

Monetary Policy in Iran: The Challenge of Reducing Inflation

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Abstract

The conduct of monetary policy in an oil economy with a managed floating exchange rate regime can be challenging in an environment of fiscal dominance and incomplete transition to a market economy. The Five-Year Development Plans provide a natural benchmark against which to assess monetary policy performance in Iran. Price stability has proved elusive, with liquidity growth targets constantly exceeded by a large margin. The paper examines the reasons behind these results and, based on the lessons that can be drawn from the literature and the international experience, makes some proposals on how to improve on this record. Although fiscal dominance remains the main obstacle to disinflation, reforms to strengthen the anti-inflationary mandate and the operational independence of the central bank, and more effective monetary instruments are also needed.

Keywords: Iran; monetary policy; inflation; exchange rate

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I. Introduction

Iran has had high inflation for more than three decades, but the need to reduce it to a single digit level has become compelling in recent years for the following reasons. First, world-wide inflation has come down significantly and double-digit inflation rates persist only in a handful of countries. Second, high inflation was tolerated when the Iranian economy was isolated from the rest of the world because of the economic sanctions, the widespread restrictions, and the administrative controls that had been imposed on trade and exchange transactions. With the gradual integration into the world economy in recent years and the important reforms that were launched during the Third Five-Year Development Plan, persistent high inflation has become a serious impediment to competitiveness and long-term growth, not to mention the hardship it imposes on the more vulnerable segments of the Iranian population.

While there is a consensus on the need to reduce inflation, the question arises regarding the priority accorded to this objective by the authorities, and the extent to which macroeconomic policies in general, and monetary policy in particular, are geared toward achieving this objective. This leads us to discuss the effectiveness of monetary policy in controlling liquidity growth and inflation as well as the consistency of fiscal and exchange rate policies with the need to reduce inflation. While this paper is mainly focused on monetary policy, it is clear that monetary policy alone cannot achieve the disinflation objective. As in many other developing economies, the role of monetary policy is heavily dependent on other factors, particularly fiscal policy. Monetary policy is often assigned multiple objectives that are pursued with few, sometimes inadequate, instruments. As some of these objectives may not be mutually consistent, assessing policy performance may imply a complex evaluation of policy choices and trade-offs.

This paper looks at the recent performance of monetary policy by comparing actual outcomes for some key variables (inflation and money growth) with the targets formulated in the Five-Year Development Plans (FYDPs) (Section II). Although the performance in attaining the inflation target has recently improved slightly, the still large gap between monetary targets and outcomes points to significant difficulties in monetary control. Section III examines the changes in the monetary policy setting, and discusses the consistency of the overall macroeconomic policy framework with the disinflation objective. Section IV focuses on the consequences, namely the trade-off between various objectives and the implications for monetary policy formulation. Section V offers some possible avenues for policy changes, drawing on the work conducted at the IMF in recent years. Section VI presents the main conclusions.

II. Assessing the Recent Performance of Monetary policy

In their survey of the literature on the relationship between money, inflation and growth, Orphanides and Solow (1990) write: "Different long-run rates of growth of the money supply will certainly be reflected eventually in different rates of inflation." (p. 224). This summarizes a fundamental tenet in monetary theory. While inflation and money growth may temporarily deviate, in the long-run inflation is essentially a monetary phenomenon. Recent research at the IMF has focused on the identification of a stable money demand function and the main determinants of inflation. The influence of money on inflation in Iran is fully confirmed. Liu and Adedeji (2000) estimated various long-term equilibrium conditions to determine the short-run dynamics of CPI inflation and found a strong impact of monetary factors on inflation. Celasun and Goswami (2002) came to the same conclusion using a real money demand equation. The estimated exchange rate impact on inflation is strong in Celasun and Goswami (2002), weak and transient in Liu and Adedeji (2000). Kramarenko (2004b) estimated an inverted money demand function and found a one-to-one relationship between M2 and inflation in the long run, with a significant exchange rate effect.

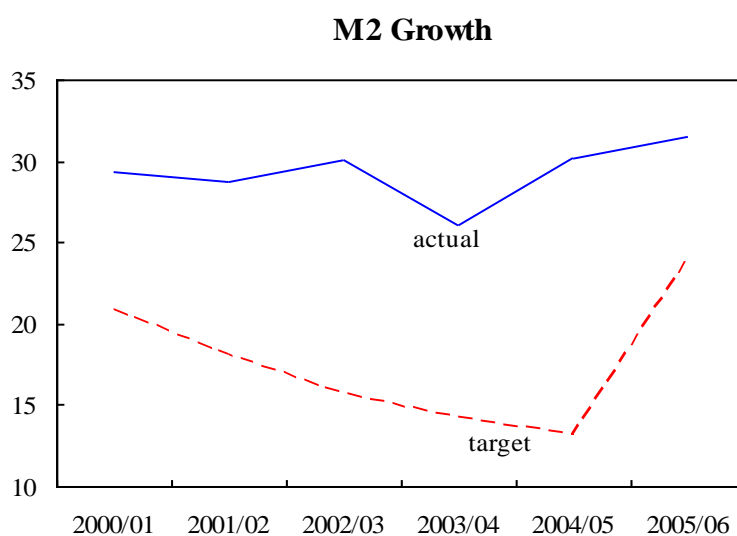
The exchange rate pass-through on inflation reflects various influences. The Iranian economy has made substantial progress in opening up to trade in the early 2000s and the share of tradable goods and services, which are directly affected by exchange rate movements, has likely increased in the economy. Moreover, an appreciating rial increases money demand as confidence in the currency rises.

Therefore, movements in the exchange rate and the ability of monetary policy to control liquidity growth are expected to have a direct impact on inflation. The Five-Year Development Plans (FYDPs) present quantitative annual targets for the main macroeconomic variables; including consumer price inflation and a broad money aggregate. This is consistent with the choice of a monetary aggregate as the de facto nominal anchor (Jbili and Kramarenko, 2003). Although these targets are not binding, and there are no consequences for breaching them, they are approved by parliament and are used as benchmarks for formulating monetary programs by the central bank. Therefore, they provide a useful, although by no means exhaustive, guide for assessing policy performance.

It is useful to recall at the outset that the experience under the first two FYDPs was one of systematic underperformance, with inflation exceeding the targets by about 4 percentage points on average under the First FYDP (1989/90-1993/94) and by almost 14 percentage points on average under the Second FYDP (1995/96-1999/2000) (Kramarenko, 2004a). Figure 1 shows the evolution of both inflation and money (M2) growth relative to the FYDP targets in the latest period, starting in 2000/01. The situation has somewhat improved. In the first two years under the Third FYDP (2000/01-2004/05), inflation overperformed the targets substantially, mainly on account of the parallel market appreciation that preceded the

2002 exchange rate unification.¹ However, once the impact of these factors receded, inflation rose again above the target. The success in meeting the target in 2005/06 is due to both a decline in inflation, to which price freezes and large increases in subsidies have substantially contributed, and the higher target envisaged under the Fourth FYDP.

Figure 1. I.R. of Iran: Inflation and M2 Growth, Targets and Outturns, 2000-06



Sources: CBI, and IMF staff estimates

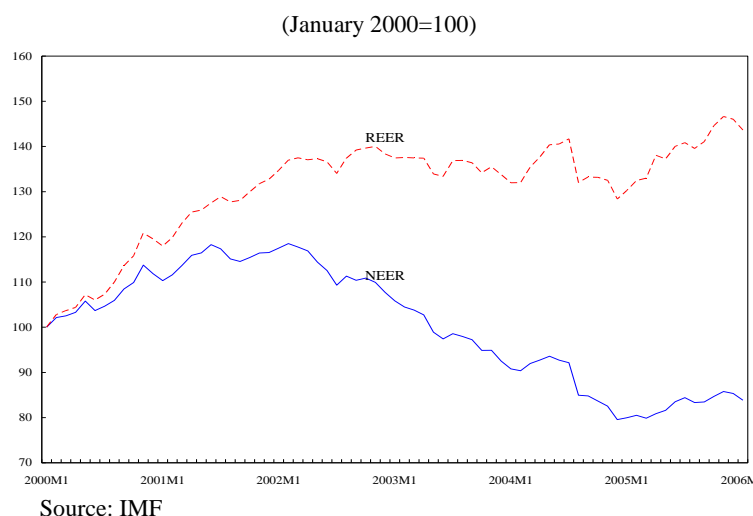
The evolution of M2 sheds light on the immediate cause of the disappointing inflation performance. The authorities have been unable to attain the intermediate monetary target since the inception of the FYDPs,

¹- Other factors that contributed to disinflation in the early 2000s were the impact of favorable weather conditions on agricultural prices, the effects of trade liberalization, and stricter annual limits to the price increases for goods and services provided by public sector enterprises (Celasun and Goswami, 2002).

with the target being exceeded by almost 16 percentage points on average under the First FYDP, and by 13 percentage points under the Second FYDP. Even in the last period since 2000/01, the situation did not improve significantly, with the actual increase in M2 constantly exceeding the target by a wide margin. Under the Third FYDP, the difference between targets and outcomes remained almost unchanged at 12.5 percentage points on average. Even after the target was adjusted under the new FYDP in 2005/06, M2 growth turned out to be substantially faster than envisaged.

In sum, the attainment of the inflation targets improved somewhat under the Third FYDP. Inflation was on average almost 2 percentage points below target in the period 2000/01-2004/05, owing entirely to the over performance in the first two years, when the exchange rate was appreciating. Nonetheless, the overall inflation performance can hardly be characterized as satisfactory. The inflation target, though not excessively ambitious, has been exceeded in three years out of five. More importantly, the decline in inflation envisaged in the FYDPs has clearly been missed; with inflation remaining stubbornly well above 10 percent. Although inflation fell below the target in the first year of the Fourth FYDP (2005/06-2009/10), it is less clear that it will continue to do so in the period ahead, particularly when price freezes are lifted.

Let us now briefly review the main reasons behind this outcome. While several factors can explain the deviation from the inflation targets under the plan (including changes in agricultural output due to weather conditions, terms of trade shocks, and price controls), these factors have a temporary impact. Money growth, on the other hand, has been excessive and persistent throughout the period, as indicated by large breaches of the monetary targets. Excess money growth was largely due to unsterilized injection of oil revenue through government spending (see Section II.A).

Figure 2. I.R. of Iran: Nominal and Real Effective Exchange Rates, 2000-06

Second, the gradual nominal depreciation of the exchange rate had been a contributing factor.

Figure 2 shows both the nominal effective exchange rate (NEER) and the real effective exchange rate (REER) since 2000. After appreciating by about 15 percent before the exchange rate unification in early 2002, the NEER has continued to slide and its current value is about 15 percent lower than in January 2000. This depreciation seems to reflect a deliberate policy choice by the monetary authorities to minimize variations in the real exchange rate, out of concern for the competitiveness of the non-oil export sector. In fact, while the REER remained fairly stable between 2002 and 2005, the NEER continued to depreciate despite the favorable terms of trade shock caused by the oil price boom, mirroring the inflation differential between Iran and its trading partners. It is interesting to note that the only declines in inflation experienced over the period coincide with the two episodes of NEER appreciation (2000-02; and 2005).

III. The Consistency of Macroeconomic Policies

In recent years, important reforms have changed substantially the setting in which monetary policy operates. The most important change was the unification of the exchange rates in March 2002. Until then, the exchange rate system had been heavily controlled and multiple exchange rate practices and exchange restrictions prevailed. With the unification of the exchange rate system, the authorities adopted a market-based managed floating system, and eliminated most multiple exchange rate practices and exchange restrictions (in September 2004 Iran accepted the obligations under Article VIII of the Fund's Articles of Agreement). Under this system, the authorities chose to target domestic liquidity growth (M2) to achieve their inflation objective and anchor inflationary expectations. This task, however, has turned out to be quite challenging as sizable increases in government oil revenue have fueled government spending and put upward pressure on liquidity growth, thereby making it more difficult for the central bank to control liquidity growth. With these changes and the gradual transition to a more market-oriented economy, the challenges for monetary policy have increased:

- First, the authorities' preference for using fiscal policy to stimulate growth and improve employment opportunities seems to have taken precedence over reducing inflation. This, together with the availability of abundant oil revenue, has strengthened fiscal dominance in Iran fueling domestic liquidity growth.
- Second, despite the sizable increase in oil export revenue and private capital inflows, the exchange rate has exhibited a downward drift imparted by policy out of concerns for competitiveness. This, in turn, has made it more difficult to contain inflationary pressure.
- Third, monetary policy has few effective instruments at its disposal to control liquidity growth. In the circumstances, the evolution of

prices remains largely unpredictable and expectations lack a credible anchor.

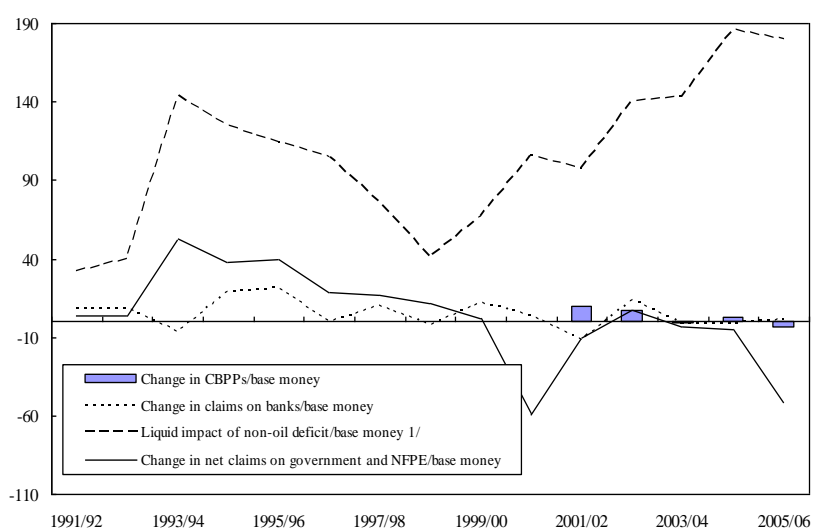
- Finally, the central bank's mandate to achieve price stability is less prominent than in other countries at comparable level of development, and the current institutional setting provides only a limited scope for timely arbitrage between conflicting objectives. In the rest of this section, we look at these sources of inconsistency.

A. Fiscal dominance

Fiscal dominance, the subordination of monetary policy to fiscal financing requirements, is arguably the single most important reason for the difficulties faced by the central bank in controlling the money supply.

Figure 3. Islamic Republic of Iran: Sources of Base Money Growth 1991/92-2005/06

(Increase as a percentage of the beginning –of-period base money)



Sources: CBI, and IMF staff estimates

1/ Estimated by subtracting all sources of financing from oil revenues.

The non-oil fiscal deficit is by far the largest source of base money creation (Figure 3). Although central bank net financing of government deficits is limited, the government budget relies to a large extent on dollar-denominated oil revenues, with very little domestic and foreign bond financing. Therefore, spending out of oil revenues, results in large injections of high-powered money that the central bank is unable to offset owing to their sheer size (Kramarenko, 2004). Although these injections have been very large over the last 15 years, ranging from about 40 percent to almost 190 percent of base money, the recent increase in oil prices and the ensuing growth in government spending have exacerbated this problem. On the other hand, the ability of the CBI to sterilize these injections, either through a tightening of credit to banks or, more recently, through the issue of central bank participation papers (CBPPs) has been very limited.

B. Exchange Rate Management

The managed float regime has worked well in providing stability to the foreign exchange rate. However, as previously shown in Section II, exchange rate policy does not seem consistent with the objective of reducing inflation. With the exception of the period leading up to the exchange rate unification and the recent moderate appreciation in 2005/06, the NEER has constantly drifted downward, depreciating by almost 5 percent per year on average. This may have added as much as one percentage point to inflation every year.¹ A constantly depreciating exchange rate may only contribute to fuel inflation, particularly if high oil prices persist and fiscal policy continues to be expansionary. This

¹ - The impact is calculated by using the coefficient of -0.21 estimated by Kramarenko (2004b) for the exchange rate in the long-run equation, which implies that a one-percent depreciation in the NEER increases inflation by 0.21 percent.

eventually frustrates the authorities' attempt to maintain the competitiveness of non-oil exports. More generally, it prevents the flexible exchange rate from playing its useful role of shock absorber, which requires the exchange rate to appreciate when positive shocks to the terms of trade, such as the recent oil price increase, occur.

C. Weak monetary instruments

The array of instruments available to the monetary authorities has evolved over time, but is still inadequate.¹ Direct administrative controls on credit allocation and rates of return on lending are still pervasive. Although the share of banking sector credit subject to sectoral allocation limits has been gradually reduced, state-owned banks —accounting for about 95 percent of banking assets — are bound to apply rates of return on lending set by the Monetary and Credit Council (MCC). These rates are changed infrequently and their setting is often inconsistent with monetary policy objectives, as indicated by the recent decisions to reduce rates of return despite excessive money growth.

A step toward the adoption of indirect monetary instruments was taken with the introduction of CBPPs in 2001. Despite some limitations in their design, it was hoped that a secondary market for these instruments would develop and provide a market-determined benchmark for setting the rates of return in Iran. In fact, their main function consisted of providing an instrument to mop up excess liquidity, and help to reconcile the gradual exchange rate depreciation pursued by the authorities with increasing injection of government oil revenue in the system.² Nevertheless, the cost

¹- Kramarenko (2004a) provides a thorough description of the monetary instruments available to the CBI.

²- The primary issuance is made at a fixed rate of return set by the MCC; secondary trading can only be done at par; and banks are authorized to buy them in the primary market only. Moreover, under the Fourth FYDP, the authority to approve the issue of CBPPs was shifted from the MCC to parliament, further reducing the operational autonomy of the CBI and the effectiveness of the instrument.

of sterilizing the supply of foreign exchange connected with oil revenues and foreign direct investment has turned out to be too high and the issues of new CBPPs have remained well below what would have been necessary to mop up the excess liquidity (Figure 3).

D. Institutional setting

The objectives of the Central Bank of Iran (CBI) are listed in Article 10 (b) of the Monetary and Banking Law, which reads as follows:

“The objectives of Bank Markazi Iran are to maintain the value of the currency and equilibrium in the balance of payments, to facilitate trade transactions, and to assist the economic growth of the country.”

This formulation is far too general and assigns too many objectives. What should the monetary authorities do when some of these objectives are conflicting? Take, for example, the objective of “to assist the economic growth”, which calls for accommodating fiscal stimulus and rapid credit growth, which can come into conflict with the need to control liquidity growth and inflation. Also, a policy to preserve competitiveness leads the authorities to buy large quantities of foreign exchange in the market to allow for a gradual depreciation of the nominal exchange rate. The liquidity so created cannot be possibly sterilized at a manageable cost with the available monetary instruments. Therefore, stimulating growth through fiscal policy and protecting competitiveness through the exchange rate are objectives that conflict with monetary control and, ultimately, with the price stability or low inflation objective.

This example epitomizes the difficulties a central bank can face when trying to interpret an unclear mandate. The Monetary and Banking Law does not provide a clear priority structure that could guide the central bank in pursuing conflicting objectives. The outcome, which seems to favor consistently the growth and employment objective, as well as

competitiveness, in some sense reveals the preference of policy makers, which may or may not be consistent with a mandate for price stability.

The ambiguity of the mandate reduces transparency and limits the extent to which policy makers can be held accountable for their performance. Moreover, an unclear mandate may increase the exposure of monetary policy decisions to undue political influences. The setting of rates of return is a possible example of this problem.

IV. Should Low Inflation Be given a Higher Priority?

Is the current state of affairs satisfactory? Or are there problems that need to be fixed? The answer depends on the costs and the benefits associated with inflation and the possible alternatives. In the last two decades more and more countries have come to realize that macroeconomic stability has significant permanent benefits while the costs of disinflation are only temporary. If policy makers are not unduly driven by short-term concerns, the outcome of the cost/benefit analysis should be obvious, even when the costs of disinflation are significant. An increased emphasis on reducing inflation has inspired monetary policies in many industrial and developing countries, and the global disinflation experienced since the mid-1980s is testimony of the remarkable success of these policies. As of today, there is only a handful of countries where double-digit inflation is still present.

High inflation has negative effects on the economy that have been increasingly recognized by economists and policy makers alike. It impedes an efficient allocation of resources by obscuring relative price signals; imposes welfare costs on society by increasing distortions, including by interacting with nominally-based tax systems; inhibits financial development, making intermediation more costly; negatively affects the distribution of income and wealth as low-income households do not hold assets to hedge against inflation. Although there are many

cases of economies, like the Iranian, where robust growth is associated with moderate inflation, these countries would most likely grow faster if inflation were lower. In fact, most studies find that, when it exceeds a certain threshold,¹ inflation reduces growth significantly over the medium term.

Another important realization of both the academic profession and policy makers is the acceptance of the principle of long-run money neutrality. Most economists now believe that monetary policy can have real effects in the short term due to wage and price rigidities, but that it can only affect inflation in the long run. The absence of a long-run tradeoff between unemployment and inflation (the “natural rate” theory) has important consequences for policy. Inflation is the appropriate objective for monetary policy, and concerns about the long-term level of output or unemployment should be addressed by structural policies (although monetary policy can help minimize output and employment volatility in the short term). Attempts to reduce unemployment below its natural rate through continued expansionary policies are bound to spur inflation, with unemployment eventually reverting to its natural level. The implication is that the best contribution monetary policy can provide is to maintain low inflation. This conclusion, which is generally accepted for industrial economies, applies also to developing countries with some qualifications.²

If monetary policy cannot affect real variables in the long run, attempts to increase competitiveness by inducing the nominal exchange rate to depreciate below its equilibrium level are also doomed to fail. The resulting acceleration in inflation will inevitably lead to a real

¹- Khan and Senhadji (2001), for example, estimate the threshold at 7 percent for developing countries. For Iran, Bailén (2004) estimates a strong negative effect of inflation on non-oil GDP growth.

²- One obvious qualification is that the optimal inflation target is normally higher in developing economies, where rapid structural change and productivity catch-up (Balassa-Samuelson effects) are prevalent.

appreciation, and a corresponding loss of competitiveness. This dilemma is particularly relevant for countries endowed with natural resources, where positive terms of trade shocks can lead to currency appreciations that damage the export sector (the so-called “Dutch disease”). It should be taken into account, however, that attempts to resist nominal appreciation are only a temporary solution to this problem. If real appreciation cannot take place through the exchange rate, it will occur eventually through an increase in the inflation differential of Iran vis-à-vis its trading partners.

V. What can be done?

In the last few years, the IMF’s policy advice to Iran has focused on the factors that are at the root of inflation persistence. Fiscal dominance is certainly the hardest problem to tackle for a credible disinflation effort in Iran. With large cohorts of new workers preparing to enter the labor market due to demographics, the unemployment problem is certainly bound to become more pressing in the next future. The increasing oil prices provide Iran with the opportunity to use substantial additional resources to address this problem. Against this background, is it realistic to think that government spending out of oil revenue can be reduced? It all depends on which type of spending. The largest payoff in terms of sustainable employment creation can be obtained by focusing resources on projects that would increase the growth potential of the economy, while substantial saving could be achieved by reducing energy subsidies and targeting them to the poor.

More generally, the use of oil resources needs to be carefully managed and more stringent fiscal rules should be considered.¹ Although the actual use of these resources may be below the level deemed sustainable based

¹- See, for example, the guidelines for the use of the resources of the Norwegian Government Petroleum Fund described in Skancke (2003). Although they may not be appropriate for Iran, these guidelines provide an interesting example of a fiscal framework consistent with the prudent management of oil resources.

on long-term oil price expectations, spending decisions should be consistent with the macroeconomic circumstances.¹ The current policy setting seems to lead to suboptimal results in terms of macroeconomic stabilization, as both fiscal and monetary policies are strongly procyclical. Spending out of oil revenues increases when oil prices are high, making fiscal policy more expansionary when it is less needed. At the same time, the inability of the monetary authorities to sterilize the associate inflows of foreign currency creates excess liquidity that adds to the overall policy stimulus, exacerbating macroeconomic fluctuations.

In addition to a tighter fiscal stance, effective monetary instruments are crucial to attain the monetary targets. In this regard, the available instruments are unlikely to be sufficient, and new money market instruments compliant with Islamic law could be developed, following the example of central banks in Malaysia, Sudan, and Bahrain (Kramarenko, 2004a). However, no instrument is going to be fully effective unless the CBI has the ability to employ it rapidly in response to changes in money and credit conditions. The current legislation does not provide the CBI with the necessary authority and flexibility to do so. As mentioned before, the issues of CBPPs have to be approved by parliament, and the setting of minimum rates of return is assigned to the MCC. If any progress is to be made on monetary policy making, the legislation needs to be amended to transfer all decisions about monetary instruments to the CBI and to grant it full operational independence.

In order to move in this direction, a clarification of the monetary policy mandate is also necessary. A clear definition of CBI responsibilities would increase monetary policy transparency and public

¹- Bailén and Kramarenko (2004) present estimates of sustainable oil use consistent with different criteria, while Dhonte (2003) argues about the need for additional coordination between fiscal and monetary policy.

understanding of the central bank actions. Together with a move toward full operational independence, this would strengthen the role of the CBI while increasing its accountability. The upcoming review of the Monetary and Banking Law provides the opportunity to do so by specifying inflation as the overriding objective of monetary policy, in line with what has been done in many other countries. Exchange rate considerations should be fully subordinated to the achievement of the inflation objective and take into consideration permanent exogenous shocks that can cause the equilibrium exchange rate to change (such as a permanent increase in oil prices). Under these conditions, monetary targeting can be an appropriate policy strategy as long as the demand for money is sufficiently stable. Research by IMF staff does not contradict this possibility, despite some instability in money velocity due to various financial innovations in recent years.

VI. Conclusions

When looking at the ability to meet inflation and monetary targets set in the FYDPs, the performance of monetary policy in Iran has been less than satisfactory. Although the attainment of the inflation targets has improved somewhat recently, the gradual disinflation targets set in the FYDPs have not been achieved. Excessive money growth, as shown by large persistent breaches of the monetary targets, is mainly responsible for persistent double-digit inflation, while exchange rate appreciations may have contributed to achieve the inflation targets on two occasions since 2000/01. The difficulties encountered by monetary policy in controlling money supply and inflation stem from an unclear mandate and inadequate instruments, but also from inconsistencies in the policy mix, namely the expansionary fiscal policy, and the gradual exchange rate depreciation to preserve competitiveness.

The Iranian authorities are focused on tackling growing unemployment and promoting growth of the non-oil sector. Nonetheless, inflation should be as prominent on their policy agenda for three reasons.

First, inflation has high costs in terms of welfare and economic growth and hits the poor disproportionately. Second, there is no inconsistency between reducing inflation and reducing unemployment in the long run. Lastly, exchange rate policies that conflict with the inflation objective can do little to preserve the competitiveness of the non-oil sector.

In order to tackle these problems, the authorities should tighten fiscal policy, mainly by reducing and targeting subsidies to the poor, including subsidies on energy prices, while focusing resources on projects that are expected to increase the economy's growth potential. To improve macroeconomic management, the authorities should also consider adopting stricter guidelines on the use of oil resources that would lessen the link between oil revenue and government spending, thereby reducing the pro-cyclicality of fiscal policy.

A coherent macroeconomic framework aimed at achieving a relatively fast pace of disinflation can be developed and updated regularly as needed. Under such a framework, fiscal, monetary, and exchange rate policies would be closely coordinated and geared toward achieving the inflation objective. A clear monetary policy mandate is needed to state inflation as the primary objective of monetary policy. Given the existing managed float exchange rate regime, the growth of a monetary aggregate (M1 or M2) should be used to anchor the system. In order to do so, it is necessary to promote the development of new financial instruments while granting full operational independence to the CBI. This would also increase transparency and accountability in monetary policy making, thus strengthening the role of the CBI.

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