Macroeconomic Policies in Egypt:
An Interpretation of the Past and Options for the Future

Ugo Panizza

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Abstract

This paper describes the recent evolution of macroeconomic policies in Egypt and derives a simple model (within an IS-LM framework) showing that until the mid 1990s, the presence of liability dollarization and high passthrough from exchange rate to prices may have limited Egypt's ability to conduct an independent monetary policy. However, the paper shows that conditions have changed and that there is now room for a more flexible exchange rate and that, in the light of Egypt's limited ability to conduct counter cyclical fiscal policies, an independent monetary policy is necessary. The paper concludes by describing monetary and fiscal policy reforms that would improve Egypt's macroeconomic management. On the monetary policy side, the paper suggests that Egypt should slowly move towards an inflation-targeting framework. On the fiscal policy side, the paper recommends that Egypt should adopt budget institutions that would allow eliminating its structural deficits and building a reputation for fiscal prudence.

السياسات الاقتصادية الكلية في مصر : تفسير الماضي وخيارات المستقبل

أوغو بانيزا

ملخص

تصف الورقة التحول الحديث في السياسات الاقتصادية الكلية في مصر، وتشتق نموذجاً مبسطاً يبين ذلك التطور حتى منتصف التسعينات، حيث أن ظهور الدولرة والتأثير الكبير لمعدلات الصرف على الأسعار، يحد من قدرة مصر على الوصول إلى سياسة نقدية مستقلة. لذلك، تبين الورقة الظروف التي تغيرت بحيث أصبح هناك الآن مجال صرف عالي المرونة. وفي ضوء محدودية القدرة المصرية على اعتماد سياسات مالية مقابلة، فإنه يصبح من الضروري وجود سياسة نقدية مستقلة. تستخلص الورقة أنه (من خلال سياسة الإصلاحات المالية) يمكن تحسين إدارة الاقتصاد الكلي في مصر. وفي جانب السياسة النقدية، ترى الورقة أن مصر يجب أن تسير باتجاه نظام التضخم المستهدف. أما بالنسبة للسياسة المالية، فإن الورقة توصي بتبني مصر لميزانية المؤسسات التي تسمح بإزالة العجوزات الهيكلية وبناء سمعة طيبة في مجال التدبير المالي.

Introduction

This paper focuses on macroeconomic policies in Egypt. In particular, the paper describes recent changes in economic policy; provides a conceptual framework to interpret these changes; and analyzes what the challenges are for the development of an environment that will allow Egypt to conduct counter cyclical macroeconomic policies.

The evolution of fiscal, monetary, and exchange rate policies in the second half of the 1990s shows that while a fixed exchange rate system was at the center of the economic stabilization program of the early 1990s, Egypt has slowly moved towards a more flexible exchange rate system. In particular, by letting the Egyptian currency depreciate versus the US dollar by approximately 20% over the July 2000-August 2001 period, the Egyptian government did what it strongly argued against in the mid-1990s. The Egyptian government, however, has been following a rather reactive exchange rate policy and allowed for depreciations only after the development of dollar shortages and of a black exchange rate market. This situation has generated a climate of uncertainty that is not beneficial to the Egyptian economy.

It is argued that during the period of economic stabilization, the Egyptian economy was characterized by high passthrough and high levels of liability dollarization. Under these conditions, a devaluation would have had large costs in terms of inflation (because of the passthrough) and limited advantages in terms of output.[1] Subsequently,, the paper suggests that, as passthrough and liability dollarization dropped substantially during the second half of the 1990s, the Egyptian government should have responded to the real shocks that affected the Egyptian economy in the 1997-1998 period by adopting a more flexible exchange rate. By the late 1990s, however, the main obstacle to the adoption of a more flexible exchange rate was not economic, but political. By this time, a fixed exchange rate and high levels of international reserves had created in fact, their own audience (Lohmann, 2000) and had become objectives of economic policy in themselves.

Towards a More Flexible Exchange Rate System

At the end of the 1980s, the Egyptian economy suffered from high inflation (above 20%) and large fiscal and current account deficits (15 and 8% of GDP, respectively). The deterioration of the economic situation and the large donations and debt relief programs linked to Egypt's role in the Gulf War set the stage for the launch of an ambitious stabilization program that started in the fiscal year of 1991/1992. The two pillars of the program were fiscal stabilization and a fixed exchange rate (the existing multiple exchange rate markets were unified at the beginning of 1991). The stabilization program was to be accompanied by structural reforms that included public sector reform, elimination of subsidies, privatization, and liberalization of the financial market and trade and investment policies. Fiscal and monetary stabilization was successful in reducing the fiscal and current account deficits and in taming inflation. It is worth noting that the Egyptian government was successful in privatizing approximately half of the 317 state-owned enterprises operating in Egypt.[2] However, it soon became clear that there was a strong political opposition to bank and insurance privatization. In fact, this component of the structural reform program has yet to be implemented.

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[1] With high passthrough, a nominal devaluation translates into limited real devaluation while with liability dollarization, a nominal devaluation may harm firms that have debt in foreign currency and reduce profits and investment.

[2] By 1996, inflation had dropped to 7% and the fiscal deficit had dropped to 1.3% of GDP (Subramanian, 1997).

One side effect of the exchange rate anchor was a steep appreciation of the real exchange rate (Figure 1). This led the IMF to ask for a 20-30% devaluation of the Egyptian currency in the mid 1990s (Economist Intelligence Unit, 2000). The Egyptian government, however, refused to devalue the currency on the grounds that a devaluation would generate a resurgence of inflation. Besides the appreciation of the real exchange, that by itself was affecting the competitiveness of Egyptian exporters, in the 1997-1999 period, the current account was also negatively affected by several external shocks. In particular, the Luxor massacre of November 1997 led to a decrease in tourism receipts, and the downturn in oil prices and the economic crisis in the Gulf countries led to a decrease in the value of oil exports and remittances. The capital outflows that followed the international financial market crises of the late 1990s also contributed to the worsening of the overall balance of payments.[3]
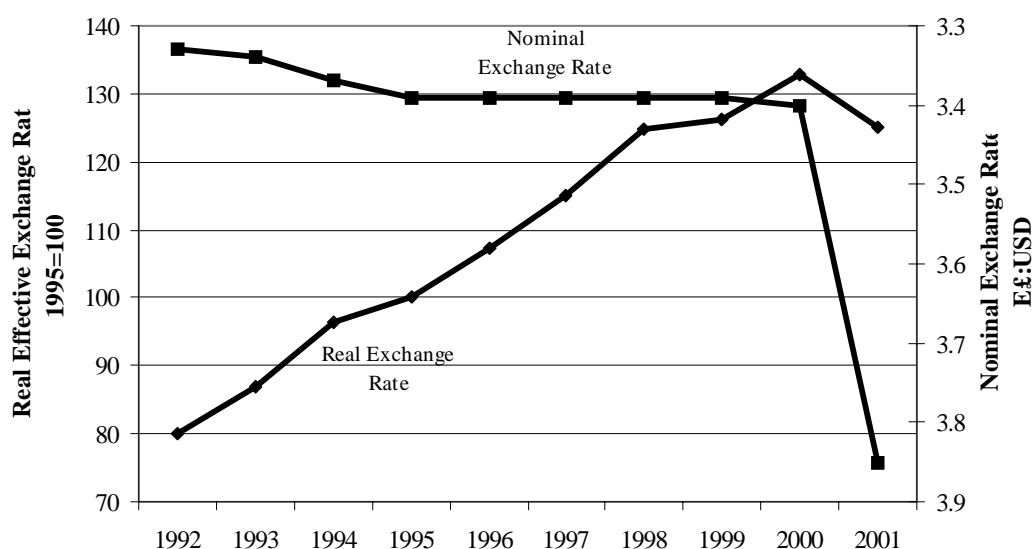

Figure 1. Real and nominal exchange rate in Egypt.

The Egyptian government was not ready for these shocks and its policy response was rather ambiguous. Although a fixed exchange rate should not allow conducting an independent monetary policy, the Central Bank's (CB) first response to the external shocks was to let commercial banks absorb the increase in foreign exchange demand and let domestic credit accelerate to levels well above those prevailing before the shocks. This lax monetary policy, however, increased the pressure on the exchange rate peg and forced the CB to tighten monetary conditions in the period 1999-2000.

While a light depreciation or a strong defense of the Egyptian pound would have probably calmed the markets, the CB was initially reluctant in releasing international reserve, and in a situation of high dollar demand, dollar shortages developed. The situation was rather chaotic during most of the summer of 1999, with money changers dealing in dollars at rates that were well above the CB rate of E£3.4: US$1. The defense of the exchange rate peg eventually led to a drastic decrease in international reserves. In turn, this generated expectations for a devaluation and led to an increase in the demand of US dollars and further

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[3] While the 1996/1997 fiscal year was characterized by capital inflows estimated at US$1.5 billion, the fiscal year 1997/1998 was characterized by net portfolio outflows estimated at US$250 million (Handy, 2000).

losses in reserves which dropped by almost one fourth during the 1998-2000 period (from 18 to 14 billion US dollars).[4]

Lacking access to monetary policy, the Government adopted an expansionary fiscal policy that led to a budget deficit of 4% of GDP. The deficit was largely financed by selling bonds to the CB (CB credit to the Government increased by nearly 33% during the first half of fiscal year 2000/2001) generating non-sustainable levels of money financing that were clearly inconsistent with a pegged exchange rate.[5]

Starting May 2000, the CB allowed for a slow depreciation of the Egyptian pound. The rate of depreciation accelerated during the latter part of 2000, with the exchange rate moving from E£3.5: US$1 to E£3.85: US$1. On January 29, 2001, the Government introduced a managed peg exchange rate system with a central rate of E£3.85: US$1 and plus/minus 1% bands. On July 3, 2001, the central rate was then moved to E£3.9: US$1 and the bands expanded to plus/minus 1.5%. On August 6, the CB established a "crawling band" exchange rate system and set the central rate to E£4.15: US$1 with bands of plus/minus 3%. The new exchange rate system was also accompanied by a looser monetary policy exemplified by a decrease of the discount rate and reserve requirements and by further expanding CB's credit to the Government.

While these new policies seemed to indicate that the Egyptian government is moving towards a more flexible approach to exchange rate management that allows for some stabilization of the real exchange rate and some use of monetary policy, the Egyptian government continues to be rather reactive and to send mixed messages. In particular, while the announcement of the new exchange rate regime stated that "The CB rate will periodically be reviewed according to the market conditions," the parity was touched only twice during the first nine months of 2001. These mixed policy signals generated expectations for a depreciation and, before August 6, 2001, led to new currency shortages and gave new life to the foreign currency black market.[6]

On the positive side, the government was successful in decreasing the degree of dollarization of the economy. Figure 2 illustrates deposit dollarization (defined as the share of bank deposits held in foreign currency) and liability dollarization (defined as the foreign currency share of total bank credit) for the private business sector and the business sector as a whole, i.e., including state-owned companies. The figure shows that while deposit dollarization dropped substantially at the beginning of the period of structural reforms, liability dollarization kept increasing until the mid-1990s. In 1994, more than 40% of bank credit to the private business sector was in foreign currency. However, from the mid-1990s, dollarization first stabilized and then dropped substantially starting 1998.

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[4] This shift in policy also affected domestic liquidity. In particular, while the reliance on commercial banks to satisfy the foreign currency needs increased domestic liquidity, the sale of foreign currency by the CB tightened the liquidity conditions.

[5] The deterioration of the fiscal situation was probably at the basis of Standard and Poor's decision to cut Egypt's local currency rating from A- to BBB+. More recently, the Egyptian government was able to satisfy some of its financing needs by issuing Eurobonds for a total of US$ 1.5 billion. The bond placement was rather successful and priced with spreads that are among the lowest for countries that share Egypt's foreign currency sovereign rating (EFG-HERMES, 2001).

[6] Before the depreciation of August 6, Egypt had three parallel currency exchange markets: the bank market (in which it is virtually impossible to buy foreign currency), the moneychangers market, and the black market.
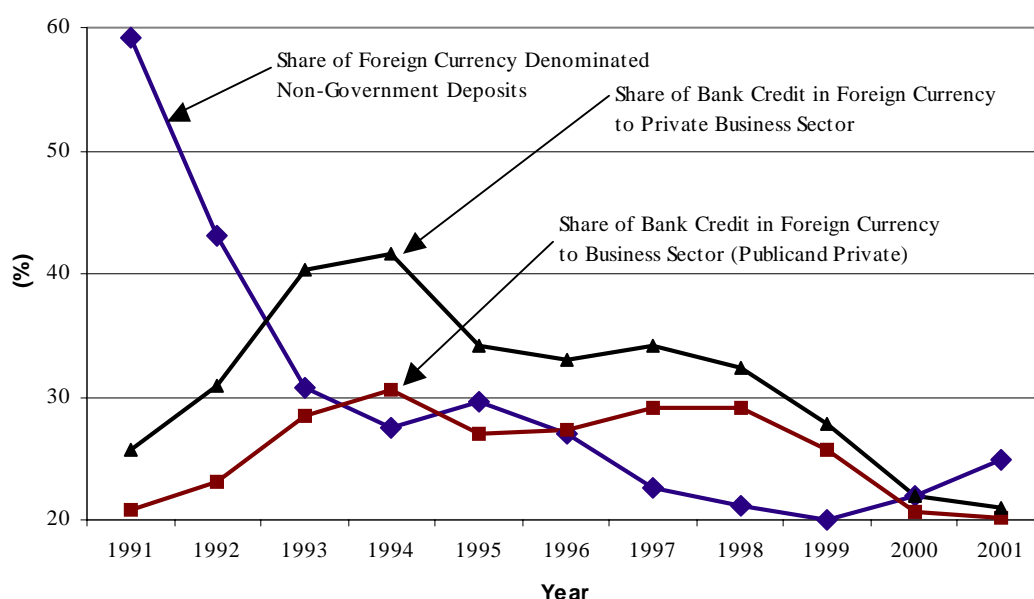
Figure 2. Foreign currency assets and liabilities of the banking sector.

A Simple Macroeconomic Framework

While academic discussions of macroeconomic policies are based on theoretical models that emphasize microfoundations and focus on the intertemporal behavior of optimizing agents, the workhorse of most policy discussion is still the standard IS-LM model and its open economy extension developed by Robert Mundell and Marcus Fleming.[7] This section describes the behavior of the Egyptian economy with a Mundell-Fleming framework that includes two elements common to many emerging market countries and also present in Egypt. The first is the degree of passthrough from exchange rate to prices, while the second is the presence of deposit and liability dollarization. The model shows that these elements attenuate the prescriptions of the textbook Mundell-Fleming model. The model may also be used to show that changes in the macroeconomic situation may justify changes in macroeconomic policy. In particular, it is suggested that lower passthrough, lower dollarization, and a decrease of the dollar value of foreign prices (due to the weakness of the Euro) justify a movement to a more flexible exchange rate and a more aggressive use of monetary policy.

The Model

The model consists of four equations. The first equation describes the equilibrium in the goods market (IS schedule):

$$Y = A\big(Y, (1-d)(i-\pi) + d(i^* - \Delta\varepsilon)\big) + G + NX(\varepsilon, Y) \qquad \text{Equation 1}$$

Where A stands for domestic absorption, i and i^* are the domestic and foreign nominal interest rates; π is the inflation rate; d is the share of debt denominated in foreign currency

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[7] For microfounded models that aim at explaining exchange rate policies in emerging market countries, see Aghion, Bacchetta, and Banerjee (2000), Chang, Cespedes, and Velasco (2000), and Lahiri and Vegh (2001). For empirical analysis of the correlation among passthrough, liability dollarization, and exchange rate flexibility, see Hausmann, Panizza, and Stein (2001a, 2001b) and Calvo and Reinhart (2000).

(from now on d will be referred to as the degree of dollarization); ε the log of the real exchange rate; G a measure of the stance of fiscal policy; and NX net exports.

As it is the standard, it is assumed that $0 < A_1 < 1$, $A_2 < 0$, $NX_1 > 0$, and $NX_2 < 0$. The only difference between Equation 1 and a standard IS equation is that the former includes the degree of dollarization and the *ex-post* domestic currency real interest rate of foreign currency denominated debt $d(i^* - \Delta\varepsilon)$. *d>0* captures the idea that domestic firms may not be able or willing to satisfy all their financing needs in domestic currency (see Aghion *et al.*, 2000, for the microfoundations of this assumption).

Equilibrium in the money market is represented by a standard LM curve:

$$\frac{M}{P} = L(i, Y)$$

Equation 2

with $L_i < 0$ and $L_Y > 0$.

External equilibrium is described by the balance of payment equation:

$$CF(i - i^* - \rho) + NX(\varepsilon, Y) = 0$$

Equation 3

where *CF* are capital flows; *CF'* is the degree of capital mobility; and ρ is a measure of country risk. It is well known that with imperfect capital mobility ($0 < CF' < \infty$), Equation 3 yields a positively sloped balance of payment curve.

Finally, it is assumed that the price level is determined by the following equation:

$$p = \gamma(e + p^*)$$

Equation 4

where *p* and *p** are the logs of the domestic and foreign price levels; *e* is the log of the nominal exchange rate; and γ is the degree of passthrough from exchange rate to prices. The log of the real exchange rate is therefore defined as: $\varepsilon = e + p^* - p = (1 - \gamma)(e + p^*)$. Clearly, when $d = \gamma = 0$, the above model reduces to a textbook Mundell-Fleming model with fixed prices and no liability dollarization.

By substituting Equation 4 into Equations 1-3 and taking derivatives, it is possible to obtain the slopes of the IS, LM and BB curves.

$$\left.\frac{di}{dY}\right|_{IS} = \frac{(1 - A_1) - NX_2}{A_2(1 - d)} < 0.$$

Equation 5

$$\left.\frac{di}{dY}\right|_{LM} = -\frac{L_Y}{L_i} > 0.$$

Equation 6

$$\left.\frac{di}{dY}\right|_{BB} = -\frac{CF'}{NX_2} > 0.$$

Equation 7

Equations 5-7 show that although the presence of foreign currency debt increases the slope of the IS curve (when *d=1* the IS curve is vertical), foreign currency debt and the degree of passthrough do not affect the slope of the LM and BB curves.

Economic Shocks and Policy Reaction

        Referring to Figure 3, it is assumed that Y_f represents capacity income but that an external shock put the economy in equilibrium A with an equilibrium income of Y_0.[8] Under a flexible exchange rate system, policy makers may respond to the external shock with an expansionary fiscal policy, expansionary monetary policy, or a depreciation of the exchange rate (the last two policies are equivalent). With a fixed exchange rate system, monetary policy is ineffective and hence the only response to a negative shock is an expansionary fiscal policy. Fiscal policies are, however, problematic. Firstly, there is evidence that in many developing countries, fiscal policy is procyclical rather than counter cyclical, later it will be shown that this is also the case for Egypt. Secondly, there is now a consensus that, even in high-income countries, discretionary fiscal policies are problematic and that fiscal stabilization should only operate through automatic stabilizers (Taylor, 2000).

        In the following discussion, it is set that the exchange rate and fiscal policy (G) are exogenous variables under the control of policy makers, and income (Y), interest rate (i) and money supply are endogenous. It should be pointed out the same events using an expansionary monetary policy may be described as first action (i.e., setting money supply as exogenous) because, other things equal, a depreciation and an expansionary monetary policy have the same impact on the economy.[9] Let us examine the optimal exchange rate response to an external shock under the assumptions of the standard Mundell-Fleming model (i.e., by setting $d=\gamma=0$).
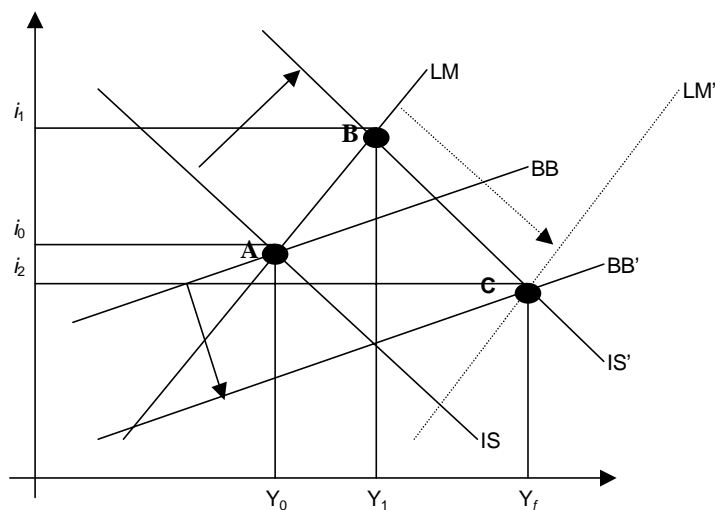

Figure 3. Economic policies in a Mundell-Fleming framework.

        Figure 3 illustrates the effect of a depreciation under the standard hypothesis of no liability dollarization and no passthrough. At the initial equilibrium (A) income is Y_0 and the

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[8] Several external shocks have affected Egypt in the late 1990s: the decrease in tourism receipts that followed the Luxor massacre; the decrease in the price of oil in the mid to late 1990s; the appreciation of the real exchange rate due to a weak Euro; and the currency crisis in East Asia.

[9] The only difference is that with an expansionary monetary policy, the initial shift of the LM curve is exogenous, and with a depreciation, the initial shift of the LM curve is endogenous.

interest rate is i_0. The depreciation leads to an increase in net exports and shifts the IS and BB curves to the right (to IS' and BB'). The increase in income generates an increase in money demand and shifts the interest rate to i_1. This high interest rate, together with the increase in the current account, generates a surplus in the balance of payments that, in absence of sterilization, increases money supply and shifts the LM curve to LM' yielding the new equilibrium at C. The new equilibrium has a higher level of income and a lower interest rate.

The presence of liability dollarization and passthrough, however, affects how exchange rate movements shift the IS, LM, and BB curves. In particular, high values of d or γ could generate a situation in which a depreciation would not expand output or only expand output at the cost of very high levels of inflation. This may be formally shown by totally differentiating equations 1-3 and expressing the results in matrix form:

$$\begin{bmatrix} 1-A_1-NX_2 & -A_2(1-d) & 0 \\ -L_Y & -L_i & 1 \\ NX_2 & CF' & 0 \end{bmatrix} \begin{bmatrix} dY \\ di \\ dm \end{bmatrix} = \begin{bmatrix} -A_2(\gamma+d-2\gamma d) & 1 \\ \gamma & 0 \\ -NX_1(1-\gamma) & 0 \end{bmatrix} \begin{bmatrix} de \\ DG \end{bmatrix}$$

Next, it is possible to check the effect of liability dollarization and passthrough on the effectiveness of exchange rate policy by using Cramer's rule to calculate the following derivative:[10]

$$\frac{dY}{de} = \frac{A_2[NX_1(1-d)(1-\gamma)-CF'(d+\gamma-2d\gamma)]+CF'NX_1(1-\gamma)}{A_2(1-d)NX_2+CF'(1-A_1-NX_2)} \geq 0 \qquad \text{Equation 8}$$

It is worth noting that the numerator is decreasing in d and γ, in particular, if $d=\gamma=1$, $\frac{dY}{de}=0$ is obtained. In this case, a devaluation will have a cost in terms of inflation but no expansionary effect on income and a fixed exchange rate will dominate a flexible one. Therefore, high levels of dollarization and passthrough may render exchange rate (or monetary) policy ineffective at stabilizing output. This contrasts with the standard Mundell-Fleming result that a devaluation is always expansionary. More generally, the higher d or γ ?, the less effective is monetary or exchange rate policy in shifting the IS curve. It is also possible to show that when $\gamma > 0$, devaluations have a direct effect on the LM curve. In particular, as the increase in the price level reduces real money balances, devaluations move the LM curve to the left.

$$\left. \frac{di}{de} \right|_{LM} = -\frac{\gamma}{L_i} > 0 \qquad \text{Equation 9}$$

Finally, the larger the passthrough, the smaller the rightward shift of the BB curve. With perfect passthrough ($\gamma = 1$), real devaluations are impossible, and therefore, a devaluation of the nominal exchange rate will not shift the BB curve.

$$\left. \frac{di}{de} \right|_{BB} = -\frac{NX_1(1-\gamma)}{CF'} < 0 \qquad \text{Equation 10}$$

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[10] It is worth noting that the effects of a depreciation are identical to those of an expansionary monetary policy because the latter leads to a devaluation. It is also noted that to derive Equation 8, logs of Equation 6 are taken.

The basic message is that the higher the level of liability dollarization and the higher the passthrough from exchange rate to prices, the less effective depreciations and monetary policy are.

If the results of the model described above are introduced in a loss function in which the Government aims at stabilizing income and inflation, it is possible to conclude that, with high levels of passthrough and liability dollarization, depreciations (or expansionary monetary policies) may induce large costs in terms of inflation and limited benefits in terms of output stabilization. This would therefore justify a fixed exchange rate system (especially if the country is facing limited external shocks).[11]

So, What Has Changed?

After having discussed a possible rationale for the Egyptian government's decision to keep a fixed exchange rate it is now important to describe what has changed and discuss why the Egyptian government should move to a more flexible exchange rate system.

The factors that justify a move to a more flexible exchange rate system in Egypt can be summarized as follows: (i) large real shocks that require some sort of policy response; (ii) distortions caused by the unwillingness of the authorities of having a *market-determined* pegged exchange rate; (iii) reduction of liability dollarization; (iv) possible decrease of the passthrough; and (v) weakness of the Euro.

Until 1997, Egypt faced a very favorable external environment. Following the structural reform program, the economy was growing at a healthy pace. The Government accounts had improved substantially, and steady balance of payment surpluses had allowed the Egyptian CB to accumulate a large amount of international reserves. The negative shocks of the late 1990s, however, slowed growth, deteriorated public accounts, put the balance of payment into deficit, and made clear that some policy response was called for.

Given the severity of external shocks, this was probably the moment to allow for a limited depreciation of the currency and adopt an expansionary monetary policy. Alternatively, if the government wanted to maintain its fixed exchange rate, it should have taken drastic actions so that the market rate would be in line with the official peg. The Egyptian government, however, had not recently faced any negative shock, and its policy response was rather confusing. The Government, in fact, tried to produce a fiscal stimulus and to allow some monetary expansion (aimed at financing the increasing deficit). These policies, however, were completely inconsistent with a fixed exchange rate and resulted in a stop and go policy in which the Government first relaxed credit, then tightened it, and then relaxed it again. This confused the markets, led to a substantial turmoil in the exchange rate market, and scared away foreign investors (the capital account has been in deficit since the 1998/99 fiscal year, see Figure 4).

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[11] However, Lahiri and Végh (2001) showed that a fixed exchange rate could be optimal for countries that face large external shocks.
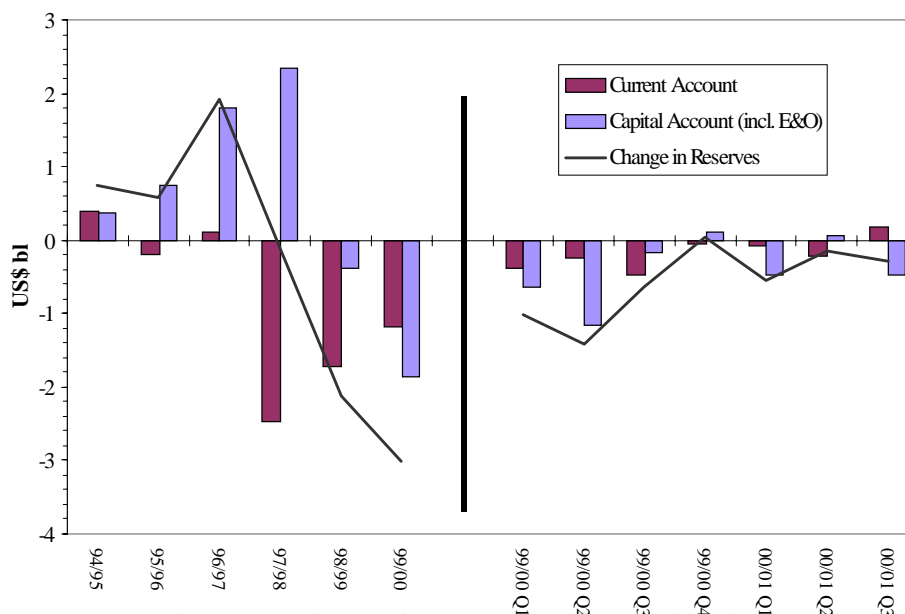
Figure 4. Balance of payments and international reserves.

One problem with Egypt's exchange rate policy was that the authority's support for a *market-determined* fixed exchange rate was always half-hearted. In particular, while Egyptian policy-makers refused to let the currency depreciate, they were not ready to fully use market instruments to sustain the peg. For instance, when dollar demand rose, the CB, instead of tightening monetary policy and releasing reserves, tried to deal with the situation with moral suasion. This generated dollar shortages which, in turn, led to a black market for foreign currency and to a general situation of uncertainty that increased the expectations for a depreciation and further fueled demand of foreign currency. Some observers maintained that this policy uncertainty, and the distortions that arose from the presence of a black market were more harmful than the appreciation of the real exchange rate and the inability of conducting counter cyclical monetary policy.[12]

In the second half of the 1990s, liability dollarization decreased substantially from 40 to 20% of total private sector business credit, (see Figure 2) reducing the possibility that a currency depreciation would be contractionary and increasing the effectiveness of monetary policy. Furthermore, although there are no data on the evolution of passthrough in Egypt, recent research (Goldfajn and Werlang, 2000) showed that passthrough is endogenous and tends to positively correlate with past inflation and tends to decrease in periods of low aggregate demand. Given its recent inflation record (and the lack of a history of hyperinflation) and the slow-down in growth, Egypt seems to satisfy all the conditions for a non-inflationary currency depreciation.[13]

The last factor that justifies a move towards a more flexible exchange rate system is the weakness of the Euro. Given that more than 30% of Egyptian trade and more than 50% of tourists that visit Egypt are from the Euro area, the weakness of the European currency seriously reduces Egyptian competitiveness. In particular, a 12% devaluation of the Egyptian

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[12] The unclear currency situation, for instance, limits FDI because foreign investors are, among other things, worried about their ability of repatriating profits.

[13] Another factor that differentiates Egypt from most emerging market countries is that in Egypt, a controlled devaluation is unlikely to degenerate into a nosedive of the currency. In particular, a foreign exchange crisis is unlikely to happen because Egypt's short-term international debt is low and the CB's tight control on the domestic banks makes a shorting of the Egyptian currency extremely difficult.

pound would only compensate for the decrease in value of the Euro *vis a vis* the dollar and be completely neutral on domestic prices.[14]

The effects of the depreciation of the second half of 2000 seem to confirm the .analysis. In fact, the 15% depreciation of the second half of 2000 was followed by a decline in inflation and led to an export boom (see Figure 4).[15]

Suggesting that Egypt should move to a more flexible exchange rate system does not imply that Egypt should immediately adopt a freely floating exchange regime. The experience of emerging market countries that successfully managed the transition to a flexible exchange rate regime suggests that Egypt should follow their example and adopt a slow transition to a flexible exchange rate *cum* inflation targeting. While in the second half of 2000, the Egyptian authority seemed to go in this direction, in the first half of 2001, Egypt moved back to a *de facto* peg and only allowed for a depreciation of the currency when the black market premium went above 10%.[16] This erratic behavior is probably due to the fact that, while some members of the Government were pushing towards more dynamic economic policies, other members had bet their credibility and reputation on a fixed exchange rate and, therefore, strongly opposed a more flexible management of the exchange rate.

This attachment to a given peg and to high levels of reserves (that at some point became an objective of economic policy in themselves or, in Mohieldin's (2001), terms sacred cows) may be explained by audience cost theory. Lohmann (2000) pointed out that by choosing a given monetary institution, policymakers choose an audience and this audience determines the cost of an institutional defection. Lohmann stipulated that there are two types of audiences: a mass electorate and a specialized elite. The main difference between a mass and a sophisticated audience is that while the former is not able to distinguish all possible states of the world and therefore adopt state-contingent strategies, the latter can better understand and excuse defections that are justified by the circumstances. An exchange rate peg immediately generates a mass audience that can punish a government that defects from its exchange rate peg promise even while the defection is more than justified by the country's economic circumstances.[17] Egyptian policymakers realized that they have created a strong audience for exchange rate stability and, at this stage, they need to carefully explain to the Egyptian public that conditions have changed and that the country is now ready for a more flexible exchange rate system.

What About Fiscal Policy?

So far, the possibility of reacting to shocks with an expansionary fiscal policy was simply dismissed on the grounds that there is now a consensus that discretionary fiscal policies are problematic (Taylor, 2000) and that it is difficult for emerging markets to conduct counter cyclical fiscal policies (Gavin and Perotti, 1998).

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[14] This figure was computed by assuming a 30% trade share with Europe and a 35% depreciation of the Euro *vis a vis* the US dollar.

[15] Simulations suggest that the Egyptian exports are highly sensitive to the level of the foreign exchange rate (ECES, 2001).

[16] In the first 7 months of 2001, the CB central rate was adjusted by approximately 1%, with black market transactions reported to be almost 10% above the CB rate. The depreciation of August 6 helped in bringing the official exchange rate in line with the black market rate.

[17] According to Lohmann (2000), the most difficult task of institutional design consists of putting in place the ideal audience that should have the ability to punish the policymaker in the event of an unjustified institutional defection and, therefore, guarantee the credibility of the policies. However, it also should be able to excuse justified defections due to unforeseen contingencies and, therefore permit flexible policy responses to shocks.

As the fiscal response to economic shocks is highly dependent on the structure of government revenues and spending, this section documents the key differences between the Egyptian budget and the average OECD budget. While the budget deficit for the fiscal year 2000/2001 was rather high, in the late 1990s, Egypt had moderate deficit to GDP ratios comparable (or lower) to those of many OECD countries. However, comparisons between emerging market countries like Egypt and more developed countries may not be appropriate because, in a context of limited creditworthiness and limited ability of collecting taxes, even small deficits could be extremely dangerous (Panizza, 2002).

Table 1 shows that there are important differences between the structure of revenues in Egypt and OECD countries.[18] Non-tax revenues, indirect taxes, and trade taxes are much more important in Egypt than in OECD countries. This is an important difference because non-tax revenues are often outside the control of the government and often pro-cyclical. This high reliance on non-tax revenues limits the government's ability to implement counter cyclical fiscal policies.

Table 1: Composition of Government Revenues in Egypt
and OECD Countries

	% of GDP		% of Total Revenues	
	Egypt	OECD	Egypt	OECD
Total Revenue	26.35	28.00	100.00	100.00
Non-Tax Revenue	6.33	2.30	24.02	8.10
Tax Revenue	16.73	25.30	63.50	90.20
Income Tax	5.96	9.80	22.61	35.00
Indirect Taxes	10.77	5.70	40.88	20.40
Trade Taxes	3.39	0.30	12.86	1.00

Source: For OECD countries: Gavin *et al*, 1996. For Egypt, Author's calculations based on data from Egypt's CB.

Table 2. Composition of Government Expenditure in Egypt and
OECD Countries

	% of GDP		% of Total Expenditure	
	Egypt	OECD	Egypt	OECD
Total Expenditure	28.46	30.90	100.00	100.00
Capital Expenditure	6.51	2.00	22.88	6.50
Current Expenditure	21.65	28.90	76.06	93.50
Wage Bill	6.50	4.00	22.84	13.10
Other purchases	1.47	4.20	5.16	13.70
Transfer Payments	3.78	17.60	13.27	57.10
Interest Payments	6.21	4.00	21.82	12.80

Source: For OECD countries: Gavin *et al*, 1996. For Egypt, Author's calculations based on data from Egypt's CB.

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[18] The data for Egypt are averages for the 1995-2000 period (Source: Central Bank of Egypt). The data for OECD countries refer to the mid-1990s and were computed as populations weighted averages of underlying country data (Source: *Gavin et al*., 1996).

Table 2 shows that, compared with OECD countries, Egypt allocates a larger share of its budget to capital expenditure (22.9 versus 6.5% of total expenditure), to wages (22.8 versus 13.1% of total expenditure), and to interest (21.8 versus 12.8% of total expenditure) and a much smaller share to transfer payments (13.3 versus 57.1% of GDP). Again, these are important differences because a large share of wages and interest payment limits the ability of conducting an independent fiscal policy. The fact is that wage and interest payments are the results of previous hiring and borrowing decisions. Gavin *et al.* (1996) showed that interest and wage payments are highly volatile components of the government budget but that this volatility is not due to counter cyclical fiscal policy but to the results of procyclical movements. In particular, interest payment may actually increase during recessions because of the increase in the country's risk premium, and it is always politically difficult to manage fiscal policies that involve substantial changes in public sector employment and wages. Finally, as most emerging markets, Egypt allocates a small share of expenditure to transfers. This is important because, in OECD countries, these transfers are often means-tested or linked to unemployment and are the main fiscal automatic stabilizers. The lack of these automatic stabilizers is one of the causes of the procyclical fiscal policies that characterize many emerging market countries.

Both Keynesian and neoclassic economists agree on the fact that if shocks to the tax-base are transitory, the Government should smooth these shocks by accumulating surpluses during economic booms and running deficits during recessions.[19] After having documented important differences between the structure of public expenditure and revenues in Egypt and OECD countries, it is to be tested whether Egypt has, so far, been able to manage counter cyclical fiscal policies. Table 3 compares the cyclical response of various fiscal aggregates in Egypt and the OECD countries. The OECD results were from Gavin *et al.* (1996), whereby the results for Egypt were instead computed by using annual data for the 1981-2000 period.[20] The data were obtained from the International Monetary Fund's International Financial Statistics and the Statistical Bulletin of the CB of Egypt. As in Gavin *et al.* (1996), all the equations were estimated by using Ordinary Least Squares. All regressions control for the lagged surplus-GDP ratio and for a dummy that takes value 1 in 1991 and zero in every other year (1991 was characterized by a budget deficit of 19.9% of GDP). The results would change if this dummy is excluded.[21]

The same table shows that fiscal policies are definitely counter cyclical in OECD countries. For instance, the results of Gavin *et al.* (1996) showed that a one percentage point increase in the growth rate is associated with an increase in the fiscal surplus of 0.25 percentage point. They also pointed out that the stabilizing response is mostly due to increases in taxes (that increase by 0.84 percentage point for every one percentage increase in the growth rate) and a limited increase in government expenditure (less than a 0.1 percentage point increase for each 1 percentage point increase in GDP growth).

Things are very different for Egypt. First of all, the results of Table 3 suggest that there was no significant relationship between GDP growth and budget surplus and, if anything, the regression results suggest a negative correlation between these variables, i.e., the government budget moves procyclically. This procyclical behavior of the Egyptian budget is not due to the behavior of revenues. In fact, government revenues are highly counter cyclical (a one percentage point increase in GDP growth is associated with a 1.8

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[19] While the neoclassical argument is purely based on tax-smoothing issue (Barro, 1979), Keynesian economists also state that countercyclical policy may help in recovering from a recession.

[20] It is to be observed that the OECD column reports t statistics only for the total surplus column. This is because this was the only t statistic reported by Gavin *et al.* (1996).

[21] In particular, when the 1991 dummy is dropped, no statistical significant relationship between cyclical output and fiscal aggregates was found.

percentage point increase in revenues, well above the 0.84 percentage point of OECD countries). The real problem lies in the behavior of expenditure. Evidently, Table 3 suggests that a one percentage point increase in growth is associated with a 2.8 percentage point increase in government expenditure (versus a 0.09 percentage point increase in OECD countries).

Table 3. Cyclical Response of Fiscal Aggregates in
Egypt and the OECD

	Impact of Real GDP Growth	
	Egypt	OECD
Total Surplus (% of GDP)	-0.37 (-1.23)	0.25*** (6.2)
Primary Surplus (% of GDP)	-0.77 (-1.23)	0.22
Total Revenue (% change)	1.80** (2.31)	0.84
Total Expenditure (% change)	2.85** (2.43)	0.09
Current expenditure (% change)	34.62*** (3.11)	0.04
Wage payments (% change)	8.22 (0.026)	0.37
Other purchases (% change)	5.77 (1.60)	0.27
Transfers (% change)	5.42* (1.94)	-0.21
Interest Payments (% change)	1.51 (0.67)	-0.10

t statistics in parentheses. *** indicate a coefficient that is statistically significant at the 1% confidence level; ** at the 5% confidence level; and * at the 10% confidence level.
Source: For OECD countries: Gavin *et al,* (1996). For Egypt, author's calculations were based on IFS and CB of Egypt's data.

It is interesting to ask why Egypt (as many other emerging market countries and contrary to OECD countries) does not adopt counter cyclical fiscal policies. Is this because Egyptian policymakers are less competent than their OECD counterparts, or because, emerging market countries face a set of constraints that hamper their ability of implementing counter cyclical monetary policies? In their study of Latin America, Gavin *et al.* (1996) suggested that the latter seems to be the right answer. In particular, they highlighted procyclical international financing (i.e., international financing often disappears during economic downturns when it is most needed to finance counter cyclical fiscal policies) and weak fiscal structure. While Egypt alone cannot do much to stabilize highly volatile international capital flows, there is some evidence that good budgetary institutions may help in building a policy framework that tolerates counter cyclical fiscal policies.

So, What To Do Next?

So far it has been shown that Egypt has a very limited ability to conduct counter cyclical policies. The presence of a fixed exchange rate does not allow conducting an independent monetary policy and, because of the composition of the budget and the procyclicality of capital flows, fiscal policies have been mostly procyclical. The objective of this section is to formulate policy prescriptions that should let Egypt build a framework that allows conducting counter cyclical monetary and fiscal policies.

Slowly Floating Toward Monetary Independence

While some emerging market countries have a history of hyperinflation and levels of dollarization and exposure to international capital markets (manifested by their external debt) that makes it almost impossible to move, at least in the short-run, to a more flexible exchange rate management. Egypt with a history of moderate inflation and exposure to international capital market is a better candidate for a system that allows for some exchange rate flexibility and monetary independence.

Nonetheless, it is not the intention of this paper to suggest that Egypt should immediately abandon its exchange rate anchor and move to a perfectly flexible exchange rate system. The movement should instead be gradual, with the current dollar peg first substituted by a trade-weighted basket and then by an inflation-targeting regime. In fact, while at the moment Egypt does not satisfy all the necessary conditions for the introduction of an inflation-targeting regime (Panizza, 2002), the experience of other countries has shown that some emerging market countries have been so far successful in slowly building an inflation targeting framework by managing a transition period during which the CB targets both inflation and the exchange rate. Whenever these two objectives collide, discretionary decision is made in which one objective should dominate the other.[22] In particular, the experiences of Chile and Mexico seem to indicate that in the initial phases of the transition to inflation targeting, the exchange rate target will often dominate the inflation target and in later phases, the inflation target will dominate the exchange rate target (Mishkin and Savastano, 2000).[23] Given that there were large credibility costs in missing an inflation target, the CB of Chile adopted the strategy of interpreting the target as an official forecast of future inflation. Only after having successfully met the target and brought inflation to lower levels, the CB started hardening the target and betting its credibility on it (Morandé and Schmidt-Hebbel, 2000).

While managing the transition towards a more flexible exchange rate regime, the Government should build the necessary conditions for establishing an inflation targeting regime. The Government should grant formal operational independence to the CB of Egypt, and should develop the instruments that are necessary for a successful conduct of an independent monetary policy. At this stage, for instance, the CB's ability to conduct monetary policy is hampered by the Bank's lack of a portfolio of marketable securities (Treasury Bills are non-marketable on the stock exchange, El-Refaie, 2001) and the lack of a deep market for government securities (Handy, 2000). A well-developed market for

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[22] Masson, Savastano, and Sharma (1997) identified the following necessary conditions for a successful implementation of an inflation targeting regime: (a) the presence of an independent Central Bank; (b) lack of binding commitments to other nominal variables (like the exchange rate) and; (c) the technical ability of developing forecast models for the variables of interest (inflation in particular).

[23] It should be mentioned that some observers were skeptical about the experience of emerging market countries with inflation targeting and claimed that this framework will collapse as soon as these countries have to face a serious domestic or international crisis (Dornbusch, 1999). In fact, many observers seemed to think that a financial crisis will be the ultimate test for the viability of inflation targeting in emerging market countries (The Economist, January 29, 2000).

government and eventually private securities, should also allow interest rates to better reflect monetary conditions and hence amplify the transmission mechanism of monetary policy.

It is also important to strengthen the CB's institutional capacity by investing more resources in its research and statistical department especially, human resources. In Brazil, for instance, the move to an inflation-targeting regime was immediately followed by the institution of a research department in the CB (Bogdanski, Tombini, and Werlang, 2000).

A last necessary condition for a successful monetary policy is a modern, competitive, and well-regulated financial system. Although some foreign banks have successfully acquired controlling majorities in their joint ventures with Egyptian banks, the Egyptian government has been reluctant to privatize state-owned banks that still have a large portfolio of non-performing loans extended to state-owned enterprises.

Budget Institutions and the Effectiveness of Fiscal Policy

Gavin *et al.* (1996) discussed that emerging market countries are unable to conduct counter cyclical fiscal policies because international financing dries up during economic downturns leading to a situation in which countries in recession face high interest rates and are unable to finance budget deficits. However, by running surpluses or low deficits during periods of economic expansions, emerging market countries may establish a reputation for fiscal prudence and create the conditions that would let them borrow at a reasonable interest rate during economic downturns. Therefore, the key to a counter cyclical fiscal policy is the ability to solve the problems that are at the basis of the structural fiscal deficits faced by many emerging market countries.[24]

There is ample evidence that in both developed and emerging market countries, good budget institutions (defined as the set of rules, procedures, and practices according to which budgets are drafted, approved, and implemented) play a fundamental role in reducing fiscal deficits (Von Hagen and Harden, 1994, and Alesina *et al.* 1999). Particularly, research has found that fiscal discipline is significantly enhanced by:

- Laws that establish an *ex-ante* constraint on deficits. An extreme example of a rule that imposes a constraint on deficits is the Balance Budget Amendment discussed in the USA. However, a constitutional rule that forces the government to balance the budget every year is not the only form of constraint and is probably too restrictive for an emerging market country that faces large external shocks. *Ex-ante* constraints may be formulated in terms of previously approved macro programs that impose some limits to the borrowing autonomy of the government or in the formulation of a cyclically balanced budget.

- Hierarchical procedures that give one minister veto power over budget decisions. In particular, it has been found that deficits may be reduced by giving more power to the Treasury of Finance Ministry than to the spending ministries and providing limited power to the Legislature to amend the budget.

- Order of voting. Alesina *et al.* (1999) proved that a procedure in which the size of the deficit and the level of spending is voted first and the allocation of the budget voted second, leads to more fiscal discipline.

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[24] The most important problems that are at the root of chronic deficits are: common pool; electoral cycle; principal agent problem; and dynamic inconsistency in fiscal policy.

- Transparency. Deficits are reduced by procedures that improve the transparency of the budget and do not allow the central government to assume debt contracted by other public agencies or local administrations.

The budget process in Egypt has five stages. It is interesting to check whether these stages agree with the rules that are at the basis of "good" budget institutions. The five stages are: (a) negotiation; (b) submission to the People's Assembly; (c) discussion by the People's Assembly; (d) disbursement and implementation; and (e) review and audit (World Bank, 2001).

In the first stage of negotiation, the main actors are the Ministry of Finance, the spending ministries, and the 26 Governatorates. At this stage, all spending agencies are asked to prepare their budget requests but not given any ceilings. This violates the rule that the total budget should be decided before its allocation and leads to budget demands that are in excess to what may be allocated to each spending unit. The possibility of preparing unconstrained budget proposals also reduces the incentive for prioritizing expenditures.

In the second stage, the budget chapters are consolidated into a budget document that is reviewed by the Cabinet and the President. The final document is then presented to the People's Assembly.

In the third stage, the People's Assembly reviews and amends the budget. This is a lengthy process which often takes more than two months. By giving the Assembly power to amend the budget, it violates the hierarchical procedures that are associated with good budget institutions.

In the fourth stage, the Ministry of Finance executes the budget. The budget execution allows for some flexibility. In recent years, budgets have often been revised during their executions. In particular, the budget implementation is characterized by continuous negotiations among the spending agencies that often violate the priorities established in the budget document. Although these revisions are often associated with a reduction in expenditure, Alesina *et al.* (1999) posited that the mere possibility of being able to revise the budget in mid-year may limit the incentive to prepare realistic budget proposals.

In the fifth stage, the Central Accounting Agency reviews the budget implementation process. The auditors tend to focus on accounting irregularities rather than comparing the actual budget with the proposed one or focusing on performance auditing. This focus on accounting issues limits the transparency of the budget process. The Central Accounting Agency could improve the transparency of the budget by disseminating disaggregated revenue expenditure data and publicly discussing the discrepancies between the planned and actual budgets. Transparency would also be improved by clearly reporting the Government arrears.

It should be clear from the discussion of the five stages of the budget process that Egypt needs to improve its budget institutions. Necessary steps would include:

- Defining a medium-term macroeconomic framework that would provide ceilings for the various spending agencies and the overall budget. This framework should include multi-annual fiscal policy programs that impose limit on spending and deficits. For instance, the rate of growth of expenditure cannot exceed the rate of GDP growth). The rigidity of such a scheme could be alleviated by state contingent rules. For instance, the deficit to GDP cannot exceed x% in normal periods and y% in recessions but should also include rules aimed at avoiding the acceleration of budget execution during electoral years.

- Making the budget process more hierarchical by limiting the possibility of amending the budget during the parliamentary debate and eliminating the possibility of changing the budget during the implementation period.
- Improving the transparency of the budget by making the approved budget available to the general public and by disclosing disaggregated expenditure data. The comprehensiveness of the budget should also be improved by including subsidies that are managed by government agencies (e.g. the butane subsidy managed by the Petroleum Company) including government arrears, and contingent liabilities (World Bank, 2001). It would also be helpful to increase the role of the Central Accounting Agency to focus on performance auditing.
- Employing some of the natural resource revenues to build a fiscal stabilization fund.

Conclusion

While this paper presents a model in which the role of liability dollarization and passthrough from exchange rate to prices may justify a fixed exchange rate, the paper argues that the current situation calls for a more flexible exchange rate. Particularly, the model shows that given the current situation of low liability dollarization and low passthrough, Egypt could benefit from more exchange rate flexibility.

The paper shows that, in the last twenty years, Egypt has not been able to conduct counter cyclical fiscal policies and that this inability of stabilizing the economy with budget deficits during recession strengthens the logic for adopting a flexible exchange rate system.

Egypt should take steps to improve its ability to conduct counter cyclical monetary and fiscal policies. On the monetary policy side, it is suggested that Egypt should slowly move towards an inflation-targeting framework. On the fiscal policy side, it is recommended that Egypt should adopt budget institutions that would allow eliminating its structural deficits and building a reputation for fiscal prudence. Such institutions would permit Egypt to borrow internationally during periods of economic downturn and enhance its ability of conducting counter cyclical fiscal policies.

It should be very clear that the policy-makers should not focus on one objective or indicator (the exchange rate level, for instance) but any policy action should be dictated by a coherent macroeconomic framework. In particular, the CB needs to have a good econometric model of the economy and to be able to feed the model with prompt and high-quality data. To this purpose, the CB will need to seriously invest on its human capital and strengthen its research and statistical department. Moreover, the CB will need institutional independence and a deep and efficient financial market through which monetary policy will be able to transmit its effects to the real economy. These are not impossible targets, but while many Egyptians think that the process of structural reform was completed in the mid-1990s, the above considerations prompts that the implementation of more flexible macroeconomic policies will require starting a new process of institutional transformation and modernization.

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