

# 9

## The Evolution of Monetary Policy in Egypt and Steps towards Inflation Targeting

*Rania Al-Mashat*

### 9.1 Introduction

Inflation targeting (IT) is one of the operational frameworks for monetary policy aimed at attaining price stability. In contrast to alternative strategies, notably money or exchange rate targeting, which seek to achieve low and stable inflation through targeting intermediate variables – for example, the growth rate of monetary aggregates or the level of the exchange rate against an ‘anchor’ currency – IT involves targeting inflation directly (IMF, 2005b). In a wider context, IT is part of a process in which economic policymaking is becoming more transparent and subject to greater accountability and technical rules, and less susceptible to discretionary actions. IT has become an increasingly popular monetary policy strategy. Since New Zealand adopted IT in 1989, twenty-nine countries have introduced IT frameworks (Roger 2010). Other countries are seeking to develop the necessary ‘infrastructure’ to implement an IT framework, Egypt being one. Moreover, according to Roger (2010: 52), ‘IMF discussions with member states in 2006 suggested that the number of inflation targeters in developing and emerging market economies was likely to increase fourfold over the next decade, consistent with the estimate by Husain et al. (2005) that the number of countries with exchange rate pegs may almost halve in the next ten to fifteen years.’ Nonetheless, the 2008 global financial crisis and the preceding boom-and-bubble period pose serious challenges to IT and to the conduct of monetary policy (Schmidt-Hebbel, 2010).

The technical details related to the adoption of IT are not trivial, and there are several country-specific factors that need to be taken into consideration.

Since June 2005, the Central Bank of Egypt (CBE) has taken serious steps to develop its monetary policy framework with the intention of adopting IT over the medium term. The exchange rate has been abandoned as the nominal anchor, and price stability has been declared the overriding policy objective. Key institutional and operational steps have been implemented in the transition. However, the repercussions of the international food price shock in 2008 followed by the global financial crisis have delayed the process somewhat. Research on monetary policy in Egypt has recently come to the fore as researchers try to investigate the inflation process and reconcile the requirements of IT with economic realities.

This chapter attempts to accomplish two tasks. Section 9.2 provides an overview of the evolution of monetary policy in Egypt over several decades with a focus on the determinants of money creation and the relationship between money and inflation. Section 9.3 discusses the steps undertaken by the CBE to adopt an IT framework, in light of the monetary policy framework launched in 2005 and in comparison to other emerging country cases. Section 9.4 concludes.

## **9.2 The evolution of monetary policy in Egypt**

Since the beginning of the seventies, the evolution of monetary policy management can be categorised in the following periods: 1) between 1974 and 1990, during which direct monetary policy tools were used; 2) between 1991 and 2003, when there was a clear shift from direct to indirect monetary policy tools under the Economic Reform and Structural Adjustment Program (ERSAP) with the World Bank and the IMF<sup>1</sup> (Abou El-Eyoum, 2003), and 3) since 2003, following the announcement of the float of the Egyptian pound and the subsequent implementation of a comprehensive banking sector reform programme.

Handy et al. (1998: 56–8) provide details of the conduct of monetary policy up to 1998. They explain that until 1990 Egypt's banking system was highly repressed, as the CBE imposed interest rate limits on bank deposits and loans that were well below the rate of inflation. In particular, preferential interest rates were mandated for loans to public enterprises and to industrial and agricultural enterprises. At the same time, banks' operating costs were increased by a 25% (unremunerated) reserve requirement on domestic currency liabilities. While overall liquidity growth was largely determined by the borrowing needs of the government, the central bank also limited credit expansion to public sector companies and the private sector using maximum loan-to-deposit ratios and bank-specific ceilings for certain classes of credit.

In January 1991, the Egyptian authorities initiated an important series of reforms with the goal of giving a central role to market forces in the mobilisation of savings, allocation of credit and conduct of monetary policy. Moreover, banks' lending and deposit rates were liberalised. Subsequently, ceilings on bank lending to the private sector and bank-specific ceilings on lending to public sector companies were removed in October 1992 and July 1993, respectively. Steps were also taken to reduce the competitive advantage of public sector banks. In particular, public sector companies were authorised to deal with all banks without prior permission from a public sector bank.

With the elimination of direct credit ceilings on the private sector and public sector companies, the CBE moved toward increased reliance on indirect monetary policy instruments. To this end, the CBE instituted weekly auctions of three-month treasury bills. Over time, the supply of debt to the market was increased and longer maturities were introduced. The CBE has relied in part on the sale and redemption of treasury bills to regulate banks' reserves and thereby credit expansion. To strengthen the CBE's control over monetary conditions, changes were introduced to the reserve requirement policy. In particular, the coverage of the reserve requirement was extended to deposits of all maturities (Handy et al., 1998).

After the conclusion of the ERSAP, despite the improvements introduced in the conduct of monetary policy under the stabilisation programme between 1991 and 1996, the CBE was still attempting simultaneously to achieve multiple objectives that in many instances were conflicting. These objectives included attaining high economic growth while maintaining low inflation and preserving a stable exchange rate.<sup>2</sup> Between 1996 and 2005, the CBE's operational target was the excess reserves of banks, and given the strong link between monetary aggregates and inflation (as explained in the next subsection), growth in M2 was the intermediate target. In its toolkit, the CBE used various quantitative and price instruments at different points in time to achieve its multiple objectives, leading to a lack of consistency in monetary management.

These instruments included reserve requirements, government securities, repo and reverse repo operations and the CBE discount rate. Until June 2005, banks' excess reserves, which were highly volatile (Al-Mashat, 2009, figure 4.1), were the CBE's operational target. Moreover, linking the policy decisions to macroeconomic outcomes was complicated by the dominance of state-owned banks in the banking sector, which created rigidities in the interest rate structure, while the existence of large non-performing loans (NPLs) intensified the disconnection between price measures and macroeconomic outcomes.

A close examination of the various interest rates from 1996 to 2005 is particularly important as this period precedes the implementation of the new monetary policy framework and the CBE's announcement in June 2005 of its intention to put in place a formal IT framework once the fundamental prerequisites were met. The examination reveals that there is no single interest rate that best reflects the monetary policy stance. The movements in these interest rates appear to be secular, with no evident cyclical pattern, suggesting that the interest rate channel did not materially contribute to economic fluctuations in Egypt (Al-Mashat, 2009, figure 4.2):<sup>3</sup>

- the overnight domestic currency interbank market was introduced only in 2001, and the overnight interest rate proved extremely volatile in the beginning;<sup>4</sup>
- the three-month treasury bill rate could be considered, to some extent, a short-term policy rate, given that the securities were issued in coordination with the CBE to sterilise capital inflows, the amount issued being substantially in excess of the financing needs of the government (El-Refaie, 2001);<sup>5</sup>
- the CBE's discount rate is also a key policy rate, despite the limited changes that took place between 1996 and 2005.

Moreover, the coefficient of variation in the nominal policy interest rates (treasury bill rate and discount rate) was quite low, ranging between 0.1 and 0.3 throughout the period. This was reflected in the nominal retail rates, which also demonstrated low variability, ranging between 0.04 and 0.1. In addition, Granger causality tests suggest a weak interest rate transmission channel for Egypt during this period. This result is not surprising given that the CBE's operational target at the time was banks' excess reserves, which were highly volatile. In other words, quantitative measures undertaken by the CBE were considered more effective in steering aggregate demand.<sup>6</sup> Summing up, between 1996 and 2005, the CBE did not have a continuous indicator of the monetary policy stance.<sup>7</sup>

### **Money and inflation**

Monetary growth has historically been closely correlated with inflation in Egypt and hence M2 was used as the intermediate target of monetary policy. More precisely, inflation in the medium term is viewed as the result of the government's financing of its deficit through the creation of money or the result of time-inconsistent monetary policy.

Handy et al. (1998: 19–21) describe the inflation episodes in Egypt between 1970 and 1996, highlighting the fact that following the first oil shock in 1973 and up to the mid-1980s inflation jumped from 5% to an average of 13%. The pace of inflation then accelerated to average more than 20% annually between 1986 and 1992. With the help of the reforms undertaken in the context of the ERSAP, inflation was brought down to single digits again by 1997 and subsequently remained there until 2001. At the beginning of 2002 and in the aftermath of the first attempt at floating the exchange rate in January 2003, the situation changed. Between January 2002 and April 2004, inflation followed a steep upward trend, with a peak of 21.7% (y/y), reflecting the lagged pass-through pressures from the step devaluations and amplified by the depreciations that followed the shift in the exchange rate regime to a managed float in January 2003 (Figure 9.1). Monetary policy was tightened in 2004 to rein in the accelerating inflation, which fell significantly during 2004 and 2005 as the effect of the depreciation of the pound in early 2003 gradually dissipated and confidence in the central bank was restored. Inflation remained more or less tame until the international food price shock erupted towards the end of 2007.

There was an association between inflation and monetary aggregates during the abovementioned episodes. During the period following the first oil shock, moderately high inflation was accommodated by a rapid monetary expansion averaging nearly 30% every year. In the

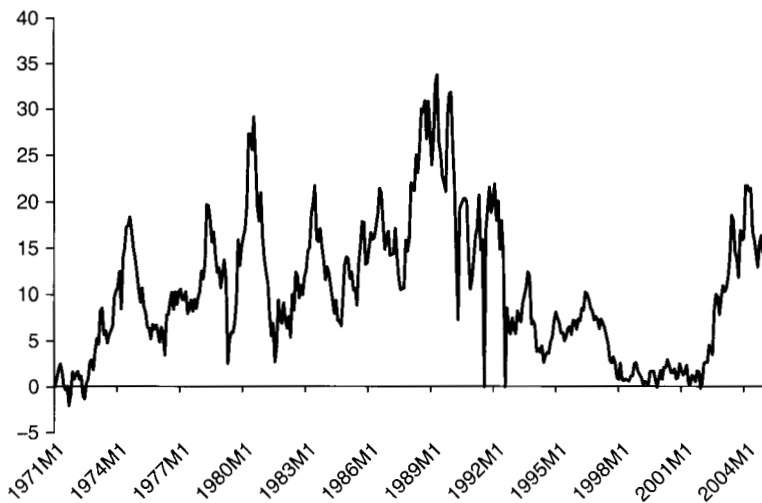


Figure 9.1 Inflation (wholesale prices, annual percentage change)

subsequent low-growth and chronic inflation period, growth of broad money decelerated and averaged only 20%. The stabilisation period under the ERSAP was associated with further (and sharp) deceleration in monetary growth.

It is important to decompose the growth of the counterparts to broad money into changes in net foreign assets and net domestic assets, and further to decompose the latter into credit to the public sector (government and state-owned enterprises) and the private sector. Inflation during the high-growth and moderate inflation period was largely a monetary phenomenon. In turn, money growth was explained by a sharp growth in credit to the public sector, a reflection of the rising budget deficits (Figure 9.2). During that period, the net foreign assets (NFA) of the banking sector were declining with a contractionary impact on broad money. In the subsequent chronic inflation period (1986/1987–1991/1992), domestic credit creation remained a key to overall money growth (albeit to a lesser extent than in the previous period). Credit growth to the public sector was the key to overall monetary growth. The stabilisation period witnessed an important structural transformation in the factors explaining monetary growth. Most important, as the budget deficit declined, credit to the public sector became a relatively insignificant counterpart to total monetary growth (Figure 9.3). Instead, the sharp increase in credit to the private sector emerged as the most important contributor. The success in reducing inflationary pressures during this phase was ultimately due to the improved fiscal stance, which had alleviated the pressure on domestic liquidity growth coming from the financing of the government deficit.

Surges in capital inflows in 1991–3 and again in 1996–7 and the subsequent rise in the level of official international reserves also placed sustained upward pressure on monetary aggregates (Figure 9.4). However, the successful management of capital inflows ensured that inflation was kept under control in spite of the large increases in the foreign assets of the banking system.

Examining the period preceding the implementation of the new monetary policy framework in 2005 is particularly useful. A closer investigation of the data suggests that three distinct phases can be identified between 2000 and 2005.

#### **Phase I: January 2000–December 2001**

Between January 2000 and December 2001, the consumer price index (CPI) and wholesale price index (WPI) inflation rates were relatively low, hovering around 2.5% (y/y) and 1.4% (y/y), respectively, with

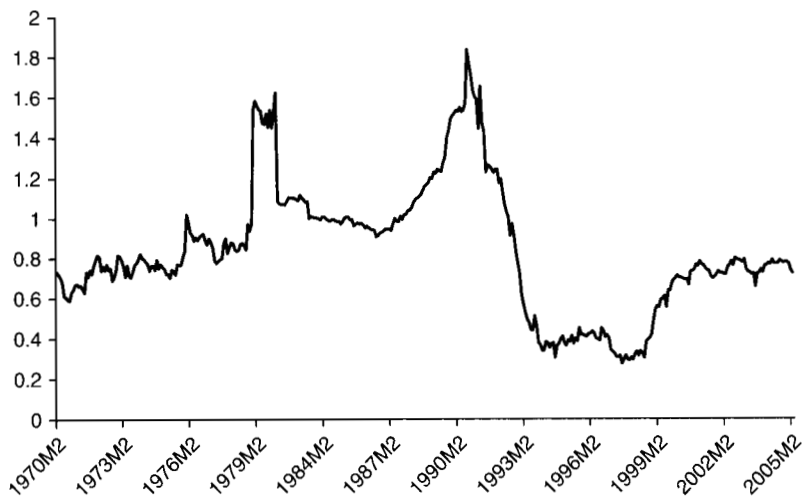


Figure 9.2 Net claims on government in % of reserve money

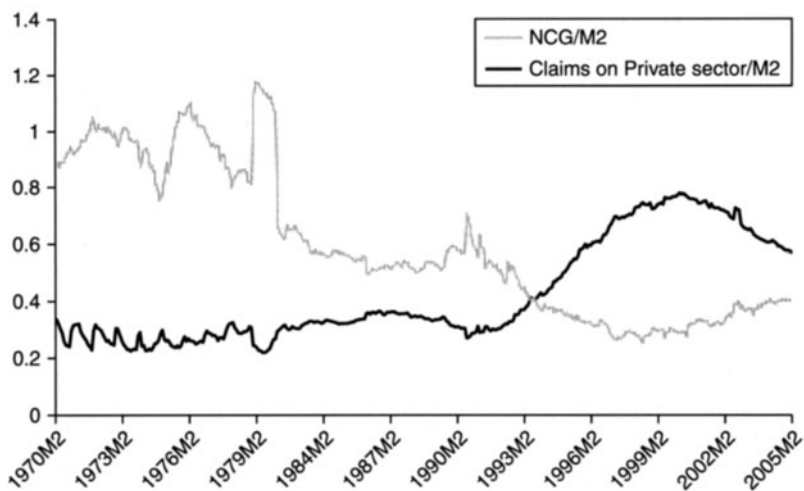


Figure 9.3 Net claims on government and claims on the private sector in % of M2

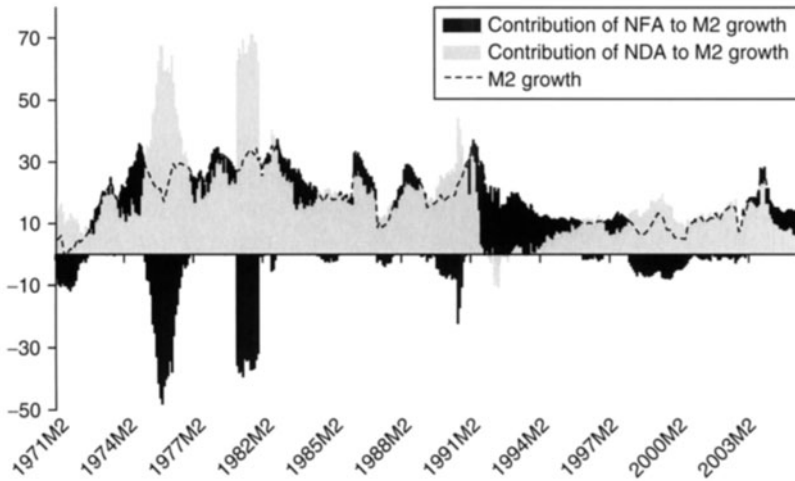


Figure 9.4 Contributions of net foreign assets and net domestic assets to M2 (%)

minimal signs of volatility. The low and stable inflation rates during this phase can be traced back to the prevalent exchange rate regime at the time, which in a way insulated domestic prices and, in turn, inflation from exchange rate shocks that could have been passed through to the WPI through import prices and would then, given the clear association between the WPI and the CPI, have been transferred to the CPI. The exchange rate regime, however, limited the degree of exchange rate pass-through to domestic prices. Moreover, while net domestic assets explained the bulk of the growth in monetary aggregates during this period, net claims on the private sector were the largest contributor.

#### Phase II: January 2002–April 2004

At the beginning of 2002 and in the aftermath of the first attempt at floating the exchange rate in January 2003, the situation changed. Between January 2002 and April 2004, CPI and WPI inflation followed a steep upward trend to reach a peak of 17.2% (y/y) and 21.7% (y/y), respectively. The higher inflation in Phase II reflected the lagged pass-through pressures from a series of step devaluations, amounting to a cumulative depreciation of 29% in the nominal EGP/USD exchange rate between January 2000 and December 2001.<sup>8</sup> These were amplified by the 19.5% month-on-month depreciation that followed the shift in the exchange rate regime to a managed float in January 2003.

The upward pressure on inflation was further intensified by the lax monetary policy stance pursued by the CBE at the time. This was evident in the acceleration of broad money (M2) and total domestic liquidity (M2D), which grew on average at more than 15% and 12% annually, with peaks of 20% and 13% in late 2003/early 2004, respectively. This acceleration in monetary aggregates, which was mainly due to increased claims on the private business sector, was not accommodated by similarly high real GDP growth, and so led to double-digit inflation. On the contrary, the real GDP growth rate decelerated relative to Phase I, to average 3.5% annually between 2002 and 2004. This seems to have strengthened the resistance of inflation to the downward pressures that were starting to pass through the exchange rate channel in the first half of 2004, delaying the fall in inflation to early 2005.

### **Phase III: May 2004–November 2005**

During 2004 and the first half of 2005, the CBE tightened monetary policy to rein in the accelerating inflation rates, and it was successful in this, as inflation dropped to single-digit levels once again from January 2005. As the effects of the depreciation of the Egyptian pound in early 2003 gradually dissipated and confidence in the CBE was restored, CPI and WPI inflation rates dropped significantly between mid-2004 and early 2006, averaging 7.5% (y/y) and 8.1% (y/y), respectively.

It is worth noting that in 2005, with the continuing monetary expansion reflected in the average growth rates of 14% and 17% in M2 and M2D, respectively, inflation could have been expected to shoot up again as it did in Phase II following similar growth rates of the money supply. This was not the case, however, as inflation fell from 7.9% to 2.7% over 2005. The stabilisation of the nominal exchange rate certainly played a key role in reducing inflation, but it was not sufficient to accommodate lagged inflationary pressures from the money supply. Hence, it is likely that the observed money growth rates were non-inflationary. In fact, the M2 and M2D growth rates (Al-Mashat, 2009, figures 4.3 and 4.4) were inflated by the introduction in August 2004 of the three-year saving certificates issued by the National Bank of Egypt. Although these certificates appear as an expansion in total liquidity, they are effectively locked up for three years. Given the interest premium paid on them at the time and the lack of alternative financial assets in the Egyptian market, it is unlikely that these certificates will be unlocked before their maturity date. Excluding the three-year saving certificates from M2 and M2D, we observe instead a sharp deceleration in money growth, which fell from averages of 16% and 12%

between January 2002 and April 2004 to 8% and 9% between May 2004 and November 2005.

After 2005, and on the back of the economic and financial reforms that had been taking place, Egypt faced a surge in capital inflows, both foreign direct investments (FDI) and portfolio investments, FDI reaching a USD 13 billion peak in 2007. These developments were reflected in the growth rate of the money supply, which accelerated sharply under pressure from capital inflows to reach 24% in March 2008. The growth in NFA explained the bulk of the M2 growth until the beginning of the global financial crisis in the summer of 2008. The picture changed following the collapse of Lehman Brothers, as the global economy slowed down significantly and capital inflows to emerging economies abruptly reversed, leading to a decline in M2 growth. The decline in capital inflows, coupled with countercyclical fiscal policy, led the contribution of net domestic assets to M2 growth to exceed the contribution of NFA (Figure 9.5).

Concomitant with the surge in capital inflows, an international food price shock of unprecedented magnitude erupted towards the end of 2007. This shock peaked in the third quarter of 2008 before dissipating towards the end of 2008. The period between May 2007 and July 2008 represents one of the sharpest accelerations ever in international

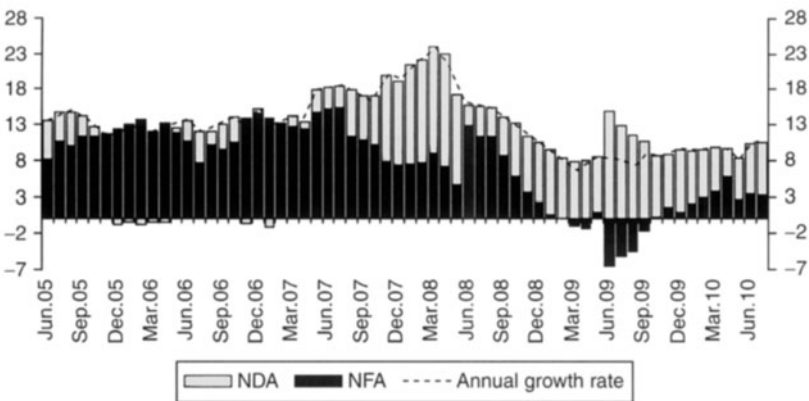


Figure 9.5 Contributions of net foreign assets and net domestic assets to M2, 2005–10 (year-on-year, %)

food prices, with a cumulative price increase of 45.5%. A sharp reversal in the domestic inflation dynamics started to emerge, fuelled by a complicated mix of inflationary pressures arising from 1) persistently high imported inflation related to soaring international food prices; 2) stronger demand pressures as reflected in buoyant consumer spending and robust investment growth, reflected in M2 growth; 3) broad-based regulated price adjustments as part of the government’s fiscal consolidation programme. These factors pushed up headline inflation to 24% in August 2008 (Figure 9.6). In a bid to check the recent jump in headline inflation in Egypt and to anchor inflation expectations, from February 2008 the CBE raised interest rates six months in a row a cumulative 275 basis points.

For Egypt, empirical evidence suggests that money gap models outperform output gap models in explaining inflation dynamics (Al-Mashat, 2009; Nouredin, 2005). However, while money gap models have outperformed other models in capturing the inflation dynamics, in the case of monetary targets, instability in money demand relationships – commonly associated with financial system reforms and the opening of capital markets – undermines the usefulness of monetary aggregates as policy guides (Roger, 2010).



Figure 9.6 Broad money and inflation, 2005–10 (year-on-year, %)

1/ Using broad money (M2) as a measure of money supply and inflation based on the CPI index

### **9.3 Egypt: steps towards inflation targeting, and a comparison with other IT countries**

In the literature a relatively long list of requirements has been identified for countries to successfully operate an IT framework. These requirements include, but are not limited to, the following (Jonas and Mishkin, 2003: 1) a strong fiscal position and entrenched macroeconomic stability; 2) a well developed financial system; 3) central bank instrument independence and a mandate to achieve price stability; 4) reasonably well understood channels between policy instruments and inflation; 5) a sound methodology for devising inflation forecasts; 6) transparent policies to build accountability and credibility.

The conditions under which countries have implemented IT have been diverse, including the inflation rate at the time of inception, the degree of exchange rate flexibility, the level of financial sector development, the government's fiscal position, and the level of economic growth. Experience has shown that the transition to IT can vary greatly from one country to another. For instance, Chile spent more than ten years in a transition from quasi-IT to fully fledged IT. On the other hand, Brazil's transition was triggered by a crisis and took only a few months. Other country examples, such as that of the Czech Republic, provide an intermediate case. It is not possible to say whether a country meets the requirements or not; it is more a question of the degree to which they are met. Generally speaking, it has been argued that countries that have adopted IT met these requirements to a degree sufficient to make IT feasible (Roger and Stone, 2005). Accordingly, the CBE launched a comprehensive and far-reaching banking sector reform programme in 2004. This included the (non-performing-loans-related) restructuring and privatisation of banks with state participation, a new banking law and other regulatory reforms, the liberalisation of the foreign exchange and money markets, and ongoing efforts to strengthen the supervision of banks. This programme contained important steps to help overcome the previous shortcomings in the banking sector and fulfil the prerequisites for IT. Several institutional and operational changes were initiated under the programme to facilitate monetary policy formulation and assessment and to lay the groundwork for the formal adoption of an IT regime over the medium term. Nonetheless, as highlighted in Roger (2010), the adoption of IT as part of a comprehensive package of economic reforms complicates the conduct of monetary policy. Such reforms often involve structural changes affecting the long-run equilibrium values and dynamics of

key macroeconomic variables, making it extremely difficult to forecast or react with any degree of policy precision to economic developments. These challenges are often compounded by lack of good-quality, timely macroeconomic data. Such complications do not necessarily preclude IT but they mean that achieving targets is likely to be particularly challenging. In the light of the banking system reform programme, and taking into account the experiences of other countries, this section assesses and compares Egypt's readiness for IT with that of other emerging market inflation targeters.

### **Macroeconomic stability**

Macroeconomic stability supports monetary policy formulation and creates an environment conducive to the building of policy credibility, an important prerequisite for IT. In determining the appropriate disinflation path, the central bank should have an estimate of the sacrifice ratio in order to weigh the costs of foregone output against the benefits of lower inflation. Therefore, adopting IT is greatly complicated when inflation and output are high and volatile, since disinflation is unlikely to be achieved without significant costs to output. Based on the indicators for macroeconomic stability presented in Table 9.1, Egypt could be considered eligible to adopt IT. Egypt launched its banking sector reform programme in 2003. From then and up to the end of 2006, Egypt experienced lower inflation rates and output variability than the comparator IT countries listed. Towards the end of 2007 a sharp reversal in the inflation dynamics started to emerge, as explained earlier. Therefore, it is important to distinguish between the two periods, namely 2003–6 and 2007–9. Nonetheless, these developments, while challenging, should not preclude the adoption of IT.

### **Central bank independence and credibility**

Banking Law No. 88 of 2003 granted the CBE instrument independence and declared price stability as the overriding objective. The CBE is instrument independent (meaning that the central bank is free to set monetary policy instruments but not necessarily free to determine the ultimate inflation target), as monetary policy decisions are confidential, discretionary and the sole responsibility of the Monetary Policy Committee (MPC), which consists of nine members of the CBE Board of Directors, in accordance with Banking Law No. 88 for 2003.<sup>9</sup> The CBE has full operational independence to achieve the inflation target. It is important to underline that the interest rate decisions of the MPC are not known to the government and the market except on the

Table 9.1 Macroeconomic indicators

	IT adoption	Inflation rate (CPI, period average)	Inflation variability	Real GDP growth rate	Output variability	Current account/GDP
Chile	Sep-99	5.48	0.31	4.23	0.84	-3.44
Czech Republic	Jan-98	9.29	0.10	3.76	1.66	-4.52
Turkey	Jan-06	9.34	0.80	7.05	0.20	-3.59
Poland	Oct-98	18.67	0.38	8.86	0.63	-2.30
South Africa	Feb-00	6.13	0.46	1.75	0.68	-0.97
Israel	Jun-97	10.63	0.14	5.97	0.40	-4.50
Mexico	Jan-01	12.09	0.41	3.84	0.74	-3.26
Brazil	Jun-99	6.34	0.58	1.74	0.84	-4.04
<i>Comparator IT average</i>		9.75	0.40	4.65	0.75	-3.30
Egypt						
	2003-6	7.14	0.59	4.71	0.34	2.90
	2007-9	12.90	0.26	6.33	0.22	0.00

Note: Numbers for the IT comparators are the four-year averages prior to the adoption of IT.

following business day through the officially published press release (MPC statement).

These institutional settings are important and provide adequate mechanisms for the CBE to decide on the target, once it makes the transition from price stability to IT. It has not been decided which entity will be responsible for eventually setting the target: the CBE or the government. In other words, whether the CBE will have target independence or not is yet to be determined. However, experience from other countries has shown that it works better if the target is set by the government, not by the central bank (Mishkin and Schmidt-Hebbel, 2001). Debelle and Fischer (1994) and Fischer (1994) make a useful distinction between goal independence, in which the central bank sets the goals of monetary policy, and instrument independence, in which the central bank controls monetary policy instruments. Instrument independence for central banks is supported by the need to insulate the central bank from short-term political pressures that may lead it to pursue time-inconsistent, expansionary policy with bad long-term outcomes. However, the argument that the central bank's long-term preferences should coincide with society's preferences suggests that a central bank should be goal dependent. Having the government decide on the

*Table 9.2* Accountability in selected inflation targeting countries

Country	Instrument independence	Inflation targeting explicitly in the law	Target announcement	Hearing in parliament
Brazil	Yes	No	Set by National Monetary Council, composed of finance minister, planning minister and central bank president	No
Chile	Yes	Price stability + financial stability	Central bank	Yes
Czech Republic	Yes	Price stability	Government + Central bank	Yes
Israel	Yes	Price stability	Government	Yes
Mexico	Yes	No, price stability	Central bank	Yes
Poland	Yes	No, price stability	Central bank	Yes
South Africa	Yes	No, currency stability	Government	No
Turkey	Yes	Price stability	Government + Central bank	No

*Source:* Roger and Stone (2005).

long-term inflation target for the central bank is thus desirable. Table 9.2 shows that in IT comparators in emerging markets the central bank has instrument independence. However, goal independence is not granted in all cases and has varied across countries. In some instances, the government and the central bank jointly decide on the target.

### Monetary policy operating targets and instruments

Under an IT regime, price instruments for the conduct of monetary policy are most commonly used by central banks. In addition, IT relies on a functioning and competitive banking system. Only in these circumstances can the interest rate channel become strong; and this is the most convenient mechanism, as the exchange rate channel should not be relied upon. Under IT, the exchange rate is abandoned as the nominal anchor and replaced by an explicit price stability objective.<sup>10</sup> Interest rate decisions, and therefore the interest rate transmission channel, become important because they are easy to interpret and communicate

to the public.<sup>11</sup> Schmidt-Hebbel and Tapia (2002) argue that central banks require a thorough understanding of the intensity and lags with which their policy interest rate affects the economy and in particular the dynamics of their policy objectives – the inflation target in the case of IT. Restoring confidence in the foreign exchange market and replacing quantitative monetary instruments with price instruments were the cornerstones of the CBE's monetary policy reform programme, and important prerequisites for launching IT. The exchange rate has been abandoned as the nominal anchor, and price stability has been declared the overriding policy objective. The CBE is committed to achieving, over the medium term, low rates of inflation, which it believes are essential for maintaining confidence and for sustaining high rates of investment and economic growth.<sup>12</sup> Al-Mashat (2011) provides evidence that a fixed exchange rate generates the highest output and inflation variability in the Egyptian case. Egypt made the transition to a unified, flexible exchange rate regime during 2004. The parallel market rate, which had a premium of over 15% in late 2003, converged with the banking rate in the second half of 2004 as confidence was restored, leading to strong current account inflows. In December 2004, the government abolished the surrender requirement (introduced in 2003) and formally launched an interbank market by enacting a convention governing foreign exchange trading among all signatory banks. In subsequent weeks, activity in the interbank market surged, and flexibility in rate-setting was restored. Furthermore, on 2 January 2005, Egypt accepted the obligations of the IMF's Article VIII. The CBE focused on ensuring an orderly functioning of the interbank market, including opportunistic purchases of foreign exchange. The establishment of the interbank market for foreign exchange was a milestone in Egypt's transition to a unified flexible exchange rate system, and the CBE is committed to allowing market forces to determine the exchange rate. Favourable trends in the balance of payments and increased confidence contributed to the high volume of trading in the interbank market. As highlighted above, it was important for the CBE to move from quantitative to price tools of monetary policy. On 2 June 2005, the CBE introduced an interest rate corridor. The interest rates on the CBE's two standing facilities, the overnight lending facility and the overnight deposit facility, define the ceiling and floor, respectively, of the corridor. By setting the rates on the standing facilities, the MPC determines the corridor within which the overnight rate can fluctuate (International Monetary Fund, 2005c). Table 9.3 highlights the monetary policy instruments used by the CBE. Steering the

overnight rate within this corridor is the effective operational target of the CBE. This is what defines the CBE's operational independence. Moreover, in August 2005, CBE certificates of deposit were added to the toolkit. The CBE issues its own securities as the primary instruments for liquidity management through open market operations. Since the launch of the corridor, volatility in the overnight interbank rate has declined and the rate has remained within the corridor.<sup>13</sup> Since the launch of the new monetary policy framework, the results of a Granger causality test indicate that the overnight interbank rate has started to assume a strong role in the interest rate channel. It Granger-causes both the interest rates on three-month deposits and new bank borrowing.<sup>14</sup> This supports the CBE's monetary policy strategy going forward, as the overnight rate has continued to maintain this clear signalling role.

### **Strengthening and developing the banking sector**

A deep and well developed banking sector is also important to allow for proper transmission of monetary policy actions. Monetary policy within an IT framework is highly market oriented, and the banking sector is expected to function on the basis of market principles. The dominance of the state-owned banks in the market has tended to create rigidities in the interest rate structure in Egypt, as discussed previously. Under the banking system reform programme, the banking sector is undergoing a substantial transformation that has entailed the exit of several weak banks, large-scale financial restructuring, divestiture of state shares in private banks and privatisation of a major state bank.

*Table 9.3* Egypt: monetary policy instruments

	Status (Yes/No)
<b>Indirect instruments</b>	
The Corridor: Standing deposit facility, Standing credit facility	Yes, used
Interbank rates stay within a corridor	Yes, used
Deposit auctions	Yes, used
Central bank securities auctions	Yes, used
Open market operations with securities	Yes, used
Derivatives in the foreign exchange market	Yes, there are swap operations
<b>Direct Instruments</b>	
Frequent changes to required reserves	No

Table 9.4 Financial sector indicators

	IT adoption	M2/GDP	M2 growth	Credit to the private sector/GDP
Chile	Sep-99	41.7	16.3	57.6
Czech Republic	Jan-98	61.6	11.5	59.0
Turkey	Jan-06	21.4	33.9	24.6
Poland	Oct-98	29.7	30.0	20.0
South Africa	Feb-00	49.7	12.7	58.2
Israel	Jun-97	68.7	21.6	66.8
Mexico	Jan-01	40.5	20.8	18.3
Brazil	Jun-99	25.6	11.7	38.8
<i>Comparator IT average</i>		42.4	19.8	42.7
Egypt				
2003–6		88.3	14.6	6.0
2007–9		84.8	14.5	8.4

Note: Numbers for the IT comparators are the four-year averages prior to the adoption of IT.

These actions have reduced the share of banks with state participation significantly.<sup>15</sup> The large stock of NPLs is being addressed through provisioning and cash settlements. The government and the CBE have been implementing programmes designed to clean up banks' balance sheets and settle the NPLs of public and private enterprises. Compared with the sample of emerging market IT countries in Table 9.4, Egypt's banking sector is reasonably well developed, as reflected in the growth rate of monetary aggregates and M2/GDP. Nonetheless, credit to the private sector as a percentage of GDP has been exceptionally low, in contrast to the IT comparators. This, however, is expected to improve as competition in the banking sector intensifies.

### The fiscal position

Fiscal discipline is a key requirement for IT. Large levels of indebtedness that could be monetised by the central bank jeopardise its credibility in meeting the inflation target over the medium term. In addition, if central banks are politically pressured to finance government deficits or to avoid a policy tightening when needed to account for a rising interest rate bill, the credibility of the price stability mandate is compromised. Therefore, in many instances, the central bank legal framework in IT countries limits or prohibits financing of government spending. Moreover, instrument independence is intended to ensure that political

interests do not impair monetary policymaking. Compared with other emerging market countries that have introduced an IT framework, Egypt's budget deficit has been high, and the level of public debt has been around 95% of GDP. These comparisons are presented in Table 9.5. It is worth mentioning that a process of fiscal consolidation is currently under way in Egypt. The government has outlined a range of measures aimed at bringing the deficit down by at least 1% of GDP annually for five years. The plan involves a mix of measures that have been phased in gradually since 2006/2007. However, these key fiscal reforms have been temporarily postponed, as fiscal policy has helped to cushion the impact of the global financial crisis. The government reacted quickly by providing a sizable fiscal stimulus in the second half of 2008/2009, which focused on accelerating investment projects (about 1% of GDP) and public-private partnership (PPP) investments (1% of GDP) (International Monetary Fund, 2009). Resuming medium-term fiscal consolidation is crucial to addressing fiscal vulnerabilities and encouraging private investment. Fiscal vulnerabilities are Egypt's main macroeconomic risk. Gross public debt remains high by emerging market standards and fiscal financing requirements (arising from the rollover of existing debt as well as the ongoing deficit) have averaged around 25% of GDP in recent years (International Monetary Fund, 2010).

*Table 9.5 Fiscal indicators*

	IT adoption	Fiscal balance/GDP
Chile	Sep-99	0.1
Czech Republic	Jan-98	-0.4
Turkey	Jan-06	-7.0
Poland	Oct-98	-3.1
South Africa	Feb-00	-2.7
Israel	Jun-97	-2.9
Mexico	Jan-01	-5.0
Brazil	Jun-99	-7.7
<i>Comparator IT average</i>		-2.8
Egypt		
2003-6		-9.1
2007-9		-7.1

*Note:* Numbers for the IT comparators are the four-year averages prior to the adoption of IT.

### **Transparency of monetary policy**

Transparency and open communication are key features in the adoption of a successful IT framework. In addition, public accountability is essential. The need for explicit accountability mechanisms in IT is due to the lag between monetary policy actions and inflation. The appropriateness of the monetary policy stance cannot be assessed on the basis of the latest inflation figures. Equally important to underline is that in the absence of credibility the inflation target will not be a useful guide to inflation expectations, a situation which renders monetary policy actions ineffective. In IT countries, policy actions tend to be announced immediately by a press release, and minutes of monetary policy committee (MPC) meetings are often published. Heenan et al. (2006) provide a detailed discussion on this and also supply country examples. In the Egyptian context, to enhance transparency and help anchor inflation expectations, MPC decisions are communicated to the market through a monetary policy statement, which is released on the CBE's external website after each meeting. There are plans to publish the minutes of MPC meetings. In addition, a comprehensive communication strategy has been developed and is under implementation. This strategy includes regular meetings with commercial banks, representatives of the private sector, journalists, think tanks and research institutions. In addition, designing the modalities of regular press conferences and attending academic conferences are part of the communication strategy. The blueprint for the inflation report and analytical notes on key macroeconomic variables, to inform the public about macroeconomic developments and explain the CBE's monetary policy stance, have already been prepared but have yet to be published. Compared with other IT countries, there is scope for improvement in this area for Egypt.

### **Data requirements and strengthening the macroeconomic database**

Monetary policy under IT requires relatively high-quality, timely and high-frequency macroeconomic data. Strengthening the macroeconomic database has been a key priority in Egypt. Egypt has subscribed to the IMF's Special Data Dissemination System (SDDS), which requires the prompt posting of various macroeconomic datasets, compiled in line with best international practice and comparable across countries. Moreover, recognising the need to further improve statistics, in 2005 the CBE agreed to the publication of the IMF ROSC (Report on the Observance of Standards and Codes), which evaluates the macroeconomic datasets and provides recommendations to improve them (International Monetary Fund, 2005c and 2007).

Table 9.6 Status of forecasting and modelling

	<b>Status (Yes/No/ In progress)</b>	<b>Details</b>
<b>CPI and core inflation</b>		
- Construct core CPI	Yes	The CBE constructs its own core inflation measures, excluding regulated items and volatile food items. The core inflation series, including monthly inflation notes, have been published since October 2009.
- Seasonally adjusted estimates of CPI	Yes	
- Estimate sub-groups of CPI	Yes	The CPI basket has been split into sub-groups: food, non-food and service.
<b>Modelling</b>		
- Analysis of exchange rate pass-through	Yes	The degree of pass-through from the exchange rate to the CPI and WPI inflation rates was quantified in an empirical study, utilising a five-variable VAR model. The responses of CPI and WPI to exchange rate shocks have been obtained.
- Effect of interest, credit and exchange rate channels	Yes	VAR analysis has been conducted. The relationships between the variables and the response have been obtained.
- Inflation forecasting	Yes	The CBE carries out near-term forecasts for one quarter ahead. In addition, there are medium-term forecasts.
- Quantitative	Yes	
- Graphic and numeric	Yes	
- Stochastic	In progress	Developing this type of models is under way within the CBE.
Estimate of potential GDP	Yes	
Quarterly structural model (multi-equation)	In progress	Developing this type of models is under way within the CBE.
<b>Other</b>		
- Business surveys with inflation indicators (wage, profitability, capacity constraints, input and output prices, and inflation expectations)	Yes	The ECES puts out a business barometer, which surveys business confidence. However, more needs to be accomplished in this area.
- Household surveys of inflation expectations	No	

Despite data shortcomings, the CBE has strengthened its analytical and forecasting capabilities. The Monetary Policy Unit was established within the CBE to play a key role in providing objective monetary policy analysis, assessment and modalities of communication with the market through its research and other functions. Alternative models to forecast inflation have also been developed. Assessing and improving the current forecasting models used in monetary policy formulation is a continuous process. Table 9.6 highlights the status of inflation modelling and forecasting.

## **9.4 Conclusion**

Over the last few years the CBE has taken many important steps to upgrade Egypt's monetary policy with a view to adopting IT as a monetary policy framework once the prerequisites are fulfilled. Under the new banking law, the CBE was granted more independence, and an explicit institutional framework was set up for interest rate determination. In addition, the structural reforms under way in the banking sector have led to improved efficiency and competition among banks, steps that are expected to facilitate monetary policy transmission. There are, however, a number of outstanding issues that need to be addressed before Egypt will be ready to adopt a fully fledged IT framework. In particular, efforts are needed to consolidate the fiscal position and improve the macroeconomic database.

## **Notes**

The views expressed in this paper are those of the author and should not be attributed to the Central Bank of Egypt. The author would like to thank Nadia Mounir and Ahmed Salah for excellent research assistance.

1. In the early 1990s, Egypt launched an Economic Reform and Structural Adjustment Program (ERSAP) to eliminate the internal and external disequilibria caused by many years of high inflation, intolerable fiscal deficits, lack of competitiveness in world markets, and soaring degrees of external indebtedness. Central to the process were three critical elements: a massive fiscal adjustment, the liberalisation and unification of the exchange system, including the adoption of an exchange rate anchor, and a supportive monetary policy comprising quantified targets in the context of successive financial programmes. Monetary policy during this period was designed primarily to defend the exchange rate, which did not conflict with achieving the country's growth objectives as well. The stabilisation programme,

- launched in 1991 and completed in 1996, was successful in restoring the desired macroeconomic stability.
2. According to Banking and Credit Law No. 163 of 1957 and the amendments in decision 59 of 1993, supporting economic development in light of the government's economic plan while maintaining the stability of the Egyptian pound were the final targets.
  3. Al-Mashat and Billmeier (2008) provide a unified empirical framework, combining a descriptive review of Egyptian monetary policymaking over the last decade with a baseline VAR model that describes the Egyptian economy. By adding extensions to the baseline model, they investigate specific monetary transmission channels.
  4. After the liquidity problems that surfaced in the market during 2000 and 2001, the CBE supported the launch of a domestic currency interbank market. The CBE's monetary policy framework change in 2001 enhanced the degree of market determination of the short-term interest rate. Before the introduction of the overnight interbank market, the short-term policy rate moved only within a very restricted range, rendering it a rather weak signal of the monetary policy stance.
  5. During this period, interest rates on treasury bills provided some indication of market conditions, as they served as a basis for open market operations and they were traded on a secondary market. But given their role in fiscal policy, it would be misleading to consider them a monetary policy instrument.
  6. The empirical results in Al-Mashat and Billmeier (2008) show that the interest rate channel of monetary policy is still weak in Egypt.
  7. Moursi et al. (2007) compare various strategies developed during the 1990s to identify the monetary policy stance in Egypt. They argue that the CBE, between 1980 and 2005, did not rely on a single short-term policy rate but used several interest rates.
  8. Rabanal (2005) finds that the wholesale price index (WPI) reacts significantly to changes in the nominal exchange rate after six to twelve months, whereas the consumer price index (CPI) reacts after twelve to twenty-four months, but not significantly. This result is interpreted as evidence of specific structural weaknesses of the CPI measure used until 2003 – beyond the fact that a significant share of administered prices contributes to a slow pass-through.
  9. In addition, Banking Law No. 88 for 2003 asserts the independence of the CBE and its Board, whose members are appointed directly by the President of the country.
  10. Although a functioning exchange rate transmission channel may add to the effectiveness of monetary policy under IT, it is likely that actively manipulating the exchange rate along with inflation is likely to worsen the performance of monetary policy. See Jonas and Mishkin (2003). However, this does not imply that central banks should not pay attention to the exchange rate (Mishkin and Schmidt-Hebbel 2001).
  11. As described in Schaechter et al. (2000), earlier experiences of IT countries involved a combination of exchange rate and inflation targeting. For example, Chile spent more than ten years in a transition from quasi-inflation targeting to fully fledged inflation targeting. During this period,

the monetary policy framework was based on a crawling peg exchange rate regime as well as announcements of an inflation target. The aim in announcing inflation targets was to gradually reduce inflation by providing a focal point anchor for monetary policy that was supplementary to the existing crawling exchange rate band. Similarly, in Israel the long transition to IT began with the move to a crawling exchange rate band, which necessitated inflation targets to define the upward slope of the crawl. See also Roger and Stone (2005).

12. See the CBE's Monetary Policy Statement published in June 2005.
13. Given the current liquidity within the market, the overnight interbank rate has remained close to the floor of the corridor.
14. The results are presented in Al-Mashat and Billmeier (2008).
15. The number of banks has declined from fifty-seven in 2004 to thirty-nine in 2007.

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