import many petroleum products until the end of the First Five-Year Plan when refinery reconstruction is expected to near completion, the Government is carrying the burden of large financial subsidies. The fuels that are the most heavily subsidized are the primary targets for substitution by natural gas. Hence, a targeted acceleration in price increases for these products would be warranted to create appropriate incentives for consumers to switch to gas use. Should the Government wish to retain energy price subsidies to protect the poor from the shock of price adjustments, energy price increases should be focussed in such a manner so as to ensure that the beneficiaries of such a scheme are the poor. This approach to energy price reform would have three primary benefits: (i) increasing the revenue base for the sector and, hence, the budget; (ii) decreasing the growth

^{48/} The Ministry of Jihad proposes to undertake an ambitious (10,000 new villages) rural electrification program during the plan period. This program should be closely coordinated with the supply-side development program to ensure sufficient capacity in the system to meet the growing demands of this subsector. Because of the relatively low load factor that typically characterizes such developments, it is important that plans to mitigate this potential problem (such as load management or time-of-use pricing schemes) be proposed at the design stage.

in consumption, thus freeing up more petroleum products for export; and (iii) reducing air pollution.

6.19 Given the immense size of the resource base relative to demand and the large extent of natural gas flaring, natural gas prices should reflect the long-run marginal cost of supply (because of the large reserve to production ratio the depletion premium is negligible). NIGC has calculated that the cost of supply at the plant fence to be about 1.0 Rls/cu.m. for offshore fields and 0.48 Rls/cu.m. for onshore fields, reflecting the fact that much of the resource base is associated gas and hence low in terms of cost of supply. Natural gas consumer prices are 2 and 5 Rls/cu.m. for industrial and household/other categories, respectively, which would indicate that natural gas pricing does not appear to be a problem. However, since the foreign exchange input costs are priced at the official exchange rate, the real cost of supply is likely to be much greater than the above estimate. A revaluation of the consumer price structure in light of exchange rate adjustments should be undertaken.

6.20 Until the late 1980s, electricity prices were subsidized, consistent with the level of subsidies applied to petroleum products. In the recent past, the Government has undertaken a price reform program to correct this imbalance. In March 1991, average electricity prices were increased 64 percent, from 5.17 to 8.49 Rls/kWh (see Annex II, Attachment VIII for details regarding the current electricity tariff schedule). To ensure an appropriate enabling environment for the reconstruction of the industrial sector, the burden of the price adjustment focussed on these consumers as they were increased by about 243 percent to 8.5 Rls/kWh. However, the current average revenue in the power subsector does not reflect the marginal cost of supply, based on a realistic exchange rate. Given the low cost of natural gas and the attractive hydro-electric schemes the marginal cost of supply is expected to be relatively low (in the order of about 5 UScents/kWh in 1990 prices). At the official exchange rate of 70 Rls/\$, this would give a marginal cost of supply of about 3.5 Rls/kWh. However, the competitive exchange rate of 600 Rls/\$ would yield an estimated cost of supply of about 30 Rls/kWh. To meet the estimated marginal cost of supply based on the competitive exchange rate, electricity prices need to be increased by about 350 percent. The criterion that the Government has used in setting electricity prices is full cost recovery by the sector during the plan period. In the mission's view, this policy is fully supportable; however, it is important that the cost of foreign exchange more accurately reflect its scarcity.

6.21 Electricity prices for the consumption in the agricultural sector are also heavily subsidized, thus encouraging disproportionately high levels of energy intensity in that sector as there is little incentive for conservation. There is also the danger of excessive mining of the water table resulting in unsustainable agricultural development.

H. FINANCING PLAN

6.22 Because of the relatively large revenue generation from the oil and gas subsector, self-financing is unusually high. This subsector also does

not suffer the problem of foreign exchange shortages sectors do because of its high foreign exchange cost in the economy. However, the size of the reconstruction plan period is considerable, with the foreign exchange investments targeted at \$8.4 billion and gas investment revenues are insufficient to finance this plan, the arrangements for foreign investment which have been a cost component of the oil investment plan of Rls 1.6 trillion are substantial. The impact of this cost component can be mitigated by reducing the level of subsidies to domestic

6.23 The power subsector has a more difficult situation than the oil and gas sectors. It has little export potential and large foreign exchange requirements. The capital investment requirement for the subsector is estimated to be Rls 1.6 trillion (foreign exchange cost of Rls 70/\$), of which over 50 percent is for generation and transmission and distribution (for details see Annex II, Attachment IX). The foreign exchange requirements are estimated to be \$5.4 billion for generation. The flow of funds at Rls 70/\$, for operation and maintenance and investments, indicates that the power subsector needs to be financed by the Government. The financing plan for the power subsector assumes that 88 percent of the financing needs will come from industry and the Government. In the face of it, this would appear to be one of the most unfavorable ratios for any power utility in the world. However, if foreign exchange costs are priced at Rls 70/\$, the true cost of foreign exchange, the financing gap would exceed the investment requirements indicated in the plan and would need to be addressed by some combination of tariff reform and equity participation.

I. CONCLUSION AND RECOMMENDATIONS

6.22 The primary recommendations focus on strengthening the indigenous resource base. Should economic growth be as forecast by the Government and domestic gas subsidies increased, increasing domestic petroleum consumption could be a major export and, hence, prospects for sustainable growth in the energy sector should be priced at a level which reflects the true cost of foreign exchange and, hence, energy prices should be increased to reflect their opportunity costs. Such a correction would require substantial adjustments to many energy products. Increases should be selective in nature, targeting the increases to those products with the largest subsidies, thereby addressing cross-subsidies in

to the extent other sectors are affected. The program and its prime role in the reconstruction program during the first period is a component of oil investments at \$1.35 billion. As the Government has instituted a program of oil price increases, the local cost of oil received. The local cost of oil is also a significant component of the budget and can be mitigated by increasing the price of petroleum products.

problem, given that it has a high foreign exchange needs. The total cost of the first plan is estimated to be Rls 1.6 trillion converted at Rls 70/\$, of which about 20 percent each is for generation and transmission (Annex II, Attachment IX). The total cost of the first plan is \$6.8 billion, of which \$5.4 billion is for generation (Annex II, Attachment IX). The flow of funds on an exchange rate of Rls 70/\$ indicates that the power subsector needs to be financed by the Government. The financing plan for the power subsector assumes that 88 percent of the financing needs will come from industry and the Government. In the face of it, this would appear to be one of the most unfavorable ratios for any power utility in the world. However, if foreign exchange costs are priced at Rls 70/\$, the true cost of foreign exchange, the financing gap would exceed the investment requirements indicated in the plan and would need to be addressed by some combination of tariff reform and equity participation.

This problem needs to be addressed by some combination of tariff reform and equity participation.

domestic use of the resource base to the extent that it can be delayed, a substantial impact on the energy sector. Inputs to the energy sector should be corrected to reflect the real cost of foreign exchange. Increases should be selective in nature, targeting the increases to those products with the largest subsidies, thereby addressing cross-subsidies in

^{47/} With foreign exchange costs of \$6.8 billion, in local cost terms this comes to Rls 4,752 billion (the estimated trade weighted average exchange rate). The real cost of foreign exchange is increased by increasing the true cost of the investment plan.

at IR 70/\$ and IR 4,080 billion at IR 600/\$ and by IR 3,604 billion, thus substantially

6.23 The flaring of 30 percent of associated gas production should be curtailed as quickly as is physically possible. As the world generally looks for cleaner fuels to burn, the value of natural gas is likely to increase. Gas can also be put to better use domestically, shifting industrial and power consumption away from petroleum product use. The Government has undertaken to study this problem. This study, and any subsequent implementation, should be given high priority to ensure the appropriate utilization of flared associated gas. The optimal utilization of natural gas in competing downstream sectors (such as power, fertilizer production, potential exports, etc.) should be assessed in terms of the relative potential net benefits. The proposed exports of liquified natural gas should be reassessed in this context, focussing on maximizing the expected net benefits given the risks of natural gas liquefaction, the potential market and the relative benefits of gas use in downstream domestic sectors.

6.24 A rehabilitation effort, in concert with the reconstruction program, should be given a high priority to maximize the returns on existing capital stock. Such investments are expected to have a higher return on marginal capital employed and would help "pump prime" the economy more expeditiously because of their relatively short gestation period. The immediate demands of load shedding can also be addressed by converting some of the extensive installation of open cycle CTUs to combined cycle operation at low cost, with no incremental fuel costs and a lower environmental impact.

6.25 The relative merits of the energy projects proposed within the First Five-Year Plan should be reviewed in light of a revised price structure. Projects which may have seemed attractive when appraised prior to 1986 may not reflect appropriate relative values for fuels, capital or changes in technology. Therefore, the generation and transmission plan for the power subsector should be reassessed on an urgent basis. This effort requires technical assistance in terms of upgrading analytical techniques, using computerized models and training. Because of the potential impact of large misallocations of resources, the analytical effort needs to be finalized as soon as possible.

6.26 Training needs must be addressed in conjunction with any capital investment program. Ten years of relative isolation has had a considerable impact on the human resource base. A comprehensive, broad-based training program, including all aspects of sector development from management training and technology transfer to maintenance training, is urgently required. Investment planning capabilities are also in need of upgrading to avoid imprudent investments or policies which could have a major negative effect on sustainable growth.

CHAPTER VII: THE URBAN SECTOR

A. INTRODUCTION

7.1 The last decade has seen Iran's population growth decelerate somewhat. However, strong rural to urban migration continues in spite of policies aimed at reversing this trend.

7.2 The provision of housing and infrastructure services has improved considerably although with the projected population growth and mounting affluence, the strong demand for services and the pressure on public finances is not expected to decrease in the foreseeable future. The Government should look increasingly to the private sector to finance and manage infrastructure services.

7.3 Long-term housing and infrastructure development plans have been prepared and priority--often large--projects identified. Closer coordination is needed in the elaboration of these plans, and consideration should be given to implementing smaller projects which can ensure earlier service and revenue flows. Cost recovery needs strengthening. Greater use of labor-intensive construction methods, as well as greater reliance on the local manufacture of certain building materials and equipment, should be encouraged.

B. BASIC DEMOGRAPHIC DATA

7.4 In 1989, Iran's estimated population was 55.2 million, growing at about 3.7 percent p.a.; about 0.7 percent of this growth was due to immigration. In 1986, 72 percent of households had four or more members, and 27 percent had seven or more, with the average family size increasing in rural areas. In the period 1956-86, the urban population grew at an average of 5.1 percent p.a., whereas in the period 1976-86, it grew somewhat faster at an average of about 5.4 percent p.a. The fastest growth occurred in the Tehran province.

TABLE 7.1: KEY DEMOGRAPHIC DATA

	YEAR	1956	1966	1976	1986
Population (millions)	Total	19.0	25.8	33.8	49.4
	Urban	6.0	9.8	15.9	26.8
	Rural	13.0	16.0	17.9	22.6
Shares (percent)	Urban	31.4	38.0	47.0	54.3
	Rural	68.6	62.0	53.0	45.7
Population Increase (percent per annum)	Total	3.1	2.7	3.9	
	Urban	5.1	4.9	5.4	
	Rural	2.1	1.1	2.4	
Families (millions)		4.0	5.0	6.7	9.7
Persons Per Family		4.75	4.95	5.0	5.1

7.5 The population of Iran is projected to reach about 60.3 million in 1993, or an average increase of 3.1 percent p.a. over 1986. In the same period, the urban population is expected to reach 36.6 million (rural 23.7 million), i.e., to increase at an average of 4.6 percent p.a. (rural 2.3 percent). Thus, the heavy rural to urban migration is expected to continue.

C. URBAN DEVELOPMENT

7.6 It is the overall policy of the Government to discourage growth in the large urban areas. New towns are to be located away from Tehran and other large cities. Since the early 1960s, master plans have been prepared for many large urban areas. Most, however, were prepared without an adequate framework and with insufficient basic data; in addition, the planning methods followed were not well adapted to the rapid urban growth experienced in Iran. Land use has been poorly monitored. Urban development has been made difficult mainly because of inadequate laws and regulations, weak or virtually nonexistent local municipal administrations, and low citizen participation.

7.7 In addition to the population decentralization policy already mentioned, the plan includes the reconstruction of war-damaged areas, promotes measures to improve the environment and conserve energy, and advocates the strengthening of municipal administrations in terms of both human and financial resources. Creating urban councils, and vesting greater authority in local government, is also being contemplated.

7.8 There is a need to develop simple land use plans for urban and surrounding areas. General rules for planning and for the issuance of building permits need to be developed. Areas of ecological or other strategic importance should be identified and protected. Greater coordination is needed in the preparation of land use and general infrastructure development plans. Finally, given the highly seismic nature of the country as a whole, research on seismic zoning and the safety of structures should be undertaken. This last issue is being addressed under the Bank financed Earthquake Recovery Project (Loan 3301-IRN).

D. HOUSING

7.9 In the period 1966-86, the number of housing units increased from 3.9 million to 8.3 million, i.e., an average of 3.8 percent p.a. In the same period, the share of urban areas in the total number of housing units increased from 33 percent to 57 percent, and the number of households per housing unit decreased from 1.32 to 1.17. Households prefer large one-family units. Apartment dwellings are relatively recent. Based on the quality of the housing itself (steel or concrete structure, bricks or stones or dried clay) and the available facilities (central heating, bathrooms, kitchens, water, electricity), the condition of urban housing may be roughly classified as: 35 percent good, 20 percent fair and 45 percent poor. In the rural areas, as many as 63 percent of all housing units are considered in poor condition.

7.10 In the period 1976-86, sector investments varied between the equivalent of 6.5 percent and 8.6 percent of GDP. The private sector provided the bulk of the housing developments, government direct investments having dropped from 23 percent in 1976 to only 5 percent of total investments in 1986. There appears to be little direct government subsidy, except for the financing provided at preferential rates to government employees and war veterans (standard interest rate for housing loans is 12%; for government employees it is 8-9%; for war veterans it is 4%). Loans are made for upto Rls. 10 million to be repaid over 15 to years. Some 195,000 housing units were built in 1987. However, there is still an acute shortage, and considerable resources will have to be mobilized by the sector. Foreign exchange requirements over the plan period have been estimated at some \$10 billion. Greater use of labor-intensive construction methods, as well as greater reliance on the local manufacture of certain building materials and equipment, should be encouraged to reduce foreign exchange needs. Manufacturing certain products for import substitution should also be considered.

7.11 The plan calls for changes in construction methods, improvements in building and housing standards, construction of smaller units, and the raising of the number of housing units per capita. The plan contemplates the construction of some 2.5 million housing units over a five-year period, about 1.7 million in urban and 0.8 million in rural areas. This target appears to be ambitious. However, to achieve the target, private, cooperative and other interested organizations should be encouraged to undertake large-scale projects. Rental housing should also be given more emphasis. New construction techniques, such as prefabrication, should be considered. The construction industry is relatively well developed in Iran. Technical and managerial capability is available, and capacity can be increased with additional training.

7.12 The Urban Lands Organization was established in 1982 to implement the Urban Lands Act, under which the Government provides land for urban housing development. At present, housing is under construction on some 20,000 ha of government land, with a total capacity of some 500,000 units in 160 urban areas.

E. INFRASTRUCTURE

7.13 Water resources management and allocation are the responsibility of the Ministry of Energy. National surveys and studies of water sources and uses have been underway for several years. A water master plan for the entire country is expected to be ready by 1991. At present, some 80 percent of the urban population is served with piped water; service is deemed of acceptable quality for 70 percent of those served, with 90 percent service coverage planned by 1992. Currently a number of projects, some of them very large, are underway. Consideration should be given to implementing smaller projects that have the advantage of shorter construction periods, the earlier provision of services and earlier revenue flows. Smaller projects are also generally

easier to implement. In principle, costs are to be fully recovered, although the extent of that recovery is not known.

7.14 Sewage collection and disposal are the responsibility of the Ministry of Energy. Until recently, investments in sewerage facilities in urban areas have been modest. Sewage has been disposed largely through seepage pits and septic tanks. In many areas, there is evidence of problems with high groundwater levels and pollution from seepage. Long-range plans for the collection and disposal of sewage have been prepared and priority projects identified. Plan investments are aimed at substantially improving the sanitary situation for about 14 million, or roughly one third of the urban dwellers. Projected investments through the year 2006 are estimated at 1.3 billion rials (in 1988 prices). The central Government hopes that its share of these investments will drop, while the municipalities and the private sector will increase their shares.

7.15 The responsibility for the collection and disposal of solid waste rests with the municipalities. Appropriate handling of solid waste poses a serious problem for most medium- and large-sized urban agglomerations. Disposal facilities are not designed or managed properly. Only limited investments are included in the Government's plan. There is an urgent need to develop a national policy on the collection and disposal of solid waste. Norms are needed for the design and operation of facilities, and municipal staff need specialized training.

7.16 The Telecommunications Company of Iran is responsible for the provision of telephone services. At present, the demand for service is not being met, particularly in Tehran where getting a connection may take several years. As is usual in such cases, it is not clear just what the demand for service is. A plan with a 20-year horizon has been developed, and projects have been identified for the 1990-95 period. It is hoped that by 1995 some 4.5 million lines will be installed; half of these would be connected to digital switching stations. Ongoing contracts provide for local manufacture of digital telephone exchange equipment and parts and repair facilities, as well as for staff training. Under the plan, the existing 60,000 intercity communication channels would be more than doubled. Connected villages would increase from about 3,200 to about 10,000, and remote areas would be connected via satellite. The 1,300 existing international connections with direct dialing to 137 countries would be replaced by digital equipment, which would accommodate 5,000 lines. At present, costs are not fully recovered. The operation of telecommunication services is generally profitable in most countries. Without full cost recovery, telecommunications will continue to be an unnecessary burden to the Iranian Government, with the risk that maintenance, quality of service, and further expansion may continue to suffer.

7.17 Public urban transport is provided by buses and mini-buses operated by municipal and private companies and by several kinds of privately owned taxis. Capacity is reportedly insufficient. Private car ownership is low (but concentrated in the larger cities). Overall, the fleet of vehicles is old, does not meet emissions standards (air pollution is high in Tehran), and the enforcement of traffic rules and regulations and traffic safety records are unsatisfactory.

7.18 Tehran's road network is extensive, but important links are missing. In spite of the fact that parts of the inner city is closed to general traffic during work hours, traffic is congested. In general, urban roads and streets are in poor condition because of inadequate maintenance. Road and street signs are missing; pedestrian crossings are mostly nonexistent; all types of traffic flow together; laws and regulations are not systematically enforced; and parked cars and delivery trucks obstruct streets.

7.19 There is need to improve traffic management in coordination with the police department, which is responsible for enforcement. All of the problems mentioned above should be addressed. In the case of Tehran, which suffers from all of these problems, the construction of additional road links, the institution of parking schemes, the establishment of passenger and freight terminals, and better enforcement of traffic laws and regulations would help alleviate traffic congestion. However, until some of the lines of the Tehran subway are placed in service in the mid-1990s,^{48/} conditions are not expected to improve dramatically. For commuters in and out of Tehran, a form of light rail system might be more cost effective and should be carefully considered before any decision is made to expand the subway too far beyond the city limits. Surface transportation will continue to play a major role in moving commuters and in-city travellers. City transportation is inadequate, and, until subway lines start operation, measures should be taken to cope with the increasing demand for transport.

^{48/} When the lines currently under construction are placed in service, it is expected that some 400,000 to 500,000 passengers per day could be transported.

CHAPTER VIII: TRANSPORT

A. INTRODUCTION

8.1 The Islamic Republic of Iran covers an area of more than 1.6 million square kilometers. High internal plateaux are intersected by mountain ranges running generally northwest-southeast, with narrow coastal plains adjoining the northern and southern coasts. Only one river, the Karun, is navigable and has a seasonal flow rate. The topography of the country makes the provision of ground-based transportation infrastructure difficult and costly. Some 4,500 km of main railways provide links to the European network via Turkey in the northwest, as well as to the Soviet Union, and extend eastwards via Tehran to Mashad. Of a total of 24 provinces, 14 are connected to the railway network. Five major ports are located on the Persian Gulf, and two on the Caspian Sea. Large distances between population centers exacerbate transportation problems. Domestic air services have relatively low capacity in comparison with demand and cannot accommodate passenger demand between population centers.

8.2 Road transport is by far the most important mode of transportation in Iran, for both passengers and goods. Main highways provide connections between Tehran and the provincial capitals, which constitute hubs for surrounding road networks. Main trans-Iranian roads connect Turkey and Iraq with Afghanistan and Pakistan. More than 200 cities, 500 towns and 65,000 villages are, or need to be, connected to the primary road network. The predominant means of transport is by road, and this trend can be expected to continue.

8.3 The Ministry of Plan and Budget initiated a number of studies in 1987/88 to form the basis for a comprehensive National Transport Plan (NTP). The purpose was not only to prepare the current plan, as a basis for government decisions and budgeting, but also to set up a system for the evaluation and monitoring of future transportation projects. As such, the NTP has been incorporated in the First Five Year Plan (FFYP) of the Government. This would enable the Government to determine the transport needs in each subsector and allocate available resources efficiently between different transport subsectors. The NTP comprises all modes of transport--road, rail, air, sea, and pipelines. It is based on a comprehensive and detailed collection of statistical data and large-scale surveys for all modes of transport. Projections have been prepared for growth in traffic demand over a 20-year period resulting from population increases, increases in economic activity, and from additions to the transport network. Data from surveys and the different studies performed within the framework of NTP are being published in a series of reports.

B. DIFFERENT TRANSPORT MODES

Railway Transport

8.4 The current railway network comprises a total length of 5,827 km, of which 4,567 km are main lines. In 1987 there were 7 million rail passengers, and close to 15 million tons of freight were transported by trains. Currently, the main concern of the railways is to maintain and operate the aging track and rolling stock, much of which was damaged during the war with Iraq. Annual operation and maintenance costs are now some Rls. 73 billion, and it has been predicted that these costs will substantially increase. Rail revenues in 1989 were only Rls. 31 billion, or about 42 percent of operating and maintenance expenditures. The current railway system does not provide convenient passenger services. Freight transport, in particular bulk transport for which the railway should be economically best suited, is limited by shortages in rolling stock and by bottlenecks in the railway network.

8.5 In the FFYP, high priority is given to the railway subsector. The largest and most important project, which has been under construction for a number of years, is the railway line from Bafq to Bandar Abbas. The line will provide connection to the largest port facilities along the Persian Gulf. Some 420 km of roadbed were ready by the end of 1988, and tracks have been laid along 180 km, including from Bafq to Sirjan. Investment costs for the Bafq-Bandar Abbas line are estimated at Rls. 160 billion.

8.6 High priority has also been given to the renewal and reconstruction of existing lines and facilities. The Railway Corporation is planning for a general upgrading of all facilities and for substantial modernization, which would include the transport of containers. Plans are being prepared for a comprehensive staff training program. Planned capacity should be increased to 10 million passengers and 25 million tons of freight by 1995. The capacity utilization of freight facilities is to be increased from 40 percent to 63 percent. The growth in transport capacity is targeted at 12.3 percent per annum for freight, and 8 percent per annum for passengers. Some types of equipment are locally manufactured, and others are partially made in Iran. Passenger cars are locally made. Freight cars are partially made in Iran, while bogies and wheels are imported. Total investments during FFYP are estimated at Rls. 349.6 billion rials, including US\$1.1 billion in foreign exchange.

Road Transport

8.7 Road transports constitute some 85 percent of the value added in the transport sector. In 1989, the road network comprised a total of 167,156 km outside urban areas. Of this total, 471 km were freeways (0.28 percent); 23,047 km were main roads (13.79 percent); 40,941 km were national and provincial roads (24.49 percent); and 43,380 km were rural roads (25.95 percent). Other roads, such as access roads, accounted for 59,317 km (35.49 percent). A substantial proportion of this road network was built since the revolution.

8.8 Altogether, there are over 2,000 road transport companies in Iran, of which fewer than 6 percent are government owned. Of total domestic freight transport, some 85 percent is by road and 15 some percent by rail. Of international freight, 70 percent is moved by maritime transport; 20 percent, by rail; and 10 percent, by road. The total volume of freight by road is estimated at 120 million tons; agricultural freight predominates, followed by industrial freight (cement, the largest within this group) and mining products.

8.9 In spite of substantial efforts, only relatively small improvements to the road network could be undertaken during the last decade due to the war, and the overall quality of the road system needs improvements. Some 250,000 km of additional roads of various kinds are claimed to be needed outside urban areas, i.e., an increase in the total network of some 50 percent. This large increase needs to be carefully screened to eliminate all but the economically essential links. About 8 percent of existing main and secondary roads (13,616 km) need to be improved. Emphasis is being placed on strengthening existing roads. Road maintenance on the national road network is the responsibility of the maintenance section of the Ministry of Roads and Transportation.

8.10 New freeways are to be bank financed, completely without government subsidy. Projects under discussion include a freeway from Qazvin to Zanjan, with a future extension to Tabriz; a freeway from Tehran to Saveh and Salafchegan; and another from Qom to Kashan, with a possible extension to Esfahan and Shiraj at a later stage. The intention of the Government appears to be directed towards "Build-Operate-Transfer"(BOT).

Maritime Transport

8.11 Iran's port facilities have a nominal capacity of 28 million tons per annum. Deficiencies in equipment and a lack of coordination between different parts of the transport system, such as between ports and railways, result in operational capacities of only 25 million tons, or a capacity utilization of about 89 percent. The target in FFYP is to raise the operational capacity from 28 to 30 million tons per annum; this corresponds to the full utilization of existing basic port facilities. The capacity of the existing dry cargo fleet is about 2.1 million dead weight tons (dwt); the capacity of the tanker fleet is about 4.0 million dwt. To modernize and rationalize port operations, a number of measures are being implemented or studied; these include the computerization of port data and a comprehensive staff training program over a ten-year period. Outside assistance in training would be beneficial in maritime skills and in ports management at intermediate and higher levels. Port management and dredging needs to be improved. There is a shortage of equipment, a poorly trained work force, and a lack of coordination between ports and overland transport. The Ports and Shipping Organization (PSO) covers its operating costs from revenues.

8.12 Iran has about 630 km of coastline in the north, and some 1,880 km in the south. On the Caspian Sea, the only ports in operation during the last 10 years were Bandar Anzali and Nowshahr. On the southern coast, the ports at Khorramshahr, Abadan, Bandar Boshehr and Bandar Khomeyni were important during the 1970s. The first two were damaged during the war and have been idle ever

since. During the 1980s the eastern ports on the south coast of Bandar Rajaie, Bahonar at Bardar Abbas, and Bandar Chahbahar have all grown in importance. Bandar Khomeyni has 32 berths, one dolphin jetty, and a design capacity of 12 million tons per annum; it is linked to the rail network. Bandar Rajaie, 30 km west of Bandar Abbas, has a design capacity of 13 million tons; it has 1 principal dock, 3 minor docks, and 22 berths for general cargo, containers, bulk, liquid and oil products. Bandar Bahonar, the other port at Bandar Abbas, has a design capacity of 2 million tons per annum and facilities for handling general and bulk cargo, as well as ores. Bandar Abbas is not yet connected to the railway system. Bandar Chahbahar has a design capacity of 1 million tons and is remote from major cities. Bandar Bushehr is a smaller port with a design capacity of 1.35 million tons; it handles general and bulk cargo and ores.

8.13 The Islamic Republic of Iran Shipping Lines, with its subsidiaries the Iran-India Shipping Company and the Val-Fajr Company, owns 30 general cargo ships with a total capacity of 491,000 dwt; 43 bulk vessels with 1,590,000 dwt, 3 tankers with 120,000 dwt; 2 container carriers with 47,000 dwt; 3 refrigerated vessels with 15,000 dwt; 5 RO/RO vessels and 3 passenger carriers, and a fertilizer carrier. The Val-Fajr Company has eight ships, and the Iran-India Company has nine ships.

8.14 The priorities in the maritime transport sector are to: (i) modernize, rehabilitate, and increase capacity utilization in the ports; (ii) improve throughputs by the removal of bottlenecks; and (iii) provide extensive staff training.

Civil Aviation

8.15 The Civil Aviation Organization (CAO) administers the operation, maintenance and expansion of existing airports, and the construction of new airports. CAO is also responsible for air traffic control and for issuing permits for civilian flights. There are 27 airports in operation, of which 12 are suitable for large aircraft; 5 of these airports, in Tehran, Esfahan, Mashhad, Shiraz, and Bandar Abbas, are for international traffic. In 1987, Iran dealt with more than 985,000 international passengers; over 90 percent were transported by Iran Air. Import and export air cargo amounted to some 23,000 and 22,000 tons, respectively. Air corridors over Iran have been reopened to international carriers. About 4.2 million passengers and more than 25,000 tons of cargo were transported domestically during this period. Two carriers, Iran Air and Aseman Airlines Company, operate the domestic routes.

8.16 The main problem affecting Iran Air is in obtaining spare parts. Although it is very expensive to safely and economically operate an aging fleet of aircraft, Iran Air is maintaining adequate standards of maintenance and operation. Iran Air reports an increasing demand for its services, both domestically and internationally. Unless fleet renewals and extensions can be undertaken soon, this new demand will not be met. Of the 25 current operating aircraft, 11 should be retired in the next 4 years. To meet domestic demand, and to be able to retire some of its oldest aircraft, Iran

Air has reportedly signed a letter of intent to obtain 12 Fokker 100 (6 plus 6 option), to be delivered from June 1990 to January 1991.

8.17 Iranian citizens departing on international flights have to pay an airport tax of 200,000 rials. Of this amount, 22 percent is set aside for the construction of Tehran's new airport, and 7 percent for the purchase of new aircraft. For non-Iranian passengers, the airport tax is 1,500 rials. Domestic fares are relatively low compared to international standards: the one-way fare from Tehran to Mashad (900 km) is 8,000 rials (about \$30). Iran Air estimates that to recover current operating and maintenance costs, domestic fares should be increased by at least 30 percent. In contrast, the fares for Iran Air's international routes are enough to produce reasonable returns.

8.18 For the reconstruction of damaged airports, the expansion of existing ones and the construction of new airports, CAO has embarked on a plan covering 18 airports. Work is in progress at nine airports. It is the Government's policy that each provincial capital should have its own airport.

8.19 The facilities at Mehrabad Airport (Teheran) are considered sub-standard by modern ICAO guidelines. Operational conditions for aircraft movements are restricted as the airport area is limited in size and surrounded by the city, which confines the expansion of aircraft parking and other facilities. The capacity of the terminals is also limited.

8.20 The largest of the civil aviation projects is the construction of the Imam Khomeini International Airport (IKIA), some 40 km southwest of the center of Teheran. The project was studied during the 1970s, and actual construction started in 1981. During the last decade, progress on the project was slowed by hostilities; it was not until the end of the 1980s that extensive construction work was begun. Some Rls. 9 billion have been invested in the IKIA project so far. Total project cost has been estimated at Rls. 100 billion, plus US\$500 million in foreign exchange. The possibility of forming a separate company with private financing, and perhaps with foreign participation, is being considered for the project.

8.21 During the next five years, the number of airline passengers is expected to grow considerably. Internationally, an increase of 600,000 is projected; domestically, an increase of 5 million passengers is expected. This would mean an increase in civil aviation of 15 percent per annum. For the next 10 to 15 years, a fleet of 50 to 60 aircraft would be required to meet this demand.

C. PRIORITY INTERVENTION AND INSTITUTIONAL CHANGE

8.22 Investments in freight transportation and commercial transport should be given priority. Freight is transported mainly by road, which will continue to be the case until railways are economically competitive. However, the construction of new and additional railway capacity will enable rail transport to and from the main ports of Bandar-e-Khomeyni and Bandar Abbas. Passenger transport for business is most commonly by air; this is a strong

growth area in many countries, even those with relatively well-developed alternative modes of transport. In Iran, there are no viable alternatives to air travel for long distances, unless time costs are assumed to be extremely low. For shorter trips, such as between Tehran and Qom (160 km), road transport is preferred although, in the future, railways may provide an alternative means of high speed/high volume transportation.

8.23 Rehabilitation and modernization is not just a question of returning various infrastructural facilities to their original shape and form but is, virtually, a complete refurbishment. The investment costs to improve service levels should be kept to a minimum so that, given production increases, substantial rates of return would result. All modes of transport in Iran have suffered from a lack of maintenance and renewal investment; now is the time to modernize. Needed inputs include computer hardware and software and various types of equipment used by the transport industry worldwide for maintenance and operations, and the necessary training for their use. The opportunities for considerable productivity increases are good. To modernize transport infrastructure, foreign inputs are necessary; even if these inputs are relatively modest in terms of foreign exchange requirements, they are critical to the implementation of modernization programs.

Railway Transport

8.24 The priorities in FFYP for the railway subsector may be summarized as follows: the completion of the railway line from Baqf to Bandar Abbas which will be completed in 1995 (one track), as well as other extensions and double-tracking projects where these can be clearly shown to be economically justified by traffic demand; the rehabilitation and reconstruction of existing railway lines; renovations and additions to the rolling stock; signalization and traffic control facilities; and the implementation of a staff training program, which is under preparation.

8.25 Iran Railways operates on a deficit basis. Current revenues do not cover current operating expenditures, let alone the costs of necessary investments and the amortization of previous investments. Modernization should be accompanied by reforms of both railway management and of government policies affecting railways. The Iranian Railways should be reorganized on a sound commercial basis, possibly by restructuring the existing railway corporation. In connection with such a reorganization, the Government has to decide on how to handle previous investments; all future investments should be the responsibility of the new corporation. If the Government, for reasons of public interest, national defense, etc., decides to maintain some uneconomic services, the railway should be subsidized for such services.

8.26 To achieve both economic efficiency in operations and financial viability, a plan of action should be prepared and initiated. Changes in management policies should be introduced, as well as changes in organization, pricing formulas, operating and maintenance procedures, and staff training. The rehabilitation of equipment and infrastructure should also be undertaken. The action plan must give management a commercial orientation to allow it to compete with other modes of transport.

Road Transport

8.27 In FFYP, emphasis is given to the rehabilitation and improved maintenance of roads. The large expansion of the road network was done during the 1970s, and these assets are now aging and increasingly in need of maintenance and repair. Hence, there are increasing requirements for funds for the rehabilitation and maintenance of inventory and for new road construction. Road-user charges do not seem to relate to the costs of operating the network. The possibilities of undertaking road maintenance by contract should be investigated with a view to improve the efficiency and capability of maintenance work. Contracts for this type of work should be awarded on the basis of competitive bidding. A reassessment of road-user charges should be made to relate these to the costs of road improvements. Government regulations should concentrate on the licensing of public and freight transport drivers and vehicles, as well as on determining safety and environmental standards. Interurban roads require signs and markings and channelized intersections. Traffic safety enhancers, such as driver education and stricter traffic regulations, should also be instituted.

8.28 Without access to traffic studies showing current and projected traffic volumes, it is only possible to conjecture about the road capacity needs in different parts of Iran. There are areas where there are hardly any roads at all, for example along the southeastern coast, and here the construction of new roads may well be justified. In most cases, increasing capacities by widening and removing bottlenecks along more heavily used roads should suffice. With such measures, it should be possible to meet traffic demands, at least during the next few years, with relatively small investment in new roads.

8.29 To summarize, the objective expressed in the plan--to give priority to rehabilitation and maintenance--is fully supported, as is the plan to provide terminals and service facilities to road users. Since cost-effective road maintenance has not been fully implemented, efforts in that direction should be encouraged. It is recommended that priority be given to small, rather than large, investments. In view of the time factor, it is doubtful whether any new freeways will, or should be, in operation during the next few years. Traffic management measures are also strongly recommended.

Ports and Shipping

8.30 Information available concerning the Ports and Shipping Organization (PSO) indicates that plans for the modernization of operations are underway but that necessary resources are not available. In addition, revenues would need to be increased in order to cover all costs, not just operating costs. Though information on PSO activities is limited, it is suggested that a plan of action, similar to the one described in paragraph 8.26 for railways, be prepared for port activities. To establish PSO as a commercial and independent organization, it is necessary to address all problems as soon as possible.

8.31 The reorganization of PSO will require a number of facilities for rationalization, such as a computer-based system for the identification and

tracking of all goods, as well as other managerial tools. The transfer of goods to their final destination requires concerted efforts in order to provide customers with expected services. All links in the chain of transport must interact smoothly, and PSO constitutes one vital link in this chain.

Aviation

8.32 As indicated above, a considerable increase in the number of airline passengers is expected in the coming years; for increased efficiency of economic activities, as well as for the convenience of travellers, the use of air transport is justified, as long as travellers pay all costs connected with their travel. It is not clear to what extent charges on domestic travel cover the costs connected with travel. It is likely that some rate increases might become necessary.

8.33 The ongoing construction of the main hub in the civil aviation network, the new airport of Tehran, is a separate and important issue. As far as is understood, the construction of the airport is financed mainly by a special airport tax paid by Iranian citizens leaving on international flights. Additional financing, in particular the foreign currency requirement, is being sought. The new airport in Tehran is not scheduled to become operational until 1997, thus raising some questions regarding the Mehrabad Airport. Some modifications and investments must presumably be undertaken at this airport in order to be able to handle projected increases in traffic, in particular, in landside facilities. If, as is likely, additional delays occur in the construction of the new airport, it seems prudent to investigate more closely both the new airport project and required additional investments at the old airport. In this way, resources can be allocated in an optimal way between the two airport sites. It may, for example, prove to be better to speed up construction at the new airport to save on investments at the old; or, it may prove to be more advantageous to delay investment at the new airport and, instead, use the old airport to the end of its practical life.

8.34 The construction of airport facilities in different locations around the country is well motivated, as long as investments are undertaken step-by-step in response to manifest traffic increases. Runways, terminals, etc., can be built in stages. Air traffic control is, or can be, centralized; other facilities can also be built in stages. Investments and operational costs should be paid by travellers directly, or via the airlines.

CHAPTER IX: EDUCATION

A. INTRODUCTION

9.1 What is now the Islamic Republic of Iran has a long historical tradition of education. During the rule of the Sassanids (224 BC-AD 642), the first Iranian university was founded. After AD 642 and the country's conversion to Islam, koranic schools emerged with a curriculum of scriptures, logic, Arabic and grammar. A state education system was introduced in 1894 based on the French model. The system, however, reached very few and illiteracy remained high. New attempts to improve and expand education were made in the 1950s and the 1960s. Literacy rates went up to 55 percent for males and 30 percent for females. However, millions of people still could not read and write, and school enrollment ratios were low, particularly in rural areas.

9.2 Following the 1979 Islamic Revolution, efforts were made to further expand coverage of education, especially at the primary level and in rural areas. The education sector, however, has had to contend with some severe constraints such as, shortages of teachers and scarcity of financial resources. The latter, in turn, translated into shortages of teaching materials, equipment, building maintenance funds, etc. In the face of such constraint, Iran still made considerable progress in expanding educational coverage, notably, in raising gross enrollments, particularly of female students at the primary and secondary levels.

B. EDUCATIONAL STRUCTURE

9.3 The current educational structure^{49/} in Iran reflects the pedagogical ideas of recent decades. It does not differentiate at too early a stage and gives all students a reasonable chance to study according to attitudes and aptitudes. It keeps the door open for a majority of secondary school graduates to proceed to higher education.

Primary Education

9.4 After a retrenchment immediately following the revolution, primary education of five years duration has expanded. This reflects the large demand as well as the Government's commitment to education. Enrollment in primary education has increased from 3.4 million in 1971 to 8.9 million in 1989. The 1989 enrollment corresponds to enrollment ratios of 83 percent for boys and 74 percent for girls. Literacy is the main objective of primary education, and the number of literates has doubled to 24 million in 10 years. But the population increase has also been considerable. Data indicate that the

^{49/} Statistical information in this chapter is taken primarily from the Iran Report to the 1990 Conference in Bangkok: "Education for All". See Annex II for a more detailed presentation.

absolute number of illiterate teenagers has increased by 0.6 million despite the primary education expansion.

9.5 Iran is a vast country with a widely dispersed population. Large numbers of primary schools are therefore needed to facilitate enrollment and avoid expensive boarding facilities. Language diversity poses another constraint to universal education. Farsi is the instructional language, but some 50 percent of the population has another mother tongue. Research indicates that literacy increases if reading is first taught in the mother tongue. Schools with low enrollments and a single village as the catchment area are the ideal. Many rural schools are one- or two-room schools with multi-grade teaching. Multi-grade teaching is not necessarily bad, but it does require special preparation at the teacher training colleges. Statistics indicate that there are 267,000 primary teachers. This corresponds to an acceptable student/teacher ratio of 33:1. Some 95 percent of the teachers have 12 or more years of education, including teacher training. In this respect, Iran is better off than many other LDCs. Repetition and dropout rates are high in primary education: in the first grade alone 10-20 percent of the students drop out. The attrition rates are higher in rural than in urban areas.

Guidance Education

9.6 About 3.1 million students, or 42 percent of the 11-13 age group, were enrolled in 3-year guidance education in 1989. Girls comprised 39 percent of the students and were thus again under-represented. Enrollment in guidance education has increased considerably, almost tripling between 1975 and 1989. The number of guidance education teachers was 106,000 in 1989, giving a student/teacher ratio of 29:1, which again is acceptable. Over 80 percent of the teachers have 14 years or more of education, which is satisfactory. Attrition and repetition rates are higher in guidance education than in primary education and amount to 23 percent in rural areas and 16 percent in towns. These percentages are too high and imply wasted resources.

Senior Secondary Education

9.7 The four-year senior secondary education comprises eight major branches. The overall enrollment in academic and technical/vocational branches amounted in 1989 to 1.58 million students, of whom 85 percent were in the academic streams and 15 percent in the vocational/technical stream. The enrollment development is shown below:

	<u>General</u>	<u>Technical/ Vocational/Agricultural</u>
1975	0.71 million	0.15 million
1977	0.76 million	0.23 million
1980	0.84 million	0.20 million
1988	1.31 million	0.21 million
1989	1.34 million	0.24 million

The enrollment ratio in senior secondary education amounts to 19 percent, which is low, placing Iran in the lower half of LDCs. The rural enrollment

ratio is less than half of that of urban areas. The percentage of students in technical/vocational/agricultural education is also low considering the shortage of middle-level technicians and skilled workers in Iran, as well as the limited in-plant training in most enterprises. A low enrollment in agricultural education is particularly alarming. Iranian agriculture has not developed fast enough to meet the increased demand caused by the population expansion. Only 5 percent of the technical/vocational students take agricultural courses. This implies that less than 1 percent of all senior secondary education students study agriculture. Iran needs agricultural development and a good supply of skilled farmers, agricultural technicians and agronomists. Efforts must be made to change the current situation in agricultural education.

9.8 In senior secondary education, attrition is also high, with repetition and drop-out rates of over 10 percent per grade and annum. Of 270,000 students entering the grade one academic stream in 1984, only 136,000, or 50 percent, graduated 4 years later. In the vocational/technical/agricultural streams, the internal efficiency was even lower: 70,000, 26,000 and 36 percent, respectively. Such high attrition and repetition rates should not be tolerated. They imply a large waste of manpower and resources both at the student, teacher and school level.

9.9 There were 55,000 teachers in senior secondary education in 1989. Of those teachers, 70 percent had 16 years of education and were formally well qualified. The remaining 30 percent had 12 or 14 years of education and taught in subjects requiring less theoretical education. The student:teacher ratio in senior secondary education is an acceptable 25:1. In technical/vocational/agricultural education, the student:teacher ratio is 13:1. However, as in many other countries, the practical experience of the technical/vocational/agricultural teacher is often limited.

C. CURRICULA, TEACHING AND FACILITIES IN FORMAL EDUCATION

9.10 The comprehensive review of school curricula after the Islamic revolution brought a radical change in educational objectives and content. The teaching of the Koran, religion and ethics was strengthened to emphasize Muslim values and reduce foreign attitudes and customs.

9.11 School visits by the mission indicated an emphasis on blackboard teaching and on rote learning, at the expense of activities based on student initiative and creativity. The high attrition rates mentioned above reflect inappropriate teaching rather than low student ability. Attrition could be reduced through better, although not longer, teacher training and through changes in examination and promotion policies.

9.12 The Iranian Government is paying considerable attention to the supply of learning materials and provided 120,000 textbooks in 1988/89. The students in the schools visited had relevant textbooks at the time of the visits. The supply of other educational materials appeared less generous, and schools had a meager supply of maps, science equipment, etc. The exceptions

were the agricultural schools visited, which compared well with agricultural school, anywhere.

9.13 The quality of school buildings varies. Some buildings were designed as schools and were suitable, although overcrowded. Other schools were housed in rented residential buildings. In one school, classes were even held in a basement. Maintenance was generally poor (with the exception of the already mentioned agricultural schools). The low quality of maintenance, given the overall reasonable standard of construction work in Iran, is striking. The discrepancy between the high quality of maintenance of the expressway leading south from Tehran and the low quality of maintenance of a village school a few kilometers from the same express way is a case in point.

Higher Education

9.14 Some 40 to 50 percent of the secondary school graduates continue on to university or other higher education institutions in Iran. Close to 90 percent of the students are enrolled in the 47 universities. The number of universities compares well with industrialized countries although the 5 percent enrollment ratio is low. Enrollment decreased at the beginning of the 1980s but the trend is now upwards. The percentage of females being educated is lowest at the top of the system, as seen in the table below:

	<u>Net Enrollment ratio</u>	<u>% of Females</u>
Primary education	78%	45
Guidance education	42%	39
Senior secondary education	19%	42
Higher education	5%	29

9.15 The enrollment ratio is low, but the universities are, nevertheless, overcrowded. The number of applicants to higher education in 1989 was 12 times higher than the number of places. There are currently about twice as many students enrolled as there are places for them. Full-time, part-time and hourly staff for teaching and research total 9,000, 1,200 and 5,700, respectively, at a student/full-time equivalent staff ratio of 20:1. This is too high to allow for efficient teaching, student guidance or research. The enrollment situation is made more difficult by the Government's policy of admitting war veterans according to a 40 percent quota. Thus, in Iran, there is a lack of both physical facilities and of staff to meet the demands of higher education.

9.16 Iran has introduced several options in higher education during the last decade, including an "Open University" with units throughout the country, and a "Distance Education University", where teaching is mainly through correspondence courses.

Nonformal Education

9.17 Iran has devoted considerable interest to nonformal education, particularly to literacy training. During the last decade, over 8 million

illiterates have taken literacy courses. The literacy rate has, through these courses and through the expansion of formal primary education, increased to 71 percent for men and 52 percent for women. The Government has been unorthodox in hiring literacy teachers; in rural areas, where there is a shortage of formally qualified teachers, almost any literate may become a literacy teacher. However, this approach has certainly proved to have its merits.

9.18 The Ministry of Education has also fostered nonformal technical/vocational education for adults and working citizens of all ages. Training programs have been made available in four fields: medical/paramedical, industrial, agricultural and the service industry. Sixty programs exist today. So far, about 60,000 Iranians have received nonformal technical/vocational education, and the number is increasing.

9.19 It should also be mentioned that the Ministry of Labor has been active in organizing short-term training courses lasting from a few weeks to eight months. Over 50,000 persons have received such training. Major industries, such as textile and steel production, conduct in-plant training of new employees. These training courses, and those of the open and distance universities, are particularly useful for the demobilized soldiers entering the civilian labor market.

Schools. Students. Teachers

9.20 The table below summarizes formal and nonformal education in Iran.

	<u>Schools</u>	<u>Students</u>	<u>Teachers</u>
Pre-primary	2,160	0.2 million	6,300
Primary	54,400	8.9 million	267,000
Guidance	12,600	3.1 million	106,000
Senior secondary	3,600	1.34 million	55,000
Secondary technical	760	0.24 million	16,000
Higher education	102	0.251 million	12,000
Nonformal education	188	.	.

Teacher Training

9.21 The demand for teachers is very high in Iran. It will increase even further if the Government's plan to expand and improve education is executed. It has been difficult to recruit teachers, particularly in rural areas. The Government has consequently had to develop various strategies to solve the teacher-supply problem. There are currently three sources of primary and guidance school teachers: a) two-year teacher training centers; b) rural teacher training centers; c) military conscripts.

9.22 The primary school teachers and the guidance counselors are trained at two-year teacher training centers. There are currently 175 such centers, and 152,000 teachers have been trained during the last decade. This has, nevertheless, not been enough to meet the demand. Consequently, special rural teacher training centers were established by the Government. The students who attend these centers are selected from among rural guidance

school graduates, which implies some probability that they will return to rural areas as teachers. There are now 203 such training centers in Iran with an annual output of 6,000 graduates.

9.23 Neither the regular nor the rural training centers have been able to meet the demand for teachers in rural areas. The Government has, therefore, been forced to use military conscripts as teachers in rural schools. Some 5,000 conscripts serve as teachers instead of doing their regular military service. This system was used with some success in Ethiopia and could also work in Iran.

9.24 Senior secondary school teachers are being trained at the universities in a four-year program. In 1989, 35,000 students (of whom 42 percent were females) enrolled for teacher training. Officials continue to stress that more university students must study pedagogy and become teachers if the demand is to be met.

9.25 Training for technical/vocational/agricultural school teaching at the university level requires practical experience. As in many other countries, teacher salaries in Iran are not attractive enough to entice those already in industry or other enterprises.

9.26 A shortage of 82,000 secondary school teachers is expected in Iran during the next five years. Extra courses, the expansion of the education faculties and a two-shift system in the schools will be needed to reduce the shortage.

D. SECTOR MANAGEMENT

9.27 Education is centrally managed in Iran under the Ministry of Education for primary, guidance counseling, and senior secondary education; and under the Ministry of Higher Education for post-secondary and university education. Specialized ministries, including the Ministry of Labor, run training institutions that are job oriented.

9.28 The Ministry of Education supervises the provincial and district offices of education and, finally, the schools. The general impression, based on interviews and discussions in various ministries, offices and schools, is that the pedagogical and financial authorities are not decentralized enough to fully utilize the managerial and working capacity found at the lower levels of the educational system.

E. FINANCING AND COSTS

9.29 Private schools have again been allowed in Iran, but the large majority of all educational institutions are still public. Education is free, although parents sometimes contribute for recurrent materials and maintenance. Recurrent materials and maintenance in vocational/technical/agricultural schools are covered through income from service and production work or through the sales of garden and farm products. The parental contribution and the

income from "education cum production", however, is always small. Educational expenditures, as shown in the Iranian Government's budget, cover at least 90 percent of the total education expenditures. Of primary interest are the 1989 budgets of the three ministries. The figures are in billions of rials.

	<u>Recurrent</u>	<u>Capital</u>
Ministry of Education (MOE)	710	80
Ministry of Higher Education (MOHE) (includes research)	78	24
Ministry of Labor (MOL)	5	.
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	793	104

9.30 The Government spends about 20 percent of its budget on education, which is somewhat higher than the average for LDCs and compares well with advanced countries. The proportions going to primary and secondary education have increased since the revolution, which reflects the attempts to provide education for all.

9.31 The allocation of funds to education as a percentage of GNP is, however, a better indicator than the budget percentage of the priority given to human resources development. An estimate shows 3.9 percent as the Government's contribution in Iran. A comparison of the GNP percentages in the Europe, Middle East, North Africa regions indicates that 9 out of 18 countries in the 1980s allocated more to education. Eight of those nine were Moslem countries. Recurrent expenditures per student at various levels are also of interest. Below is an estimate of those expenditures as a percentage of per capita GNP:

	<u>Iran</u>	<u>Other LDCs</u>	<u>Advanced Countries</u>
Primary education	10%	15%	16%
Secondary education	18%	52%	21%
Higher education	88%	362%	55%

The table shows that Iran ranks below LDCs and advanced countries in five of six comparisons. The percentage of the budget going to education is higher than average, but still needs to be increased if the ambitious programs described below are to be executed as planned.

F. PROSPECTS AND ISSUES

9.32 The Government is firmly committed to a very ambitious education development plan to expand and improve basic education and eradicate illiteracy. This means that about 240,000 additional pupils will have to be enrolled each year during the 1990s in primary education. The literacy program for those between 6 and 35 years old will be given priority. The literate population in this group has to increase by some 11 to 13 million if a literacy rate of 90 percent is to be achieved during the coming decade.

9.33 There are also ambitious plans in the technical/vocational/educational fields to reduce the shortage of skilled workers and technicians.

The enrollment in secondary schools would increase by 50 percent to 318,000 students. At the post-secondary level a similar expansion would take place. Technical colleges would expand their enrollment from 24,000 to 39,000.

9.34 There was no detailed information available about the plans to meet the much increased demand for places in academic secondary schools and in universities. A greater desire for higher education will undoubtedly be the result of the decisions to make primary education universal and to eradicate illiteracy.

9.35 In the mid-1990s, the number of students in primary and secondary education might reach 18 million, and it is estimated that some 170,000 new classes will be needed. The current Five-Year Development Plan foresees an 880 billion rial investment in physical facilities, including educational equipment, to cover this need. The Government has a very difficult challenge in meeting the staffing, financing and management needs of the coming decade.

9.36 Manpower estimates supporting the proposed expansion of technical/vocational/agricultural education were not available. The current enrollment ratios are low, but available data indicates that just a 50 percent enrollment increase will not correspond to the needs of the market. The Government would, however, do well to channel some of the increased demand for academic secondary education to technical/vocational/agricultural education. An increase in the ratio of vocational students in senior secondary education would be reasonable and meet the labor market demands of the next decade.

9.37 The lack of manpower estimates also makes it difficult to calculate the necessary expansion in higher education, although an increase in the current comparatively low enrollment ratio would be justified. To meet the very high demand for places in higher education, however, is not advisable, even if it were possible to cover the costs.

9.38 It is the expressed policy of the Iranian Government to consider the social demand for education, thus going beyond possible manpower estimates. This policy may easily lead to unemployment, but it also implies that the country has at its disposal a wealth of educated manpower and the potential for economic and social development when needed. It should, however, be said that encouraging a large number of students to seek more education, primarily to postpone entrance into the labor market, could be an expensive way for a government to deal with unemployment problems. It should also be stated that more education, as such, does not create more jobs (other than for teachers).

9.39 The above situation is especially relevant for Iran's 250,000 secondary school graduates who enter the labor market each year. They deserve special attention. Their employment problems are caused less by too much education than by unsatisfactory demand. It is very important that the Government (i) provides incentives to employers to conduct in-plant training, perhaps of the Latin American type; (ii) makes farming an economically attractive activity; and (iii) supports labor-intensive enterprises in industry, commerce, construction, etc.

9.40 The priorities in education can be viewed as:

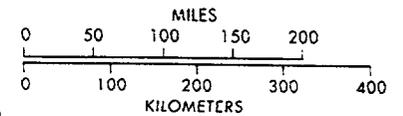
- a) The eradication of illiteracy through the continued expansion and improvement of primary education and literacy courses for adults, with a view to further reducing inequities between the sexes and between rural and urban areas.
- b) The expansion and improvement of technical, vocational and agricultural education, and greater support for in-plant training to reduce the shortage of skilled technicians.
- c) The improvement and expansion of teacher training to meet the above demands.

9.41 These programs would hardly succeed without measures to a) improve the economic conditions of teachers; b) reduce the high attrition rates at all levels of education; c) increase the supply of educational materials; and d) improve school maintenance.

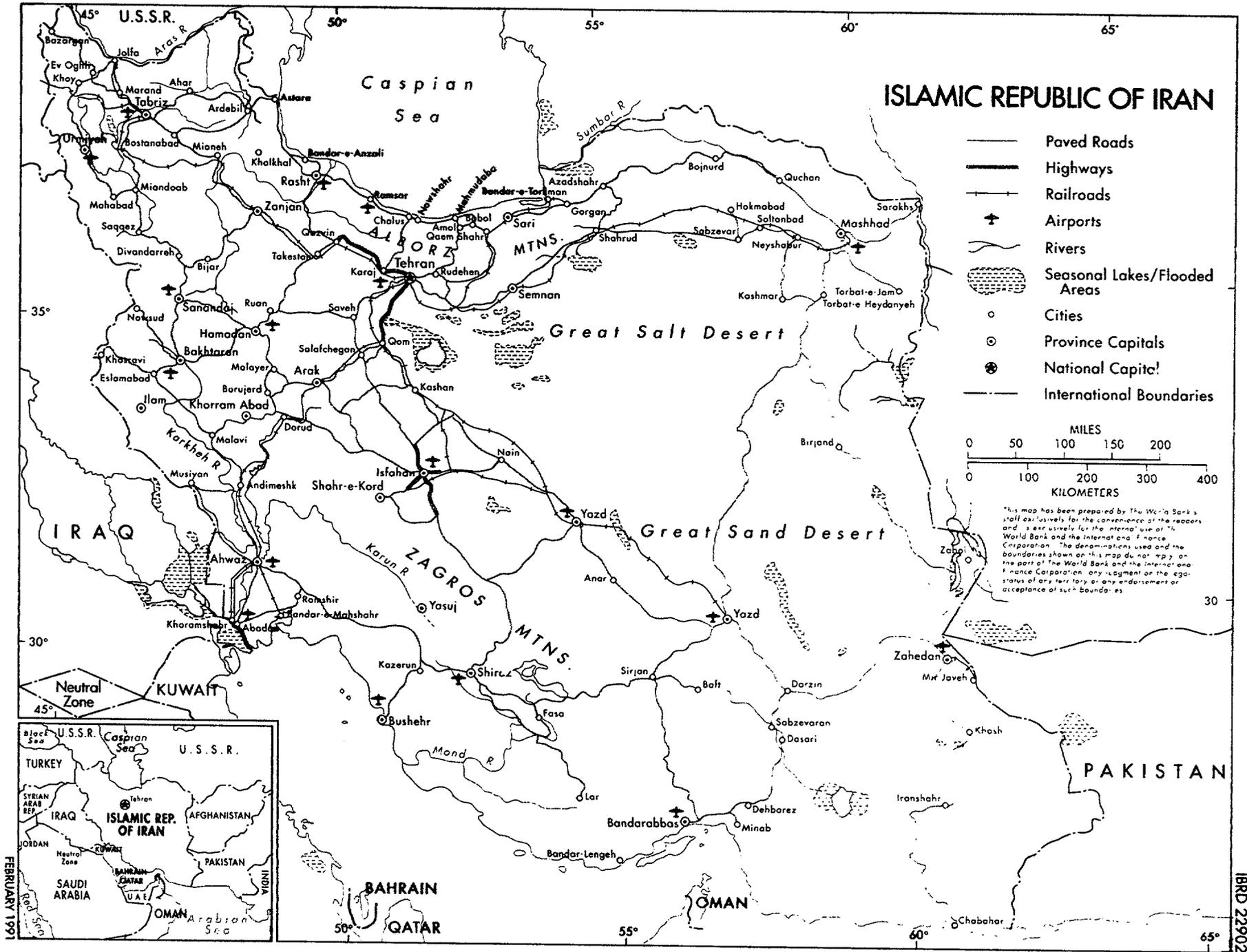
9.42 The suggested programs require capital and recurrent funds. Iran does not spend an exceptionally high percentage of its GNP on education. It should be possible for the Government to raise that percentage without overtaxing its citizens or improperly restricting other developments.

ISLAMIC REPUBLIC OF IRAN

-  Paved Roads
-  Highways
-  Railroads
-  Airports
-  Rivers
-  Seasonal Lakes/Flooded Areas
-  Cities
-  Province Capitals
-  National Capital
-  International Boundaries



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