The Demand for Foreign Money in Egypt: Critical Review and Extension

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ملخص

الطلب على الصرف الأجنبى فى مصر

تهدف هذه الدراسة إلى ايضاح العلاقة بين حالة التطور فى الأسواق المالية ونوعية الطلب على الادخارات بالعملة الاجنبية. فإن حالة التطور فى الاسواق المالية تحدد ماهية طابع الحافز وراء الطلب على العملة الاجنبية ونوعية هذا الطلب.

قد يكون الطلب على الادخارات بالعملة الاجنبية للحفاظ على الثروة Store of value وهذا يسمى بالدولرة Dollarization من جهة أو كوسيلة للتبادل medium of exchange وهذا يسمى باستبدال العملات currency substitution . من جهة أخرى اذا ما كانت الفائدة المدفوعة على هذه الادخارات اعلى من الفائدة المدفوعة على الاصول المالية المحلية الاخرى. تكتسب هذه الظاهرة أهمية خاصة فى البلدان التى تعانى من نسب تضخم عالية مرفقة بسياسات تفرض قيودا على أسعار الفائدة.

وتركز هذه الدراسة على صحة الادلة التى توصل اليها الباحثون فى هذا المجال عن التجربة المصرية والتى لم تأخذ بعين الاعتبار الفرق بين الدولرة وتبديل العملات وأهميته.

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1. INTRODUCTION

Financial systems that are characterized by interest rate ceilings, exchange rate controls. and high rates of inflation, bring about negative real rates of return on available domestic assets. In addition, underdeveloped domestic money and capital markets, and the limited access to international capital markets, imply that the available asset menu of domestic stocks and bonds that could serve as a store of value is very limited. Consequently, foreign currency deposits and other forms of foreign money become the only alternative liquid form of financial wealth. This implies that the increase in foreign currency denominated deposits in such countries may have been caused mainly by portfolio shifts response to differentials rates of returns.

The Egyptian financial system has similar characteristics with many other developing countries (1). These include interest rate restrictions, domestic credit controls, underdeveloped money and capital markets, limited range of financial assets, and controls on international capital flows. As a result, foreign currencies (specially the U.S. dollar) have been replacing the domestic currency in the performance of all types of monetary services.

However, given the institutional setting in Egypt, this paper argues that, based on theoretical foundation and on empirical evidence, these restrictions imply that domestic residents of Egypt hold foreign currency denominated deposits primarily as a store-of-value (portfolio substitution, dollarization), rather than as a medium of exchange (currency substitution)(2). We must suspect that the furnished evidence is, actually, evidence of portfolio shifts and not currency substitution. Therefore, one purpose of this paper is to clarify the distinction between these two concepts, which existing literature failed to take into account (3).

This distinction between the different motives behind holding

foreign money will determine whether these deposits should be included in the money supply. If Egyptian residents regard foreign money simply as a store of value, these holding should not be included in transactions oriented measures of the money supply. Therefore, when trying to assess the proper channels and instruments of monetary policy, a first step would be to determine whether these deposits are held as a medium of exchange or as a store of value.

The format of the paper is as follows. Section 2 presents a brief analysis of the macroeconomic environment in which substitution between domestic and foreign money took place in Egypt. Section 3 provides an overview of the Egyptian finanical system in the 1980 s. Section 4 summarizes the results of previous stides of currency substitution in Egypt. In addition, in this section we will redo the analysis of previous studies on Egypt for several reasons. First, the analysis is updated to 1995: i. And second, the analysis will include a data set that was not employed in previous studies. The results will allow us to assess how these models perform when the data set is extended and whether these models are able to capture the effects of the 1991 financial reforms. Finally, section 5 contains the conclusion and avenues for further research.

2. Brief Background of the Egyptian Economy

During most of the period 1980-1994, according to Government finance statistics Yearbook(4), monetary policy in Egypt has largely accommodated fiscal deficits, which reached 20 percent of GDP by 1990. In 1990 almost 53 percent of the budget deficit was financed through the banking system. Consequently, the rate of inflation accelerated from 12 percent in 1985 to about 20 percent in 1990. In addition, during the same period, Egypt's external debt grew dramatically, and it was no longer able to service this debt. By 1990 total external debt had reached US$ 46 billion, 144 percent of GDP. Servicing this massive external debt had

contributed to the sharp contraction in net foreign assets of the system. which fell from LE3 billion in 1987 to a net liability of LE 4 billion by 1990. As a result, Egyptian residents feared that the fiscal and balance of payment deficits could quickly transform into a domestic debt crises. In turn, this had led to persistent expectations of future devaluations.

The controlled interest rates, coupled with high rates of inflation brought about negative real rates of return that did not reflect the higher risk of domestic debt crisis and the persistent expectations of future devaluations. This encouraged Egyptian residents to shift from interest bearings as well as non-interest bearing domestic assets that were loosing value, into foreign money -specially savings deposits-to protect the real value of their wealth. The rate of return on these deposits has been roughly competitive with the rates of return available abroad and is taxfree. In addition, any capital gain if the foreign currency appreciates relative to domestic currency would also be tax-free(5).

In the four-year period that ended in 1991, foreign currency component of narrow money grew at an average of 29 percent, reaching, a maximum of 40 percent in 1991. In addition, the foreign currency component of broad money increased at an average rate of 34 percent during the five-year period ended 1990, as a result of dollarization in response to expected rates of return after taking into account the expected depreciation of the Egyptian pound. For example, during 1982 - 1990 the interest rate on three-month deposits in Egyptian pounds was fixed at 8.5 percent wherease dollar-denominated deposits had an average net return in Egyptian pounds of 24 percent.

Data provided by the international Finanical Statistics (The International Monetary fund) indicate that private sector holdings of total foreign currency denominated deposits (demand and savings deposits) in domestic banks increased rapidly since 1980,

from an average of 25 percent of total liquidity (domestic and foreign) in 1981, to about 50 percent in 1990.

3. An Overview of The Egyptian Financial System During 1980s

Overall, interest rate restrictions, domestic credit controls, high reserve requirements, underdeveloped money and capital markets, and controls on international capital flows characterized the financial system in Egypt in the 1980s.

Interest rate restrictions took the form of ceilings on deposit and loan rates of commercial banks. The imposition of controls on interest rates was motivated by a desire to provide low-cost funds to encourage investments, and to guard against increases in interest that were viewed as socially and politically unacceptable. The interest rate ceilings imposed both on deposits and loans brought about negative ex-post real interest rates, which resulted in an excess demand for credit. Consequently, financial deepening was hindered and financial resources were not directed into productive activities.

Direct controls to regulate the aggregate supply of credit involved on the level or growth of bank credit. Credit ceilings were widely used as an instrument of monetary policy, because the lack of markets and instruments to support indirect means , influence bank reserves such as open market operations. In setting credit ceilings, the monetary authority usually allocated the scope of future lending on the basis of the bank's past share in total lending.

High reserve requirements were a feature of the monetary control in Egypt. High reserve requirements, with no interest paid on reserves, served as an implicit tax on commercial banks that often increased the cost of financial intermediation.

International capital flows were strictly controlled. The controls were generally imposed to unsulate domestic interest rates and

monetary conditions from influences from abroad, as well as to support fixed exchange rate arrangement.

The structure and performance of the finanical sector has been affected by government borrowing mechanisms, government ownership of financial intermediaries, the tax treatment of financial instruments, and regulatory and supervisory constrainsts. Finanical intermediation is dominated by government-owned institutions (e.g. public banks, insurance companies and social insurance system), where policies have favored savings mobilization and allocation through these government owned financial institutions. In addition, the government has the monopoly on the surpluses of the social insurance scheme, which impairs finanical intermediation and resource misallocation. Like other less developed countries, Egypt's finanical markets are underdeveloped. Thus, the volume and range of financial assets are limited, as the asset menu consists essentially of money (currency and demand deposits denominated in domestic and foreign currency), quasi-money (time and savings deposits denominated in domestic and foreign currency) and less liquid assets (saving certificates and insurance claims)(6).

The Socialist Laws (1961) and other policies, resulted in a growing gap in the asset menu and to the near disappearance of securities from the portfolio held by the public. Accordingly, private holdings of corporate securities were reduced to a minimum as a result of nationalization process initiated in 1960; the owners were given instead "negotiable" government bonds and, saving certificates.

In addition, to the nationalization bonds and the similar "land reform" bonds, government securities held by the public included the bonds issued to finance developmental and defense expenditure. Due to their large denomination, mainly banks held these bonds.

In this context, where a limited range of financial assets which can serve as stores of value, foreign money became the only significant alternative liquid financial asset for domestic residents to preserve wealth, resulting in a major shift from interest bearing as well as noninterest bearing domestic assets, that is loosing value, into foreign money.

It was not until 1974 the Egyptian government permitted its residents to hold deposits denominated in foreign currency. This measure provided the private sector with a legal means of holding the growing of foreign currency deposits balances within the banking system. Given the rate of change in exchange rate in Egypt, the rate of return on foreign currency deposits, if expressed in terms of domestic currency, would be higher than the rate of return paid on domestic interest-rate bearing assets. This interest rate differential in favor of foreign currency deposits prompted portfolio shifts out of domestic into foreign money.

The Egyptian government feared the consequent implications of the large increase in the foreign currency deposits, as well as other developments, for economic and financial policy management. In an attempt to reverse the process, the Egyptian government, in 1991, adopted a comprehensive economic reform and structural adjustment program when it negotiated a $ 1 billion worth of credit with the IMF. The main points of the program are as follows: the budget deficit to be reduced, the interest rate structure is to be moved to a market-determined one (the main element in the new system that is expected to provide a broader range of alternative domestic assets is the introduction of three-month treasury bills) and finally the unification and full convertibility of the Egyptian pound.

In 1991, total foreign currency deposits (money and Quasi-money denominated in foreign currency) fell from the equivalent of LE 47.2 to LE 37.9 billion in 1992. Contributing to

However, interest rate resrictions, exchange rate recontrols, and high rates of inflation, as discussed earlier, have characterized the financial system in Egypt. These restrictions imply that domestic residents of these countries may hold foreign currency deposits as a store-of-value (dollarization), rather than as a media of exchange (currency substitution). The two studies above failed to differentiate between these phenomena.

4.2 Extending previous Studies

In order to asses how these models perform, when the sample is extended, we will reestimate their models over the extended period 1981:IV-1995:I. Re-estimation with the extended data will allow us to test if their models capture the effects of the 1991 financial reforms on the demand for foreign currency deposits. Since the tertiary exchange rate (which was used by Kubursi and El-Erian as a proxy for expected exchange) was abolished in may 1991 the black market exchange rate is used(8). Results are reported in Table1.

Table 1 shows that reestimating Elkhafif and Kubursi (1991) and El-Erian (1987) models over the period 1981:IV-1993:II does not produce the same results obtained in their studies. Contrary to their results, the table shows that the change in the black market exchange rate,$LOGE_t$ as suggested by Elkhafif and Kubursi (column a) and its deviation from the official rate log (E_t/ S_t) as suggested by El-Erian (Columns b and c) were not found to be significant.

However, column (c) shows that interest rates differential (1 + i) / (1 + i^*) 2, as suggested by El- Erian, gain significance as the data sample progresses (in the period 1982:2-1986 : 4 it was not significant) possibly reflecting the financial liberalization that took place in 1991. This variable was found significant and has the right sign. This implies that the ratio of foreign to domestic currency deposits is affected by relative asset returns as opposed to changes

Table 1
Extending the Period of Estimation of Previous Studies of Currency Substitution in Egypt
Dollarization Ratio F_t = FCD / (FCD+DM2),1981:IV-1995:1

	(a)	(b)	(c)
C	-0.11 (-1.44)	0.02 (0.29)	-1.9 (4.04)[a]
LOGEt	0.005 (-0.12)		
$LOG(E_t/S_t)$[9]		1.10 (1.71)	-0.02 (-0.19)
LIDIF			1.86 (4.04)[a]
LF_{t-1}	0.90 (10.97)[a]	1.00 (20.02)[a]	0.91 (14.03)[a]
AR	0.44 (3.15)		
R-sq.	0.94	0.93	0.94
D-W	2.11	1.98	1.69
S.E.R	0.06	0.06	0.05
Chow Break-Point Test F Test	2.89[a]	8.75[a]	3.89[a]
LR	9.19[a]	123.87[a]	14.92[a]

NOTES: S.E. of Reg. is the standard error of the regression. Numbers in parentheses denote t-statistics;a,b,c, denote significance at the 99,95and90 confidence level respectively.
LF :log of the ratio of foreign to domestic money FCD/(FCD+DM2)
FCD :foreign currency deposits in Egyptian local banks
DM2 : domestic M2
$LOGE_t$:log of the black market exchange rate (E), a proxy for expected depreciation as suggested by ElKhafif and Kubursi.
S_t : official-controlled-exchange rate
LIDIF : interest rate differential, $(1+i^*)/(1+i)$
AR : correction for first order serial correlation, where only done for regressions associated with low D.W. statistics.

in expected rate of change in exchange rate.

Yet, the large coefficient for the stock adjustment variable implies the Egyptians do not immediately adjust their holdings to variations in the expected rate of depreciation. The unrealistically large coefficient estimates for the lagged dependent variable suggest misspecification .This could arise because of failure to acount explicitly for strong inertia in the process of dollarization. In addition, the failure to study the time series properties of the data, estimating nonstationary data gives rise to potential spurious correlations, unreliable t-statistics.

The predictive Chow test, which examines the ex ante forecasting capability of the different models over the period 1987:2-1990:4[10] indicates stability of the parameters. we also conducted a break-point Chow test. This test partitions the data set into two subsets to examine whether the coefficient vector maybe regarded as constant over the subsets. The calculated F statistic as well as the Likelihood ratio (LR) are significant at the 1 percent level. Howeever, one should expect parameter instability, as well as, persistent out-of-sample overprediction and/or underprediction of the dollarization ratio (F), as the underlying relationship should have shifted due to the 1991 financial liberalization.

5. CONCLUDING REMARKS

The only previous attempt of an empirical investigation of the magnitude and determinants of Egyptian private sector holdings of foreign currency denominated deposits is at the hands of El-Erian (1988) and Elkhafif and Kubursi (1992).

These studies have claimed to find evidence on the existence of currency substitution in Egypt. however, the Egyptian financial system has been characterized by interest rate ceilings, exchange rate controls, and high rates of inflation that brought negative real rates of retum on domestic assets. In addition, underdeveloped

money and capital markets, as well as, controls on capital flows, imply that the available asset menu is very limited. Consequently, foreign money is the only alternative to domestic money as a liquid form of financial wealth. That is foreign money is not dominated by other interest-bearing assets and, therefore, is held primarily as a store of value (dollarization) rather than as a medium of exchange (currency substitution).

This implies that the increase in foreign money in egypt may have been caused by portfolio shifts in response to differntials in rates of return.

Moreover, when period of estimation was extended to include 1991 financial liberalization, the results showed that the variable that is supposed to capture currency substitution (expected depreciation) was found insignificant. that is, no evidence of currency substitution in Egypt was found when the period of estimation is extended .

Given the importance of foreign currency denominated deposits in the Egyptian economy, this distinction between the different motives behind holding foreign money will determine whether these deposits should be included in the money supply. If Egyptian residents regard foreign money simply as a store of value, these holdings should not be included in transactions oriented measures of the money supply. Therefore, when trying to assess the proper channels and instruments of monetary policy, these holdings should not be included in money demand estimates.

Apart from further investigating the time series properties of the data, and exploiting data collected and published by the international monetary fund on foreign currency deposits held abroad by country of origin of residents [11] more work is needed to construct a model that allows to distinguish theoretically and empirically between dollarization and currency substitution.

Notes &References

1. For Latin American countries see Melvin (1988), Calomiris and Domowitz (1989), Rojas - Suarez (1992) and Agenor and Khan (1992).
2. Referring to this distinction Calvo and Vegh (1992) wrote that: "currency substitution is normally the last stage of the dollarization process"
3. See endnote (1). in addition, for Gulf countries see Hamed (1997) and Darrat and Al-mutawa (1996) for Turkey see Selcuk (1994).
4. The International Monetary Fund, Government Finance Statisics Yearbook, Washington DC., several issues.
5. World Bank (1993), Egypt Financial Policy for Adjustment and Growth Washington, DC.
6. For more on financial assets holdings in Egypt, see EL-Sheikh (1986).
7. The Tertiary Exchange Rate Relates to Transactions Effected outside Banks and can only be considered as indicative of the exchange rate at which such transactions take place.
8. Data on the black market exchange rate was taken from international currency analysis Inc., New York several issues .
9. In his specification El-Erian used the tertiary exchange rate relative to the official rate. In this study we use the black market rate relative to the official rate.
10. In may 1987 the Egyptian Government Implemented a new exchange rate policy which has resulted in an increase in the rate of depreciation of the Egyptian pound.
11. With the Exception of Rojas- Suarez (1992) and Agenor and Khan (1992) none of of the previous studies on currency substitution (including those on Egypt) utilized such readily available data.

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