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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 suggests that Egypt should adopt budget institutions that would allow eliminating its structural deficits and building a reputation for fiscal prudence.

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ملخص

تستعرض هذه الورقة التطورات الأخيرة في السياسات الاقتصادية الكلية في مصر. واستنادا إلى نموذج مبسط (في إطار نموذج روبرت مندل وماركوس فلمنج) توضح الورقة أنه حتى منتصف التسعينيات، أدت دولرة الخصوم من ناحية وسهولة انتقال التغيرات في سعر الصرف إلى المستوى العام للأسعار من ناحية أخرى إلى الحد من قدرة مصر على اتباع سياسة نقدية مستقلة. كما توضح الورقة أن الظروف قد تغيرت بعد ذلك التاريخ بما يسمح الآن بتطبيق سعر صرف أكثر مرونة. ونظرا لعدم قدرة مصر على استخدام السياسات المالية لمواجهة التقلبات الاقتصادية الدورية، تتضح أهمية اتباع سياسة نقدية تتسم بالاستقلالية. وتنتهي الدراسة بتحديد الإصلاحات اللازمة في السياستين المالية والنقدية والتي من شأنها تحسين قدرة مصر على إدارة السياسات الاقتصادية الكلية. وبالنسبة للسياسة النقدية، تقترح الورقة تحول مصر تدريجيا نحو نظام يعتمد على معدل التضخم كمحور ارتكاز؛ أما فيما يتعلق بالسياسة المالية، فترى ضرورة إدارة الموازنة العامة بأسلوب يسمح بالحد من العجز في الموازنة ويؤدي إلى اكتساب الثقة في قدرة مصر على اتباع سياسة مالية حكيمة.

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I. 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 countercyclical macroeconomic policies.

The paper starts by describing the evolution of fiscal, monetary, and exchange rate policies in the second half of the 1990s and shows that, while a fixed exchange rate system was at the center of the economic stabilization program of the early 1990s, Egypt is now slowly moving towards a more flexible exchange rate system. In particular, by letting the Egyptian currency depreciate versus the US dollar by approximately 20 percent 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, and this situation has generated a climate of uncertainty that is not beneficial for the Egyptian economy.

The paper argues 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] Next, 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 that time, in fact, a fixed exchange rate and high levels of international reserves had created their own "audience" (Lohmann, 2000) and had become objectives of economic policy in themselves.

Section 4 studies the cyclicality of Egypt's fiscal policies and finds that Egypt has not been able to implement countercyclical fiscal policies. This inability to use the government budget to stabilize the economy is another factor that calls for a more intensive use of monetary policy.

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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.

Section 5 examines what the options are for the future. On the monetary policy side, the paper suggests that Egypt should gradually substitute its exchange rate anchor with an inflation-targeting regime. On the fiscal policy side, the paper points out that Egypt should not rely on discretionary fiscal policies but adopt budget institutions that would allow managing a system of automatic stabilizers.

II. Towards a more flexible exchange rate system

At the end of the 1980s, the Egyptian economy was suffering from high inflation (above 20 percent) and large fiscal and current account deficits (15 and 8 percent 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, and the 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.

One side effect of the exchange rate anchor was a steep appreciation of the real exchange rate (Figure 1) that, in the mid 1990s, led the IMF to ask for a 20-30 percent devaluation of the Egyptian currency (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

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

markets crises of the late 1990s also contributed to the worsening of the overall balance of payments.[3]

Figure 1. Real and Nominal Exchange Rates in Egypt
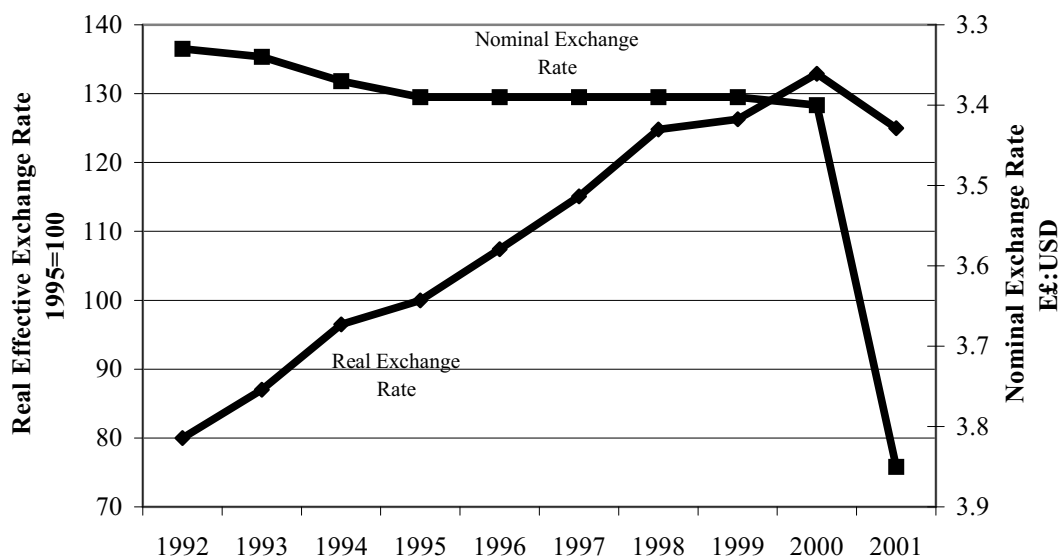
The Egyptian government was not ready for these shocks and its policy response was rather ambiguous. Even though a fixed exchange rate should not allow conducting an independent monetary policy, the Central Bank's first response to the external shocks was to let commercial banks absorb the increase in 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 Central Bank to tighten monetary conditions during 1999-2000.

While a light depreciation or a strong defense of the Pound would have probably calmed the markets, the Central Bank was, at first, reluctant in releasing international reserves, and in a situation of high dollar demand, dollar shortages developed. The situation, in fact, was rather chaotic during most of the summer of 1999, with money changers dealing in dollars at rates that were well above the Central Bank rate of E£3.4: US$1. The defense of the exchange rate peg eventually led to a drastic decrease in international reserves which, in turn, 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 percent of GDP. The deficit was largely financed by selling bonds to the Central Bank (Central Bank credit to the Government increased by nearly 33 percent 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 Central Bank allowed for a slow depreciation of the Egyptian Pound. The rate of depreciation accelerated during the Fall 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 percent 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 percent. On August 6, the Central Bank established a "crawling band" exchange rate system and set the central rate to E£4.15: US$1 with bands of plus/minus 3 percent. 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 Central Bank's credit to the Government.

Although these new policies seem 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 Central Bank rate will periodically be reviewed according to the market conditions," the parity has been touched only twice since its introduction. These mixed policy signals generated expectations for a depreciation and, before August 6, led to new currency shortages and gave new life to the foreign currency black market.[6]

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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 Central Bank 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.

III. A simple macroeconomic framework

The purpose of this section is to develop a framework that shows why until the mid 1990s, currency depreciation was not an option for Egypt and why a flexible exchange rate is now more advisable. The section also tries to identify the main political economy obstacles to reforming monetary management in Egypt.

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, and the second is the presence of deposit and liability dollarization. The model will show that these elements attenuate the prescriptions of the textbook Mundell-Fleming model. The model can also be used to show that changes in the macroeconomic situation may justify changes in macroeconomic policy. In particular, the paper suggests 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):

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

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 (from now on d will be referred to as the degree of dollarization), ε the real exchange rate, G a measure of the stance of fiscal policy, and NX net exports. As it is standard, I assume $0 < A_1 < 1$, $A_2 < 0$, $NX_1 > 0$, 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*

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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 (1999, 2001) and Calvo and Reinhart (2000).

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). As liability dollarization is a key element of the model, it is important to check if dollarization is a serious issue in Egypt. 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 clearly shows that while deposit dollarization dropped substantially at the beginning of the period of structural reforms, liability dollarization kept increasing until the mid 1990s, and in 1994, more than 40 percent of bank credit to the private business sector was in foreign currency.

Figure 2. Foreign Currency Assets and Liabilities of the Banking Sector
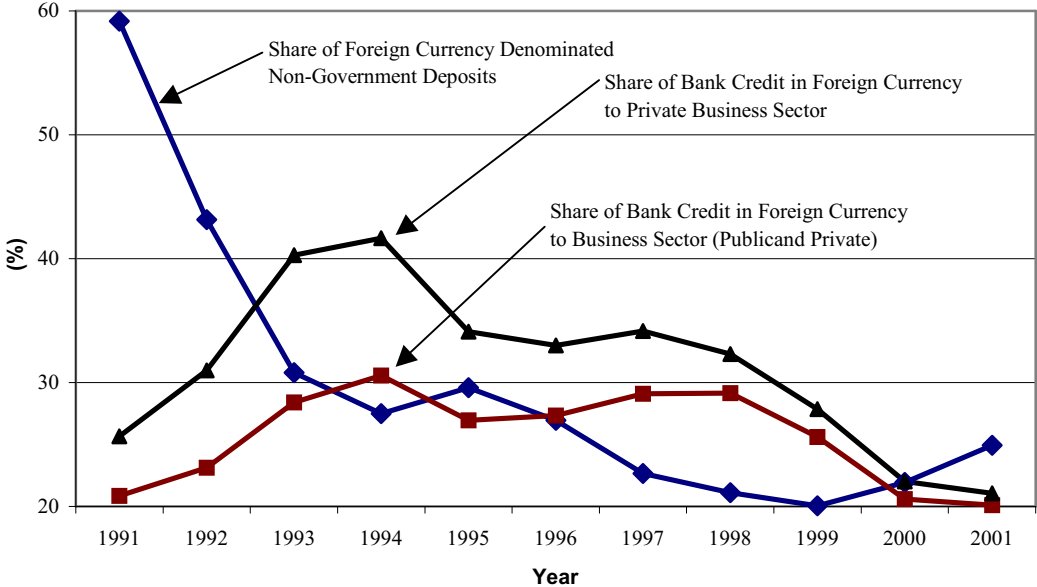
Equilibrium in the money market is represented by a standard LM curve:

$$\frac{M}{P} = L(i, Y) \qquad (2)$$

with $L_i < 0$ and $L_Y > 0$. External equilibrium is described by the balance of payment equation:

$$CF(i - i^* - \rho) + NX(\varepsilon, Y) = 0 \qquad (3)$$

where *CF* are capital flows, *CF'* is the degree of capital mobility, and *p* 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 (see Figure 3). Finally, I assume that the price level is determined by the following equation:

$$p = \gamma(e + p^*) \hspace{4cm} (4)$$

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. 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 (see the Appendix for a proof).

### *Economic shocks and policy reaction*

Let us now analyze the possible policy responses to a negative external shock in an economy with the characteristics of the model of Section 3.1. Refer to Figure 3 and assume 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 can 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. First of all, there is evidence that in many developing countries fiscal policy is procyclical rather than countercyclical (Section 4 shows that this is also the case for Egypt). Second, 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). Hence, I will start by focusing on monetary policy and analyze the optimal response to an external shock with the standard Mundell-Fleming model (i.e., by setting $d=\gamma=0$). In particular, 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 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

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[8] We can think of several external shocks that 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.

the new equilibrium at **C**. The new equilibrium has a higher level of income and a lower interest rate.[9]

Figure 3. Economic Policies in a Mundell-Fleming Framework
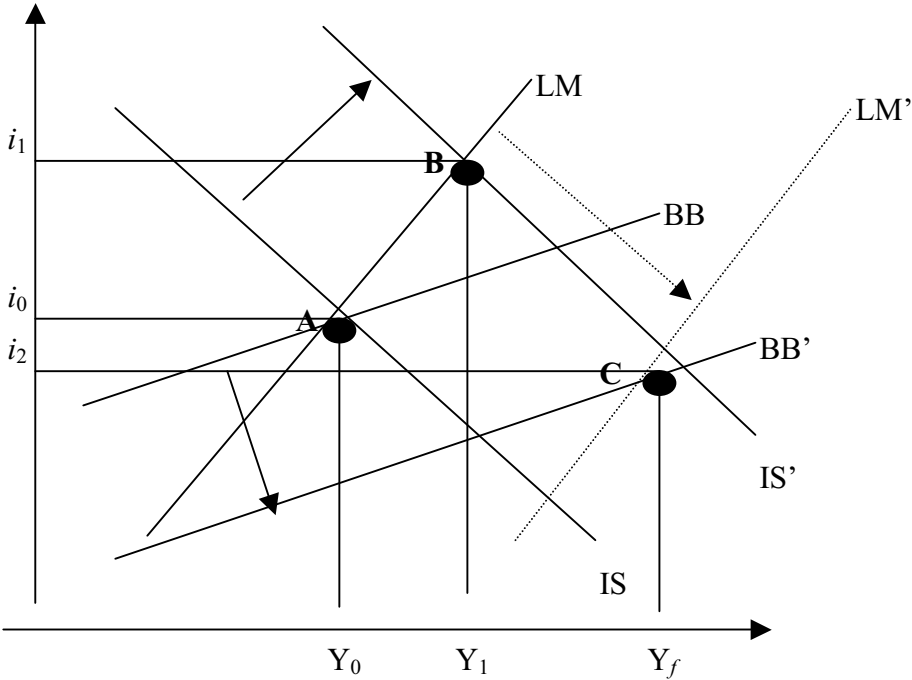
The presence of liability dollarization and passthrough, however, affects how exchange rate movements shift the IS, LM, and BB curves (this is formally shown in the Appendix). In particular, high values of *d* or *y* could generate a situation in which a depreciation could move the IS curve to the left. This contrasts with the standard Mundell-Fleming result that the direct effect of a devaluation moves the IS to the right. More generally, the higher *d* or y, the less effective is monetary or exchange rate policy in shifting the IS curve. It is also possible to show (Equation A5 in the Appendix) that when $y>0$, 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. Finally, the larger the passthrough, the smaller the rightward shift of the BB curve (Equation A6). With perfect passthrough ($y=1$), real devaluations are impossible, and therefore, a devaluation of the nominal exchange rate will not shift the BB curve. The basic message is that the higher the level of liability dollarization

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[9] I could have described the same events using an expansionary monetary policy as first action. Other things equal, a depreciation and an expansionary monetary policy have the same impact on the economy. The only difference being 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.

and the higher the passthrough from exchange rate to prices, the less effective depreciations and monetary policy are.[10]

If we introduce the results of the model described above 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 and therefore justify a fixed exchange rate system (especially if the country is facing limited external shocks).[11]

So, what has changed?

The previous section illustrated a possible rationale for the Egyptian government's decision to keep a fixed exchange rate. The purpose of this section is to describe what has changed and discuss why the Egyptian government should move to a more flexible exchange rate system. The section also analyzes the political economy issues that may have led to the behavior of Egyptian policy-makers.

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, government accounts had improved substantially, and steady balance of payment surpluses had allowed the Egyptian Central Bank 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

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[10] This seems to be supported by Al-Shawarby's (2000) finding that, in the early 1990s, exchange rate variations have a limited role in determining Egypt's export performance.

[11] However, Lahiri and Végh (2001) show that a fixed exchange rate could be optimal for countries that face large external shocks

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).

Figure 4. Balance of Payments and International Reserves
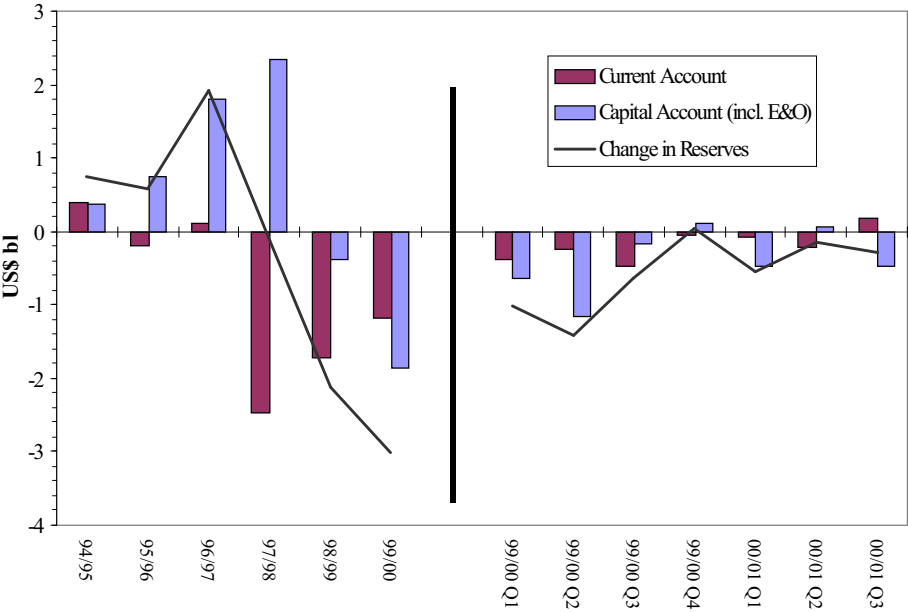
One problem with Egypt's exchange rate policy was that the authority's support for a *market-determined* fixed exchange rate was always half-hearted. In particular, while Egyptian policy-makers refused to let the currency depreciate, they were not ready to fully use market instruments to sustain the peg. For instance, when dollar demand rose, the Central Bank, 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 maintain 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 countercyclical monetary policy.[12]

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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.

In the second half of the 1990s, liability dollarization had decreased substantially (from 40 to 20 percent of total private sector business credit, Figure 2) reducing the possibility that a currency depreciation would be contractionary and increasing the effectiveness of monetary policy. Furthermore, even though there are no data on the evolution of passthrough in Egypt, recent research (Goldfajn and Werlang, 2000) has shown that passthrough is endogenous and tends to be positively correlated 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 percent of Egyptian trade and more than 50 percent of tourists that visit Egypt are from the Euro area, the weakness of the European currency seriously reduces Egyptian competitiveness. In particular, a 12 percent devaluation of the Egyptian 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 of this section. In fact, the 15 percent depreciation of the second half of 2000 was followed by a decline in inflation and has led to an export boom (Figure 4).[15]

Suggesting that Egypt should move to a more flexible exchange rate system does not imply that it should immediately adopt a freely floating exchange regime. In particular, Section 5 of this paper discusses the experience of emerging market countries that successfully managed the transition to a flexible exchange rate regime and 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 percent.[16] This erratic behavior is probably due to the fact that, while some members of the Government are pushing towards

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

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

[15] Simulations suggest 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 Central Bank central rate was adjusted by approximately 1 percent, with black market transactions reported to be almost 10 percent above the Bank's rate. The depreciation of August 6 helped in bringing the official exchange rate in line with the black market rate.

more dynamic economic policies, other members have bet their credibility and reputation on a fixed exchange rate and, therefore, are strongly opposing 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) can be explained by audience cost theory. Lohmann (2000) points out that by choosing a given monetary institution, policymakers choose an audience and this audience determines the cost of an institutional defection. She points out 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 though the defection is more than justified by the country's economic circumstances.[17] Egyptian policymakers then realized that they had created a strong audience for exchange rate stability and, at this stage, they are carefully explaining to the Egyptian public that conditions have changed and that the country is now ready for a more flexible exchange rate system.

IV. What about fiscal policy?

In the previous section, 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 countercyclical fiscal policies (Gavin and Perotti, 1998).

As the fiscal response to economic shocks is highly dependent on the structure of government revenues and spending, I start by documenting 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

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[17] According to Lohmann, 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), but also be able to excuse justified defections due to unforeseen contingencies (and, therefore, allow for flexible policy responses to shocks).

because, in a context of limited creditworthiness and limited ability of collecting taxes, even small deficits could be extremely dangerous (Panizza, 2000).

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 countercyclical fiscal policies.

Table 1. Composition of Government Revenues in Egypt and OECD countries

	Percent of GDP		Percent 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

Table 2 shows that, compared with OECD countries, Egypt allocates a larger share of its expenditure to capital expenditure (22.9 versus 6.5 percent of total expenditure), to wages (22.8 versus 13.1 percent of total expenditure), and to interest (21.8 versus 12.8 percent of total expenditure) and a much smaller share to transfer payments (13.3 versus 57.1 percent 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. In fact, wage and interest payments are the results of previous hiring and borrowing decisions. Gavin et al. (1996) have shown that interest and wage payments are highly volatile components of the government budget but that this volatility is not due to countercyclical 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

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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).

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.

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

	Percent of GDP		Percent 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

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, I now move on and formally test whether Egypt has, so far, been able to manage countercyclical fiscal policies. Table 3 compares the cyclical response of various fiscal aggregates in Egypt and the OECD countries.[20]

The Table shows that fiscal policies are definitely countercyclical in OECD countries. For instance, the results of Gavin et al. (1996) show that a one percentage point increase in the growth rate is associated with an increase in the fiscal surplus of 0.25 percentage points. They also point out that the stabilizing response is mostly due to increases in taxes (that increase by 0.84 percentage points for every one percent 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).

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

[20] The OECD results are from Gavin et al. (1996), the results for Egypt were computed for the 1981-2000 period. 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: 19.9 percent of GDP). The results change substantially if this dummy is excluded.

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 percent confidence level, ** at the 5 percent confidence level, and * at the ten percent confidence level.

Things are very different for Egypt. First of all, the results of Table 3 suggest that there is 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 countercyclical (a one percentage point increase in GDP growth is associated with a 1.8 percentage points increase in revenues, well above the 0.84 percentage points of OECD countries). The real problem lies in the behavior of expenditure. In fact, Table 3 suggests that, a one percentage point increase in growth is associated with a 2.8 percentage points increase in government expenditure (versus a 0.09 percentage points increase in OECD countries).

It is interesting to ask why Egypt (as many other emerging market countries and contrary to OECD countries) does not adopt countercyclical 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 countercyclical

monetary policies? In their study of Latin America, Gavin et al. (1996) suggest that the latter seems to be the right answer. In particular, they highlight procyclical international financing (i.e., international financing often disappears during economic downturns when it is most needed to finance countercyclical 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 can help in building a policy framework that allows for countercyclical fiscal policies. Section 5.2 will analyze in detail how Egypt could improve its budgetary institutions.

V. So, what to do Next?

So far it has been shown that Egypt has a very limited ability to conduct countercyclical 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 allow Egypt to build a framework that allows conducting countercyclical 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) towards a more flexible exchange rate management, Egypt with a history of moderate inflation and exposure to international capital market, seems to be a better candidate for a system that allows for some exchange rate flexibility and monetary independence.

   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, 2000), 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 Central Bank targets both inflation and the exchange rate, and whenever these two objectives collide, makes discretionary decision on

which objective should dominate the other.[21] 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).[22] Given that there are large credibility costs in missing an inflation target, the Central Bank of Chile adopted the strategy of interpreting the target as an official forecast of future inflation and, only after having successfully met the target and brought inflation to lower levels, the Central Bank 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 Central Bank of Egypt, and the Central Bank should develop the instruments that are necessary for a successful conduct of an independent monetary policy. At this stage, for instance, the Central Bank'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, 2001). A well-developed market for 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 Central Bank'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 Central Bank (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

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[21] Masson, Savastano, and Sharma (1997) identify the following necessary conditions for a successful implementation of an inflation targeting regime: (i) the presence of an independent central bank; (ii) lack of binding commitments to other nominal variables (like the exchange rate) and; (iii) the technical ability of developing forecast models for the variables of interest (inflation in particular).

[22] It should be mentioned that some observers are skeptical about the experience of emerging market countries with inflation targeting and claim that this framework will collapse as soon as these countries will have to face a serious domestic or international crisis (Dornbusch, 1999). In fact, many observers seem 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).

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

Section 4 documented that Egypt has not been able to conduct countercyclical fiscal policies. Gavin et al. (1996) discuss 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 can 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 countercyclical 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.[23]

There is by now ample evidence that, both in 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. 1997). In particular, research has found that fiscal discipline is significantly enhanced by:

(a) 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 can be formulated in terms of previously approved macro programs that impose some limits on the borrowing autonomy of the government or on the formulation of a cyclically balanced budget.

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

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[23] 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.

(c) Order of voting. Alesina et al. (1997) find evidence 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.

(d) Transparency. Deficits are reduced by procedures that improve the transparency of the budget and that 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 (for a detailed description of the budget process in Egypt see The World Bank, 2001): (i) negotiation; (ii) submission to the People's Assembly; (iii) discussion by the People's Assembly; (iv) disbursement and implementation; and (v) review and audit.

In the first stage, 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 can 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 (it often takes more than two months), and by giving the Assembly's 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 and, in recent years, budgets have often been revised during their execution. In particular, the budget implementation is characterized by continuous negotiations among the spending agencies that often violate the priorities established in the budget document. Even though these revisions are often associated with a reduction in expenditure, Alesina et al. (1997) point out 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:

(a) 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 limits 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 percent in normal periods and y percent in recessions) but should also include rules aimed at avoiding the acceleration of budget execution during electoral years.

(b) 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.

(c) 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 (for instance, the butane subsidy managed by the Petroleum Company), including government arrears, and contingent liabilities (The World Bank, 2001). It would also be helpful to increase the role of the Central Accounting Agency by allowing the agency to focus on performance auditing.

(d) Using some of the natural resource revenues to build a fiscal stabilization fund.

VI. Conclusions

The purpose of this paper was to analyze the recent evolution of macroeconomic policies in Egypt. While the 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.

The paper also shows that, in the last twenty years, Egypt has not been able to conduct countercyclical 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.

The last section of the paper highlights the steps that Egypt should follow to improve its ability to conduct countercyclical monetary and fiscal policies. 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 suggests that Egypt should adopt budget institutions that would allow eliminating its structural deficits and building a reputation for fiscal prudence. Such institutions would allow Egypt to borrow internationally during periods of economic downturn and enhance its ability of conducting countercyclical fiscal policies.

It should also 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 central bank needs to have a good econometric model of the economy and it needs to be able to feed the model with prompt and high-quality data. To this purpose, the central bank will need to seriously invest in its human capital and strengthen its research and statistical department. Furthermore, the Central Bank 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 suggest that the implementation of an inflation-targeting framework will require starting a new process of institutional transformation and modernization.

Appendix:

Equations A1-A3 describe the slope of the IS, LM, and BB curves (to compute the slopes, Equation 4 was substituted into Equations 1-3):

$$\left.\frac{di}{dY}\right|_{IS} = \frac{(1-A_1)-NX_2}{A_2(1-d)} < 0. \tag{A1}$$

$$\left.\frac{di}{dY}\right|_{LM} = -\frac{L_Y}{L_i} > 0. \tag{A2}$$

$$\left.\frac{di}{dY}\right|_{BB} = -\frac{CF'}{NX_2} > 0. \tag{A3}$$

Equations A4-A6 measure the shifts in the IS, LM, and BB curves due to a shift in the exchange rate.

$$\left.\frac{di}{de}\right|_{IS} = -\frac{A_2[d-\gamma]+NX_1(1-\gamma)}{A_2(1-d)} \tag{A4}$$

$$\left.\frac{di}{de}\right|_{LM} = -\frac{M\gamma}{P^2 L_i} > 0 \tag{A5}$$

$$\left.\frac{di}{de}\right|_{BB} = -\frac{NX_1(1-\gamma)}{CF'} < 0 \tag{A6}$$

To examine the effect of economic policies, it is necessary to totally differentiate Equations 1-3 and express the results in matrix form:

$$\begin{bmatrix} 1-A_1-NX_2 & -A_2(1-d) & -A_2(d-\gamma)-NX_1(1-\gamma) \\ -L_Y & -L_i & -\dfrac{\gamma M}{P^2} \\ NX_2 & CF' & NX_1(1-\gamma) \end{bmatrix} \begin{bmatrix} dY \\ di \\ de \end{bmatrix} = \begin{bmatrix} -1 & 0 \\ 0 & 1 \\ 0 & 0 \end{bmatrix} \begin{bmatrix} dG \\ DM \end{bmatrix}$$

Next, it is possible to check the effect of liability dollarization and passthrough on the effectiveness of monetary policy by using Cramer's rule to calculate the following derivative:[24]

$$\frac{dY}{dM} = \frac{A_2\left[NX_1(1-d)(1-\gamma) - CF'(d-\gamma)\right] - CF'NX_1(1-\gamma)}{\Delta} \qquad \text{(A7)}$$

The correspondence principle allows us to assume that $\Delta<0$ (otherwise the equilibrium would not be stable). However, the numerator can be either positive or negative (a necessary condition for a positive numerator is $d>y\square$. Furthermore, the numerator is decreasing in d and possibly in y. Therefore, high levels of dollarization and passthrough may render monetary policy ineffective at stabilizing output.

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[24] Note that the effects of a depreciation are identical to those of an expansionary monetary policy because the latter leads to a devaluation.

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