

**FOR
AGENDA**

SM/04/303
Supplement 1
Correction 1

September 7, 2004

To: Members of the Executive Board

From: The Secretary

Subject: **Islamic Republic of Iran—Selected Issues**

The attached corrections to SM/04/303, Supplement 1 (8/30/04) have been provided by the staff to correct typographical errors:

Page 1, Table of Contents, line 1: remove “Economic”
line 3: for “Fact” read “Facts”

Page 4, para. 4, bullet 1, line 4: for “Bliss” read “Bils”

Page 7, footnote 4, line 3: Add “pace.” after “slower”

Page 10, Table 1.1, first column, line 2: Add “1/”, after “Oil-producing MENA countries”
last line: Add footnote to read “1/ Excluding Iran.”

Page 11, Table 1.2, first column, line 2: Add “1/”, after “Oil-producing MENA countries”
last line: Add footnote to read “1/ Excluding Iran.”

Page 17, para. 24, bullet 1, line 9: Add “and” after “sector,”

Page 52, para. 85, line 2: Add “and” after “etc.),”

Questions may be referred to Mr. Jbili (ext. 36973), Mr. Kramarenko (ext. 34357), and Mr. Bailén (ext. 34794) in MCD.

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ISLAMIC REPUBLIC OF IRAN

Selected Issues Paper

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Approved by the Middle East and Central Asia Department

August 27, 2004

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CHAPTER I : ECONOMIC GROWTH IN THE ISLAMIC REPUBLIC OF IRAN¹

I. OVERVIEW

1. Iran faces the challenge of increasing its growth rate to reduce unemployment and improve the living standards of its population over the medium term. Growth performance in recent years (6 percent during 2000–03) has been satisfactory, and was driven by major economic reforms as well as by transitory factors, such as high oil prices and expansionary fiscal and monetary policies. Questions about the determinants of growth in Iran and the long-term sustainability of relatively high growth rates arise. Given that past experience shows that the Iranian economy can grow at relatively high rates over an extended period, a first step is to examine the historical sources of growth and discuss the relevance of various contributing factors for the medium term. The second step is to provide an analytical framework for the formulation of growth-enhancing policies.

2. This chapter uses a growth accounting exercise to quantify the historical sources of growth over the period 1960–2002, including human capital accumulation and the contribution of Total Factor Productivity (TFP) to growth. The chapter also presents an empirical study to quantify the role of several other contributing factors commonly discussed in the cross-country growth literature, including macroeconomic stability, financial development, trade openness, and the change in the terms of trade.²

II. GROWTH LITERATURE: STYLIZED FACTS

3. The empirical studies on the determinants of growth can be broadly divided into two main categories. First, growth accounting exercises, which consist of estimating contributions to growth of basic factor inputs—labor, physical capital, and human capital—and a residual that captures the efficiency at which physical and human capital resources are used, or TFP. Second, several empirical studies analyze cross-country growth regressions to find the relationship between different explanatory variables and growth.

4. Some stylized facts arise from the cross-country growth regressions. The most relevant in the case of Iran are:

- A positive relation between the level of education of the labor force and economic growth. Barro (1991, 1997), and Benhabib and Spiegel (1994) show that the initial level of education is an important factor to explain subsequent growth. However, Bils and Klenow (2000) find that the causality goes from growth to increases in school enrollment rates.

¹ Prepared by J. Bailén.

² Recent growth studies on Iran include Jalali-Naini (2003), Mojaverhosseini (2003), and Jalali-Naini (2003).

conflicts (1960–76 and 1989–2002) are clearly associated with high GDP growth, while the political turmoil and war period of 1977–88 was associated with negative growth. The paper shows that the average annual growth rate during the 1977–88 period was reduced by 6 percentage points due to these factors.

III. GROWTH PERFORMANCE IN IRAN

6. In the period 1960–2002, real GDP growth in Iran averaged 4.6 percent a year (2 percent in per capita terms). Non-oil GDP grew at a faster pace of 5.5 percent during the period⁴. There are three distinct sub-periods (Figure 1.1):
- During 1960–76, Iran enjoyed one of the fastest growth rates in the world: the economy grew at an average rate of 9.8 percent in real terms, and real per capita income grew by 7 percent on average. As a result, GDP at constant prices was almost 5 times higher in 1976 than in 1960. This stellar performance took place in an environment of relative domestic political stability, low inflation (Figure 1.2), and improved terms of trade, as evidenced by the rising oil price relative to import prices (Figure 1.3). Both oil output and oil prices increased significantly during the period: oil production grew at an annual average rate of 10 percent while oil prices relative to import prices increased by 214 percent during the sub-period.

⁴ Since the relative price of oil GDP increased by an average of 3 percent per year during 1960-2002, the ratio of nominal oil GDP to total GDP increased from 12.8 percent to 22.1 percent, even though real oil output increased at a slower pace.

Figure 1.1. Islamic Republic of Iran: GDP Growth Rates, 1960–2002

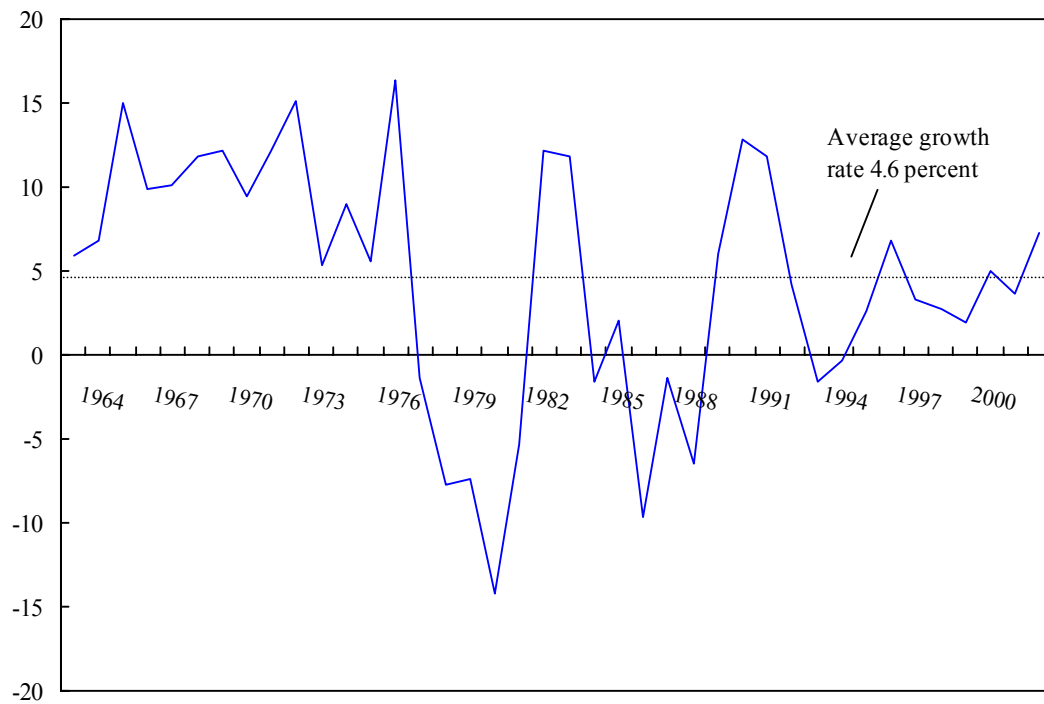
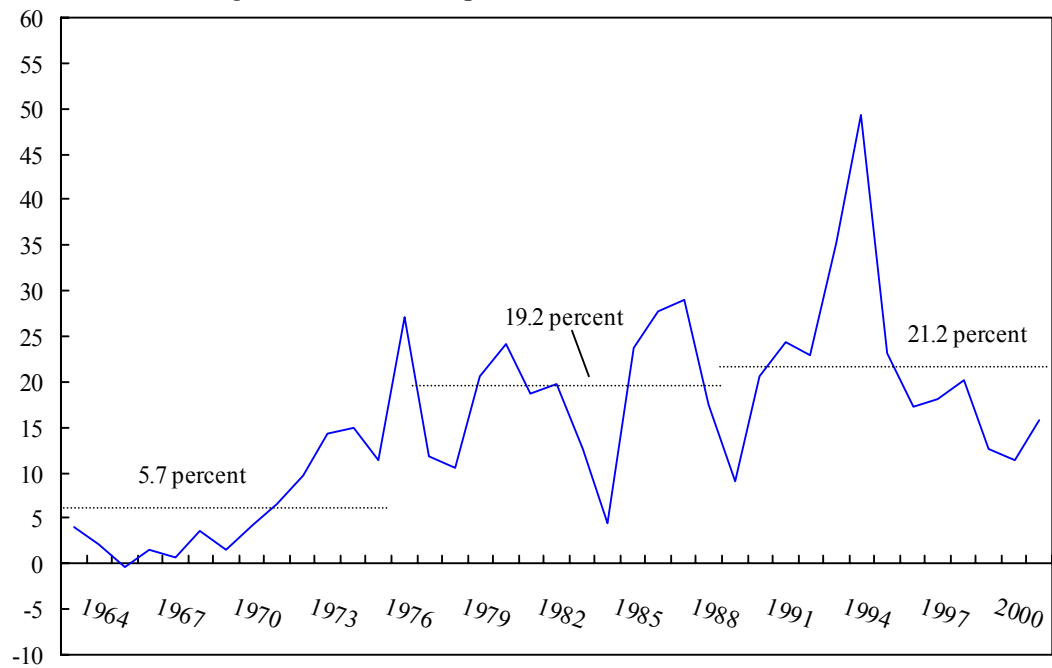
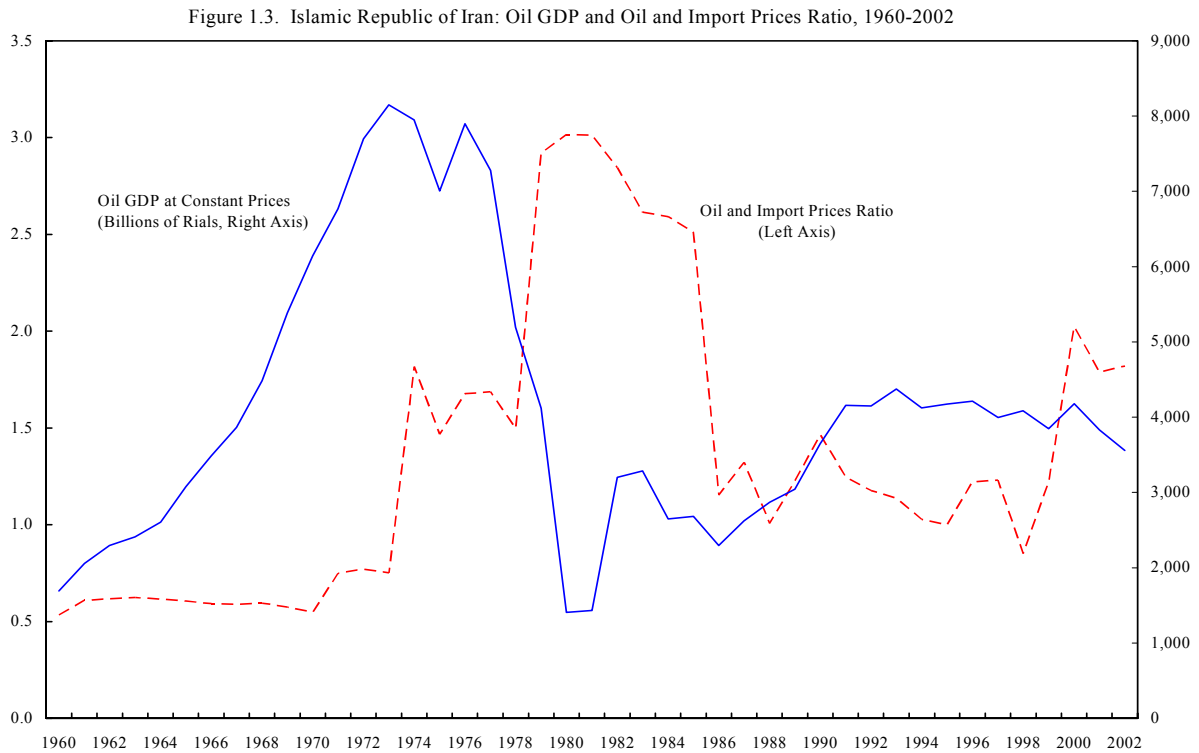


Figure 1.2. Islamic Republic of Iran: Inflation, 1960–2002



Sources: Iranian authorities, and IMF staff estimations.



- The growth trend was reversed during 1977–88, reflecting the fallout of the turmoil in the aftermath of the 1979 revolution, the eight-year war with Iraq, the international isolation of Iran, the increased state dominance of the economy, and the plummeting in oil output and revenue. In 1988, oil production was only 36 percent of its level in 1976; and oil prices were 40 percent lower in real terms. This resulted in negative real GDP growth of 2.4 per year on average. Excluding oil output, non-oil GDP also declined, albeit at a more moderate pace (0.5 percent per year).
- With the reconstruction effort and a partial recovery in oil output, real economic growth recovered during 1989–2002 to an average of 4.7 percent per year. This period, however, was marked by sharp fluctuations in the growth pattern, as the post-war economic boom (1989–93) was followed by the stagnation of 1993–94 when the economy was hit by lower oil prices, lack of external financing, and economic sanctions. The ensuing severe debt crisis, together with inappropriate macroeconomic policies, had an adverse impact on growth, which hovered around 3.6 percent during 1995–2000. In the more recent period (2000–03), real GDP growth picked up to 6 percent due to significant progress in economic reforms—such as the exchange rate unification, trade liberalization, the opening up to foreign direct investment, and financial sector liberalization—but also to high oil prices and expansionary fiscal and monetary policies.

- The growth performance of Iran compares favorably with the rest of the countries in the Middle East and North Africa (MENA) region, which averaged 4.2 percent a year during the 1960–2002 period (Table 1.1). Among the 17 countries in the region, only four—Oman, Syria, the U.A.E., and Yemen—grew faster than Iran. However, historical growth in Iran also exhibits higher variability than in the rest of the region: the standard deviation of Iran’s growth rate is only exceeded by those of Kuwait, Lebanon, and Libya (Table 1.2).

Table 1.1. MENA Region: Economic Growth, 1960–2002

(In percent, average for the period)

	1960–76	1977–88	1989–2002	1960–2002
Iran	9.8	-2.4	4.7	4.6
Oil-producing MENA countries 1/				
Algeria	5.9	2.3	2.0	3.5
Bahrain	4.5	4.3	4.7	4.5
Kuwait	4.1	-2.1	1.6	1.4
Libya	14.0	-0.2	-0.2	4.5
Oman	9.8	6.0	4.8	6.9
Qatar	7.0	-0.3	4.4	3.8
Saudi Arabia	7.7	2.0	2.5	4.2
United Arab Emirates	12.5	-0.5	6.2	5.1
Average oil MENA countries	8.2	1.5	3.3	4.2
Non-oil MENA countries				
Egypt	4.6	5.7	3.3	4.5
Jordan	4.8	5.4	3.5	4.5
Lebanon	-3.9	5.2	0.3	0.3
Morocco	4.3	4.1	2.7	3.7
Pakistan	3.9	6.1	3.8	4.5
Sudan	2.9	2.4	4.3	3.2
Syria	7.9	3.8	4.3	5.5
Tunisia	7.1	4.2	4.4	5.3
Yemen	9.5	5.7	5.0	6.6
Average non-oil MENA countries	4.6	4.7	3.5	4.2
MENA average (exc. Iran)	6.6	2.8	3.4	4.2

Source: International Financial Statistics (IFS).

1/ Excluding Iran.

Table 1.2 MENA Region: Standard Deviation of Economic Growth, 1960–2002

Iran	8.32
Oil-producing MENA countries 1/	
Algeria	6.13
Bahrain	5.36
Kuwait	14.90
Libya	11.98
Oman	8.05
Qatar	7.66
Saudi Arabia	6.47
United Arab Emirates	8.19
Average oil MENA countries	8.59
Non-oil MENA countries	
Egypt	3.34
Jordan	6.86
Lebanon	21.68
Morocco	4.82
Pakistan	2.92
Sudan	5.06
Syria	7.75
Tunisia	3.99
Yemen	4.58
Average non-oil MENA countries	6.78
MENA average (exc. Iran)	7.68

Source: International Financial Statistics (IFS), and IMF staff estimations.

1/ Excluding Iran.

IV. SOURCES OF GROWTH

A. Growth Accounting

7. A standard growth accounting framework is used to discuss the historical sources of growth in Iran. We use the following Cobb-Douglas production function:

$$Y_t = A_t K_t^\alpha H_t^{1-\alpha} \quad (1)$$

where Y , K , and H represent output, physical capital, and human capital respectively, α represents the contribution of physical capital to output, and t is an index for time. The term A represents TFP, or the efficiency at which the economy operates, which depends on factors such as domestic political and international environment, the legal and regulatory framework, the creation and diffusion of more efficient technologies through international

trade or foreign direct investment, and the effect of structural reforms such as financial sector or labor market liberalization. Physical capital is considered as a homogeneous capital good, with no distinction made between equipment and non-equipment capital goods, or between private and public capital goods (implicitly assuming that the productivity of the two types of capital is the same)⁵.

8. To account for the effect of education on economic growth, a human capital index is constructed as a function of both the labor force and its average years of schooling. However, in Iran it is difficult to measure the contribution of schooling to human capital because of the lack of an education quality index that would account for the changes in the productivity of education during the 1960–2002 period⁶. Therefore, the paper considers two different specifications of human capital, which result in two different growth accounting exercises.

9. A basic specification of human capital is to *equal human capital to raw labor*, that is, $H_t = L_t$. Under this specification, an increase in the average years of schooling of the labor force does not increase the productivity of labor. Given that the cross-country empirical evidence points to a positive effect of education on the productivity of labor, under this simple specification, the contribution of TFP to growth is overstated because it implicitly takes into account the effect of the quality of the labor input on output and growth.

10. A different assumption is to consider that schooling increases the productivity of the labor force along the following specification of human capital (Lucas, 1988):

$$H_t = L_t e_t \quad (2)$$

where L represents the labor force and e is the average years of schooling of the labor force.

11. The above specified production function implies that *human capital accumulation exhibits increasing returns to scale*. This means that, if we double both the number of workers and the average education years of the labor force, then human capital increases four-fold. Since some evidence—such as the increased proportion of college graduates with non-marketable skills—points to a reduction in the quality of education in Iran over the period under study, the growth accounting exercise using this technology specification may result in an overstatement of the contribution to human capital—and an understatement of the contribution of TFP—to growth.

12. Taking natural logarithms and differentiating with respect to time, the following decomposition of growth is obtained:

⁵ This assumption is made because of the difficulty to measure the productivity of public capital goods in Iran.

⁶ Other proxies of the quality of human capital, such as the increase in productivity of workers—measured by their relative salaries, presumably reflecting relative education attainment—are not available in Iran.

Table 1.6. Islamic Republic of Iran: Average Sectoral Growth, 1960–2002

(In percent, in real terms)

Period	1960–76	1977–88	1989–2002	1960–2002
Agriculture	4.6	3.9	4.1	4.2
Oil and Gas	10.0	-8.6	2.5	2.4
Industries and Mines	14.0	-1.3	7.3	7.6
Services	11.1	-1.9	4.8	5.4
Nonoil GDP growth	10.1	-0.5	5.0	5.5
GDP	9.8	-2.4	4.7	4.6

Source: Central Bank of Iran.

V. POLICY LESSONS

24. Three main policy lessons could be derived from the Iranian growth experience:

- **Structural reforms, in a stable political environment, would be key to improve the growth performance over the medium and long term.** To increase the long-term growth rate of the economy above its historical trend of 4.6 percent per year, policies should be directed at increasing productivity (measured by TFP). Moreover, the cross-country empirical evidence and the empirical findings for Iran show that growth is directly associated with factors such as trade openness, macroeconomic stability, and political stability. These findings call for stepped-up implementation of structural reforms—trade and FDI liberalization, privatization and deregulation to increase the size and role of the private sector, and financial sector reform to eliminate practices such as financial repression that harm long-term growth. Other reforms, such as the elimination of subsidies—as well as fiscal, monetary and exchange rate policies aimed at increasing macroeconomic stability—would also play a critical role in enhancing growth performance.
- **Increases in the efficiency of human capital resources through education investment appear be an important explanatory factor of Iran’s growth.** In this respect, achievements in Iran since the 1979 Revolution have been very important, with more than tripling of the average level of schooling of the working population since 1979 (from 1.5 years of schooling to about 5 years). Education policies aimed at allocating increased resources to primary and secondary education, as well as promoting on-the-job training programs would further enhance growth prospects. The need for further efforts in the educational area becomes evident when we consider that Iran has an illiteracy rate of about 20 percent, despite the substantial progress achieved in the past.

- Finally, with respect to the contribution of physical capital to economic growth, **Iran's investment rate**—which averaged more than 30 percent during 1960–2002—is **already high** by international standards, even when compared with the high-growth countries of East Asia (see Table 1.7). **Its payoff**, however, as measured by average ICORs, **does not suggest that it should be increased further, but that the efficiency of investment projects needs to be improved**. The low efficiency of many investment projects undertaken in Iran, especially in agriculture, industry and mining, and housing, could be explained in part by subsidized energy and inputs and negative real interest rates on bank financing. Nonetheless, despite the high rates of investment over the past years, physical infrastructure is in need of upgrading and modernization.

Table 1.7. Islamic Republic of Iran: Comparison of the Investment and Growth Performance of Iran with Six High-Growth Asian Economies

	Average GDP Growth	Average Investment/GDP 1962–2002	Investment/GDP Growth
China,P.R.:Hong Kong	7.0	26.1	3.7
Indonesia	5.4	21.7	4.0
Korea	7.8	27.9	3.6
Malaysia	6.7	28.6	4.3
Singapore	7.9	36.0	4.5
Thailand	6.7	26.5	4.0
Average	6.9	27.8	4.0
Iran	4.6	30.5	6.6

Sources: IFS, and IMF staff estimations.

of bank supervision; enlarge the range of sanctions to banks that do not comply with the regulations; define banking services and other services that banks and other financial entities are allowed to deliver; and define the role of external bank auditors. Furthermore, staff training and IT development are essential for successful implementation of this reform. Finally, smaller deposit-taking institutions would need to be brought under the supervision of the central bank as envisaged in the draft law on these institutions submitted to Parliament.

82. Banking restructuring involves managerial, operational, and financial reorganization. Reforming the corporate governance of state-owned banks is key. As a first step, management of commercial banks could focus more on improving performance and strengthening the financial position of banks. Also, undue influence of large public companies and bonyads on management of banks would need to be eliminated. Since under the current system, managers of state-owned banks have little incentives or expertise to manage risks effectively, it will be important to provide adequate training in risk management, in particular in the area of credit risk.

83. Once a risk-based banking supervision has been established and corporate governance of banks has been improved, further steps in deregulating the banking institutional environment could be implemented. Rates of return on loans and deposits could be gradually liberalized and the share of loans subject to sectoral allocation limits could be gradually reduced to zero. This will foster competition in the banking sector, improve pricing of risks, and contribute to more efficient allocation of financial resources. A reduction in administrative controls will also stimulate a more effective utilization of existing Islamic finance instruments and development of new ones in line with recent international experience in this area (Sundararajan and Errico, 2002).

84. With respect to financial restructuring, the degree of undercapitalization of individual state-owned banks needs to be assessed based on internationally accepted norms. Furthermore, high lending concentration on large borrowers should be discouraged through strict implementation of the recently approved regulations on large exposures. Moreover, restructuring of banks would only be effective if accompanied with restructuring of large state-owned companies, which are the major debtors. In this regard, the program of restructuring and privatization of public companies would need to be elaborated together with banking system restructuring plans.

B. Capital Markets and Insurance

85. In light of the rapid increase in equity valuation, the reform agenda for capital markets needs to focus on tightening the supervision of issuance of securities and facilitating the market entry of properly supervised capital market intermediaries. Efforts are under way to introduce a new capital market law, which will cover securities issued inside and outside the TSE. This law will seek to ensure the efficient functioning of securities markets; protect investors against unfair and fraudulent practices; ensure that adequate and timely information is provided to investors and the general public on companies issuing securities; and regulate activities of market intermediaries. A key reform should be to establish an independent

securities and exchange commission. The development of market infrastructure is also important (electronic trading, registration, and settlement of transactions, etc.), and should go hand in hand with tangible progress in regulatory oversight.

86. Similarly to the other segments of the financial system, a risk-based insurance regulatory framework would need to be put firmly in place and the Central Insurance Authority should divest from its reinsurance business and concentrate on regulation and supervision.

C. Capital Account Liberalization

87. The authorities have adopted a gradual approach toward capital account liberalization which reflects a cautious approach given Iran's current circumstances. This approach focuses mainly on attracting FDI, as reflected in the recent FDI law. Short-term flows, including portfolio investment, would be liberalized gradually. The draft portfolio investment law, which rightly takes a gradualist approach to liberalizing short-term in flows, is expected to authorize limited portfolio investment of non-resident institutional investors with time limitations on the repatriation of principal capital.

88. At present, more emphasis should be put on reforms that would help meet key preconditions for capital account liberalization and enhance its benefits (Ishii et al., 2002 and Prasad et al., 2003). Key preconditions include macroeconomic stability; an appropriate exchange rate regime; a strong and well supervised financial system with developed and liquid capital markets; and significant improvements in key institutions, including the legal framework and corporate governance.

89. While progress has been made in all these areas, further advances are needed toward meeting the preconditions for capital account liberalization. Macroeconomic stability must be firmly established, as inflationary pressures persist and the economy remains vulnerable to large sudden changes in oil prices. Although a managed float exchange rate regime has been established, increased flexibility in the exchange rate is needed to deal with potential volatility in capital flows and fluctuations in oil revenue. Moreover, hedging instruments would need to be developed to increase the resilience of the financial system to exchange rate risk. As highlighted above, there is a need for banks and the capital markets to strengthen their capacity to monitor and assess potential risks associated with volatile capital flows.

V. CONCLUSION

90. While Iran has made progress in reforming its financial system, important challenges remain and the reform agenda for the period ahead would need to focus on restructuring the financial system and reducing its vulnerabilities. Reform of the banking system is of paramount importance and should give priority to the strengthening of the supervisory framework and corporate governance of banks. These would ensure that a reduction in controls on credit allocation and rates of return will result in better financial intermediation.