FOREIGN EXCHANGE POLICY AND MANAGEMENT DURING STRUCTURAL ADJUSTMENT: THE CASE OF IRAN

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Abstract

An important ingredient of structural adjustment policies is the reform of the foreign exchange system. Rationalization of the exchange rate can potentially improve both domestic resource allocation and the external position. In Iran, unification and flexible rates introduced as a policy package on March 21st 1993, were designed to achieve this objective. After a few months of relative stability the market exchange rate depreciated rapidly and exhibited excessive volatility. As a consequence, inflationary pressures intensified and macroeconomic uncertainties heightened. In reaction, the government reversed the currency reform process and halted certain other liberalization programs associated with the structural adjustment reforms. This paper describes the background and justification for rationalizing the exchange rate system. Moreover, by drawing on what economists have learned from the experience of other developing countries, it can be concluded that the Iranian experience is not unique and that the outcome conforms to prediction of the standard models.

ملخص

بعد إصلاح نظام الصرف الأجنبي مكوناً هاماً من مكونات سياسات الإصلاح الهيكلي. فمن شأن ترشيد سعر الصرف أن يحسن كلاً من تخصيص الموارد المحلية والوضع الخارجي. وسرعان ما اتخذت الهدف قامت إيران بإدخال التوحيد وأسعار الصرف المرنة في شكل حزمة سياسات في 21 مارس 1993. إلا أنه بعد أشهر قليلة من الاستقرار النسبي أخذ سعر الصرف السوق في انخفاض بشكل سريع، مما بدأ عليه التقلب المتزايد. ونتيجة لذلك اشتدت الضغوط التضخمية وزاد عدم التأكد في مجال الاقتصاد الكلي. وتمثل رد فعل الحكومة في إيقاف عملية إصلاح العملة وغيرها من برامج التحرير المرتبطة ببرنامج الإصلاح الهيكلي. وتصف هذه الورقة خلفية سياسة ترشيد نظام الصرف الأجنبي وتبريرها. واستناداً إلى ما تعلم الاقتصاديون من خبرة الدول النامية الأخرى يمكن الانتهاء إلى أن خبرة إيران ليست فريدة من نوعها وأن النتيجة ترتبط بتطورات النماذج المعيارية.
1. INTRODUCTION

In the conventional treatment of the subject of exchange-rate reform for the promotion of outward oriented trade policies, measures such as exchange rate liberalization and unification are generally (though not globally) believed to generate several desirable outcomes:
1-Improved allocation of scarce foreign exchange, since world and domestic relative prices would be a better reflection of the "true" scarcities and comparative advantages.
2-Market allocation of foreign currency (as opposed to political/bureaucratic schemes) reduces rent-seeking activities.
3-Improvement in international competitiveness and hence the external position.
4-Correcting for disequilibrium real exchange rate would reduce economic instability.1

This paper deals with the implementation and consequences of exchange rate liberalization during structural adjustment in Iran. Liberalization here conveys the notion of a change in policies in favor of greater reliance on market forces for the determination of the price of goods and assets. By drawing on the lessons learned from empirical studies of developing countries (DCs), this paper identifies the type of macroeconomic policies and conditions that undermined the reform process in Iran and that have proven to be inconsistent with the objective of currency stability under a flexible exchange rate regime. Given this backdrop, it is argued that, in the case of the Islamic Republic of Iran, the exchange rate liberalization policy, whose objective was to achieve the above mentioned four desirable outcomes, was not successful because it was not predicated on an appropriate and consistent set of fiscal and monetary policies. This fact, plus an unforeseen drop in oil revenues during 1993-1994 (which is of limited significance), increased macroeconomic uncertainty and strengthened inflationary pressures. Growing public discontent with rising inflation rates, partly attributable to the depreciation of the Rial (the domestic monetary unit), the imposition of economic sanctions by the U.S.A., and the widespread anxiety emanating from a highly volatile exchange rate, forced the government to totally reverse the reform process. In fact, the unhappy experience with the exchange-rate liberalization policy has undermined the political support for structural reform policies in Iran, and in some cases brought about their outright rejection. It should also be mentioned, at this juncture, that macroeconomic difficulties facing Iran cannot entirely be blamed on the exchange-rate policy. Per annum rate of depreciation of the Rial in the "black market" between 1980 and 1989 (a period of fixed exchange rate regime) exceeded the Rial's depreciation during the 1989-1995 period. The attempted reform program was bold and its goals were laudable, but it failed, and the policy failure had significant negative macroeconomic consequences, i.e. low growth and high inflation.

In this paper, the background for the liberalization program and its ingredients will be reviewed in section 2 and 3, respectively. Next, we look at the actual behavior of the nominal and real exchange rates during and after reform in Iran. In section 5 the issue of the desirability of exchange rate flexibility and the choice of nominal anchors will be raised. This will help us put the discussion on the actual conduct of fiscal and monetary policies and their impact on the behavior of the Rial in some theoretical perspective (section 6). In sections 7 the reform process and its macroeconomic management will be evaluated. In the last section certain policy recommendations regarding exchange rate policy in Iran will be provided.

Iran maintained a fixed exchange rate system before and after the Islamic revolution (1979). A small difference was that, before the revolution the Rial was pegged to the US dollar but during the 1980's it was pegged to the SDR. Relatively high inflation rates in Iran since 1974 significantly reduced the competitiveness of Iranian-made products. From the early 1960's until March 1993 the "official" exchange rate fluctuated around 65-75 Rials per one $US. Aside from purchasing power considerations, there were other economic factors that fundamentally affected the relative balance between demand and supply of the Rial. Since the mid 1970's a substantial decline in both the nominal, and particularly the real, magnitude of per-capita oil-export revenue has taken place. Toward the end of the 1980's the total export of goods had fallen to about $10.7 billion, which is less than fifty percent of the average volume of exported goods during the 1974-1977 period (Table 1). The drop in oil revenues was the key factor behind this precipitous decline, and non-oil exports were too small in magnitude to have any compensatory effect. At the end of the 1980's non-oil exports constituted only about ten percent of total exports. During the mid- and late 1970's the percentage of non-oil exports in total exports was even lower but the magnitude of oil revenues were substantially higher.

In most developing countries exchange rate policies are designed to achieve external balance. Keeping the real exchange at near competitive rates is a crucial factor in this regard. During the 1965-1985 period oil-exporting countries (OECs), particularly those in the Middle East, did not feel the pressure to devalue their currency to achieve an external balance. However, as domestic absorption rapidly grew and oil prices began to decline (in the mid-1980s), the issue of exchange rate misalignment became significant, particularly for low-middle income OECs. Despite relatively high inflation rates, reduction in oil revenues, political uncertainty, and the severe adverse impact of the Iraqi invasion on the Iranian economy, the government maintained a fixed "official" exchange rate. The above conditions, however, led to a highly misaligned real exchange rate (defined as $E*PT/PN, E=the nominal exchange rate, PT=traded goods price, PN=non-traded goods prices). This misalignment was caused by both, the monetary/fiscal variables as well as by "structural" factors-- resulting from the severe decline since the mid-1980's in the terms of trade of oil-exporting countries. The misalignment of the real exchange rate, political/uncertainty risks, and the balance of payments pressures, all contributed to the emergence and growth of a "black-market" risk premium. As argued elsewhere, it is difficult to rely on the black market premium at any point in time to infer the extent of the real exchange rate misalignment, but in the case of the Rial not only did the premium persist for more than a decade but also widened significantly overtime. The black market premium rose from about 500-600 percent in the mid 1980's to a staggering 15 to 20 times the official rate in 1988/89. The presence and persistence of such premia could significantly retard growth of output and capital accumulation. In terms of allocative efficiency, the presence and persistence of a high premium can introduce substantial distortions in domestic relative prices, reducing the relative price of imported capital and durable consumer goods. This is of particular significance in the case of private individuals, firms, and public entities with direct and indirect access to foreign currency at official prices. Persistent shortages of foreign currency and bureaucratic (as opposed to market) form of allocation created...
highly profitable opportunities for rent seeking. Many inefficient companies were profitable because they bought their intermediate and capital goods requirements at low official rates, and made profits either by selling their excess currency holding at higher rates or sold their output in markets with limited or no price control.

After the termination of the Iran-Iraq war, the government gave more attention to the economic front. An important step was the creation of the First Five Year Development Plan (1990-1994). The Plan set fairly ambitious growth targets-- 8.1 percent for GDP at constant prices and an even higher rate for non-oil GDP. The need for large amounts of foreign exchange during the First Plan was quite pressing because of:
1) rapidly increasing consumption demand from a rapidly growing young population with pent-up demand after several years of war;
2) heavy investment requirements for postwar reconstruction;
3) a significant increase in the investment rate-- which due to war and political uncertainty fell to around 11 percent of GDP towards the end of the war.

Rationing the available oil-export revenues would not have solved the capital shortage problem. The capacity for oil production had declined substantially due to the need for large investments and foreign exchange outlays for expansion. In addition, non-oil exports and foreign capital inflows were quite low relative to the requirements of a growing and modernizing economy. One way to mobilize additional domestic resources and generate more foreign exchange was to enhance market mechanisms and create profitable opportunities for stimulating private investment, production, and exports. For this to materialize, the government had to undertake certain reforms to create incentives for the private sector and to lift price controls instituted during the war on a broad range of goods and services. One facet of these policies was the liberalization and rationalization of foreign trade and foreign exchange regulations to promote non-oil exports. Moreover, by pricing the exchange rate at more realistic levels, its use in domestic production and consumption could be economized. Thus, it can be surmised that policies pursued in the First Development Plan contained economic policies that in certain respects were similar to those advocated by the Structural Adjustment programs. Another avenue for raising foreign exchange was large external borrowing, which the government pursued on a large scale.

3. BASIC INGREDIENTS OF FOREIGN EXCHANGE REFORM IN IRAN

The first step in the reform process was the adoption of a multiple exchange rate system as an alternative to an outright devaluation. This system, as is well known, results in some degree of devaluation because at least a certain proportion of transactions are undertaken using rates that are above the official rate. Multiple exchange rates are also discriminatory in the sense that the government maintains different priorities for different types of goods. In 1991 there were three different rates: a) the official rate which primarily covered public sector transactions. This rate was set at 70 Rials=1 US dollar, and was pretty much close to the official rates that existed since the early 1960's. b) a "competitive" rate for selected essential imports by the private sector; c) a "floating" rate for private sector imports approved by the government. The competitive and
floating rates were significantly higher than the official rate, implying limited devaluation. The volume of imports affected by devaluations was significant and growing. In 1991/1992, the official rate was used in seventy one percent of all transactions, in the following year the percentage declined to 52 percent, indicating an increase in the extent of the devaluation.\textsuperscript{7}

The next major step in the exchange reform program was the unification of the exchange rates and the announcement of a floating exchange rate regime on March 21st, 1993. According to this plan, both public and private transactions were covered by floating rates, determined by market demand and supply. Announcement of this policy caused a slight depreciation of the Rial in the parallel market. The commercial banking system was not an active "market maker" and did not take an active role in setting the daily exchange rate. In fact, bank rates were set and announced by the Central Bank. Initially, the Central Bank's exchange rate announcements reflected, to a good extent, market conditions but this policy did not last for long. In the first five months there were episodes of currency fluctuations though limited in amplitude. The black market premium during this period almost evaporated. The average difference between the rates in the banking system and the parallel ("free") market was less than 0.5 percent\textsuperscript{8}. Certain asset-market models of black-market exchange rates show that an expectation of future official devaluation leads to an immediate depreciation in the side-walk market rate, and a subsequent decrease in the black-market premium when the official depreciation actually occurs.\textsuperscript{9} The convergence between the parallel and the organized market rates might be disturbed due to a number of factors including changes in expectations.

Between 1988 and 1993 Iran was able to borrow a substantial amount from foreign sources which added to the supply of foreign exchange and thus gave some strength to the Rial. As shown in figure 1 the Rial/$ rate was relatively stable between 1989 and August of 1993. During this period, the liberalization policy comprising stepwise devaluations in the form of the creation of new rates (e.g. for exporters) and adjustment of multiple rates, exchange rate unification, and "free" float was implemented. Moreover, some relaxation of capital controls took effect. Individuals were allowed to obtain $5000 if they intended to travel abroad, and importers, both government and private entities, could obtain foreign exchange through the licensed (non-bank) dealers. Beginning September 1993 rates at the parallel market began to diverge from those quoted by the banking system, and the sustained depreciation of the Rial resulted in an increasing sidewalk market premium.

The relative stability of the Rial after unification and floating (March 21st 1993) was temporary and soon a period of high volatility and rapid depreciation followed. In the first half of February 1995, the "free" market price of one US dollar had increased to nearly 3500 Rials, which was twice as much as its "floating" rate.\textsuperscript{10} As the differential between the black market rate and the "floating" rate (set by the central bank) became wider anxieties grew. Finally, the central bank and the government closed down the parallel foreign-exchange market and strictly prohibited any form of trading by dealers not licensed by the bank. The authorized dealers no longer had the discretion to quote a price other than those set by the Central Bank, and their role in the market became insignificant. Currently, there is no officially recognized demand-supply driven market in foreign exchange in Iran and individuals are forbidden by law to trade in foreign currency, a
situation reminiscent of the pre-liberalization period. After the parallel market was declared illegal, an underground market in foreign exchange developed but this market could not function as an institution for the efficient allocation of capital and foreign exchange for domestic producers. In early Spring, 1995 the Rial in the black market depreciated to more than 6,000 per US dollar but by August 1995, it had risen to the 4,250-4,000 band. Multiple rates have resurfaced, and in the black market there are different rates for foreign currencies inside and outside the country due to severe capital control laws. Many exporters who anticipated the return of capital controls and the banning of private trading in foreign exchange did not repatriate their proceeds. It has been reported that during 1994/1995 only about one-fourth of the export proceeds had been repatriated. Thus, while non-oil exports have been growing quite rapidly, actual foreign exchange inflows did not increase as much. The Central Bank has recently imposed a total repatriation requirement on exporters. But as long as the black market rate and the rate at which foreign currency is surrendered to the Central Bank differ substantially, there is an incentive for under invoicing of exports.

4. REFORM AND THE REAL EXCHANGE RATE TREND

The exchange-rate liberalization program implemented two rounds of nominal devaluations before announcing free float in March 1993. The initial rounds of nominal devaluations also resulted in a real depreciation, which was a significant boost for non-oil exports. However, acceleration of the inflation rate just prior to the last phase of the reform (exchange-rate unification and free float) led to an appreciation of the real exchange rate (RER). Within the same time span macroeconomic performance, based on output growth and inflation criteria, also deteriorated. Figure 2 shows that the Consumer (Retail) Price Index rose more than the index of the exchange rate (measured on the basis of the number of Rials exchanged for one US dollar). The implication being that, although the floating of the Rial in 1993 was tantamount to another devaluation round, the average rate of inflation outpaced the average rate of depreciation of the Rial between 1989 and first-half 1993. Therefore, even when only considering "free" or black market rates, there was an actual appreciation of the real exchange rate. The index of home goods prices rose from 68.1 in 1988 to 290.1 in 1994 compared to that of CPI which rose from 75.9 in 1988 to 234.6 in 1994. Thus, the same conclusion can be reached on the basis of a different price index. To examine whether the sudden acceleration in the rate of depreciation of the Rial was related to the domestic rate of inflation, a simple cointegration test between the logarithm of the monthly consumer price index and the average monthly Rial/$ exchange rate was carried out. The hypothesis that the two series are cointegrated (have a long-run equilibrium relationship) was rejected at the 5 percent level but not at lower confidence levels. On the basis of 140 monthly observations on "free market" Rial/dollar rate, a random-walk with a drift was found to be the best time-series representation. This fit significantly outperformed various versions of the monetary models of the exchange rate determination.
5. FLEXIBLE EXCHANGE RATE REGIMES IN DEVELOPING COUNTRIES AND THE CHOICE OF NOMINAL ANCHORS

The great majority of DCs (including Iran) stayed with a fixed rate regime, capital controls, and some degree and form of current-account inconvertibility after the Smithsonian accord for a relatively long time. However, in the more recent years, the number of DCs moving toward flexible exchange rates and currency convertibility have increased noticeably. Some of the reasons given have been the acceleration of inflation in DCs and greater fluctuations of the major international currencies. Also, with the growth of foreign debt in a large number of DCs, fixed rates could no longer be sustained. The move towards greater flexibility has been observed in all regions of the world. For instance, during the first half of the 1990s a large number of African countries have initiated and implemented exchange rate liberalization. In the first quarter of 1995, of the 179 countries surveyed by the IMF, 35 had a managed float system, and 59 countries had independent float. By the early 1995 about one-third of DCs had chosen (independent) floating exchange rates. It should be noted that the survey may not be quite reflective of the real degree of exchange rate flexibility and market orientation in DCs. In the same survey Iran is included amongst those countries that allow independent float, which as of the first quarter of 1995 was not the case. Compared to the industrialized countries, floating rate regimes are not as frequently and as extensively practiced in DCs. Moreover, in a few DCs that had previously adopted a "free" market system in foreign currency, policy reversals have occurred. These facts reflect certain institutional differences. Most notably:

1)-In DCs, like Iran, governments tend to be the major suppliers of foreign exchange, and the domestic financial markets are not well developed.
2)-The lack of credibility and independence by the central banks in most DCs tend to undermine its powers to follow deep reforms and stick with a predetermined policy. Expansionary fiscal and monetary policies tend to give rise to inflationary conditions that penalize holders of domestic financial assets, especially where an administratice ceiling on the rates of return (interest) on financial assets exists.
3)-The future and options markets in foreign currency in DCs are not developed, which limits the extent of currency risk hedging. The availability of suitable hedge instruments can reduce the degree of uncertainty that might be associated with floating rate regimes. Moreover, due to a host of problems, expansion of foreign-currency deposits, which can also function as a currency-risk hedge, is not sufficiently encouraged.

In the early 1980s, the idea of a more flexible market oriented exchange rate had become a dominant view. The Structural Adjustment Programs of the World Bank advocated a more active foreign exchange policy, i.e. through devaluations and possibly adoption of (managed) floating. The debate on the desirability of the degree of exchange-rate flexibility issues from the dual role of the exchange-rate as a policy instrument. Exchange rates, along with "commercial policies" significantly affect the degree of international competitiveness. At the same time, the behavior of exchange rates affect the rate of inflation and economic stability. In most DCs foreign exchange liberalization and reform (e.g. occasional devaluations or managed float) has been used to address imbalances in the external position. It has been argued that while flexible exchange rates have an
inflationary bias, they tend to reduce output variability via exchange rate adjustments when a 
country is hit by a terms of trade shock.21 It is possible for devaluations to have both desirable 
and undesirable effects, i.e. improve the external position but also result in output contraction, 
rising unemployment, and a worsening of income distribution.22 An initial impact of a devaluation 
is to reduce the real wage in terms of tradables. A devaluation can also result in shifting the 
aggregate supply inward by raising the domestic price of intermediate and capital goods. These 
effects tend to be highly unpopular with the public. In economic environments where government 
policy has an inflationary bias frequent devaluations or the adoption of a flexible arrangement is 
not desirable.23 Inappropriate macroeconomic policies have the potential to convert a nominal 
devaluation to a real depreciation for only a short period followed by a reversal to the original real 
exchange-rate. In fact concerns about active and flexible exchange rate policy in a large number of 
DCs has been voiced by a number of IMF economists.24 Maintaining a fixed exchange rate, 
however, may not remove the problem of inflationary persistence and could have significant 
social costs if the real exchange rate is highly misaligned. In certain instances a full reversal or 
even a real appreciation can occur if after the initial rounds of devaluation the central bank insists 
on a fixed rate, presumably to control inflation, while inappropriate macroeconomic policies 
persist. Examples of countries that have ended up with overvalued currencies after the 
introduction of liberalization and stabilization policies include the Southern Cone countries in the 
late 1970s and early 1980s, Turkey during the 1977-81 and 1986-91 periods, Argentina during 
the 1990-1992 period, and Poland in 1989-92.25

The exchange rate is a policy tool that empowers the central bank to have some control on 
inflation. This requires a balanced budget (fiscal) policy so that monetary policy can be tied to 
the balance of payments. When the rate of devaluation is set to zero, with no change in tariffs and 
an inflation rate in the world economy lower than the domestic rate, the price of domestic goods 
rises faster than international goods switching demand away from domestic goods, and creating a 
payments deficit. With no domestic credit expansion, reserve sales required to maintain the 
exchange rate would result in money supply contraction, and hence lower inflation rates.

The macroeconomic question when the central bank switches to floating or flexible exchange rate 
regimes is that: if the bank gives up the fixed exchange rate as the nominal anchor for the economy 
does it have other nominal anchors at its disposal to control inflation? Does the central bank 
enjoy sufficient credibility to use the alternative instruments effectively? There could potentially 
be a number of nominal anchors from which the bank can choose, e.g. money supply, the general 
price level, price of gold, and nominal GNP. The money supply is a credible nominal anchor if 
the monetary authority has the willingness and sufficient independence to use it as such. In the 
orthodox money-based stabilization schemes the growth rate of the money supply functions as 
the nominal anchor for the economy.26 Since the government budget deficit and its credit 
requirements have important monetary consequences, fiscal adjustment plays a pivotal role in 
this class of stabilization models. At any rate, once an economy switches to a flexible system and 
in this process the authorities engineer or ratify a substantial nominal devaluation, the conduct of 
monetary policy becomes quite important. If the central bank's policy is fully credible, a 
reduction in the rate of monetary growth would reduce the rate of inflation but at the cost of an 
initial loss in output and employment.27 If policy has limited credibility—say, due to a
fiscal/monetary policy mix it is at odds with the planned inflation rate—then a reduction in the rate of monetary growth will not bring down the rate of inflation.

6. MONETARY GROWTH, INFLATION AND CURRENCY CRISIS

Structural adjustment policies in Iran were introduced and partially implemented in the context of the First Plan. Price reforms, privatization, increased reliance on market forces, and foreign trade/exchange rate liberalization were the main policy issues. As argued by several studies (Edwards 1988, 1989, Aghevi 1991, Intal Jr. 1992), the basic pre-conditions for a high probability of success in reforming countries are fiscal and monetary restraint, and hence control of inflationary pressures. These pre-conditions, however, were not observed during the reform program. Between 1989 and 1993, government expenditure in Iran experienced a huge increase: from 4,924 to 25,426 billion Rials, although government revenues also rose proportionately, partly due to higher receipts generated by selling foreign exchange at a higher price. Table 2 provides data on monetary and inflationary conditions prior to and during the implementation phase of foreign exchange reform in Iran. The broadly defined money supply (money and quasi-money, M2) grew at 25.2 percent per annum during the First Plan (1990-1994), compared to its target rate of 9.4 percent. It is shown by table 2 that the growth rate of the money stock and inflation began to accelerate in 1992, the year prior to the implementation of the free float regime, which raises the issue of credibility. Growth of the money supply in Iran is highly influenced by credit growth to both the private and the government sector. Lending to the private sector rose at 32.7 percent average annual rate during the First Plan, and 20.4 percent for the government sector. However, in 1993/94 when public entities began to purchase foreign exchange at the market (not the official) rate, government borrowing rose at nearly 60 percent. In addition to a relatively high rate of growth of the money supply, the income velocity of money also increased during the First Plan, thus exacerbating aggregate demand and inflationary pressures.28

The financial reforms undertaken during this period were limited in scope and depth. The predominant form of financial saving for Iranians has been and continues to be bank deposits, and the yield on deposits is administratively set. The deposit rates are not demand and supply driven and do not reflect inflationary conditions and expectations. In the parallel market rates are sensitive to the rate of inflation and economic conditions. The yield on a five-year certificate of deposit rose from 13 percent in 1990 to 15 percent in 1992 and remained fixed until the Spring of 1995. The average rate of inflation (CPI) during the 1992-1994 period was 22.5 percent (table 2), indicating a substantial negative return on the certificate of deposit with the highest nominal yield.29 The actual rates of inflation (based on the Retail Price Index or CPI) were above the 15.7 percent rate targeted (or predicted) for the First Plan.30 The inability of the financial system to protect the monetary saving of individuals from inflation is a serious shortcoming, and an important missing link in the exchange rate liberalization package. If domestic interest rates are not flexible enough to compensate for the expected rise in the rate of inflation would the domestic demand for money become totally exchange-rate dependent? If so, the exchange rate that clears the domestic money market may vary over time. Models with these characteristics have been used to explain balance of payments and currency crises.31 In such models, under a flexible rate

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system, attempts by domestic residents to get rid of their local currency in favor of accumulating foreign currency would be futile, since in a crisis neither the government nor foreign residents would sell their foreign currency. However, by trying to reduce their holdings of domestic currency, domestic residents feed the rise in domestic prices, and if PPP holds, the domestic currency depreciates. Note that for this to take place there is no need to assume an increase in the growth rate of domestic money supply—though this could be an independent source of currency depreciation—only a portfolio shift in favor of foreign money, and the inability of the private sector to buy government's currency reserve.

The above mentioned fiscal and monetary trends in Iran were not consistent with the objective of keeping inflation under control during a period when the exchange rate as the nominal anchor was relaxed. In such conditions, the classic patterns of a foreign exchange crisis will emerge. Initially, inflation rates start to accelerate (see table 2), and subsequently a push to acquire foreign currency gathers momentum, and hence the exchange rate begins to increase rapidly (see figure 1). If the exchange rate is allowed to float but the money supply growth is not reduced, a vicious circle of inflation and depreciation would ensue. If the central bank attempts to fix the exchange rate but allows domestic credit creation at a rate higher than the growth rate of domestic money demand, a gradual loss of reserves and (eventually) speculative attacks on the currency would result, rendering the exchange rate indefensible (the so-called "Peso problem"). If the exchange rate as the nominal anchor is not enforced and a money-growth anchor is not operative, and if domestic official interest rates are not flexible upward to partially compensate for the public's opportunity-cost of holding domestic currency (due to a higher expected inflation rate), speculative runs on the domestic money would be a foregone conclusion. The trigger mechanism for a sharp depreciation of the domestic currency, under a flexible regime, would be expectations of higher inflation rates, and under a fixed or tightly managed exchange rate regime, the realization by the public that the central bank does not have sufficient resources to manage the extent of the depreciation or would not (or cannot) commit sufficient amounts of reserves to defend a fixed rate. In fact, acceleration of the domestic rate of inflation, fixed nominal bank deposit rates, and skepticism about the ability of the Central Bank to supply the market with sufficient reserves had significant influence on the public's demand for foreign currency and the substantial depreciation of the Rial in the second-half of 1993. This forced the monetary authorities to try to fix the Rial within a short band for a few months. Skepticism regarding the Central Bank's ability or willingness to sell its reserves to the public was confirmed by the Central Bank's announcements that it was trying to reschedule some of its short-term loans, due to foreign currency shortage. After another round of speculative buying of dollars, which was partly a reaction to the imposition of U.S. economic sanctions against Iran in the spring of 1995, all facets of private-market trade in foreign currency was officially banned.

7. EVALUATION OF THE EXCHANGE RATE REFORM POLICY 1990-1994

The need for rationalizing the exchange rate was quite pressing in 1990. The real exchange rate prior to liberalization was grossly misaligned, as indicated by persistent very large black market premia and also by standard purchasing power measures (Pesaran 1992). Given the severe
balance of payments constraints and the need to encourage exports and improve the current account position, some form of devaluation was deemed necessary. Provided that appropriate macroeconomic policies are in place, implementation of a devaluation program can restore external equilibrium, and there are fairly robust evidence to support this contention (Edwards 1989). It has also been argued that in the case of Asian and Pacific developing countries, maintenance of realistic real exchange rates (taking into consideration the saving rate and the reserve positions of the counties in question) has helped the process of structural adjustment and outward oriented growth. In a number of countries in this region, timely nominal currency adjustment combined with appropriate fiscal/monetary policies prevented currency overvaluation. Moreover, sustained capital inflows along with the correct policy measures ensured economic growth. In the case of Philippine, where currency devaluation was untimely and capital inflows declined significantly, macroeconomic adjustments were contractionary and more painful.

Exchange rate reform in Iran focused on the unification of the nominal rates and a switch from fixed to flexible rates. In this fashion a massive nominal devaluation was implemented. The exchange-rate policy, however, did not deal specifically with real exchange rate targets. Consequently, once the multiple rates became unified, and the initial rounds of devaluation were completed, the Central Bank focused on stabilization of the nominal rate, a good policy but without much success. The objective of nominal devaluation in Iran, as in most DCs, was to improve the external position by engineering a real depreciation. However, to achieve this objective devaluations must be expenditure-reducing and expenditure-switching. In countries that have expansive credit policies and large fiscal deficits, nominal devaluations are usually not successful (Edwards 1988). The fundamental weakness of the reform plan in Iran was the lack of a macroeconomic environment and policy framework compatible with a successful real depreciation and consistent with the objective of a maintaining a flexible exchange rate with a limited depreciation potential. In particular:

a)-Monetary policy accommodated inflation and fiscal policy was expansionary. Government consumption outlays grew four percent above the rate of inflation, and the inflation-adjusted rate of growth of total public outlays exceeded 6 percent per annum during the First Plan. To a limited extent, the unsuccessful experience with currency liberalization in Iran reflect the central bank's limited powers over monetary/credit aggregates and their inability to control short-term bank deposits yield.

b)-Growth of aggregate demand put strong pressures on the current account balance. In fact, during the time of exchange rate liberalization, the Iranian economy was running large trade deficits. Given Iran's limited access to the world capital market, particularly since 1993--partly due to the accumulation of significant short-term foreign obligations and also because of pressures and sanctions applied by the U.S. government-- maintaining a stable but floating Rial would have been difficult. The empirical evidence indicates that a shut-off of foreign capital inflow can undermine the effectiveness of foreign exchange liberalization programs.

c)-Financial market reforms in Iran were limited in scope. A combination of inflationary policies and fixed administrative yield on bank deposits resulted in negative real rates which, on its own account, made domestic money an unattractive asset to hold.
In retrospect, given the type of macroeconomic policies practiced during the reform process its chance of success was minimal.

8. POLICY RECOMMENDATIONS AND CONCLUSIONS

The current exchange rate system in Iran is a multiple rate system, each rate is fixed by the Central Bank and allocation of foreign currency at the bank level is not market oriented. Problems such as rent-seeking, administrative costs, and black markets are usually associated with this type of arrangement. Based on the Iranian experience, the following observations and policy recommendations are made:

1- Occasional devaluations as a part of structural adjustment policies may not produce the intended desirable outcome if they result in higher rates of inflation, as has been witnessed in many DCs (Edwards 1988, 1989). Liberalization of the exchange rate system can only be done in the context of an appropriate macroeconomic framework. Otherwise, social dissatisfaction with inflation and adverse income distribution effects of the liberalization process can undermine the whole structural reform policy package. 34

2- Cooperation and commitment to a reform package must be very strong by all parties involved (e.g. fiscal, monetary, and trade authorities), and credibility of the policy making body(ies) is of utmost importance. The Central Bank of Iran has limited powers and discretion over the course of monetary policy, and even less influence over other macroeconomic aggregates. Management of currency fluctuations and control over inflation by the Central Bank can be enhanced if there is more cooperation between fiscal and monetary authorities, and if the Central Bank is given more control over monetary policy. To a limited extent, the unsuccessful experience with currency liberalization in Iran reflects the bank's limited powers over monetary/credit aggregates, and its inability to vary the rates on short and intermediate-term bank deposits to reflect domestic economic and inflationary conditions. Credibility can be earned by sticking persistently and consistently to sound financial and macroeconomic policies, and the ability of the responsible body to discharge correct policies.

3- Given the current economic policy environment, the balance of payments constraint, and limited access to the global capital markets, reintroduction of a floating system in Iran, at least at this point in time, is not recommended. If current inflation trends continue, real appreciation of the Rial will again become a problem and the Central Bank might be forced to allow for a devaluation. A crawling peg system for periodic realignment of the real exchange rate would have a better chance of success if the fundamental fiscal/monetary (and broader socio-economic) causes are addressed. The current policy of maintaining a fixed multiple exchange rate system is an implicit adoption of the exchange rate as the nominal anchor, which along with a selective use of price controls, is presumed to check the rate of inflation. It should be noted once again that exchange-rate-based stabilization may not necessarily quickly bring about lower inflation rates. This is the lesson economists learned from the Southern-Cone stabilization programs during the late 1970's and the "heterodox" stabilization policies in the mid-1980's in Argentina and Brazil. 35
The Southern-Cone experience demonstrated that the rate of inflation does not quickly converge to the world rate of inflation and the extent of real appreciation of the domestic currencies was substantial. Moreover, while there was an initial increase in real economic activity, recession was the eventual outcome. In Iran, pegging of the Rial to the dollar has been accompanied by severe restrictions on imports of consumer, intermediate, and capital goods. As a result, an initial increase in the growth rate of real GDP did not occur in Iran. In the First Plan the average annual growth rate of GDP at constant prices was 7.2 percent, but during the 1990/91-1993/94 period GDP growth rate significantly declined (table 3).

Aside from a fixed exchange rate, price controls have been relied upon to control the rate of inflation. This policy if used effectively, can limit the extent of the real appreciation of the Rial only in the short/medium-run. However, in the long-run, distortive effects of price controls could retard growth and undermine economic efficiency. Heterodox policies (combination of fiscal correction and incomes policy) have been suggested elsewhere to be an effective policy option. It should be noted that, in Iran the average rate of increase in wages in the industrial, construction, and public services sectors have lagged behind the rate of inflation during the 1990-1995 period.

4-The background work for a possible future overhaul of the exchange rate system should begin with a careful reform of the financial market, and gradual money growth deceleration which necessitates improved fiscal performance. These measure should, in due course, make holding of domestic money more attractive. This should be the strategic and immediate task of current monetary policy in Iran. Exchange rate unification and liberalization, would not bring about the desired outcome, unless they are parts of a consistent and credible macroeconomic policy package.
NOTES


10. "Floating" is the terminology used by the central bank of the I.R. of Iran to denote its benchmark rate. It does not mean that this rate floats with changing demand and supply conditions.

11. For more details see Ahmad R. Jalali-Naini, 1995.


13. It should be noted that the result obtained is based on the sample of monthly observations between the first month of 1985 and the end of 1994. Note that, as shown by the following table, the hypothesis of no linear equilibrium relationship between the above two variables is rejected at the 10 level.

<table>
<thead>
<tr>
<th>Engle-Granger Cointegration Test</th>
<th>Cointegrating Vector</th>
</tr>
</thead>
<tbody>
<tr>
<td>LDLR</td>
<td>1.00</td>
</tr>
<tr>
<td>LCPI</td>
<td>-0.83</td>
</tr>
<tr>
<td>Trend</td>
<td>0.004</td>
</tr>
</tbody>
</table>
Dickey-Fuller t-statistic -3.71
Mackinnon critical values 1% -4.47
  5% -3.87
  10% -3.56

The data for the log of the exchange rate (LDLR), and the log of the CPI (LCPI) are from the Central Bank of the Islamic Republic of Iran, the Monetary and Banking Research Institute.

14. For more details, including diagnostic tests, see A.R. Jalali-Naini, "Feasibility of Establishing Options and Future Markets in Foreign Exchange," Monetary and Banking Institute, the Central Bank of the Islamic Republic of Iran, 1995.

15. For more details see Aghevli et. al (1991).


18. For example, Nigeria dismantled the flexible system in 1994, and all transactions are now being channeled through the official exchange rate market (WORLD ECONOMIC OUTLOOK, 1994).


29. Based on data on the Retail Price Index (CPI) and yield data on time deposits, Bank Markazi, Annual Review, 1371, 1372, 1373.


### TABLE 1: The Current Account Balance of I.R. Iran (million U.S. $)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Exports</td>
<td>10.7</td>
<td>19.3</td>
<td>19.86</td>
<td>18.08</td>
</tr>
<tr>
<td>Oil &amp; Gas</td>
<td>9.67</td>
<td>17.99</td>
<td>16.88</td>
<td>14.33</td>
</tr>
<tr>
<td>Others</td>
<td>1.03</td>
<td>1.32</td>
<td>2.98</td>
<td>3.74</td>
</tr>
<tr>
<td>Imports (f.o.b)</td>
<td>-10.6</td>
<td>-18.33</td>
<td>-23.27</td>
<td>-19.28</td>
</tr>
<tr>
<td>Trade Balance</td>
<td>0.101</td>
<td>0.97</td>
<td>-3.4</td>
<td>-1.2</td>
</tr>
<tr>
<td>Current Balance</td>
<td>-1.86</td>
<td>0.32</td>
<td>-6.5</td>
<td>-4.19</td>
</tr>
</tbody>
</table>

Source: Bank Markazi Jomhouri Islami Iran, Annual Review 1370--72, Tehran
Note: Figures for 1992 and 1993 are preliminary estimates.
TABLE 2: Monetary Growth and Inflation Rates (annual %)

<table>
<thead>
<tr>
<th>Year</th>
<th>M1</th>
<th>CPI</th>
<th>M2</th>
<th>Official Exchange Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1986</td>
<td>18.1</td>
<td>23.7</td>
<td>19.1</td>
<td>71.4</td>
</tr>
<tr>
<td>1987</td>
<td>16.6</td>
<td>27.7</td>
<td>18.1</td>
<td>68.7</td>
</tr>
<tr>
<td>1988</td>
<td>14.5</td>
<td>28.9</td>
<td>23.8</td>
<td>72</td>
</tr>
<tr>
<td>1989</td>
<td>15.8</td>
<td>17.4</td>
<td>19.5</td>
<td>68.1</td>
</tr>
<tr>
<td>1990</td>
<td>24.6</td>
<td>9</td>
<td>22.5</td>
<td>67.5</td>
</tr>
<tr>
<td>1991</td>
<td>21.8</td>
<td>19.6</td>
<td>24.6</td>
<td>65.6</td>
</tr>
<tr>
<td>1992</td>
<td>20</td>
<td>21.6</td>
<td>25.3</td>
<td>1,170.1</td>
</tr>
<tr>
<td>1993</td>
<td>36.9</td>
<td>26.3</td>
<td>34.2</td>
<td>1,748.7</td>
</tr>
<tr>
<td>1st quarter 1994</td>
<td>39.1</td>
<td>26.9</td>
<td></td>
<td>1,748.4</td>
</tr>
<tr>
<td>2nd quarter 94</td>
<td>41.6</td>
<td>28.9</td>
<td></td>
<td>1,748.4</td>
</tr>
<tr>
<td>3rd quarter 94</td>
<td>38.2</td>
<td>32.8</td>
<td></td>
<td>1,748.8</td>
</tr>
<tr>
<td>4th quarter 94</td>
<td>42.1</td>
<td>36.6</td>
<td></td>
<td>1,749.3</td>
</tr>
<tr>
<td>1st quarter 95</td>
<td>40.2</td>
<td>41.4</td>
<td></td>
<td>1,746.6</td>
</tr>
<tr>
<td>2nd quarter 95</td>
<td>55.4</td>
<td></td>
<td></td>
<td>1749.01</td>
</tr>
</tbody>
</table>

Inflation and Money Growth Rate %

Notes: Exchange rates are Rials per one U.S. $. Quarterly rates are annualized figures. Source: Bank Markazi Jomhouri Islami Iran, Annual Review, various issues, and IFS July 1995.
**TABLE 3: Real GDP Growth Rates in Iran (in annual percentages)**

<table>
<thead>
<tr>
<th>Year</th>
<th>Planned Growth</th>
<th>Actual Growth</th>
</tr>
</thead>
<tbody>
<tr>
<td>1989/90</td>
<td>7.9</td>
<td>4.2</td>
</tr>
<tr>
<td>1990/91</td>
<td>9.2</td>
<td>11.5</td>
</tr>
<tr>
<td>1991/92</td>
<td>0.8</td>
<td>10.1</td>
</tr>
<tr>
<td>1992/93</td>
<td>8.5</td>
<td>6</td>
</tr>
<tr>
<td>1993/94</td>
<td>8.4</td>
<td>4.5</td>
</tr>
</tbody>
</table>

FIGURE 1. The Index of the Monthly Black Market Rial/$ Rate
FIGURE 2. Index of CPI AND Monthly Black Market Rial/Dollar Rate
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