

Economic Trends and Macroeconomic Policies in Post-Revolutionary Iran

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Abstract

This paper reviews some of the main trends in the Iranian economy over the past two decades and discusses the key economic policy issues that divide the reformist from the more conservative factions in Iran. It argues that the economic policy dilemma of whether to liberalize the economy has not gone away and very much lies dormant. For a small open economy such as Iran operating in an increasingly globalized world economic environment, the neglect of fundamental economic forces in favour of political vested interest can have dire consequences in the long run.

JEL Classifications: E60, E66, 021, **Key words:** Macroeconomic Trends, Monetary and Exchange Rate Policies, Islamic Republic of Iran.

1 Introduction

Almost two decades have elapsed since the 1979 revolution and the establishment of the Islamic Republic of Iran. During this period the economy has been subject to a number of major upheavals, disruptions and shocks, both internal and external in nature: the initial effects of the disruptions due to the revolution itself, the eight-year war with Iraq, the ongoing economic and financial embargoes by the United States and on occasions by some of the European economies, the volatile international crude oil prices, and the uncertainties surrounding the conduct of the monetary, foreign exchange and trade policies with abrupt switches between fixed and floating exchange rate regimes, open and closed foreign trade policies, and private-owned and

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government-controlled enterprises. All these and many other factors have prevented the Iranian economy from exploiting its full potential; largely failing to take full advantage of its unique geopolitical location, its abundant resources, and the new opportunities that have emerged in the world economy as a result of rapid technological advances, the increasing globalization of the world economy, the opening up of new markets in Eastern Europe and in Central Asia.

In this paper we review some of the main trends in the Iranian economy over the past two decades and discuss the key economic policy issues that divide the reformist from the more conservative factions in Iran. In our analysis we primarily focus on economic factors. But this should not be taken to mean that we regard religious and other socio-political factors as of secondary importance. Clearly, there are complicated linkages and interactions between economic and non-economic factors which have to be taken into account. Although, it may be worth bearing in mind that for a small open economy such as Iran operating in an increasingly globalized world economic environment, the neglect of fundamental economic forces in favour of political vested interest can have dire consequences in the long run.

2 Main Economic Trends - The First Decade

The ending of the Iran-Iraq war in August 1988 signalled the beginning of a new phase in the development of the Iranian economy, and presented Mr. Rafsanjani's newly elected government with an important opportunity to regenerate the Iranian economy, and to reverse the deteriorating trends of the previous decade. Over the period 1978-1988, the real output and investment fell by average annual rates of 1.8% and 6.6% respectively, while the total real consumption expenditures had remained largely stagnant, with population growing at around 3.2% to 3.9% per annum.¹ Allowing for the population growth one obtains annual average rates of decline of 4.2%, 9.7%, and 3.6% for per capita output, investment and consumption expenditures, respectively. (Historical trends in these economic aggregates are displayed in Figures 1 and 2, covering the period 1961/62-1996/97. Figure 1 gives the per capita values, while the growth rates are presented in Figure 2.)² As a result the share of investment in aggregate output declined substantially from 22.2% in 1978/79 to 10.8% in 1988/89, while over the same period the share of consumption in aggregate output in fact rose from 66.0% to 71.1%, largely reflecting the populist economic policies of the regime.³

The unprecedented falls in output and investment were accompanied by a widening gap between the official and the black (or "free") market exchange rates, and

¹ The real output is measured by the Gross Domestic Product (GDP) at market prices, the real investment is measured by the Gross Fixed Capital Formation. All figures are in 1982/1983 (1361) constant prices, and are obtained from the *Bank Markazi Jomhuri Islami Iran*.

² The primary source of the historical observations displayed in Figures 1-6 is the various issues of the Annual Reports of the *Bank Markazi Jomhuri Islami Iran*.

³ See Figure 3. It is also worth noting that only 28% of countries in the Summer and Heston's Penn-World Tables had investment rates below 10% over the years 1988-89.

rapidly rising prices. See Figure 4 and 5.⁴ Over the period 1978/79-1988/89 the exchange rate premium (defined as the ratio of the free to the official rate) rose by an average annual rate of 19.1%, the Retail Price Index (RPI) rose by an average annual rate of 18.2% and the money supply (the M_2 measure) by an average annual rate of 20.3%.

These adverse economic conditions (an acute form of “stagflation”) were due largely to the revolutionary upheavals and their aftermaths already alluded to in the introduction. But they were further exacerbated by the regime’s foreign policy adventurism with its adverse consequences for Iran’s access to international capital markets, extensive nationalization of the entrepreneurial and the banking system, continued uncertainties over property rights and the role of the private sector in the economy, centralised and inward-looking government policies aimed at maintaining a highly over-valued official exchange rate through import compression, foreign exchange restrictions and generally interventionist economic policies with far reaching implications for resource allocations, particularly in the financial and industrial sectors. The result had been an economy in a state of acute disequilibrium with highly distorted prices signals. It was clear that the economic policies of the previous decade could not be continued, and a new approach to the management of the economy was needed.⁵

3 Postwar Period of Economic Planning and Reconstruction

The First Five Year Economic, Social and Cultural Plan, covering the period 1989/90 to 1993/94, represented the regime’s manifesto for the reconstruction of the economy, and provided an important framework within which the government’s reform and liberalization policies could be implemented. The primary aim of the Plan was to regenerate the economy, carry out the reconstruction of the war-damaged regions, promote private investment, and initiate a reform and liberalization programme aimed at foreign exchange and trade policies. The Plan’s overall target was to achieve an average annual growth of 8.1% in real DGP, 11.6% in real investment, and an average annual growth of 5.7% in real private consumer expenditures, seen to be rather

⁴ The source of the official exchange rate data is the International Financial Statistics Databank of the International Monetary Fund. The “free” or the “black” market rates are obtained from various issues of the World Currency Yearbook. For further details see Pesaran, M.H. “The Iranian Foreign Exchange Rate Policy and the Black Market for Dollars”, *International Journal of Middle East Studies*, 1992, 24, pp. 101-25.

⁵ For a more detailed account of the economic conditions during this period see, for example, Pesaran, M.H. “The System of Dependent Capitalism in Pre- and Post-Revolutionary Iran”, *International Journal of Middle East Studies*, 1982, 14, pp. 501-22; Pesaran, M.H. “Economic Development and Revolutionary Upheavals in Iran”, in H. Afshar (ed.), *Iran: A Revolution in Turmoil*, London, Macmillan 1985; Behdad, S., “Foreign Exchange Gap, Structural Constraints, and the Political Economy of Exchange Rate Determination in Iran”, *International Journal of Middle East Studies*, 1988, 1-21; Amirahmadi, H. *Revolution and Economic Transition: The Iranian Experience*, Albany State University of New York Press, 1990; Amuzegar, J. *Iran’s Economy Under the Islamic Republic*, London, I.B. Taurus, 1993; Mazarei, Jr., A., “The Iranian Economy Under the Islamic Republic: Institutional Change and Macroeconomic Performance, 1979-1990”, *Cambridge Journal of Economics*, 1996, pp. 289-314.

ambitious at the time. Another important quantitative objective of the Plan was to stabilize the economy's rate of monetary expansion to an average annual rate of 9.4% and reduce the rate of inflation from 28.9% in 1988/89 to an average annual rate of 15.7% over the duration of the Plan.⁶

However, the most significant aspect of the First Plan was in the area of foreign exchange and trade liberalization policies, attempting to reverse the autarchic and failed economic policies of the previous decade.

The breakdown of the Plan's growth objectives by the main sectors of the economy together with the associated realised growth rates are given in Table 1. Under the Plan, real output increased by an average annual rate of around 7.3%, which is only slightly below the Plan's overall target (at 8.1%). The situation is different, however, when one considers the growth performance of individual sectors in particular years. For example, while actual average growth rates under the Plan for the agriculture, oil and service sectors are generally in line with those envisaged in the Plan, the same is not true of the other, mainly industrial and construction sectors. The average annual growth rates of values added in industries and mines, and construction were below their target values by 6.3% and 9.2% respectively, while the growth of value added in the water, electricity and gas sectors (at 12.7%) exceeded the Plan's target by 3.6%. These discrepancies, perhaps not surprisingly, were even more pronounced in the case of the growth rates in particular years. The actual growth rates exceeded the target rates over the years 1990/91 and 1991/92, and then significantly fell short of the planned rates over the last two years of the Plan.

The high growth achieved during the first half of the Plan largely reflected the initial effects of the trade and foreign exchange liberalization and the utilisation of unused capacity in the economy, and was accompanied by an unprecedented surge in private consumption expenditures. With the removal of trade and foreign exchange restrictions the private consumption expenditures at constant prices which had shown only a modest growth of around 2.5% in 1989/90, grew by the staggering rates of 19.5% and 9.5% over the years 1990/91 and 1991/92 respectively, followed by more moderate rates of 5.1% and 2.6% for the last two years of the Plan. (See Table 2 and Figure 2). The huge increases in real private consumption expenditures during the years immediately following the Iran-Iraq war can be explained, at least partly, in relation to the pent up demand created over the war years. However, the government failure to moderate the rate of consumption growth during 1990/92 played a significant role in bringing about the exchange rate crisis that in fact followed. (See below for more details).

A similar pattern can also be seen in investment growth. Over the years 1990/91 and 1991/92 gross fixed capital formation at constant prices rose by 13.3% and 40.9%, respectively, while during the last two years of the Plan real investment

⁶ Also see "An Evaluation of the Performance of the Country's Real Economy in 1992/93" (Arzyabi amalkard bakhsh vaghaie eghtesadi keshvar dar sal 1371), Department of Economic Accounts, *Bank Markazi Jomhuri Islami Iran*, Mordad, 1372. Note that the target and realized growth rates given in this publication refer to the first four years of the Plan. Also the GDP figures at constant prices published by the Bank Markazi include an adjustment for the changes in the terms of trade, while our figures do not.

grew by 7.1% in 1992/93 and by only 2.7% in 1993/94.⁷ Over the course of the Plan real private consumption expenditures rose by an average annual rate of 8.3% which is well in excess of the Plan's average annual target of 5.7%. In contrast, the average growth of real investment was in line with the Plan's target, although once again there are important discrepancies between the actual and planned investment growth over the different years of the Plan. Public sector consumption expenditures at constant prices also grew very much in line with their target values, and averaged to around 4.0% as compared to the planned figure of 3.8%. (See Table 2).

The high growth of output and the excessively high private consumption growth during the first three years of the Plan were primarily achieved through increased utilisation of existing capacities and increased imports, particularly final consumer goods imports. The imports of goods and services rose from 13.5 billion dollars in 1989/90 to around \$25 billion in 1991/92. (See Table 3.) Given Iran's limited capacity to export, these high levels of imports could not be sustained and led to a substantial deterioration of the country's external current account, creating major difficulties for the government in meeting the repayment of the country's foreign debt, estimated to have been around \$23.2 billion at the end of 1993/94.⁸ Ordinarily this amount of foreign indebtedness for a major oil producing country such as Iran would not have been a real problem. But in view of US economic embargoes and the inability of international organization such as IMF and the World Bank to help (again due to the threat of US vetoes) and the fact that as much as 76.1% of the \$23.2 billion were in the form of short term debts, it appears that the Iranian authorities were left with no choice but to make a U-turn; reverting back to the "closed door" policies of trade restrictions and foreign exchange controls.

We shall discuss this policy reversal and its likely consequences for the future development of the Iranian economy later. But first we need to consider the evolution of the monetary sector and its relationship to the real economy.

4 Monetary Growth and Inflation

In addition to output, consumption and investment targets, the First Plan also stipulated upper bounds on the average rate of monetary growth and the inflation rate. The plan was to limit the rate of expansion of the total private sector liquidity (namely the M_2 measure of money supply) to an average annual rate of 9.4%, and the rate of increase of the index of retail prices to an average annual rate of 15.7%.⁹ However, as

⁷ The differences in year-to-year movements of planned and actual growth rates also demonstrate the difficulties surrounding planning/forecasting of annual changes in sectoral output in an economy such as Iran where it is still highly dependent on the developments in volatile international oil markets, and raises serious doubts about the utility of detailed sectoral planning in Iran.

⁸ See Table 4. It appears that the full extent of Iran's foreign indebtedness had become known to the authorities only after the crisis had erupted; a feature also shared with the recent foreign exchange crises experienced by some of the East Asian economies during 1997.

⁹ The M_2 measure is defined as the sum of money (the M_1 measure) and quasi-money. The M_1 measure is defined as notes and coins in circulation plus sight deposits of the private sector with the banking system. Quasi-money is defined as the sum of time and saving deposits of the private sector with the banking system.

can be seen from Table 5, money supply (the M₂ measure) grew by an average annual rate of 25.2%, thus substantially exceeding the Plan's target. The M₁ measure of money supply grew slightly less at around 23.8%, mainly reflecting the move from cash and non-interest bearing deposits to term-investment deposits paying returns of between 7 to 15% per annum. The Retail Price Index rose by an average annual rate of 18.7% during the Plan, which was much closer to the Plan's target of 15.7%.¹⁰ However, it is important to note that due to direct and indirect government subsidies on essential food stuffs, energy and transportation, the index of retail prices does not fully reflect the extent of inflationary pressures that have been present in the economy over the past 5 years. A more appropriate overall measure of inflation is the rate of change of the implicit deflator of the Gross Domestic Product. According to this measure the average rate of inflation over the Plan has been around 25.3%, which is substantially higher than the rate of increase in the Retail Price Index.¹¹ This discrepancy is, however, of short-term nature and largely reflects the time delays involved in the transmission of inflationary pressures to the final goods prices, and the fact that with the substantial depreciation of the exchange rate the level of government subsidies (direct and indirect) on consumer goods has been rising; largely neutralising the adverse effects of the devaluation on a number of essential commodities such as bread, fuel, water and electricity.¹² But one would expect that in the long-run most of the excess of the inflation in the implicit GDP price deflator over the inflation in the Retail Price Index to show itself in a higher rate of increase in the level of consumer prices in the future. In fact, historically, the average rate of increase of the three main general price indices, namely the Retail Price Index, the wholesale price index and the implicit price deflator of GDP, have all been of the same order of magnitude. For example, the averages of these indices (% per annum) over the pre- and post-revolution periods have been as follows:

| Different Measures of Inflation Across Different Sub-Periods | | | |
|---|-----------------|-----------------|-----------------|
| | 1959/60-1978/79 | 1979/80-1996/97 | 1959/60-1996/97 |
| Retail Prices | 6.5 | 21.8 | 14.1 |
| Wholesale Prices | 5.7 | 24.4 | 15.1 |
| GDP Deflator | 7.9 | 21.3 | 14.6 |

Source: Bank Markazi Jomhuri Islami Iran, *Annual Reports* various issues.

The Plan's overall monetary growth target of 9.4% per annum, has clearly been out of line with economic realities. But more importantly, it has not even been

¹⁰ See Table 5.

¹¹ A similar discrepancy also exist between the rate of change of the wholesale and the retail price indices. Under the Plan the wholesale price index rose by an average annual rate of 25.5%, as compared to the average annual rate of change of the retail prices of 18.7%. Also note that the rate of increase of the wholesale prices almost exactly match the rate of change of the GDP deflator over the period of the Plan.

¹² For a discussion of the extent of government subsidies on bread and energy see M. Karshenas and M. Hashem Pesaran, "Economic Reform and the Reconstruction of the Iranian Economy", *The Middle East Journal*, 1995. See also Table 8.

consistent with the Plan's own inflation target of 15.7% per annum. In a developing economy such as Iran, one would expect the money supply growth to exceed the inflation rate and not vice versa. This is confirmed by the price and money supply data given in Table 5. Over the period 1979/80-1996/97, the average annual growth of money supply exceeded the growth of retail prices by 2.2%, and that of the GDP price deflator by 2.7%. A similar result also follows if attention is confined to the period after the revolution and before the start of the First Plan. Over the period 1979/80-1988/89, money supply (M_2) and the index of the retail prices grew by average annual rates of 20.1% and 19.0%, respectively. The smaller rate of increase in the real money balances (the difference between the money supply growth and the inflation rate) over this period is largely explained by the negative output growth experienced during the period. (See Table 5.)

4.1 Determinants of Money Demand in Pre- and Post-Revolutionary Periods

It is, however, important to note that the revolution seems to have significantly affected the relationship between money supply growth, output and inflation which could have important consequences both for the efficacy of monetary policy in relation to the control of inflation, and for the economy's future financial development.

Using annual observations we estimated autoregressive distributed lag (ARDL) models in real per capital money balances, per capita output and inflation over the (pre-revolution) period 1960/61-1978/79. The lag orders of the ARDL (q_1, q_2, q_3) model were selected according to the Schwarz Information Criterion using the automatic lag-order selection procedure in *Microfit 4.0*. Given the few observations available for estimation we set the maximum lag order of the various variables in the model equal to unity.¹³

$$\log(M_2/P)_t = -\underset{(0.346)}{2.36} + \underset{(0.069)}{0.576} \log(M_2/P)_{t-1} + \underset{(0.098)}{0.441} \log y_t + 0.344 \log y_{t-1} - \underset{(0.130)}{0.725} \Pi_t + \bar{\epsilon}_{1t}, \quad (1)$$

$$\bar{R}_V^2 = 0.888; \chi_{SC}^2(1) = 4.25; \chi_F^2(1) = 0.01; \chi_N^2(2) = 0.15; \chi_H^2(1) = 2.27,$$

where M_{2t} is the per capita broad definition of money, P_t is the implicit price deflator of GDP at market prices, y_t is the per capital real GDP measured at constant 1982/83 (1361) market prices, $\Pi_t = \Delta \log(P_t)$ is the rate of price inflation used as a proxy for the nominal interest rate, and $\bar{\epsilon}_{1t}$ is the residual. The standard errors of the estimates are given in brackets, \bar{R}_V^2 is the adjusted squared multiple correlation coefficient computed for changes in $\log(M_2/P)_t$, $\chi_{SC}^2(1)$, $\chi_{FF}^2(1)$, $\chi_N^2(2)$, and $\chi_H^2(1)$, are Lagrange multiplier statistics for tests of residual serial correlation, functional form mis-

¹³ See Pesaran, M.H. and B. Pesaran, *Working with Microfit: Interactive Econometric Analysis*, Oxford University Press, 1997.

specification, non-normal errors and heteroskedasticity, respectively. These statistics are distributed as Chi-squared variates with degrees of freedom in brackets.¹⁴

The regression passes all the diagnostic tests, although there is some evidence of residual serial correlation at the 5% significance level but not at the 10% level. All the estimated coefficients have the expected signs and are statistically significant. Furthermore, they imply a long run income elasticity of demand for money of around 1.85 (0.067), and a long run inflation (interest rate) elasticity of -1.71 (0.289).¹⁵ These estimates are robust to the possibility of unit roots in real money balances, output and inflation and yield the following error correction specification¹⁶

$$\Delta \log (M_2 / P)_t = -0.424 EC_{t-1} + 0.441 \Delta \log y_t - 0.725 \Delta \Pi_t + \bar{\varepsilon}_{1t}, \quad (2)$$

(0.069)
(0.098)
(0.072)

where the error correction term EC_{t-1} is defined by

$$EC_{t-1} = \log(M_2 / P)_{t-1} - 1.85 y_t + 1.71 \Pi_t + 5.56.$$

(0.067)
(0.289)
(0.326)

Applying the same estimation procedure to the data over the period after the revolution (namely 1979/80-1996/97) we obtained the following estimates based on a slightly simpler ARDL (1,0,0) model:

$$\log (M_2 / P)_t = -0.590 + 0.735 \log (M_2 / P)_{t-1} + 0.141 \log y_t - 0.295 \Pi_t + \bar{\varepsilon}_{2t}, \quad (3)$$

(0.961)
(0.137)
(0.114)
(0.162)

$$\bar{R}_v^2 = 0.190; \chi_{SC}^2(1) = 0.01; \chi_F^2(1) = 0.03; \chi_N^2(2) = 0.25; \chi_H^2(1) = 1.56.$$

Once again the regression passes all the diagnostic tests; even more readily than the one estimated over the period. However, apart from the coefficient of the lagged money variable, $\log (M_2/P)_{t-1}$, none of the other estimates are statistically significant at the 5% level. The short run output and inflation elasticities are now estimated to be around 0.141 (0.114) and -0.295 (0.162), as compared to 0.441 (0.098) and -0.725 (0.072) obtained using the time series observations from the pre-revolutionary period. The post revolution estimates are much smaller (in absolute values) and less precisely estimated. The same also applies to the long run estimates. The long run output and inflation elasticities for the post revolution period are estimated to be 0.532 (0.526) and -1.111 (0.720), which are smaller in magnitude and are much less precisely estimated. Finally, the error correction specification of the money demand equation for the post 1978/79 period is given

$$\Delta \log (M_2 / P)_t = -0.265 EC_{t-1} + 0.141 \Delta \log y_t - 0.295 \Delta \Pi_t + \bar{\varepsilon}_{1t}, \quad (4)$$

(0.137)
(0.114)
(0.162)

¹⁴ For more detailed description of these test statistics see Pesaran and Pesaran op.cit., Chapter 18.

¹⁵ As before, the figures in brackets are the standard error of the estimates.

¹⁶ See, Pesaran, M.H., and Y. Shin, "An Autoregressive Distributed Lag Modelling Approach to Cointegration Analysis", in S. Strom, A. Holly and P. Diamond (Eds.), *Centennial Volume of Rangar Frisch, Econometric Society Monograph*, Cambridge: Cambridge University Press, 1998 (forthcoming).

where the error correction term Ec_{t-1} is defined by

$$EC_{t-1} = \log(M_2/P)_{t-1} - 0.532y_t + 1.111\Pi_t + 2.222$$

(0.526) (0.720) (2.844)

The above estimates show a clear evidence of structural break in money demand equation. They suggest a rapid adjustment of real money balances to money market disequilibria during the period before the revolution, but not after. Also the long run output elasticity of demand for money is estimated to be substantially higher during pre- as compared to the post-revolutionary period. This finding is in line with the strong trends in financial deepening during the period before the revolution. In fact as can be seen from Figure 5, the indices of financial deepening, measured as the ratios of money to income, have been rising steadily during the period 1960/61-1978/79, while an opposite trend is in evidence when the period after the revolution is considered. In fact the ratio of M_2 to nominal GDP in 1996/97 was almost the same as it had been in 1978/79. The low output elasticity of money demand and the declining trend in money-output ratio over the past two decades are likely to have undesirable consequences for the country's growth potential and the ability of monetary authorities to harness inflationary pressures through money supply controls.¹⁷

In the regressions for both sub-periods the inflation variable has the correct sign; indicating that a rise in inflation has the desired dampening effect on the demand for real money balances. But once again the quantitative effect of inflation on demand for real money balances seems to have declined substantially after the revolution. Consequently the same rates of expansion in private and public sectors liquidity are likely to have more inflationary consequences after than before the revolution. This point can also be clearly seen in Figure 6 (and Table 5) where there is a much closer association between growth of money supply and inflation over the post-revolutionary period as compared to that which existed before the revolution. As a result relatively more stringent restrictions on credit expansion are required if the authorities are to succeed in controlling inflation.¹⁸

4.2 Determinants of Money Supply Growth

¹⁷ The econometric evidence linking financial deepening to economic growth is reasonably well established, but the evidence is much less clear cut when the direction of causality between the two variables is considered. For early discussions of the possible links between financial development and economic growth see R. McKinnon, *Money and Capital in Economic Development*, Brooking Institutions, Washington, 1973; and E.S. Shaw, *Financial Deepening in Economic Development*, Oxford: Oxford University Press, 1973. More recent developments in this literature are surveyed by R. Levine, Financial Development and Economic Growth: Views and Agenda, *Journal of Economic Literature*, 1997, 35, 688-726. In the case of Iran the causal nature of the relationship between financial deepening and economic growth is further complicated due to the importance of oil exports in the economy, which is likely to be the primary cause of the changes in real output and real money balances.

¹⁸ A better understanding of the policy implications of the results reported here requires a separate empirical examination of the likely factors behind the observed structural change in money demand equation in Iran. This is, however, beyond the scope of the present paper.

the pace and timing of government liberalisation and exchange rate unification policy. The substantial increase in private sector credit of around 39% in 1991/92 was a direct consequence of the removal of the credit ceilings and the application of the floating exchange rate to a wider class of private sector imports. The effect of the exchange rate depreciation on public sector borrowing requirements did not, however, fully become transparent due to substantial increases in government's rial revenues from the sale of foreign exchange at preferential rates in the free market.²² But such increases in government revenues are short-lived and can only be maintained by a continual process of exchange rate depreciation which is clearly undesirable, as well as being ineffective in the long-run.

4.3 Control of Inflation: Economic and Political Considerations

The money demand and supply equations estimated over the post revolution period (namely equations (3) and (5)), have two important features: (i) the response of money demand to output seems to have become very much muted after the revolution, and (ii) money supply growth is largely determined by the growth of private and public sector credits. Therefore, to control inflation the Bank Markazi must be able to control the economy's rate of credit expansion; a task complicated by political factors and the Bank's apparent inability to raise deposit or expected profits rates above the prevailing (or expected) rates of inflation. The Keynesian policy of creating output slacks to reduce inflation is also unlikely to be effective in the longer run, unless of course it is accompanied with appropriate credit and interest rate policies.

In the final analysis the main causes of the excessive monetary expansion and inflation has to be found in the government's unwillingness to oppose credit demands of politically powerful groups (both inside and outside the government). In Iran these political considerations are more critical for the conduct of monetary and credit policies both because of the size and political importance of the semi-public enterprises, and the relatively non-responsive nature of interest rates to changes in the economy's inflationary environment. The large state subsidies on essential food items, fuel and public services also present the government with further political problems:²³ the reduction of public sector indebtedness through the elimination or substantial cuts in subsidies will be difficult politically and in the short run will most likely result in higher rather than lower rates of inflation. The anti-inflationary effect of reduced subsidies will materialize in the longer run as the higher relative prices of subsidized commodities start to reduce their consumption, and only if the government (in conjunction with the Bank Markazi) is able to reduce the rate of growth of credits in the economy.

²² For instance, 41% of total government revenues in 1992/93 originated from the sale of foreign exchange at preferential rates. See *Annual Review*, Bank Markazi Jomhouri Islami Iran, 1992/93.

²³ Government subsidies on some of the main food and agricultural items over the period 1990/91-1995/96 are summarized in Table 8. These do not include implicit subsidies on fuel, air transport, utilities and other public services.

The rates paid on bank (term-investment) deposits have changed little in comparison to high and rising rates of inflation.²⁴ As Tables 5 and 6 show over the period 1992/93-1996/97 the deposit rates have ranged between 7.5% (on short-term deposits) to 18.5% (on five-year investment deposits), while the average inflation rate (the RPI measure) over this period has been well in excess of 30% per annum; thus yielding negative *ex post* real rate of returns of between 12% and 22% per annum. This degree of “financial repression” inevitably has undesirable implications. It discourages the mobilisation of domestic savings, promotes the development of unofficial (curb) money market that lies outside the control of monetary authorities, increases capital flights, promotes speculative activities in land, real estate and foreign currencies, and generally retard financial development with possible adverse consequences for the country’s growth potential. (See also below).

Bank’s lending rates were also well below the rate of inflation and over the period 1991/92-1996/97 ranged between 9% to 18% for productive activities and exports, and was only marginally higher (between 18% and 25%) for trade and services, as compared to an average annual rate of inflation of around 30% over the same period. The inevitable consequence of such low lending rates is excess demand for bank credits and credit rationing, with undesirable rent seeking implications. The rent seeking aspects of credit rationing can be particularly troublesome in the case of semi-public corporations (such as the enterprises under the auspices of the Foundations for the Oppressed). The semi-public (semi-private) nature of these enterprises and their ready access to centres of political power in the country weakens the political resolves of the banking system in their efforts to control the level of bank credits, and tends to alter the composition of credits in favour of the foundations and the public sector.²⁵

Even when “investment” deposit and bank “profit” rates are increased in response to rising inflation, there is a clear tendency for these increases to be too little and too late. As a consequence, the relationship between real interest rate and inflation has become perverse with real interest rates becoming more negative when inflation has been rising and less negative when the inflation rate has been falling! For market forces to have an equilibrating effect on money and credit markets, real interest rates need to rise when inflation is rising and not the reverse. Otherwise, excess demand for credits will increase even further; thus making the task of credit control that much harder and politically more vulnerable.

²⁴ Under the arrangement of Islamic banking, interest paying deposits with the banking system are viewed as participation in the investment activities of the banking system. Such deposits are subject to two (profit) rates. An initial rate, known as the “provisional” (al-al-hessab) rate which is announced at the time deposits are placed with the banks; and a final or actual rate which is computed on the basis of the bank’s operations at the end of the year. However, in practice the provisional and actual returns are very close. For a more the year. However, in practice the provisional and actual returns are very close. For a more detailed account of Iran’s financial and banking system see H. Pourian, “The Experience of Iran’s Islamic Financial System and Its Prospects for Development”, in *Development of Financial Markets in the Arab Countries, Iran and Turkey*, Economic Research Forum for Arab Countries, Iran & Turkey, Cairo, 1995.

²⁵ The average annual rates of increase in bank credits advanced to private and public sectors over the period 1979/80-1996/97 have amounted to 20.7% and 24.6%, respectively.

Prolonged periods of negative real interest rates have also had adverse consequences for the country's financial development. As can be seen from Figure 5, the ratio of broad money to output (M_2/Y), often used in the literature as an index of financial development, shows a strong downward trend during most of the two decades after the revolution.²⁶ Such downward trend in money-income ratio can have important adverse consequences for investment and growth in the long run. In fact one of the key objectives of the Second Five-Year Development Plan has been to "...set rates at levels that would ensure positive real return on bank deposits."²⁷ Clearly this objective is far from being met. Iranian financial system is in need of major reforms if it is to achieve the dual objectives of price stability and financial development. Abolition of credit ceilings and other restrictions on bank credits would be desirable and effective only if accompanied by deposits and bank profit (lending) rates that are responsive to market forces and fully reflect the inflationary expectation that are present in the economy. An effective policy of financial liberalisation also requires a competitive banking system where the lending policies of the banks are based on commercial considerations rather than on political factors. Such reforms should also take account of the developments in foreign exchange markets and the complicated interactions that exist between monetary and foreign exchange policies.

5 Foreign Exchange and Trade Policies

5.1 Backgrounds

One of the major objectives of the First Five-Year Plan was to rationalize the foreign exchange market, promote non-oil exports and achieve a more efficient allocation of foreign exchange resources. Rigid adherence to a fixed official exchange rate during most of the 1980s, where the economy had been subject to a number of large negative shocks accompanied by relatively high domestic inflationary pressures, had resulted in a highly overvalued currency. The observation of the official exchange rate became particularly serious over the latter half of the 1980's, and led to substantial premiums on the black market rate. The premium rose from 200-300% in the early 1980s to 500-600% by mid 1980s and then reached phenomenal rates of over 2000% by 1989. The existence of these enormous premiums introduced gross distortions in relative prices, encouraged rent-seeking at the expense of productive activities, and masked large government subsidies to consumers and producers with easy access to the country's foreign exchange earnings at the official rate.²⁸ With income from oil

²⁶ It is also worth noting that despite substantial nominal increases in private sector credits, the real value of credit extended to the private sector in fact declined slightly over the period 1979/89-1996/97.

²⁷ The Second Five Year Plan covers the period 1994/95- 1998/99, but because of delays in its approval by the Majlis and the financial difficulties of the government its implementation was delayed by one year and begun in March 1995. For the details of this Plan see the Law of the Second Five-Year Economic, Social and Cultural Plan of the Islamic Republic of Iran, The Official Newspaper of the Islamic Republic of Iran, Volume 50, Number 14515, (8/10/1373). Also see the documentations of the Second Plan for Economic, Social and Cultural Development of the Islamic Republic of Iran, Volumes 1-5, Plan and Budget Organisation, Islamic Republic of Iran, Azar 1372 (1993/94).

²⁸ See, Lautenschlager, W., "The Effects of an Overvalued Exchange Rate on the Iranian Economy, 1979-1989", *International Journal of Middle East Studies*, 1996, 18, pp. 31-52; Behdad, S., "Foreign Exchange Gap Structural Constraints and the Political Economy of Exchange Rate Determination in

exports dwindling and import requirements rising, particularly during the initial years of the Plan, rationalization of the foreign exchange market became a top economic priority.

In 1988/89, Iran's total foreign exchange receipts from goods exports at current prices amounted to \$10.7 billion which was less than half of Iran's foreign exchange receipts before the revolution. The fall in the country's foreign exchange revenues would be even more pronounced if one allowed for increases in import prices over the period and Iran's rising population. Per capita foreign exchange revenues from oil exports measured in constant 1990 dollar prices shrunk from \$842 in 1978/79 to \$160 in 1988/89, namely less than one fifth of its value before the revolution.²⁹ Nevertheless, exports of oil and gas still accounted for the bulk of the foreign exchange receipts, with non-oil exports amounting to around 1 billion dollars. (See Table 3). Furthermore, it was not expected that oil exports could be expanded significantly, due to limited production capacities and the rapidly rising domestic oil consumption, largely brought about by artificially low, and in real terms declining domestic energy prices. The oil production and oil export targets envisaged in the Plan have all been met. Under the Plan oil exports were to rise from around 1.99 million barrels per day (b/d) in 1989/90 to 2.29 million b/d in 1993/94. As it turned out oil exports rose from 1.82 million b/d in 1989/90 to 2.40 million barrels in 1992/93, thus over-shooting the Plan's target. (See Table 7). However, due to lower than expected prices of oil exports over the last three years of the Plan, foreign exchange receipts from oil and gas exports have fallen short of their targets. This short fall amounted to 25% for 1993/94, though for the whole Plan period it was only 7%.³⁰

5.2 Attempted Reforms

Faced with realities of capacity constraints on oil production and the vagaries of the international oil market, a large and increasing part of the Plan's foreign exchange requirements had to be met from other sources, such as further increases in non-oil exports, a more efficient use of oil and gas revenues, and foreign borrowing. Reform of the foreign trade and exchange system was therefore essential for a successful implementation of the Plan. As a first step towards meeting this goal, in 1989/90 surrender requirements applicable to several non-oil exports were significantly reduced or eliminated, and a special "service" exchange rate of Rls 845 = US\$1 was introduced for certain payments by qualified individuals. The multitude of exchange rates in effect were replaced by three main rates; the "official" rate (Rls 70 = US\$1), primarily applicable to foreign exchange transaction of the public sector, a

Iran", *International Journal of Middle East Studies*, 1988, 20, pp. 1-21; and Pesaran, M.H. "The Iranian Foreign Exchange Rate Policy and the Black Market for Dollars", *International Journal of Middle East Studies*, 1992, 24, pp. 101-25.

²⁹ Per capita oil revenues in constant dollars were computed by dividing foreign exchange receipts from oil exports by population by the index of export prices of the industrialized countries. The export price index (1990=1.0) was obtained from the International Financial Statistics Annual Data Bank, IMF.

³⁰ The Planned target for foreign exchange receipts from the oil and gas sector was \$19.2 billion for the year 1993/94, and \$83.1 billion for the whole five-year period.

“competitive” rate for certain essential private sectors imports, and a “floating” rate for other approved private sector imports.³¹ The proceeds from non-oil exports were allowed to be converted into rials at the preferential floating rate, an Export Development Bank for promotion of non-oil exports was founded in 1991/92, barter agreements were cancelled with a number of countries in the old Soviet Block, obligation on incoming passengers to declare the importation of foreign exchange for the equivalent of \$5,000 was removed, and out-going passengers were permitted to export foreign currency up to the equivalent of \$10,000 per person, lists of goods to be imported at the “competitive” and at the “floating” rates were gradually extended.³² Largely as a result of these policies, and the substantial increases in private and public sector credits,³³ imports of goods and services more than doubled between 1989/90 and 1991/92, rising from \$13.5 billion to \$25.2 billion. (See Table 3). Non-oil exports also responded vigorously to the favourable new economic climate and rose steadily from \$1 billion in 1988/89 to \$3.7 billion in 1993/94. Despite these substantial increases in non-oil exports, because of stagnant oil and gas revenues, and in particular due to much higher than expected imports of goods and services, the current account of the balance of payments showed a deficit of \$9.5 billion in 1991/92, followed by a further current account deficit of \$6.5 billion in 1992/93, and 4.2 billion in 1993/94. See Table 3. These deficits were substantial both in the context of the Iranian economy as well as in comparison with other economies. The ratios of current account deficits to GDP over these three years amount to 9.6%, 6.7% and 5.5%, respectively, if we use GDP estimates converted to US dollars at the official rate of exchange. Using the “free” exchange rate to carry out the conversion we would obtain the substantially higher ratios of 28.9%, 15.9% and 8.9%. These are much higher than the current deficits to GDP ratios experienced by the countries involved in the 1997 Asian currency crises. In 1996, the ratios of current account deficits to GDP for Thailand, Malaysia, Philippines, Korea and Indonesia were 9.1%, 5.9%, 5.8%, 4.9% and 3.4%, respectively.³⁴

5.3 External Debts and Currency Crisis

As a result of these large deficits Iran’s external debt which was almost non-existent at the end of the Iran-Iraq War, started to grow very rapidly and according to the official statistics amounted to \$23.2 billion by the end of 1993/94.³⁵ Furthermore, as much as 76% of this amount was in the form of short-term (up to one year) debt, thus making the economy highly vulnerable to foreign exchange crises, particularly given the

³¹ In 1992/93, out of the total foreign exchange allocation of \$23.2 billion, \$12.1 billion was transacted at the official rate, \$4.2 billion at the competitive rate, and \$6.9 billion at the floating rate. This allocation brought the share of foreign exchange allocated at the official rate to 52%, down from 71% in 1991/92. (See *Annual Review*, Bank Markazi Jomhuri Islami Iran, 1992/93).

³² See *Annual Report and Balance Sheet*, Bank Markazi Jomhuri Islami Iran, 1991/92, Chapter 9.

³³ In real terms during the three years 1989/90-1991/92 the private and public sector credits rose by average annual rates of 17.1%, respectively. See Table 5.

³⁴ See, for example, G. Corsetti, P. Pesenti, and N. Roubini, “Paper Tigers? A Preliminary Assessment of the Asian Crisis”, a paper presented at NBER-Bank of Portugal International Seminar on Macroeconomics, Lisbon, June 14-15, 1998.

³⁵ It is worth noting that the cumulated sum of deficits on current accounts over the three years 1991/92-1993/94 was as much as \$20,167 million, showing that almost all of the country’s external debt at the end of 1993/94 had been incurred over a relatively short time period.

hostile international economic relations under which Iran operates. This level of dependence on short term capital inflows has been unprecedented in Iran's history and is also well above the level experienced by the countries involved in Asian currency crises. At the end of June 1997 the share of short term foreign liabilities of Thailand, Malaysia, Philippines, Korea and Indonesia stood at 65.7%, 56.4%, 58.8%, 67.9%, 59.0%, respectively.³⁶

In spite of these large and continued balance of payments deficits, and the clear evidence of the government's difficulties with external debt repayments. Bank Markazi decided to go ahead with the next stage of its exchange rate unification policy and in April 1993 announced that from then on all private and public foreign exchange transactions (except for about \$4 billion of government imports of essential commodities) would be conducted at a new "floating" rate, to be determined daily on the basis of the balance of supply and demand for foreign currency. Initially, the policy proved to be quite effective and the gap between the new "floating" rate used in bank transactions outside the banking system virtually disappeared. From April to September 1993 the two rates differed by less than 0.5%. But with deficits on balance of payments continuing, and evidence on the government's inability to meet its external debt mounting throughout the two rates started to widen in late October 1993. In December 1994, the free market rate for one US dollar stood at 2,680 rials and was some 50% higher than the so-called "floating" rate, which was kept unchanged at its level of 1,750 rials per US dollar.³⁷ A new "black" market for foreign exchange started to develop only a few months after the announced move towards the unification of the exchange rate system. The black market rate started to rise very rapidly, reaching 3,240 rials per US dollar in mid January 1995 and then climbing to 6,800 rials (albeit for a short time) in May 1995.

5.4 Imposition of Trade Restrictions and Foreign Exchange Controls

The rapidly unfolding foreign exchange crisis, the highly short-term nature of Iran's external debt in conjunction with the country's limited access to the international capital markets left the government with no choice but to abandon the exchange rate unification and the foreign exchange and trade liberalizations policies in favour of trade restrictions and foreign exchange controls. In May 1995 foreign exchange transactions outside the official network were announced "illegal" and a dual exchange rate system was officially put into effect composed of

- (i) an official rate, known as the "floating" rate, was fixed at 1,750 rials per US dollar. This rate applies to oil and gas export receipts, imports of essential goods and services, and imports for use by large national projects, and

³⁶ See "The Maturity, Sectoral and Nationality Distribution of International Bank Lending, First Half 1997", *Bank for International Settlements*, Basle, January 1998.

³⁷ See Table 2 in M. Karshenas and M. Hashem Pesaran, "Economic Reform and the Reconstruction of the Iranian Economy", *The Middle East Journal*, 1995.

- (ii) an “export” rate fixed at 3,000 rials per US dollar was announced for non-oil exports and all other official current account transactions not falling under the essential import proceeds for direct sales to the banking system at the “export” rate.

Since 1995 other exchange rates have emerged. In order to promote non-oil exports, in July 1997 exporters were allowed to use the non-oil export proceeds to import certain goods from an approved list, or to receive “import certificates” which could be traded on the Tehran Stock Exchange³⁸ Initially the eligibility rate of non-oil export proceeds for importation purposes differed according to the type of exports (industrial, hand-woven or other categories). But from March 1998, 100% of all non-oil export proceeds could be used for imports or to receive import certificates. As a result a new “effective exchange rate for non-oil exports” came into effect which is equal to the sum of the “export” rate and the “import certificate” rate. Not surprisingly, alongside the above official rates and illegal “black” market rate for foreign exchange transactions outside the banking system has also come into existence.

5.5 The Aftermath

The abolition of the free market for foreign exchange, the pegging of the “official” and the “export” rates to the US dollar, and the imposition of strict controls on trade and capital flows combined with stringent credit controls resulted in drastic cuts in imports. The level of goods imports decreased from an average annual figure of \$22.6 billion over the period 1991/92-1993/94 to the level of \$13.5 billion during the subsequent three years, or a fall of 67.8%.³⁹ Thanks to rising oil prices foreign exchange revenues from oil exports rose significantly and amounted to \$19.3 billion in 1996/97; an increase of around 32% over the previous years.⁴⁰ Also due to the continued favourable treatment of non-oil exports, proceeds from non-oil exports showed only moderate declines during 1995/96-1996/97. As a result the balance of payments on current accounts showed large surpluses during 1994/95-1996/97, and Iran’s external debt declined steadily from \$16.8 billion at the end of 1996/97. (See Table 4). Naturally, most of debt repayments were those with short term maturity; thus reducing the proportion of short term debts in Iran’s total foreign liabilities from 76.1% at the end of 1993/94 to 27.1% at the end of 1996/97.

The drastic cuts in imports and the continued uncertainties over exchange rate policies affected prices adversely and the rate of price inflation (the RPI measure) jumped from 22.9% in 1993/94 to 35.2% in 1994/95 and then to 49.4% in 1995/96. But the stabilization of the currency markets and, more importantly, the stringent control of the private and public sector credits during the period 1994/95-1996/97

³⁸ In February 1998, 100% of non-oil export proceeds could be used for imports or to receive import certificates.

³⁹ These average estimates are computed using the annual figures provided in Table 3.

⁴⁰ The average price of Arabian Light crude has increased from \$14.8 per barrel in 1994 to \$16.09 per barrel in 1995, and to \$18.56 per barrel in 1996. The average crude prices fell slightly to \$18.14 in 1997, but have fallen substantially during 1998. See *British Petroleum Statistical Review of World Energy*, 1998.

started to have the desired effect on inflation. Despite an average rate of inflation of around 42.3% over the period 1994/95-1995/96, the average rates of private and public credit expansions were kept to 23.9% and 31.2%, respectively. (See Table 5). As a result the rate of inflation fell from 49.4.% in 1995/96 to 23.2% in 1996/97. The more recent evidence, based on the first nine months of 1997/98, also suggests that this downward trend is continuing.⁴¹

Given the lagged response of domestic production to import changes, the full effects of the trade and foreign exchange restrictions on domestic production only started to be felt in 1994/95 where according to the latest estimates published by the Bank Markazi GDP (at factor costs and at constant 1361 prices) grew only by 1.6%, against the rate of population growth of 2.4%-2.8%. The GDP estimates for the years 1995/96 and 1996/97 portray a more optimistic picture and put Iran's output growth over these two years at 4.5% and 5.2%, respectively. These relatively high growth rates are even more impressive considering that the oil sector grew in real terms by 1.2% per annum over the same period.

However, it seems unlikely that without major economic reforms such GDP growth could be maintained. At the time of writing (August 1998) the shortfall in oil income has forced the Bank Markazi to draw \$2.967 million from foreign exchange reserves to pay for the badly needed imports during the first nine months of 1997/98. (See Table 4). Further substantial withdrawals from reserves could de-stabilize Iran's precarious foreign exchange rate system. The authorities must either resort to foreign financing (for example through the postponement of debt repayments) and implement economic reforms at least on a limited scale, or to compress imports and credits even more. Once again the Iranian economy stands at the crossroads. Given the political uncertainties and the opposing approaches to economic reforms, both inside and outside of the government, a decisive outcome seems unlikely.

6 Concluding Remarks

After many years of revolutionary upheavals and wars, the First Five-Year Plan provided Mr. Rafsanjani's government with an important opportunity for regeneration of Iran's war-damaged and ailing economy. It also provided the government with a reasonably cohesive framework for the formulation and implementation of badly needed reforms of the trade and foreign exchange systems. The Plan's growth objectives were, however, rather ambitious and attempts at achieving them led to substantial balance of payments deficits and, given Iran's unfavourable international position, created serious external financing difficulties for the government. These developments were further exacerbated by hasty and badly-timed moves towards unification of the exchange rate. In consequence, the pace of economic growth slowed down inflation reached new heights and the country faced the daunting task of servicing and repaying large foreign debts. Faced with these difficulties, the government had no choice but to abandon the exchange rate unification and foreign exchange and trade liberalization policies in favour of the 1980s policies of pegged

⁴¹ Economic Trends, *Bank Markazi Jomhuri Islami Iran*, No. 10, Third Quarter, 1376 (1997).

exchange rates, import compression, trade restrictions, foreign exchange controls and credit restrictions.

The macroeconomic evidence so far seems to suggest that the new policies are having the desired effects of stabilizing the currency market and bringing down the inflation rate without undue negative consequences for output growth. A substantial part of the foreign debt has been repaid. Rates of growth of public and private sector credits have been moderated, and the rate of inflation has started to decline from its peak of 49.4% in 1995/96. There are, however, a number of important factors that point to troubled times ahead. Oil prices that had been rising over the period 1994/1996, started to stabilize in 1997 and have fallen substantially during 1998. This has forced Bank Markazi to make substantial withdrawals from foreign exchange reserves, and is likely to have important adverse effects both for inflation and output growth, particularly if oil prices fail to recover over the next two years. The import compression policy while effective in the short run is not sustainable if output growth is to be maintained (even at the relatively low levels of 3-4% per annum). Iran's manufacturing industries depend heavily on imports of raw materials and equipment and there are no indications that this dependence has been reduced in a structural manner. The success in reducing the rate of inflation has been largely based on government and Bank Markazi's resolve in curtailing credits. But the rate of growth of private sector credits has started to rise again and in 1996/97 amounted to 30.9% as compared to the inflation rate of 23.2%. The evidence from the first nine months of 1997/98 suggests that this rate of expansion is continuing despite further falls in the inflation rate. Such high rates of real credit expansion will most likely pose further difficulties for the import compression policy and could place greater strains on the exchange rate system. Already the black market rate of exchange has risen substantially and currently stands at around 5.250 rials per US dollar and given present policies and weak oil prices is likely to increase further. It seems possible that the high black market exchange rate premia of 1980s could be repeated. A pegged exchange rate regime is not generally sustainable unless it is coupled with stringent import controls and credit restrictions. However, such controls even if feasible politically can have harmful consequences for financial development and growth in the long run. The economic policy dilemma of whether to liberalize the economy has not gone away and very much lie dormant.

7 Postscript

This paper was written in August 1998 and it may be useful to consider some of the main trends in the Iranian economy over the two years 1997/98 (1376) and 1998/99 (1377). As was predicted output growth has decelerated from 4.5 and 5.8 per cents in 1995/96 and 1996/97 to 3.4 and 1.6 per cents during the years 1997/98 and 1998/99.⁴² The inflation rate (measured by the percentage change in the consumer price index) after falling to 17.3 per cent in 1997/98 has began to rise again and is reported to be around 22 per cent during the first half of 1999/2000 (1378). The exchange rate has deteriorated substantially on the free market (now legal again after

⁴² Economic Trends, *Bank Markazi Jomhouri Islami Iran*, No. 17, Second Quarter, 1378 (1999).

having being made illegal from May 1995 till June 1997). The US dollar rate in August 1999 stood at 8902 Rials, an almost two fold increase from its value at the end of 1997/98 (1376). The presidency of Mr. Khatami is beginning to lay the foundations of a more tolerant society, both politically and socially. But it is yet to deal with the structural problems that face the Iranian economy in a new world economy dominated by technological innovations and global competition.

April 2000

FIGURE 1

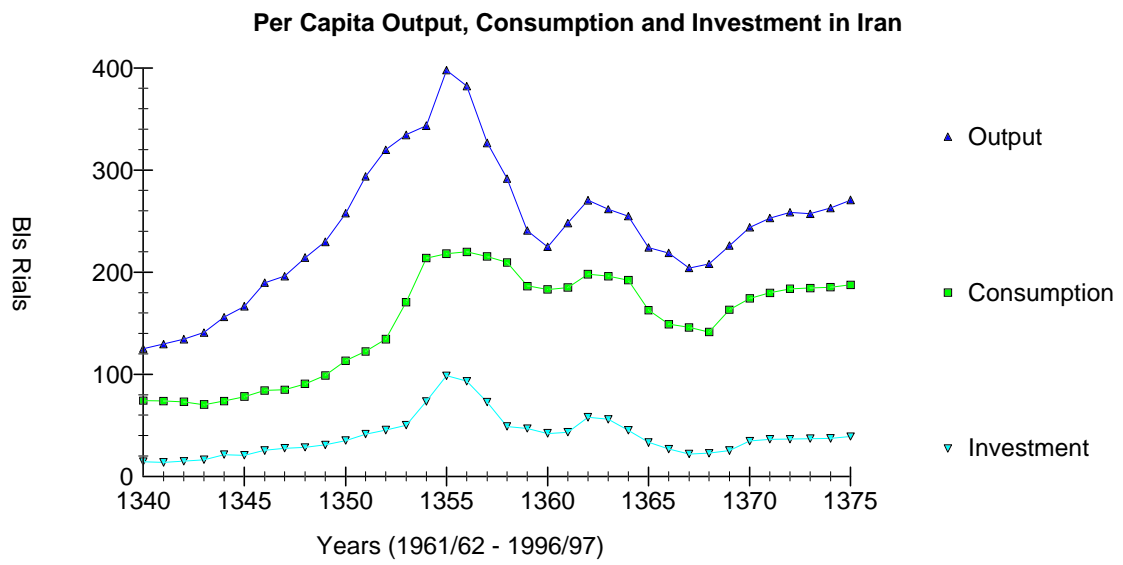


FIGURE 2

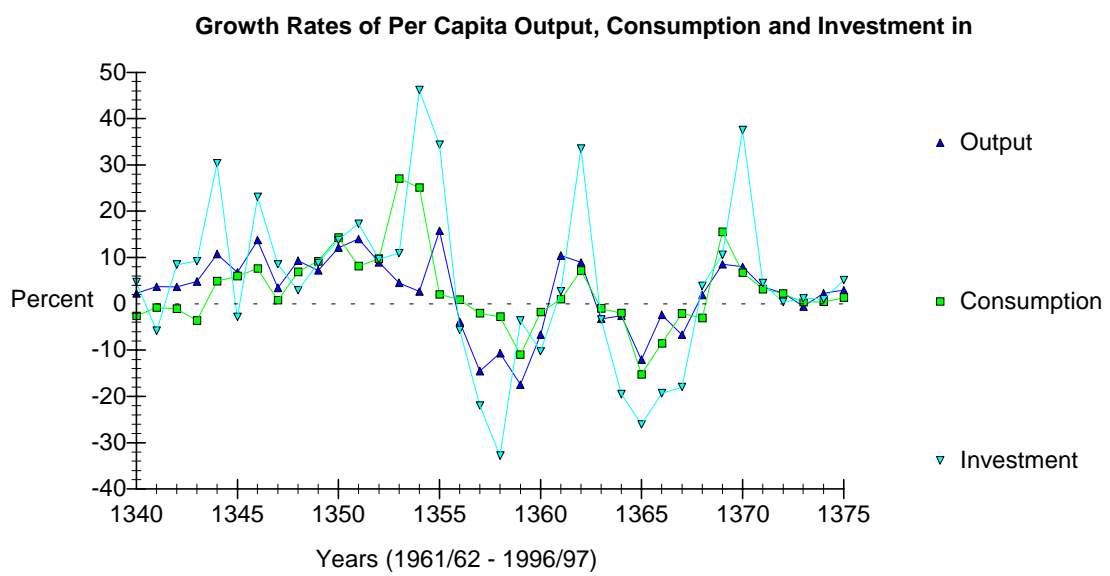


FIGURE 3

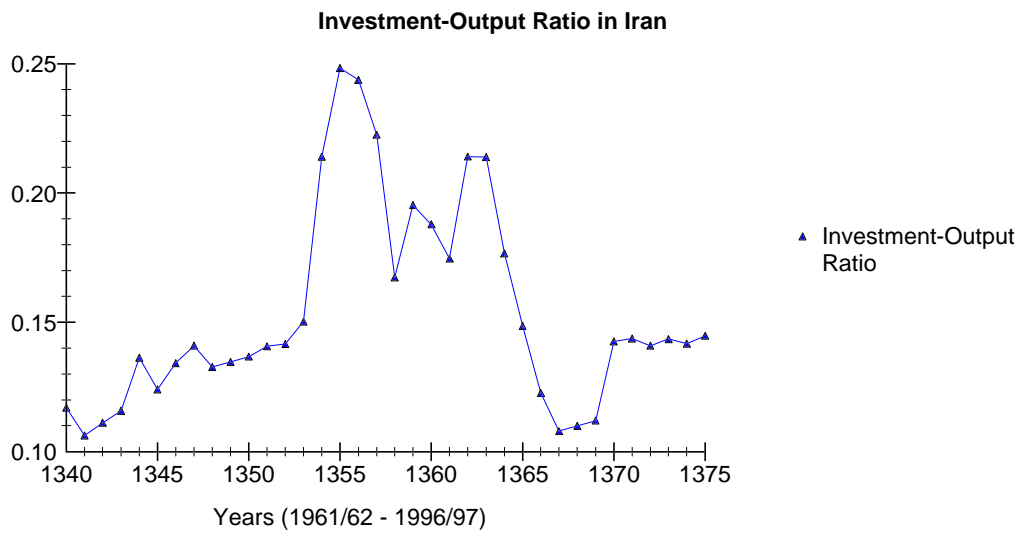


FIGURE 4

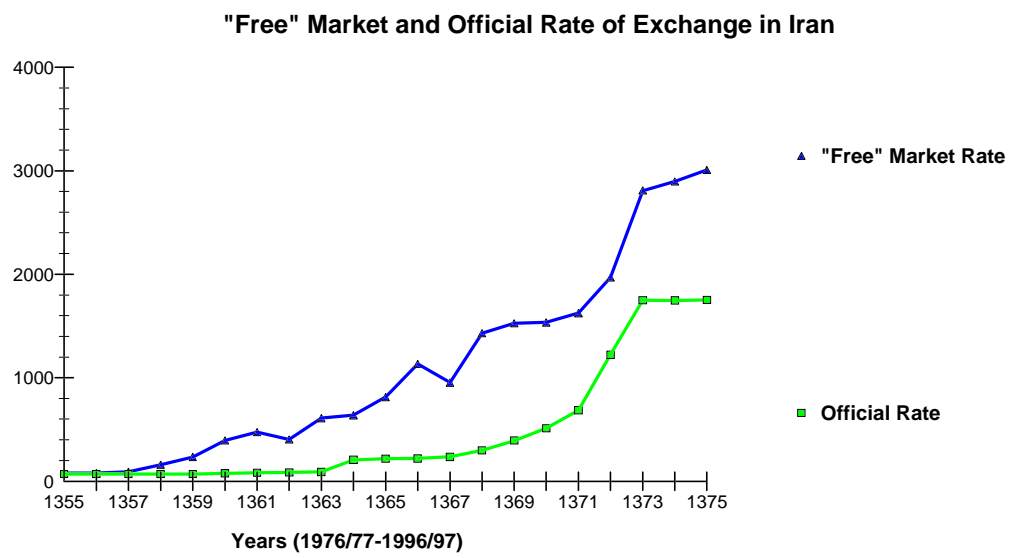


FIGURE 5

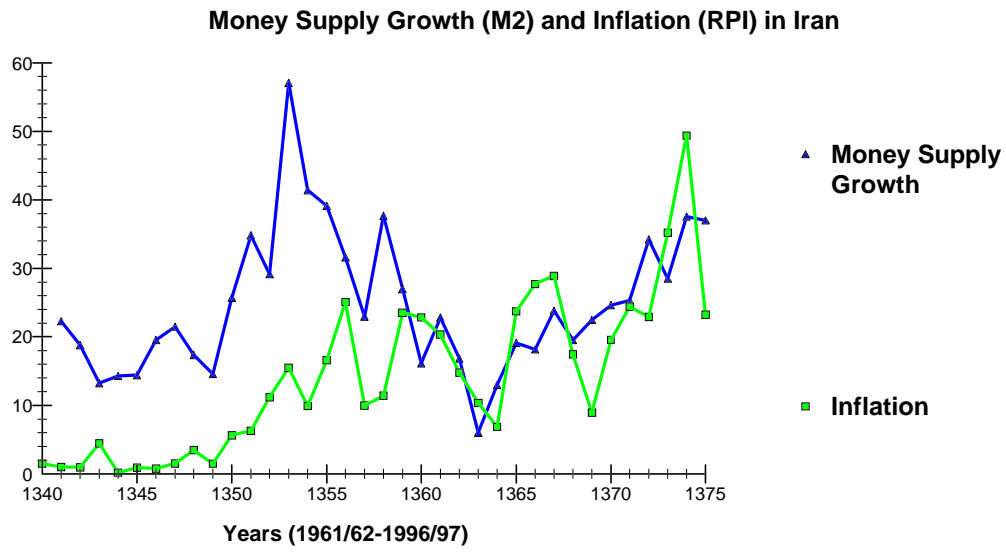


FIGURE 6



Table 1
Planned and Actual Sectoral Output Growths During the First Five-Year Plan

| Sectors | 1989/90 (1368) | | 1990/91 (1369) | | 1991/92 (1370) | | 1992/93 (1371) | | 1993/94 (1372) | | 1989/90-1993/94 Average Growth | |
|----------------------------|-------------------|---------------|-------------------|---------------|-------------------|---------------|-------------------|---------------|-------------------|---------------|-----------------------------------|---------------|
| | <u>Plan</u> | <u>Actual</u> | <u>Plan</u> | <u>Actual</u> | <u>Plan</u> | <u>Actual</u> | <u>Plan</u> | <u>Actual</u> | <u>Plan</u> | <u>Actual</u> | <u>Plan</u> | <u>Actual</u> |
| Agriculture | 4.2 | 3.7 | 4.6 | 8.1 | 6.1 | 5.1 | 7.1 | 7.4 | 8.5 | 5.5 | 6.1 | 5.9 |
| Oil | 21.4 | 7.7 | 9.6 | 19.9 | 3.4 | 11.1 | 11.3 | 2.1 | 3.0 | 3.6 | 9.5 | 8.9 |
| Industries and Mines | 14.8 | 6.6 | 15.2 | 13.4 | 14.6 | 17.2 | 16.4 | 4.7 | 13.8 | 1.3 | 15.0 | 8.7 |
| Water, Electricity and Gas | 6.5 | 11.0 | 7.0 | 19.4 | 11.7 | 15.5 | 5.3 | 8.5 | 47.8 | 9.4 | 9.1 | 12.7 |
| Construction | 29.0 | -1.7 | 15.7 | 2.9 | 12.4 | 16.0 | 10.0 | 7.9 | 6.5 | 2.4 | 14.7 | 5.5 |
| Services | 5.1 | 1.8 | 7.1 | 9.7 | 7.2 | 9.9 | 7.0 | 8.0 | 7.1 | 7.5 | 6.7 | 7.4 |
| Gross Domestic Product | 7.9 | 4.2 | 9.2 | 11.5 | 6.8 | 10.1 | 8.5 | 6.0 | 8.4 | 4.8 | 8.1 | 7.3 |

Source: Bank Markazi Jomhouri Islami Iran. Actual figures are based on gross domestic product at factor cost in constant 1982/83 (1361) prices. The planned growth rates are from Iran Centre for Statistics, Plan and Budget Organization, The First Five-Year Plan.

Table 2**Planned and Actual Growths of Real Investment and Consumption Expenditures During the First Five-Year Plan**

(in percent)

| Years | Gross Fixed Capital Formation | | Private Consumption Expenditures | | Public Consumption Expenditure | |
|--|-------------------------------|---------------|----------------------------------|---------------|--------------------------------|---------------|
| | <u>Plan</u> | <u>Actual</u> | <u>Plan</u> | <u>Actual</u> | <u>Plan</u> | <u>Actual</u> |
| 1989/90 (1368) | 26.4 | 6.4 | 2.6 | 2.5 | -4.1 | -14.8 |
| 1990/91 (1369) | 31.9 | 13.3 | 4.7 | 19.5 | 9.0 | 12.4 |
| 1991/92 (1370) | 2.9 | 40.9 | 6.7 | 9.5 | 2.8 | 8.5 |
| 1992/93 (1371) | -0.2 | 7.1 | 7.3 | 5.4 | 5.2 | 7.0 |
| 1993/94 (1372) | 1.2 | 2.7 | 7.6 | 4.6 | 6.7 | 17.3 |
| Average Growth during First Plan (1989/90-1993/94) | 11.6 | 14.1 | 5.7 | 8.3 | 3.8 | 4.0 |
| 1994/95 (1373) | 6.2 | 3.4 | 4.0 | 2.2 | -0.9 | 4.3 |
| 1995/96 (1374) | 6.2 | 3.2 | 4.0 | 2.6 | -0.9 | 3.0 |
| 1996/97 (1375) | 6.2 | 7.4 | 4.0 | 3.1 | -0.9 | 6.0 |

Sources: Actual growth rates are from the Bank Markazi Jomhuri Islami Iran, and are computed from the national income statistics at constant 1982/1983 (1361) prices. The figures for the years 1993/94-1996/97 are taken from Economic Trends, Third Quarter 1997, Bank Markazi. The figures for 1996/97 are preliminary. The planned growth rates are from Iran Centre for Statistics, Plan and Budget Organization, The First Five-Year Plan

Table 3**Balance of Payments**

(Million US dollars)

| | 1988/89 (1367) | 1989/90 (1368) | 1990/91 (1369) | 1991/92 (1370) | 1992/93 (1371) | 1993/94 (1372) | 1994/95 (1373) | 1995/96 (1374) | 1996/97 (1375) |
|-----------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Trade Balance | <u>101</u> | <u>-367</u> | <u>975</u> | <u>-6,529</u> | <u>-3,406</u> | <u>-1,207</u> | <u>6,817</u> | <u>5,586</u> | <u>7,402</u> |
| Exports | 10,709 | 13,081 | 19,305 | 18,661 | 19,868 | 18,080 | 19,434 | 18,360 | 22,391 |
| Oil and Gas | (9,673) | (12,037) | (17,993) | (16,012) | (16,880) | (14,333) | (14,603) | (15,103) | (19,271) |
| Others | (1,036) | (1,044) | (1,312) | (2,649) | (2,988) | (3,747) | (4,831) | (3,257) | (3,120) |
| Imports (FOB) | -10,608 | -13,448 | -18,330 | -25,190 | -23,274 | -19,287 | -12,617 | -12,774 | -14,989 |
| Services | <u>-1,970</u> | <u>-2,324</u> | <u>-3,148</u> | <u>-4,919</u> | <u>-5,094</u> | <u>-4,508</u> | <u>-3,059</u> | <u>-2,224</u> | <u>-2,633</u> |
| Receipts | 467 | 798 | 892 | 881 | 846 | ... | ... | ... | ... |
| Payments | -2,437 | -3,122 | -4,040 | -5,800 | -5,940 | ... | ... | ... | ... |
| Transfers | - | <u>2,500</u> | <u>2,500</u> | <u>2,000</u> | <u>1,996</u> | <u>1,500</u> | <u>1,198</u> | <u>-4</u> | <u>463</u> |
| Current Balance | <u>-1,869</u> | <u>-191</u> | <u>327</u> | <u>-9,448</u> | <u>-6,504</u> | <u>-4,215</u> | <u>4,956</u> | <u>3,358</u> | <u>5,232</u> |

Sources: Annual Reviews, 1991/92 (1370) and 1992/93 (1371), and Economic Trends, Economic Research Department, 1997. Bank Markazi Jomhouri Islami Iran.

Table 4

Iran's External Debt*

(Million dollars, End of the Period)

| | Short-Term | Medium- and Long-Term | Total | Changes in International Reserves |
|---------------------------------------|------------|-----------------------|--------|-----------------------------------|
| 1992/93 (1371) | ... | ... | ... | -166 |
| 1993/94 (1372) | 17,616 | 5,542 | 23,158 | 232 |
| 1994/95 (1373) | 6,707 | 16,030 | 22,737 | 921 |
| 1995/96 (1374) | 4,536 | 17,392 | 21,928 | 2,868 |
| 1996/97 (1375) | 4,557 | 12,278 | 16,835 | 2,346 |
| 1997/98 (1376) (first nine months) | 2,883 | 9,680 | 12,563 | -2,967 |

***Source:** Economic Trends, Bank Markazi Jomhuri Islami Iran, Number 10, 1997. The figures in this table exclude contingent claims, opened letters of credit not yet consigned and future interest payments. Total external obligations (actual and contingent) amounts to \$24.5 billion at the end of December 1997 (Azar, 1376).

Table 5**Trends in Monetary Aggregates and Inflation in Iran**

(Rate of change, Per cent)

| Year | Money (M ₁) | Money and Quasi-Money (M ₂) | Private ¹ Sector Credit | Public ² Sector Credit | Retail Price Index | GDP ³ Price Deflator |
|-------------------|-------------------------|---|------------------------------------|-----------------------------------|--------------------|---------------------------------|
| 1979/80 (1358) | 34.7 | 37.7 | 17.2 | 44.2 | 11.4 | 27.0 |
| 1980/81 (1359) | 32.3 | 27.0 | 18.8 | 60.3 | 23.5 | 23.4 |
| 1981/82 (1360) | 22.9 | 16.2 | 5.2 | 26.6 | 22.8 | 24.5 |
| 1982/83 (1361) | 28.7 | 22.8 | 8.2 | 23.9 | 20.3 | 14.6 |
| 1983/84 (1362) | 11.1 | 16.9 | 22.1 | 18.0 | 14.8 | 12.3 |
| 1984/85 (1363) | 17.8 | 6.0 | 5.7 | 14.9 | 10.4 | 10.1 |
| 1985/86 (1364) | 8.1 | 13.0 | 12.9 | 8.3 | 6.9 | 4.7 |
| 1986/87 (1365) | 18.1 | 19.1 | 9.8 | 23.6 | 23.7 | 13.2 |
| 1987/88 (1366) | 16.6 | 18.1 | 13.8 | 16.7 | 27.7 | 22.9 |
| 1988/89 (1367) | 14.5 | 23.8 | 17.8 | 20.2 | 28.9 | 17.0 |
| 1989/90 (1368)* | 15.8 | 19.5 | 29.7 | 10.8 | 17.4 | 19.3 |
| 1990/91 (1369)* | 24.6 | 22.5 | 35.7 | 9.6 | 9.0 | 18.6 |
| 1991/92 (1370)* | 21.8 | 24.6 | 39.1 | 9.7 | 19.6 | 23.6 |
| 1992/93 (1371)* | 20.0 | 25.3 | 28.9 | 12.8 | 24.4 | 25.4 |
| 1993/94 (1372)* | 36.9 | 34.2 | 29.9 | 60.7 | 22.9 | 38.6 |
| 1994/95 (1373) | 35.8 | 28.5 | 23.4 | 27.6 | 35.2 | 36.1 |
| 1995/96 (1374) | 34.6 | 37.6 | 24.4 | 34.8 | 49.4 | 33.8 |
| 1996/97 (1375) | 37.4 | 37.0 | 30.9 | 19.7 | 23.2 | 22.8 |
| Average (1358-75) | 24.0 | 24.0 | 24.6 | 20.7 | 21.8 | 21.3 |

Sources: Bank Markazi Jomhouri Islami Iran, various publications.

1. Private sector debt to the banking system.

2. Public sector debt to the banking system.

3. Implicit price deflator of Gross Domestic product at market prices, base year 1982/83 (1361).

The years of the First Five-Year Plan are shown with an *.

Table 6

Bank Profit (Interest) Rates in Iran

(per cent, per annum)

| | Term-Investment Deposit Rates | | | | | Expected Rate of Profit on Facilities | | | | |
|-------------------|-------------------------------|----------|----------|------------|-----------|---------------------------------------|------------------------|-------------|------------------|-----------|
| | Short-term | One-year | Two-year | Three-year | Five-year | Manufacturing & Mining | Construction & Housing | Agriculture | Trade & Services | Export |
| 1992/93 (1371) | 7.5 | 10 | 11.5 | 13 | 15 | 13 | 12-16 | 9 | 18 & over | 18 & over |
| 1993/94 (1372) | 8 | 11.5 | 13.5 | 14.5 | 16 | 16.8 | 12-16 | 12-16 | 18-24 | 18 |
| 1994/95 (1373) | 8 | 11.5 | 13.5 | 14.5 | 16 | 16-18 | 15 | 12-16 | 19-24 | 18 |
| 1995/96 (1374) | 8 | 14 | 15 | 16 | 18.5 | 17-19 | 15-16 | 13-16 | 22-25 | 18 |
| 1996/97 (1375) | 8 | 14 | 15 | 16 | 18.5 | 17-19 | 15-16 | 13-16 | 22-25 | 18 |

Source: Economic Trends, Bank Markazi Jomhuri Islami Iran, Third Quarter 1376 (1997).

Table 7

Production, Exports, and Domestic Consumption of Oil, 1990/91-1996/97¹

(In thousands of barrels per day)

| | 1988/89 (1367) | 1989/90 (1368) | 1990/91 (1369) | 1991/92 (1370) | 1992/93 (1371) | 1993/94 (1372) | 1994/95 (1373) | 1995/96 (1374) | 1996/97 (1375) |
|---|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| 1. Crude oil production | 2,557 | 2,947 | 3,231 | 3,366 | 3,692 | 3,603 | 3,609 | 3,612 | 3,595 |
| 2. Crude oil exports | 1,647 | 1,823 | 2,224 | 2,460 | 2,397 | 2,184 | 2,220 | 2,290 | 2,620 |
| 3. Net crude oil exports in the form of consignment | ... | ... | 136 | 149 | 274 | 280 | 185 | ... | ... |
| 4. Net exports of refined products | ... | 52 | -64 | -29 | -77 | -31 | 29 | 9.9 | ... |
| 5. Domestic consumption | 839 | 881 | 918 | 980 | 1,077 | 1,125 | 1,159 | 1,118 | 975* |
| 6. Discrepancy ² (1)-(2+3+4+5) | 71 | 191 | -47 | -223 | 21 | 45 | 16 | 105 | ... |

Source: Bank Markazi Jomhouri Islami Iran, Annual Reports, various issues.

¹ Fiscal years ending March 20. * Preliminary.

² Discrepancy includes changes in inventories, crude oil flowing in the pipelines, and refining wastage.

Table 8

Subsidies Effected Through the Organization for the Protection of Consumers and Producers, 1990/91-1995/96¹

| | (In billions of Iranian rials) | | | | | |
|-------------------------------------|--------------------------------|-------------------|-------------------|-------------------|-------------------|-----------------------------|
| | 1990/91 (1369) | 1991/92 (1370) | 1992/93 (1371) | 1993/94 (1372) | 1994/95 (1373) | Budget 1995/96 (1374) |
| Fertilizer | 46.1 | 78.6 | 85.1 | 238.5 | 522.0 | 558.0 |
| Sugar | 106.1 | 102.6 | 243.9 | 238.6 | 296.2 | 495.0 |
| Wheat | 171.0 | 250.2 | 512.5 | 1,154.4 | 2,095.4 | 2,632.8 |
| Milk and cheese | 20.1 | 30.0 | 32.0 | 102.8 | 129.0 | 230.0 |
| Rice and vegetable oil ² | ... | ... | ... | ... | 371.0 | 632.0 |
| Others ³ | 60.6 | 53.5 | 170.2 | 391.6 | 272.6 | 610.8 |
| Total | 403.9 | 514.9 | 1,043.7 | 2,125.9 | 3,686.2 | 5,158.6 |
| As percent of GDP | 1.1 | 1.0 | 1.6 | 2.3 | 2.8 | 3.0 |

Source: Bank Markazi Jomhourī Islami Iran.

¹ Fiscal years ending March 20. Does not include transfers for commodities whose transactions are self-liquidating.

² Prior to 1994/95, this category was self-liquidating as it benefited from implicit subsidies as these items were imported at the official exchange rate of Rls 70 = US\$1. Since then, these goods have been imported using an exchange rate of Rls 1,750=US\$1. Hence, the subsidies to this category have become more explicit.

³ Includes transfers to agro-industry complexes, and the agricultural Products Insurance Fund, as well as subsidies for meat and seeds. In 1995/96, it also includes subsidies for pesticides.