

# Reform of Foreign Exchange Market in Iran

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## 1. Introduction

In early 2002, Bank Markazi, Iran's central bank, adopted a unified exchange rate of the rial per dollar. This has been a welcome change. Over the years, Iran had experimented with many forms of foreign exchange controls, all to the economic detriment of the country. After the revolution, the government maintained different exchange rates for imports and exports as well as among different categories of importers and imported commodities. The plethora of exchange rates distorted resource allocation in the economy, helped to maintain inefficient governmental and semi-governmental enterprises, and transferred oil revenues to influential individuals in the form of rent. The recent policy, although a step forward, does not go far enough and would cause problems for the economy in the years to come. While allowing the foreign exchange market to operate on the basis of supply and demand, Bank Markazi is maintaining a fixed exchange rate of the rial per dollar by selling oil revenue dollars in the free market. This is a hybrid system that combines features of a flexible exchange rate regime with those of a currency board. The system is unstable. The system could be maintained if one of the following conditions holds. Either the government refrains from printing money to finance its budget deficit, or it has an inexhaustible source of foreign assets and would be ready to waste it to maintain the price level and the exchange rate. At present, due to an extraordinary increase in oil prices, Bank Markazi has enough resources to follow this policy. But neither will these high prices last forever nor should the oil revenues that are in fact the wealth of the Iranian nation be squandered in this way.

A good deal of discussion on exchange rate regimes concentrates on the causes of currency crises and the ways to avoid them or mitigate their effects. Such considerations do not pertain to the present conditions of the Iranian economy as that country has not been integrated into the international financial system and indeed has been isolated, to a great degree, from the global economy. But if Iran is to put its economy in order, integrate into the global economy and, in particular, attract foreign investment, it has to have an exchange rate regime with a high degree of credibility and with safeguards to avoid currency crises.

The present paper reviews different exchange rate arrangements in the context of the Iranian economy. The choice of a regime depends on the specific characteristics of an economy as well as the objectives pursued by policymakers. It is assumed that the goal is to transform the Iranian economy into an efficient and growing one, integrated into the global economy.

A caveat is in order here. In discussions of the reforms of the Iranian economy one frequently encounters two subversive refrains. First, it is claimed that the proposed policy or change would not solve the Iranian economy's problems, as if those who propose reform have made such a claim. But let it be stated very clearly that no policy or reform proposal alone has ever miraculously transformed an ailing economy such as Iran into an advanced and thriving one, nor would it do so in the future. And whoever makes claims to the contrary should have his or her head examined. Second, some argue that one has to consider all aspects of the Iranian society, and reforms should encompass both political and economic spheres. In particular, they claim that unless some fundamental changes are effected any tampering with the economy

might have detrimental consequences. Thus, the reform project in this view would be so huge as to be impractical. On the other hand, since such remedies have to cure all possible ailments of the economy, by definition they will fail. What should be emphasized is that the proposed reforms are parts of a comprehensive overhaul of the economy. The task is huge but in discussing the steps to be taken as well as in the implementation of reforms, one has to start somewhere.

Finally, it should be noted that no matter how well designed institutions and policies of a country are and despite the best efforts of a nation, by its very nature an economy will experience ups and downs, booms and recession, and periods of expansion and crises. Such ups and downs should not be termed failures. The healthiest individuals who eat well, exercise, and are free from bad habits, fall ill occasionally. Their illnesses are not an indication of failure and most importantly should not be taken as a license to give up on a healthy lifestyle. Similarly, a competitive market economy will experience recession and unemployment. The implication of these problems is not to go back to a discredited state-controlled economy.

**2. Types of Exchange Rate Regimes**

As listed in Table 1 below, there are a variety of exchange rate regimes. The two basic categories are fixed and flexible exchange rates, while the intermediate float regimes combine, in varying measures, features of the two polar cases.

Table 1. Types of Exchange Rates Regimes<sup>1</sup>

Fixed		Intermediate Float		Clean Float
Hard Pegs	Traditional (soft) Pegs	Rule Based Intervention	Discretionary Intervention	
Dollarization	Single Currency Peg	Cooperative Regimes	Managed Floating	Free Floating
Currency Board	Basket Peg	Crawling Peg		
Monetary Union		Target Zones and Bands		

Fixed exchange rates are distinguished by the degree of commitment to a predetermined rate. When a hard peg regime is adopted, the exchange rate is set, usually at a one-to-one ratio to the anchor currency, and the country gives up its independent monetary policy. Commitment is weaker in the case of soft pegs, although again monetary policy becomes ineffective. Soft peg regimes were prevalent during the Bretton Woods era. The fixed exchange rates were maintained through a combination of central bank intervention, occasional devaluation and revaluation, and by imposing restrictions on the foreign exchange market. The other polar case is the clean float regime, where determination of exchange rates is left to the market and forces of supply and demand.

Discussion of all regimes is well beyond the scope of this paper. In particular, I will eschew a discussion of the intermediate cases since many studies have shown that their performance is inferior to those of the polar cases. Instead, in what follows, the focus will be on three regimes that I believe are relevant to the case of Iran: currency board, dollarization, and clean float. I argue that dollarization is the best foreign exchange arrangement for Iran. Nevertheless, it will be rejected by policymakers on political grounds. Therefore, the second best would be a clean float. Such a system requires a transparent scheme for selling oil revenue dollars. A simple scheme is proposed for this purpose. Since in discussing both currency

board arrangement and dollarization we shall come across the issue of seigniorage, Section 4 contains a review of the subject.

### **3. Problems with the Present Regime**

The current exchange rate regime in Iran is a hybrid arrangement with features of a floating system combined with those of a currency board. Perhaps managed floating is the closest category to Bank Markazi's policy. The dollar is traded in the market, but the central bank intervenes by selling the dollar in order to keep the exchange rate within an unannounced band centered at 8000 rials per dollar. Alternatively, we can think of it as a modified version of a currency board in which the central bank injects enough supply of the dollar into the market to keep the equilibrium rate at a particular point. Yet neither is there a pre-announced rate nor has the bank publicly obligated itself to maintain dollar backing for the rial.

The central bank's objectives are twofold. First, by keeping the external value of the rial constant, it hopes to keep inflation under control. In other words, the central bank sells foreign exchange to reduce the excess liquidity and keep money supply in check. Compare this operation to the US Federal Reserve's open market operation where the central bank reduces money supply by selling government bonds. Moreover, since Bank Markazi targets the value of the rial in terms of the dollar, it is supposed to have the additional psychological effect that the public can always get a dollar for so many rials. Therefore, all other prices—particularly imported goods—should move no further in terms of the rial than they are changing in terms of the dollar.

Secondly, Bank Markazi is hoping that a stable rial would remove one of the worries of foreign investors and would encourage them to invest in Iran. A stable rial would reduce the risk of such investment, particularly in relation to the repatriation of profits. Moreover, calculations of costs and revenues will be simpler and straightforward.

On neither ground has the policy been an unqualified success. By selling dollars, Bank Markazi has succeeded in reducing liquidity in the Iranian economy, thereby reducing the rate of inflation to about 15%. The double digit inflation rate occurred in spite of a high rate of economic growth—partly fueled by high oil prices—and a double digit rate of unemployment. Although the lack of foreign investment in Iran is due to many factors, it is difficult to believe that the central bank's effort to stabilize the exchange rate has had a positive effect. The stability of rial/dollar parity is dependent on the availability of petrodollars and the readiness of the Iranian government to waste them to keep a fixed exchange rate. Even if both conditions remain unchanged, what assurances do investors have that a change in economic or political conditions would not lead the Iranian decision makers to abandon the goal of exchange rate stability? Indeed, a severe misalignment of exchange rates, an internal or external shock to the economy, or a political imperative may cause the government to change the regime or allow a substantial devaluation.

Aside from its ineffectiveness to date, the central bank's policy could be criticized on three grounds. First, the instrument of this policy is the foreign assets earned through selling petroleum. Oil is a national asset; its use for short term goals cannot be justified. Simple economic logic tells us that petrodollars should be earmarked for investment. Second, the policy would not work for long. At present, because of simultaneous crises in Iraq and Venezuela, oil prices are well above what they would have been under normal circumstances. Thus, Bank Markazi would feel a free hand in spending the dollars. But this situation will not last and there will come a time when oil prices would be far below normal. Tying control of inflation and credibility of the rial to fluctuations in the oil market is senseless. But even if the government could rely on an inexhaustible supply of the dollar, as long as the government resorts to financing its deficit by printing money, inflation would remain a problem for the Iranian economy; recent experience confirms this. As a matter of fact targeting the external value of a currency is a wrong goal for

monetary policy and the central bank. It is best for Bank Markazi to become independent and be charged with maintaining the internal value of the rial—that is, controlling inflation— and supervising financial institutions of the country. Finally, Bank Markazi’s policy is flawed because the same goals could be achieved by other more effective and less costly means. Inflation can be checked by controlling money supply and international credibility could be achieved much better by dollarization or a clean float.

#### 4. Seigniorage<sup>2</sup>

In discussing the next two possible arrangements for determination of foreign exchange rates, namely, currency board and dollarization, we will come across the issue of seigniorage. Here, we present a brief description of this concept.

In a system of commodity money—gold or silver standard—individuals and legal entities could take metal to a mint, which would charge a small percentage for its services of assaying the metal and minting the coins.<sup>3</sup> This charge was termed seigniorage. In modern times, when fiat money is in circulation, there is a considerable difference between the value of paper currency and the cost of its production. It may cost only a few cents to print a \$20 bill. By putting the currency into circulation the US government pockets the difference. By analogy, this amount is also termed seigniorage. For instance, between January 2001 and January 2002, the currency in circulation increased by \$52.5 billion. Even with 5% cost of production, the amount of seigniorage accruing to the US government was close to \$50 billion. Similarly, during the year 1380 (2001-2), Bank Markazi Iran added more than four thousand billion rials to currency and coins in circulation. Again, assuming 5% cost and the exchange rate of 8000 rials per dollar, the seigniorage accruing to the Iranian government amounted to \$503 million.

Now consider the case when a country opts for dollarization, replacing its legal tender with another currency. By doing so the country that adopts the foreign currency loses its seigniorage. How much is this loss? One way of estimating it is to calculate the present value of seigniorage lost in the future. In order to obtain the dollars needed to exchange for domestic currency, the central bank has to sell its interest-bearing foreign assets. Conceptually, therefore, the cost is equivalent to the loss of interest on these assets if they were held in perpetuity.

Let us denote the amount of currency to be replaced (in dollar terms at the exchange rate chosen for dollarization) by  $C$ . If the money supply is left unchanged for the future, the loss of seigniorage would be equal to  $C$  less the printing cost  $qC$  (again in dollars). But as time goes by and the economy grows, demand for currency increases. Conceptually, the central bank could have printed more domestic currency. Instead, it is exchanging its interest-bearing assets into the dollar to provide the economy with the needed currency. We can explicitly calculate this cost under reasonable assumptions.<sup>4</sup>

Let  $g$  denote the growth rate of output, and  $p$ , and  $i$ , respectively, inflation and nominal interest rates. Also let the ratio of currency to GDP ( $Y$ ) which we assume to remain constant be denoted by  $g$ , then the annual cost to the central bank would be as shown in Table 2.

Table 2. Calculating the Present Value of Seigniorage Lost Due to Dollarization

Year	Cost	Cost Discounted to the Beginning of Year 0
0	$i(1-q)C$	$iC(1-q)/(1+i)$
1	$iC(1-q)(1+g)(1+p)$	$iC(1-q)(1+g)(1+p)/(1+i)^2$
2	$iC(1-q)[(1+g)(1+p)]^2$	$iC(1-q)[(1+g)(1+p)]^2/(1+i)^3$
3	$iC(1-q)[(1+g)(1+p)]^3$	$iC(1-q)[(1+g)(1+p)]^3/(1+i)^4$
...	...	...
t	$iC(1-q)[(1+g)(1+p)]^t$	$iC(1-q)[(1+g)(1+p)]^t/(1+i)^{t+1}$
...	...	...

Assuming  $(1+g)(1+p)/(1+i) < 1$ , the present value of the cost would be:

$$S = \sum_{t=0}^{\infty} iC(1-q)[(1+g)(1+p)]^t/(1+i)^{t+1} = igY_0(1-q)/(i-r)$$

where  $Y_0$  is the GDP in the year 0 and  $r = (1+g)(1+p) - 1$ .

In order to give an indication of its magnitude, we recall that in 1380 (2001-2), the amount of currency (coins and notes) in circulation in Iran was 31790.1 billion rials or \$3.974 billion at the exchange rate of 8000 rials per dollar. Let us assume a growth rate of 5%, inflation rate of 4%, cost of printing money of 5%, and interest rate equal to 12%. Then the present value of all lost seigniorage until eternity would be slightly more than \$16 billion dollars. Since, Iran's GDP in the same year was about \$83 billion, the present value of seigniorage lost would be slightly less than 20% of the GDP.

The formula requires the  $i - r < 0$ , that is, the nominal rate of interest should be greater than the rate of growth of nominal GDP (inflation plus growth rate), or alternatively, the real rate of interest should be greater than the growth rate of the economy. As the rates get closer, the amount of seigniorage increases, going to infinity when the two are equal. Moreover, if the interest rate is less than the growth rate, then the amount of seigniorage would be negative.

Alternatively we can look at the annual seigniorage lost to the Iranian government. Since the amount of currency in circulation is 5% of the GDP, assuming an interest rate of 5-10%, the loss would be 0.25-0.5% of the GDP annually. This amount for the first year would be \$200-400 million.

## 5. Currency Board<sup>5</sup>

While currency boards have a long history that dates back to the colonial period—Mauritius in 1849 and Ceylon in 1884 established currency boards<sup>6</sup>—they became popular in the 1990s. Argentina in 1991, Estonia in 1992, and Lithuania in 1994 adopted currency board arrangements. The objective is to impart credibility to policies of a government that in the past has failed in its stabilization efforts. The arrangement will prevent the central bank from monetizing the government budget deficit or lending to banks, thus strengthening the reputation of monetary authority. The inability to monetize budget deficit should, in turn, engender fiscal discipline. In addition, in newly independent countries—such as Estonia and Lithuania in Europe and former Soviet republics in Central Asia—where the central bank has no track

record, a currency board provides monetary discipline and policy transparency. These in turn will result in controlling inflation, lowering of interest rates and their convergence to international rates, attracting foreign capital, and minimizing the risk of a currency crisis.<sup>7</sup>

In a currency board regime the central bank transfers its foreign assets and the right to print money to a board that will issue domestic currency equal to the amount of its foreign assets. In other words, a currency board acts like a vending machine; in order to issue one unit of domestic currency its equivalent in foreign currency has to be deposited. The main ingredients of the regime are a foreign currency anchor, a set exchange rate, and a commitment to print money only if it can be bought back by the anchor currency. Not all currency boards adopt a 100% backing for the domestic currency; some may be required to keep the equivalent of 70% or 80% of the currency issued in foreign assets. Furthermore, currency boards differ in their commitment to back only currency in circulation or the base money, that is, currency in circulation plus commercial banks deposits with the central bank. In this regime the country does not lose seigniorage—because the backing will be in the form of interest-bearing foreign assets—rather it buys credibility at the expense of giving up its monetary independence. The central bank cannot finance government deficits or act as the lender of last resort by printing money. Of course it can always transfer foreign assets to the board and receive domestic money in return. In practice, this has not always been the case. The board has been asked to bend the rule or lower the percentage at which it is backing the domestic currency to accommodate government needs.

The success of a currency board hinges on the discipline of the government not to run a deficit that could not be financed by borrowing from the public. Once the government breaches this discipline, the regime is doomed. First, an increase in domestic money supply leads to an increase in prices that makes it difficult to maintain the exchange rate. Next the public realizes that the exchange rate is under pressure and that in all likelihood the currency board could not support it by supplying foreign currency. Then comes the speculative attack on the currency. If a currency is overvalued, it sooner or later will depreciate. Therefore, it makes sense to sell that currency and buy the currency against which it will depreciate. But such a speculation itself will put pressure on the currency to depreciate because now the supply of that currency in the foreign exchange market has increased and demand for it has dwindled. The longer the government resists this pressure and refuses to allow the currency to depreciate the larger will be the ultimate depreciation.

Because it hinges on government commitment not to finance its deficit by printing money and because the central bank cannot effectively respond to fluctuations in the economy, currency boards have not had a shining record.

## **6. Dollarization<sup>8</sup>**

Some countries have abolished their national currency and have adopted the dollar as their official currency, for instance, Ecuador in 2000 and El Salvador in 2001. In others the dollar is used alongside the national currency, for example, in Russia. This practice is termed dollarization. The oldest instance of dollarization is Panama, which adopted it in 1904. It should be noted that sometimes dollarization is used as a generic term and refers to replacing domestic currency with a strong money.

The main benefits of dollarization are financial stability and low inflation rate. Investors need not concern themselves with exchange rate risk and can base their decisions on the economic merits of each project. Neither will importers and exporters be beset by exchange rate volatility. For its part the government need not worry about the external balance of the economy or the credibility of its policies. The economy will be integrated into the global economy and would have access to international financial markets. The interest rates will be lower and converge to the international level, thus spurring investment and economic growth.

On the negative side, the central bank would lose the ability to conduct monetary policy and the government would lose seigniorage. These negative effects, however, are minimal in the case of most countries, particularly Iran, and at any rate the benefits far outweigh the costs. To begin with, Iran has never had an independent monetary policy. What goes by the name of monetary policy is simply an adjunct to fiscal policy. Money is printed and credit extended to cover government budget deficits or prop up failing government and public enterprises. Dollarization, by depriving the government of inflationary deficit financing, would force it to have fiscal discipline.

The government, however, will lose the seigniorage. Compared to benefits Iran would derive, this cost is negligible. As discussed in Section 4, the present value of the loss would be about \$16 billion or 20% of GDP. If dollarization results in 0.5 percentage point increase in the annual growth rate of GDP, the present value of additional output in the next 10-11 years will cover the cost. If the growth is accelerated by one percentage point, the cost will be covered in less than seven years. Alternatively, we calculated the loss, depending on the interest rate, to be 0.25-0.5% of GDP annually. It is clear that an annual increase 0.5-1.0 percentage point in the growth of GDP more than covers this cost.

Since the seigniorage will accrue to the country which issues the currency—in this case the United States—some have suggested that the United States remit a part of the seigniorage to the dollarizing country. For example, in 1999 Florida Senator Connie Mack proposed such a scheme to encourage emerging market countries to adopt the dollar as their legal tender and the US treasury to share the increase in seigniorage with them.<sup>9</sup> Of course, in the current American-Iranian political climate, talk of sharing seigniorage is out of the question. Indeed, the whole idea of dollarization will be shot down without any discussion. Yet, based on economic analysis, it would be the best arrangement for the Iranian economy. Perhaps some time in the future, the proposal could be revisited in an entirely different political climate.

## **7. Clean Float**

This regime is quite simple. The foreign exchange is treated like any other asset or commodity. Its price, that is, the exchange rate, is allowed to be determined in the market through the balancing of supply and demand. There will be no restrictions on transfer of funds to and from the country, nor will there be a commitment to provide anyone including government or public enterprises with foreign exchange at preferential rates. The system has a number of advantages. The price of foreign exchange is market determined. Therefore, prices of exported and imported goods and services as well as the cost of different projects reflect their social values. The result is an efficient allocation of resources, especially foreign exchange earnings so important to developing countries. Furthermore, floating exchange rates absorb external shocks and allow the domestic economy to adjust with minimum pain to international fluctuations. Thus, it frees monetary policy to concentrate on preserving the domestic value of the currency, that is, to control inflation.

This is not to imply that the system is free from upheavals. For a small open economy a sudden actual or anticipated change in the exchange rate may result in the outflow of capital causing serious disruption of economic activities. Nevertheless, under a clean float the cost to the economy would be much less than in a traditional fixed exchange rate or even managed float. Still, under such circumstances nothing prevents the government from temporarily stepping in. It is important to emphasize the designation “open economy.” An economy isolated from the world would not be terribly affected by international fluctuations. The examples of such economies, North Korea, Burma, Afghanistan during the Taliban regime, and Cuba, however, should dispel any notion of the desirability of avoiding such ups and downs.

In the case of Iran, the fact that the bulk of government revenues as well as the foreign exchange earnings of the country are from oil exports requires a modification of the basic model of clean float. The

government needs to exchange its petrodollars for rials to meet its domestic obligations. At the same time it needs to avoid disrupting the functioning of the foreign exchange market. The government sale of foreign exchange dwarfs the supply from any other source. Thus, all actors in the market may feel great uncertainty as to the behavior of the government, which could wipe them out or make them extremely rich overnight. On the other hand, the government needs to ensure that it receives the highest possible amount of rials for every dollar it sells. I propose the following simple scheme for achieving these objectives.

The government would estimate the amount of the dollars that it needs to sell in the market for the next 250 trading days. These estimates could be revised on a continuous basis, but the public is informed in advance of the daily supply of dollars. The government will auction off the pre-announced daily amount of dollars in which the bidding starts at the closing rate of the previous day.<sup>10</sup> As long as the dollar is appreciating the government would continue the auction until all the dollars allotted for the day, say 30 or 40 million dollars, are sold. If, however, the dollar depreciates by 1% and it is clear that the situation will not be reversed, the government will stop trading for that day and resume its market activity the next day. All these rules should be clearly publicized and adhered to at all times. In particular, any change in the daily supply of the dollar should be announced at least 10 trading days in advance.

All individuals, corporations, government ministries, government enterprises, and pseudo government entities have to obtain their foreign exchange through the market. This means that the government budget need not make any distinction between items in rials and dollars. The government agencies, like everyone else, have to make an assessment and buy what they need from the lowest bidder (controlling for quality) whether domestic or foreign. In this way resources allocated to every activity are correctly priced, and allocation of resources would be efficient. Government and pseudo-government agencies and influential groups and individuals would not have the opportunity to earn rents at the expense of everyone else in the country.

It may be said that the above should not pertain to the armed forces. Indeed, that is true at the time of a national emergency such as a war. But short of such calamity, there is no reason to exempt armed forces from efficiently allocating their resources or being cost effective in their activities.

## **8. Concluding Remarks**

The past 25 years have been the lost quarter of century for the Iranian economy. The task of reforming the economy is both urgent and overwhelming. But perhaps nowhere is it as urgent as in the case of foreign exchange and surely nowhere as pivotal. It has been argued that for Iran dollarization is the best option as it will result in price stability, low interest rates, and attraction of international capital. Political considerations prevent the adoption of the dollar as the legal tender in Iran. The second best would be a clean float. Since the government is the largest foreign exchange earner, a system to auction some of its dollar earnings is proposed. This regime would allow for the efficient allocation of resources and end rent earning by individuals, corporations, and government and pseudo-government agencies. Further, it would allow the central bank to direct its monetary policy toward controlling inflation.

### **Notes**

1. This table is a short version of Table 4.1 in Gosh, Gulde, and Wolf (2002), Pp.40-1, where the interested reader will find more information about these regimes.
2. For more on this subject see Black (1989).
3. This was the practice in Iran until the early twentieth century.
4. The formula obtained, with minor modification, is the same as proposed by Levy Yeyati and Sturzenegger (2003, p.35)

5. For a detailed discussion of currency boards see Baliño, Enoch, et al. (1997).
6. For a history of currency boards see Schwartz (1993).
7. On currency crisis see Joint Economic Committee (2002).
8. On dollarization see Levy Yeyati and Sturzenegger (2003) and Hanke and Schuler (1999).
9. Flowers and Lees (2002), p.261; see also Barro (1999).
10. Auctions and their designs involve complicated mathematical issues and there is a large literature on the subject. The interested reader is referred to Klemperer (2002) or the more comprehensive and technical Krishna (2002) and references cited there.

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