Financial Liberalisation, Capital Inflow and Economic Development; Theory, Evidence, and the Egyptian Experience, 1991-1999

(Key Words: financial liberalisation, economic growth, economic development, and the Egyptian economy)

Barbara Ingham and Ayman M. Ebrahim

School of Accounting, Economics & Management Science

University of Salford

Salford, M5 4WT

ABSTRACT

The paper begins with a review of theory and empirical evidence relating to financial liberalisation and economic development. This is the context in which the Egyptian experience is discussed. In the 1990's, Egypt had significant successes with financial liberalisation and economic growth. However, in common with certain other developing countries, Egypt has also demonstrated the problem inherent in successful financial liberalisation; portfolio capital inflows can quickly be reversed if confidence declines.

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INTRODUCTION

In the 1970s, Shaw and McKinnon (M-S) initiated a new theoretical approach, against financial repression and in favour of financial liberalisation[1]. By the late 1970s financial liberalisation was accepted worldwide. It was a basic component of stabilisation and structural reform programmes, which aimed to liberalise financial sectors, remove restrictions on capital flows, reduce government intervention and reinforce the market. Such policies were expected to improve the efficiency of resource allocation. Indeed, empirical evidence strongly supported a positive relationship between the development of the financial sector and economic performance in LDCs. In the 1980s, financial crises brought to an end, many financial liberalisation programmes. They started up again in the late 1980s, coinciding with an upsurge in private capital flows to LDCs, especially of portfolio investment. Table (1) indicates that net private capital flows to LDCs increased from US$ 41.9 billion in 1990 to US$ 246.9 billion in 1996. Excluding foreign direct investment (FDI), about two thirds of the net private capital flows represented portfolio capital flows. With respect to FDI, portfolio investment represented one third of overall private flows, (World Bank, 1998).

Table (1)

Composition of Private Flows, 1990-97

(billions of US dollars and percentage of shares)

	1990		1995		1996		1997	
Type of flows	*Amount*	*Share*	*Amount*	*Share*	*Amount*	*Share*	*Amount*	*Share*
Portfolio Equity	3.2	7.6	32.5	17.2	45.8	18.5	32.5	12.7
Commercial Bank Loans	14.9	35.6	31.3	16.6	36.5	14.8	49.4	19.3
Bonds	0.1	0.2	23.8	12.6	45.7	18.5	53.8	21
Foriegn Direct Investment	23.7	56.6	101.5	53.6	119	48.2	120.4	47
Total	41.9	100	189.1	100	246.9	100	256	100

Source: World Bank, *Global Development finance,*1998.

[1] Some economists consider M-S to be located in the Neo-classical school. There were however two theoretical approaches to interest rate policies before the 1970s, i.e. neo-classical and Keynesian thought. McKinnon-Shaw criticised both approaches; their policy recommendations place them firmly within the neo-classical school. For discussion of these issues, see Khatkhate, R., 1988, pp 577-588.

The upsurge of private capital flows to LDCs early in the 1990s, was considered to be a promising movement, stimulating macro-economic demand and encouraging *per capita* income growth in countries which had suffered from persistent balance of payment difficulties and had struggled through the debt crises of the 1980s. Unfortunately, for most of the LDCs, which had witnessed an inflow of portfolio capital, financial liberalisation was not sustained. Capital inflows tended to reverse leaving the economies in need of financial constraints.

Among the liberalisation programmes of the 1990s the Egyptian experience is noteworthy During the nine years of financial liberalisation, Egypt's economic performance improved dramatically. The Egyptian experience was consistent with a number of other pieces of empirical evidence on financial liberalisation, which supports the view that financial liberalisation is beneficial. In Egyptian case changes movement in macroeconomic variables also accorded with the predictions of the financial liberalisation paradigm.

This paper reviews current theory and empirical work on financial liberalisation. The Egyptian experience of financial liberalisation is considered in some detail, with suggestions made for further studies. The paper is organised as follows: Part I reviews the theory of financial liberalisation. Particular emphasis is given to the possibility of incorporating portfolio capital flows into the analysis. Part II reviews empirical work on financial liberalisation. Part III concentrates on the Egyptian experience in the light of the more general approach to financial liberalisation. There is a concluding section, which includes potential areas for further research.

I. Financial liberalisation: The Theoretical Framework

Financial liberalisation encompasses domestic financial market deregulation and capital account liberalisation (i.e. establishing convertibility). Domestic financial market reform policies include nominal interest rate liberalisation, reduction or abolition of reserve requirements, the elimination of inflationary finance and other forms of taxing the financial system. In addition, financial liberalisation may include the revising of all policies that distort a financial intermediary's fund allocations such as government's direct credit lines with commercial banks, discriminatory loan rates and the compulsory purchase of government liabilities. McKinnon and Shaw (M-S) introduced a conventional representation of financial repression and its impact on saving, investment and economic growth, (McKinnon, R., 1973, pp. 67-77, & Shaw, E., 1973, pp. 77-87. See others: Fry, M. J., 1995, p. 24, and Gibson, H. D. & Tsakalotos, E., 1994, p. 585).

The basic interpretation of M-S depends on the traditional saving/ investment curves. In recent years the trend in economics has been away from Keynesian aggregate models toward intertemporal models, (Mankiw, N., *et al,* 1991, pp. 12-14).

The intertemporal models have many advantages such as it allows studying the role of intertemporal asset market on the determination of countries' optimal time profile of consumption. In addition, contrary to the Keynesian aggregate investment and optimal saving decisions, intertemporal models allow a precise studying of the investment decisions by providing microeconomic base. It worthily notes that the intertemporal analysis has roots in the neo-classical school. Eventually, savings theories based on intertemporal utility maximisation imply that the private agent makes a comparison between current consumption and future consumption (current saving). Giving up part of current consumption increases income in the future and consequently confers the ability to consume more. There is a trade off between current and future consumption. The more resources the economy releases by consuming less (unless there are unemployed resources), the more investment the economy is undertaking. Thus the economy will be able to produce and consume more in the future. Other things being equal, when the economy's intertemporal consumption pattern reflects biases towards current consumption relative to future consumption, it would be expected that relative price of future consumption will be high. What is the trade-off over time? Interest rate theory suggests that the trade-off over time is the "Real Interest Rate (*r*) ". Raising (*r*) will increase the willingness of individuals to sacrifice more of current consumption. Investment increases and future consumption possibilities also increase**.** Depressing the real interest rate by imposing ceilings on the nominal interest rate will crowd out future income and consumption in favour of current consumption.

On the supply side, nominal interest rates ceilings have other negative consequences such as the undertaking of projects that have a low uncompetitive marginal efficiency. There will be distortions in the allocation of scarce resources. There may be specialisation in the "wrong" commodities counter to the prediction of the Heckscher/ Ohlin trade model. For example, it is usual to assume that LDCs are labour intensive countries and that the pattern of specialisation should emphasise labour intensive industries. Distorted interest rates may mean that comparative advantage is lost both domestically and in international markets. Eventually, low nominal interest rates may discourage savers from holding financial assets and also discourage institutions from long term lending, or lending to riskier borrowers.

A further aspect of the real interest rate is the inflation rate. The inflation rate is an implicit tax, which comes about through erosion in the purchasing power of money holders, here the tax base is the reserves of high-powered money. When an economy is financially repressed, inflation will increase the demand for assets, which hedge against inflation. However, such assets are limited in supply and are "unproductive". Excess demand for hedging assets bids up their prices faster than the rise in the general price level. Hence, the wealth/income ratio increases, consumption rises and saving falls, (Fry, M., 1995, p. 24).

Interpreting the M-S frame in an intertemporal sense implies that the real interest rate is the determinant of the optimal time profile of consumption and savings. Higher real interest rates, lower current consumption and higher levels of savings increase investment "automatically". In this sense, intertemporal analysis like the M-S model is classical in conception; "savings determine investment". Raising the real interest rate could come about through a raise in the nominal interest rate or a reduction in rate of inflation.

Higher nominal interest rates in LDCs following on from the 1990s' financial liberalisation stimulated private capital flows in general, and portfolio capital flows specifically[2]. Such follows eased the foreign exchange gap, and provided an additional source of funding for economic growth. Where portfolio capital inflows represented a claim over the host country, they may be regarded as a form of international borrowing. That consideration is dependent on the following definition: "*Capital inflows are defined as the increase in net international indebtedness of the private and the public sectors and are measured-albeit imprecisely- by the surplus in the capital account of the balance of payments*", (Khan, M. & Rainhart, C., 1995).

The following analysis depends on basis of Fisher analyses of an individual saving decision using indifference curves in the two-period frameworks. However, that would be mixed with a modification of Fenckel and Razin, intertemporal model, which indicate motives for international borrowing and lending[3].

Economic growth may be defined as an outward shifts in a country's production possibility frontier (PPF). This growth can be result of three main sources; An increases in the quantity of capital; technological improvement, which improves quality of investment; and an increase in labour force. In spite of the third source of economic growth (where, it is really abundant in most of developing countries), the following analysis is concerned with first two sources of economic growth.

A technological improvement increases the quantity of output than before with comparable unit cost or, reduces unit cost than before with comparable quantity of output. An alternative to technological changes, the increases in quantity of capital, also shifts production possibility frontier outwards.

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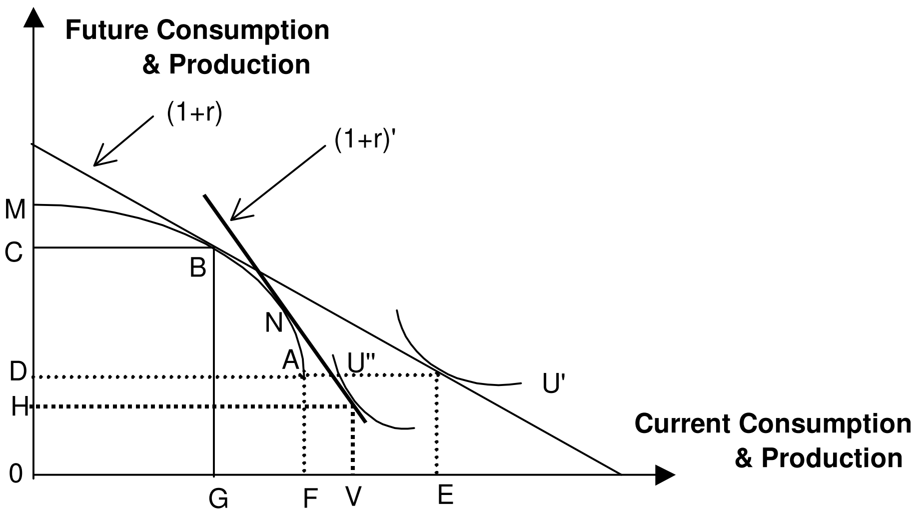
[2] Domestic real interest rates in LDCs have never converged on the world interest rates. As many studies indicate they are always higher. There are wide interest rate differentials. See: Dooley, M. & Chinn, M., (1995). And Frankel, J., & Okongwu, C., (1995).

[3] Frenckel, J. & Razin, A., (1992), *Fiscal Policies and The World Economy*, The MIT Press, London, England, Chapter 4.

Figure (1)

Intertemporal Presentation of Financial Liberalisation



In Figure (1) the horizontal axis denotes current consumption and production and vertical axis denotes the future consumption and production. The efficient allocation of resources between current consumption and current investment (future consumption) depends on terms of trade between current and future consumption. In other words relative price of future consumption or 1/[1+r], which is the real discount factor. This is also the intertemporal budget constraint, the *iso* value or the straight line with slope -[1+r] (because future consumption is on the vertical axis).

The production function (AM) is assumed to exhibit positive and diminishing marginal product. The intertemporal production possibility frontier AM is therefore concave to origin 0. In the absence of investment, endowments (i.e. factors of production) are denoted at point A with a present discounted value, which depends on the intertemporal price (1+r).

Where the slope of the intertemporal PPF at A is higher (steeper) than the slope of the intertemporal price (1+r), then positive investment will be undertaken[4]. Investment spending is measured in a leftward direction from F to point G. the corresponding point to G is point B. Given the diminishing marginal productivity of investment (concavity of the intertemporal PPF); point B is the profit maximisation solution. At point B, the slope of the intertemporal PPF equals 1+r (i.e. the marginal cost of borrowing is equal to the marginal productivity of investment).

The consumption utility maximisation solution is determined at the tangency of the indifference curve U' with the intertemporal budget constraint. At the point of tangency, the subjective rate of time preference will equal the present discount factor (1+r).

Where current consumption is greater than current production, the trade account deficit arises (the distance between point E and point G). Intertemporal solvency implies that total wealth should sum to the present value of consumption in the two times span. Therefore, the deficit in the first period (G-E) should equal the surplus in the second period (C-H).

Understanding the role of the domestic interest rate in international borrowing and lending (here, the portfolio capital flows) depends on set of relations. The relationship between the real interest rate and the subjective discount factor, or the demand side on the one hand and the relationship between the real interest rate and the marginal productivity of investment, or the supply side on the other hand. In other words, obtaining the preferred time profile of consumption depends on the interaction amongst

[4] *N.B.* slope of PPF reflects the productivity of investment.

the three variables: the real interest rate, the marginal productivity of capital and the subjective rate of time preference.

Assuming equality between the subjective discount factor of consumption and present discount factor (1+r). If the marginal productivity of investment is greater than the real interest rate, private agent will find that it is rational to borrow to invest whatever the level of his or her current consumption. In addition, he or she may delay current consumption to augment future consumption.

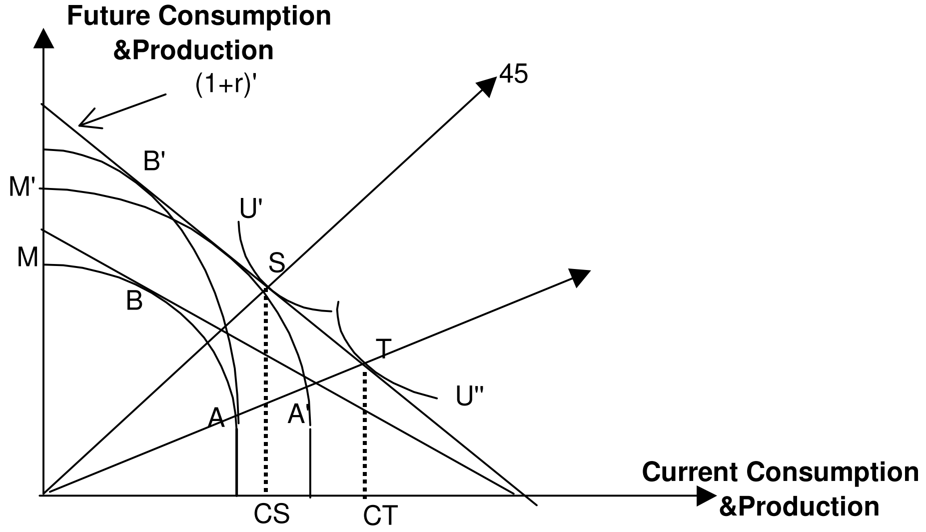
Assuming that the policy maker intervenes to increase the domestic real interest rate to (1+r)', such that the subjective discount factor of consumption is greater than the present discount factor 1/(1+r). (Hence, the subjective discount rate of time preference is less than the domestic real interest rate). That is represented in figure (1) by rotating the intertemporal budget constraint clock-wise. Here, individuals are facing both a higher cost of current consumption and a steeper time profile of income. Under these circumstances, reducing current consumption is the only rational choice. Thus raising interest rates- other things being equal- will reduce the current account deficit. In Figure (1), the deficit shrinks to (G-V). In addition, the profit maximisation point may fall from point B to point N, unless PPF shifts right ward.

Eventually, the higher levels of real interest rate following on from the financial liberalisation programme stimulate portfolio capital inflows to LDCs (the debtors). This shifts the intertemporal budget constraint rightward, which implies an increase in available resources.

In the following figure, both the intertemporal budget constraint and the intertemporal PPF have shifted

Figure (2)

The Intertemporal PPF Shifts



In Figure (2) the portfolio capital flows have been shifted the intertemporal budget constraint to (1+r)'. The 45^{o} line introduced to represent the individual desire to smooth consumption between the two times span. Starting with the neutral shifts, the intertemporal PPF shifts to A'M'. Whereas, both current and future production and consumption have been increased. Consumption has determined at tangency of U' with the intertemporal budget constraint at S . The second likely position of the intertemporal PPF shifts is AM'. Given the consumption smoothing desire of individuals at S, the production point shifts from B to B', which reflects a high level of both current and future production compared to the initial position at B . Moving along the intertemporal budget constraint, if the consumption is determined by the tangency of the indifference curve U'' with the intertemporal budget constraint at T, point CT represent the consumption tilting level. In this level the portfolio flows have been used to finance the increased current level of consumption rather than increase the production capabilities.

Eventually, the consumption tilting is not only determined by the position of the indifference curve, but also by the intertemporal PPF. If the intertemporal PPF shifts more flatter than AM' or A'M', then low productivity of factors of production, besides the increased level of consumption would stimulate financial crises.

Further developments of M-S

McKinnon and Shaw argued that financial liberalisation would increase both the quantity and the quality of investment. This has been formalised by Fry, M., (1988), Galbis, V., (1977), Kapur, B., (1986), Mathieson, D., (1980), and others. Financial liberalisation raises interest rates. Sectors of the economy with low productivity will find that it is more profitable to reinvest in bank deposits. Thus reducing over all investment in the low productivity sector. More productive sectors will attract finance wherever the marginal efficiency of investment is greater than the marginal cost of finance (i.e. interest rate on loans). This increases the supply of credit for the more productive sectors. The quality of investment in the economy rises, and hence growth will increase, (Galbis, V., 1977, pp. 58-72)

Using the Harrod-Domar aggregate production function, Kapur introduced modifications to the capital equation whereby Capital was decomposed into working capital and fixed capital. There was assumed to be excess supply of unutilised fixed capital. The model proposed the rate of economic growth to be positively related to the rate of monetary growth, the output / capital ratio, the loans to money ratio and the ratio of utilised fixed capital to total utilised capital[5]. Economic growth was negatively related to the ratio of nominal GNP to money and by the reserve requirement, where higher reserves reduce the ratio of loans to money stock. Kapur advised against a reduction in the rate of growth of the money supply. Given the rate of growth of the money supply, the policy maker should increase the nominal interest rate. Kapur explained that: "*…it is very likely that the monetary authorities are desirous of achieving not only a target rate of growth but also a target inflation rate. Since we thus have two policy objectives, it follows from the standard Tinbergen analysis that both instruments, the nominal interest rate and the rate of monetary expansion, will have to be actively deployed",* (Kapur, B., 1986, p. 68).

Mathieson (1980) introduced a model similar to that of Kapur except that bank credit finance constituted a net addition both to working capital and to fixed capital. According to the Mathieson model economic growth is a positive related to capital accumulation, a positive function of the real return to investment, expected inflation, and the output/capital ratio and a negative function of the nominal interest rate on loans. Given that a regime of financial repression prevails, Mathieson 's model recommends an increase in both the deposit rate and the loan interest rate. Contrary to Kapur, Mathieson advised that during the transition, the money supply should be kept below its long run level through allowing for discrete increases. This will gradually push down deposit rates and loan interest rates. In consequence, both the inflation rate and the rate of economic growth will increase,(Mathieson, D., 1980, pp. 359-395).

[5] The original Kapur (1976) model examined the effect of simultaneous liberalisation and stabilisation on LDCs. Stabilisation policies depend heavily on reducing the money supply. This has contraction effects on economic growth. Reducing the nominal money supply leads to a reduction in the real money supply. Hence, the supply of credit falls.

The Fry (1988) model follows the specification of the Kapur, Mathieson and Galbis model. It builds on the Harrod-Domar model for a LDC characterised by labour surplus[6]. Fry suggests that the real rate of interest on deposits influences the rate of economic growth through both the quantity and the quality (average efficiency) of investment. In a closed economy, the impact of the real interest rate on national saving is ambiguous, given the possible contraction of income and the substitution effects (between current and future consumption). In an open economy extension, Fry suggests that following on from the liberalisation, measured national savings might reflect portfolio shifts rather than true saving effects, due to the reduction in capital flight, (Fry, M., 1989, p17). Eventually, the 1990s' experience added an important source of growth in national saving. This was in the form of portfolio capital inflow to LDCs.

The original framework of the M-S model did not include any formal treatment of the balance of payments during the stabilisation / liberalisation Programme[7]. For the exchange rate, it advocates a crawling peg -with flexibility- to curtail the impact of short-term (portfolio) capital flows, which tend to enjoy high nominal interest rates following on from financial liberalisation. Speculative capital inflows would otherwise generate a loss of domestic monetary control, thereby undermining the entire stabilisation programme, (McKinnon, R., 1973, pp. 166-167, Shaw, E., 1973, Chapter 7 &11).

To close the gap in M-S analysis, Kapur, B. (1983) demonstrated an open economy case, aiming to analyse an optimal exchange rate policy. Moreover, he addressed the

[6] The above models of the growth impact of financial liberalisation, are built on the Harrod- Domar model rather than on the Solow model. The reason for this is the weak influence of saving on economic growth in the Solow model. For the role of saving in the Solow model, see Romer, D., 1996, pp. 21-23. McKinnon, R., 1973, gives many reasons for the inapplicability of the Solow model in LDCs.

role of short-term capital flows in providing additional finance for capital accumulation. For this reason he suggested that besides raising nominal interest rates, there should be a higher initial level of devaluation as one-shot policy, a reduction in the current account deficit and the provision of a wider interest rate differential for domestic financial assets (bank deposits), thus stimulating portfolio flows. In addition, high interest rates would help defeat inflation, stemming from increases in the price of imports and increases in the money supply due to monetisation of capital inflows. The above scenario would be associated with increased economic growth by:

- lowering the higher nominal interest rates on deposits to encourage capital accumulation.
- deterring capital flight, because interest rates now favour domestic financial assets.
- stimulating portfolio capital flows.

Recent models of financial liberalisation have emphasised the role of financial intermediaries. The role of the financial intermediary in economic growth was discussed in Schumpeter's writings early this century, and later, in the 1960s, in the writings of Goldsmith, and Gurley & Shaw. New studies have extracted the core ideas of old studies and combined them in endogenous growth models such as Infinite Horizon models and the Overlapping Generation models.[8]

Banks help to overcome the uncertainty associated with moral hazard and adverse selection, which leads to resource misallocation by individuals. By relaying on the law of large numbers, banks estimate the deposit/withdrawal ratio at any time, which

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[7] Kapur comments on M-S analyses of the open economy that" *while it was extraordinary insightful, it also was entirely verbal and intuitional in character"*, (Kapur, B., 1983, pp. 41-62).

[8]Diamond, D., & Dybvig, P., 1983, pp. 401-419, Gurley, J. & Shaw, E., 1955, pp. 515-538, and King, R. Levine, R., 1993, pp. 717-737,.

prevents the liquidation of real productive capital assets. This may increase the capital/labour ratio and permit higher rate of economic growth, (Levine, R., 1997, pp. 688-726).

Another old idea, which has been reactivated, is relates to the ability of the financial intermediary to pool funds and handle information collecting, evaluating and analysing. This would be a costly activity for individuals. By pooling funds, holding large portfolios, and portfolio diversification, the financial intermediary may be able to reduce risk, (Greenwood, J., & Jovanovic, B., 1990, pp. 1076-1107).

II. Financial liberalisation: The Empirical Evidence

At the empirical level, most of M-S' predictions can be tested. While initial studies (conducted before the publishing of the World Development Report 1989) had not reached a consistent result, the recent studies (studies after the 1989) did. In this section, some of the initial empirical tests of the M-S hypothesis will be demonstrated. Followed by the most recent ones.

On testing a demand for money function, for 7 Asian countries, complementarity hypothesis has not been supported. That may be explained through the accumulation of hedging assets. Money is not a substitute for financial assets due to the inflation pressures and the negative real interest rate. Therefore, complementarity between money and capital may be work between capital and other forms of wealth rather than money, (Fry, M., 1978, pp. 464-475).

Using 2SLS for 25 Asian and Latin American sample, the sensitivity of demand for financial assets to change in nominal interest rates has not approved. In addition, McKinnon complementarity was rejected. (Gupta, K., 1984b, pp. 25-34)

A seminal contribution to the above context suggested that the neo classical assumption of substitutability between saving and investment is correct for the same time period (i.e. contemporaneous), and complementarity hypothesis is correct if one takes the time lag into consideration. Current savings and future investment is complements exactly as McKinnon assumed. Unfortunately, serious limitations of the time series data prevent empirical approval of this argument for LDCs, (Molho, L., 1986a, pp. 90-116).

Despite the data problems mentioned the above, there is not any theoretical background for the suggested positive relationship between the real interest rate and saving, (Deaton, A., 1989, p. 87).

In addition, the empirical evidence was mixed (see Appendix Table). It suggested that there are two different effects working in two opposite directions. The first is the substitution effect that is a high real interest rate reduces the consumption in favour of saving. The second, is the income effect, that is the increased real interest rate, which increases the income, then reduces the willingness to save. In other words, less saving is required to maintain an original future income level. Hence, the net effect of interest rate movements on saving is ambiguous. (Dornbusch, R. & Reynose, A., 1989, p. 205).

The failure or at least inconsistencies of earlier empirical tests' results have ultimately stimulated quantitative analysis of the main theoretical relations. Katkhate, D., (1988, pp. 881-582) suggested applying this analysis to test the M-S hypothesis. He tested the observed interest rate levels in 64 LDCs against selected macroeconomic variables over the period 1971-80. Unfortunately, the results where disappointed except for the improvement in incremental capital output ratio (ICOR) with real interest rate increases[9]. That proves the improvement in the quality of investment with the upward shifts in real interest rate. In other wards, during a repression regime, interest rate ceiling rationed projects with high productivity and high risks.

The World Bank 1989 has adopted the same analysis[10]. The study covered 33 LDCs over the period 1965-85. Where financial depth can be measured using many ratios,

the M3/GDP ratio has been used. This indicates how euphoric is a country's financial system. The higher ratio implies a higher degree of monetisation in the economy: a higher level of money demand and the flow of loanable funds from lenders to borrowers are unrestricted. In other words, the financial depth ratio indicates the willingness of wealth holders to channel this saving through financial inter-mediation institutions (e.g. deposit banks, mutual funds, pension funds, life insurance companies) or financial agencies (e.g. stock markets).

The World Bank reveals that high economic growth in LDCs is parallel with more financial depth, higher savings rates and a lower ICOR, (World Bank, 1989, p.31).

It stresses that the M-S framework and their followers' contributions concluded that the real interest rate changes is the dominant candidate necessary to explain the degree of financial depth.

[9] ICOR is the growth rate of real GDP divided by investment ratio (I/Y).

While the World Bank results appear to be conclusive evidence of a positive relationship between real interest rates and the selected macro economic variable, the critical question is about the direction of the relationship. For that reason a ‘causality test' is suggested.

While Goldsmith, R., (1969), pp. 48,400, suggested that financial development passively follow economic growth, some economists demonstrate that financial development depends on real economic growth. However, there is a retroactive impact of finance over the real growth, concluding that it is a two-way causation, (Gurley, J. & Shaw, E., 1967, pp. 258-60).

One of the earlier studies, which addresses the causality issue, has been undertaken by Lanyi, A. & Saracoghu, R., (1983, Table 4, p. 29). In a sample of 22 LDCs between 1971 to 1980, they indicate a positive and significant relationship between the average growth rates in real GDP and interest rate. Where the LDCs chosen were financially repressed (then interest rate administratively determined), it argued that interest rates are exogenous of economic growth.

The absence of strong background about the relation between interest rate and economic growth, it might imply that researchers econometrically deal with ‘spurious regression’. In other wards, the econometric test is statistically correct but economically irrelevant.

[10] Fry, M. (1995), pp. 179-181, suggested that this type of analysis originally adopted by Lanyi, A. & Saracoghu, R., (1983).

In return, David Hendry emphasis that: "*since economic theory is far from being a complete and correct characterisation of reality,…Theory it self is a function of what we know about the world, regular predictive failure in econometrics reveals that we do not yet know enough",* (Hendry, D., 1995, p. 589).

What we can learn from the above statement is that empirical tests may help in understanding the reality and building theories. However, the question remains, how are the results of empirical test's contradiction be explained? One may think about this in exactly the way we thing about 'Demand Law'. The latter has been established despite the frequent deviation from the quantity-price relation. In this sense, the majority of empirical tests prove the relation between financial liberalisation and economic growth. Therefore, the new theoretical principal (growth impact of financial liberalisation) has been established.

Recent Empirical Evidence

Among the enormous number of empirical tests of the relation between financial development and economic growth, in general, and between real interest rates and economic growth rate in a specific, [Appendix Table, Also see Fry, M., (1995), chapter 8, Arrieta, G., (1988), pp.592-3. And Thornton, J., (1991), pp. 5-16].The empirical results reported an interesting figure. The appeal of that figure comes 7roughly from the equivalence between different studies for different countries over different periods of time.

Fry, M. (1995), pp. 182-3, found the coefficient of real interest rate is equal .5. This implies that for each 1 percent increase in real interest rate toward competitive market rate, economic growth increases by half percent point. The World Bank (1989, p.32) estimated the same coefficient of 0.2. (Gelb, A., 1989, p. 20), in a sample of 34 LDCs estimates coefficients of 0.2 to 0.26. (Polak, J., 1989, p. 67), in a sample of 40 LDCs, estimates coefficients of 0.18 to 0.27.

It must be pointed out that the above tests were undertaken before the 1990s. However, in the 1990s, most of the empirical tests reached the same conclusion. This is financial liberalisation stimulates economic growth. Some of those tests will be explored in the following paragraphs:

King, R. & Levine, R., (1993a, pp. 725-727, 1993b, p. 530), constructed four indicators for financial developments and four indicators for economic growth. These indicators sought to test the relation between the time group of indicators in a sample of 77 LDCs over the period 1960-89. They found that each financial indicator is positively and significantly correlated with each growth indicator at 99 percent confidence level.

De Gregorio, Jos'e & Pablo E. Guidotti (1995, pp. 433-448), found that the relationship between real interests rates and economic growth might be expressed an inverted *U* curve. At both higher and very low real interest rate, growth will be hampered. While the former express a very high risk premium, then both financial and real investment will be deterred. The latter reduces real investment because of the financial disinter-mediation associated with lower interest rates.

The above *U* curve relation suggested by De Gregorio and Pablo has been tested by Fry, M. (1995, pp. 184,185) in a sample of 16 LDCs over the period from 1970 to 1988. The same functional form has been retest, using data of 85 LDCs during the period from 1974-1985. Both tests showed that those LDCs with positive real interest rates had more financial depth. A higher rate of investment and faster economic growth was found in certain countries than in other countries with moderately negative real interest rates and this in turn was compared with the third group with strongly negative real interest rates. '*Evidently, growth is maximised when the real interest rate lies within the normal or the non-pathological range of (-5) to (+15) percent',* (Fry, M., 1998, p. 21).

It is important to emphasise here the important deviation in the recent studies in testing the relation between a specific element of financial development (such as real interest rate movement and economic growth) to test the over all relationship between financial development (rather than financial liberalisation) and economic growth. The financial crisis in the 1990s is the suggested reason to explain that deviation in the most recent studies. However, science the mid-1990s, the financial development was extended to include operational and legal environment aspects in both financial markets (stock market) and financial institutions (banking system).

The stock market and the banking system are sound predictors of economic growth. Thus, financial development is a leading indicator, rather than a casual factor in explaining economic growth. To test this notion, Rajan, G., & Zingales, L. attempted to test how financial markets and financial institutions help a firm to overcome problems of moral hazard and adverse selection, thus reducing the cost to firms when raising external finance. They constructed a model to test whether industries that are more dependent on external finance grow relatively faster in countries that a prior are more financially developed. That model has been tested using a cross sectional data sample of 41 countries and US as a benchmark. The micro economic nature of this model overcomes the problem of correlation in cross-country regression and multicolinearity explanatory variables in traditional macroeconomic models. These two problems may lead to spurious significance of measured parameters. They found out that financial development has substantially supportive influences in the rate of economic growth by reducing the cost of external finance for enterprises, (Rajan, G., & Zingales, L., 1998, pp. 559-586).

Levine, R. & Zervos, S., have empirically investigated whether measures of stock market liquidity, size, volatility, and integration with world capital markets are robustly correlated with current and future rates of economic growth, capital accumulation, productivity improvement and saving rates. Using data on 47 countries between 1976 to 1993, they found that stock market liquidity as well as banking development predict positively and significantly capital accumulation, productivity improvements and both current and future rate of economic growth. In addition, they found no evidence that greater liquidity deters productivity growth, or that stock return volatility hinders investment and resource allocation. (Levine, R. & Zervos, S., 1998, pp. 537-558)

Levine, R., examined the relation between the legal environment and banking development. In addition, she studied the link between that part of banking–sector development associated with the legal environment and rates of economic growth, capital accumulation, and productivity improvement. Using available data of only 42 countries over the period 1976-93, Ross Levine reached many interesting conclusions on the close relationship between the legal system and banking development. First, the higher the legal rights of creditors, the higher the ratios of bank credit to the private sector divided by GDP. Second, the country which rigorously enforces contracts has a higher ratio of bank credit to the private sector divided by GDP, compared with a country where enforcement is lax, (Levine, R., 1998, pp. 597-613).

In summary; there is a new wave of empirical tests revealing a very consistent results. The central message of these studies is that financial liberalisation stimulates economic growth. However, actual experience of the 1990s' financial liberalisation, partly proved the neo-Structuralist s' fears of liberalisation. Especially those related to the failure of market argument and highlights the crucial need for government intervention to adopt prudential control regulations to reduce risks associated with the financial liberalisation. The 1990s events have diverted studies to investigate the growth impact of financial development. Apart from the expressional problem, there is an increasing census between economists that financial development including financial liberalisation leads economic growth.

III. Financial Liberalisation: The Egyptian Case

In 1991, the Egyptian government, as a part of the implementation of stabilisation and structure adjustment programme, had liberalised interest rates and exchange rates. In addition, the Egyptian government had initiated banking regulation reforms and had given institutional support to activate the monetary policy. Since the start of the programme, many of adjustments have been achieved. These were as follows: First, the fiscal deficit was reduced from 17 percent of GNP in 1991 to 4 percent in 1993 and from 1.8 percent in 1996 to 0.9 percent in 1998. While 53 percent of deficit was financed through the banking system in 1990, this ratio fell to only 8 percent in 1991, and since 1992, the government has been retiring debt to the banks. [Central Bank of Egypt (CBE), Annual Report, 1992/93, 1995/96, CBE, Economic Review, 1995/96, Vol. XXXVI, No. 4, and 1998/99, Vol. XXXIX, No. 2].

Secondly, the resource allocation has been improved by removing price distortion and privatisation. For the former, about US$ 10 billion of annual subsidisation has been cancelled without causing any serious dislocations during the previous six years up to 1998, (Demirsar, M., 1998).

Thirdly, many measures have been undertaken to correct the foreign exchange market distortions. These include first, the elimination of exchange quotas from the public sector banks to the public sector enterprises. Secondly, the permission was given for central bank intervention to adjust foreign exchange market. Thirdly, free entry of exchange houses and adopting a unified foreign exchange system was introduced.

Fourthly, further measure was to improve monetary control to enhance the efficiency of the financial sector. This, have been undertaken by removing all interest rates and credits ceiling, as well as the elimination of the government's direct credit lines with the central bank of Egypt. In addition, organising a market for treasury bills was adopted. Furthermore, the adaptation of international solvency standards and improving the supervision of bank loan portfolios were introduced.

Theoretically, it would be expected that financial liberalisation triggers the inflation. The higher borrowing cost besides the lack of finance might stimulate inflation pressures. In Egypt, the market adjusted quickly and annualised inflation rate fall from more than 24 percent in the 1980s and the early 1990s, to about 4 percent in May 1998.

From 1991, until 1999, the exchange rate seems to be pegged (fixed) to the US$. Many factors have facilitated that policy (pegging LE to US$). The most important were the upsurge of portfolio capital flows to Egypt, the diminishing of currency substitution phenomena; (relative importance of US$ deposits has diminished in favour of LE deposits); increasing foreign exchange earnings; debt reduction and debt relief, and the fall of inflation rate, [See Appendix (2) Figure (A1)].

A decline of currency substitution phenomena (dollarisation) might be indicated by the ratio of foreign currency deposits to liquidity. Over the three years from mid-1991 to early in 1994, the foreign currency deposits to liquidity ratio fell from about 50 percent to about 22 percent, respectively. In addition to the exchange rate stability, nominal interest rate started to fall. In 1995, the nominal interest rate on deposits reached exactly the rate before the 1990s liberalisation. The fall in nominal interest rate was an important development because it parallels the ascending trend of the real interest rate, [See Appendix (2) Figure (A2)]. The lower nominal rate of interest and the positive real rate would continue to encourage deposits in the domestic currency, [See Appendix (2) Figure (A3)]. These developments did not effect the level of consumption and investment.

The dramatic increases in nominal interest rates on deposits on one hand, and the upsurge of portfolio capital inflows on the other hand, helped the government to build a higher level of foreign reserves through sterilised foreign exchange market operations (SFXO)[11]. This had reached US$20.1 billion by the end of February 1998, which was almost enough to cover 17 months of imports, [Handy, H., (1998). See also Appendix (2), Figure (A4)].

Capital inflows to Egypt since the introduction of the financial liberalisation programme have been caused mainly by portfolio shifts. The higher rate of return offered by the banking system on one hand, and the country's risk is certainly being gradually reduced on the other hand. The continuity of the liberalisation programme has increased the credibility of the Egyptian economy. Moreover, the country's solvency has improved dramatically, due to the massive debt relief granted by the creditors. It is estimated that portfolio flows to Egypt during the first four years of the upsurge rose to about US$ 30 billion[12].

[11] SFXO is the selling of domestic bond for domestic money (i.e. OMO), and using the receipts to buy foreign currencies or foreign assets from domestic market (i.e. FXO).
[12] Depending on official sources is not reliable. I estimated by summing the increases in government reserves of foreign currencies plus the unusual increases in bank deposits of foreign currencies.

In 1992, financial market reforms have extended to stock market. Under technical assistant from the World Bank, Egypt has undertaken measures to reactivate the securities market. This is to facilitate the implementation of the Egyptian privatisation plans, (World Bank, 1992).

The harvests of these reform measures were raised in 1996. According to the IFC publications Egypt came the 14th in the global market performance. Therefore, the Egyptian shares have been added to the IFC index of emerging stock market, (The Economist, 1997, p. 75).

The following indicators express the 1996 developments in Egyptian stock market: First, there is a huge increase in new issues of government and corporate bonds. These issues reached LE 20.5 billion, which is greater than new issues during previous three years (1992-1995), (CMA, Annual Report, 1996).

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Secondly, the market turnover value reached LE 10.96 billion, which had surpassed the turnover value of former ten years between 1985 to 1995, [See Appendix (2) Figure (A6)].

Thirdly, while market capitalisation value was LE 10.8 billion in 1992, it jumped to LE 48.08 billion in 1996, See Appendix (2) Figure (A7)]. The foreign share of total market transaction was 31.77 percent in 1996 while it was negligible in 1992.

Fourthly, contrary to other emerging stock markets, Egypt stock market seems to be stable. While market capitalisation for all emerging markets, has doubled from 1992 to 1997, emerging stock market value traded had increased about six and half folds. In the

Egyptian stock market trading is only two times market capitalisation in 1996. (CMA, 1996), See Appendix (2) Figure (A8)].

The absence of overheating symptoms in the Egyptian stock markets, besides the other macroeconomic indicators were behind the strong international interest in Egyptian capital markets. Foreign activity has grown to almost 30 percent of the turnover on the Cairo Stock Exchange. In addition moreover 100 funds are currently active in the Egyptian stock market, (World Bank, 1998, p. 9).

The sustainable performance of the Egyptian stock market may be seen as a result of the privatisation programme, rather than the financial liberalisation programme. It is not deniable that privatisation has added to the stock market success, but eventually privatisation still in the prior stage, where only less than 10 percent of the public sector has been privatised.

The descriptive survey mentioned the above about the financial developments in the Egyptian economy are consistent with the overall results of empirical tests on financial development models. Egyptian economic growth rate, which was 1.9 percent in the financial year 1990/91, increased to 3.9 percent in 1993/94, and ascended to 5.0 percent in 1995/96. Given the current saving ratios, the World Bank expected that the upward trend of economic growth rate to persist at 6.0 percent during the next four years, [See Appendix (2) Figure (A5)].

However, the actual experience of financial liberalisation in LDCs, especially those which received a considerable portion of portfolio capital flows, declares that sustainability of macroeconomic performance following liberalisation is susceptible.

A typical example of unsustainability of financial liberalisation programmes is Mexico. Mexico has witnessed upsurges of capital flows to the extent that it was the second in ordering countries receiving capital inflows early the 1990s.

In 1994, a civil strike within the country threatens foreign investors and led to rapid capital outflows. Government reserves were run down, and finally the peso was devaluated by 15 percent beyond the promised depreciation limit. Speculators attacked the new devaluation. The government announced a floating exchange rate, which ultimately panicked foreign investors. Then this was followed by massive depreciation. The government avoided more devaluation by accepting an emergency loan of $50 billion syndicated by the US Treasury Department and the IMF. Other consequences were that inflation had been triggered, unemployment doubled interest rates rose from 14% to 40% and there was a generalised banking crisis, (Krugman, P., 1996, p. 507).

In contrast to Mexico, which suffered from political risk, Thailand was one of most preferred ESMs to foreign investors. Early in 1990s, Thailand received about US$ 70 billion as FDI and portfolio investment, (Schadler, S., *et al,*1993).

In July 1997, Thailand experienced a financial crisis episode, capital inflows reversed. Crisis was widespread in most of South East Asian counties including Japan.

The failure experienced implies that there is a crucial need to understand the conjunction of financial liberalisation and portfolio capital flows. The questions that are arisen: why does financial liberalisation stimulate portfolio capital flows? How to enhance the positive impacts especially stimulating economic growth (this is the macroeconomic return of financial liberalisation)? How to reduce the negative impact (i.e. the risk of disturbing macro economic performance leading to financial crisis) of those flows?

It is established that portfolio capital inflows to LDCs are stimulated mainly by the higher expected return on the one hand, and portfolio diversification requirements on the other hand. Since financial assets are claims against the output of the economy, changes in the macroeconomic performance are reflected in the financial investment opportunity. Therefore, the question about the interaction between expected return on financial assets and the macroeconomic-variables movement is crucial.

IV. Concluding Remarks

Financial developments including financial liberalisation is a sound predictor of economic growth. In spite of the financial crisis in the 1990s, which was due to the disturbing impacts of portfolio capital flows, the Egyptian experience in the 1990s is consistent with M-S prediction. Sustainability of financial liberalisation programme during this decade in Egypt is not the final deciding factor relating to the success of liberalisation in Egypt. Understanding motivations, incidence, determinants and managing of these flows are crucial.

The 1990 developments have put a great deal of emphasis on the critical needs for crossing the bridge between the macroeconomic studies of financial development, and those of financial investment, which are mainly elaborated under financial studies. Crossing that bridge will help to provide a solid background for the macroeconomic notions of financial development and consequently will provide an adequate policy tool.

Fama, E., before the 1990s' events, gave some signals about that need: *"My view is that we should deepen the search for links between time-varying expected returns and business conditions, as well as for tests of whether the links conform to common sense and the predictions of asset-pricing models. Ideally, we would like to know how variation in expected returns relates to productivity shocks that affect the demand for capital goods, and to shocks to tasted for current versus future consumption that affect the supply of savings",* (Fama, E., 1991, pp.1575-1617).

In the same paper he argues that: "*We can, however, hope to know more about the links between expected returns and the macro-variables*". The 1990s financial crisis clearly disclosed the weakness in the theoretical background concerning the relationship between expected return changes of financial assets, and the macroeconomic performance following the financial liberalisation.

Appendix (1)
Summary of Empirical Tests

Financial Liberalisation and Economic growth

Empirical tests are here collected in a single Table. Because any one research (paper/study) may cover a number of tests, these tests have been denoted by the numbers: 1,2,3 and 4, in the middle column of the Table:

1. Denotes a test for the interest elasticity of saving
2. Denotes a test for the impact of interest rates on investment
3. Denotes a test for the impact of interest rates on economic growth
4. Denotes a test for the impact of financial condition variables on saving, investment and economic growth.

Author	**Test**	**Main findings**
Williamson, S., (1968)	1. Determinants of personal saving in a sample of six Asian countries.	Elasticity of saving to interest rate is negative and the regression is statically insignificant.
Gupta, K., (1970)	1. Determinant of personal saving in India.	Saving responds positively to real interest rate and to *per capita* disposable income.
Akhtar, M., (1974)	1., 2. The complementarity hypotheses using the investment rate in Pakistan.	The complementarity hypothesis is rejected.
Fry, M., (1978)	1.The impact of real interest rates on national savings in 7 Asian countries from 1961-1972. 2. The relationship between money and capital in order to test McKinnon complementarity hypothesis. 3. The impact of real interest rate on economic growth.	A 10% increase in the real interest rate would increase the national saving/GNP ratio by 1.4% to 2.1%. Negative and significant relationship between money and savings ratio, i.e. money and capital are not complementary. Financial repression reduces economic growth 0.5 percentage points for every 1 percentage point by which the real interest rate is below its equilibrium level.

Harris, J., (1979)	1., 2. The complementarity hypotheses using the investment rate in five Asian countries.	The complementarity hypothesis is supported for only one of the five countries.
Fry, M., (1979a)	2. The impact of real interest rate on the quality of investment (*using the ICOR*) in Turkey between 1950 and 1977.	An increase in the real deposit rate is associated with an increase in the IOCR.
Fry, M., (1979b)	1., 3. The impact of real interest rate, GNP growth and the foreign saving rate on the ratio of national saving to the GNP in Portugal.	The relationship between the interest rate and the GNP is positive and significant.
Fry, M., (1980a)	2. The impact of real interest rate on investment in 61 LDCs during the period 1965-1975 through the real credit availability mechanism.	The credit ratio is significant in 6 equations out of 8. The change of credit ratio, in logarithmic form, is significant in 7 equations out of 8.
Fry, M., (1981a)	4. The impact of real interest rate and domestic credit availability in 12 Asian countries.	The interest rate coefficient is positive and significant.
Fry, M., (1981b)	4. The impact of real interest rate and domestic credit availability in seven pacific basins LDCs.	The interest rate coefficient is positive and significant.
Fry, M., & Mason, A., (1982)	1. The impact of real interest rate and rate of growth on life-cycle saving in four Asian countries from 1962-1972	Both the real interest rate and rate of money growth have a positive and significant effect on economic growth.
Lanyi, A. & Saracoglu, R., (1983)	4. The impact of real interest rate on the rate of growth of real M2 balances in 22 LDCs, between 1971and 1980.	The real interest rate coefficient is positive and significant. " Data support the argument that positive interest rate policies stimulate output growth"
Giovannini, A., (1983)	1. The impact of real interest rate on domestic as opposed to national savings in the 7 Asian countries used in Fry (1978) but for different time periods.	The real interest rate coefficient is not significant.
Gupta, K., (1984a)	1. The impact of real interest rates on aggregate savings functions in 12 Asian countries over two different time periods.	The real interest rate coefficient has a significant effect in 4 LDCs. In 8 counties, financial and real savings are substitutes. Therefore, financial liberalisation matters.
Gupta, K., (1984b)	1., 2. Tests McKinnon complementarity hypothesis in 25 Asian and Latin American countries.	The complementarity hypothesis is not significant phenomenon in the sample countries.
Yusuf, S. & Peters, K., (1984)	1. The impact of real interest rates on gross national savings in Korea between 1965 and 1981.	The effect of real interest rates on deposits is positive and significant. A 10% increase of real interest rate increases gross national and domestic savings by 11.6% and 5% respectively.
Giovannini, A., (1985)	1. The impact of the expected real rate of interest on the growth rate of consumption in 18 LDCs. The Korean data is the original data set of Fry, M., (1978) minus two years of observations.	The real interest rate coefficient is positive and significant for 5 only of the 18 countries. The significant coefficient for Korea in the Fry study, is insignificant using the revised data set.

Fry, M., (1986)	2., 4. The impact of the availability of private sector domestic credit on investment in 14 Asian countries during the period 1962-83.	The private sector domestic credit variable exerts a significant and positive influence on the investment rate.
De Melo, J., & Tybout, J., (1986)	1. The impact of the real interest rate on aggregate domestic savings and domestic private savings in Uruguay during the period 1962-83. 2. The impact of real interest rates on private investment.	Initial running, was positive but insignificant. When data set restricted to 1962-73, the interest rate effect was positive and highly significant. When exchange rate variable was added to the equation, significance was lost. They concluded that real interest rates have a positive but a weak relation with aggregate savings rates and it has an insignificant impact on domestic private savings. Real interest rate has a negative and weak effect on private investment.
Gupta, K., (1987)	1. The impact of real interest rates on individual-country savings functions of 22 Latin American and Asian countries during the period 1967-76.	In the Asian countries, a positive and significant interest rate coefficient is found, while it is insignificant in the Latin American case. The author concludes that financial condition matter in the Asian countries. The study asserts that pooling across countries is inappropriate.
Rittenberg, L., (1988): in Rittenberg, L., (1991)	1. The impact of positive real interest rates on savings in Turkey during (1961-1985).	The impact of the real interest rates depends on its original level. It is more effective on savings when the deposit rate is raised from substantially negative levels. It is less effective when the deposit rate is increasingly positive.
Fry, M., (1988)	The impact of real interest rates on national savings in 14 Asian countries over the period 1963-83.The (1978) saving function was used but without the Korean observations.	Confirms the original findings. Real interest rates on deposits exert a positive and significant effect on national savings.
Rossi, N., (1988)	1., 4. The impacts of real interest rates and liquidity (or borrowing constraints) on consumption behaviour for six LDC economic regions between 1973 and 1979 and between 1973 and 1983.	The positive impact of reducing the liquidity constraint outweighs the negative impact of raising interest rates. Concludes that the permanent income hypothesis is supported.
Khatkhate, D., (1988)	3. The impact of real interest rates on the growth rate in a sample of 64 LDCs over the period 1971-1980.	No significant growth rate difference between countries with above average interest rates and countries with below average interest rate.
Gelb, A., (1989)	2. The impact of real interest rate on the efficiency of investment for 34 countries over the period 1965-85.	Real interest rate increases are associated with a fall in the ICOR. This implies that real interest rates have a significant and positive effect.

Jensen, K., (1989)	2. The impact of real lending rates on private investment in Thailand during the period 1962-84.	Real lending rates are significantly negatively related to private investment.
Rittenberg, L., (1989)	2. The impact of interest rate policy on investment spending in Turkey over the period 1964-86.	Private investment is highly sensitive to interest rate changes.
Demetriades, P. & Devereux, M., (1992)	2. The impact of the interest rate on investment using aggregate data for 63 countries over the period 1961-90.	The real interest rate has a weak and insignificant impact on investment. Interest rate ceilings may reduce the overall cost of capital and lead to a higher rate of investment.
Roubini, N. & Sala-i -Martin, X., (1992)	4. The relationship between financial conditions and long term growth for 98 countries during the 1960-85 period.	Countries in the 1970s with real interest rate less than-5 % experienced a lower growth rate than countries with positive real interest rates. Financial repression has a negative impact on growth.
Voridis, H., (1993)	3. The effect of the interest rate on economic growth in 12 Asian countries over the period 1961-82.	The real deposit rate coefficient is positive and significant.
De Gregorio, J. & Gudotti, P., (1993)	4. The relationship between the degree of financial development and long-run economic growth. The proxy for financial development is private credit ratio.	In the case of Latin American countries the impact of financial liberalisation is negative. It hypothesised that the reason for this is the radical and comprehensive liberalisation programme.
King, R., and Levine, R., (1993)	4. The relationship between financial development and economic growth for 77 countries over the period 1960-89. .	Real economic growth is positively correlated with indicators of financial development such as M2/GDP, the size of the formal sector relative to GDP, percentage of credit to the private sector and the importance of commercial banks relative to the central bank.
Morisset, J., (1993)	2. The relationships between real interest rates and private investment in Argentina 1961-82).	Real interest rates increases have no impact on private investment.
Warman, F., & Thirtwall, A., (1994)	1. The impact of real interest rate on private and gross savings in Mexico over the period 1960-90. 2. The effect of interest rates on gross fixed investment in Mexico 1960-90. 3.The impact of interest rates on economic growth in Mexico over the period 1960-90.	The rate of interest has a strong effect on savings but its effect on gross and private savings is insignificant. Given the supply of credit the rate of interest has a negative impact on investment. The effect of the interest rate on economic growth is negative but insignificant.

Source: Individual studies as shown under the author?????????????.

Appendix (2)
The Egyptian Economy: Macro economic Indicators

Figure (A1)
Exchange Rate Movement

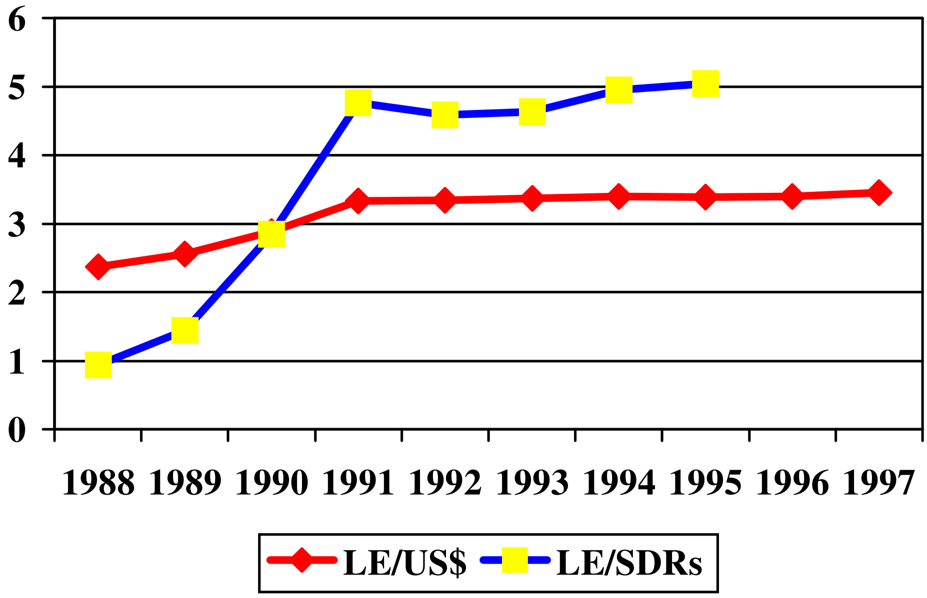
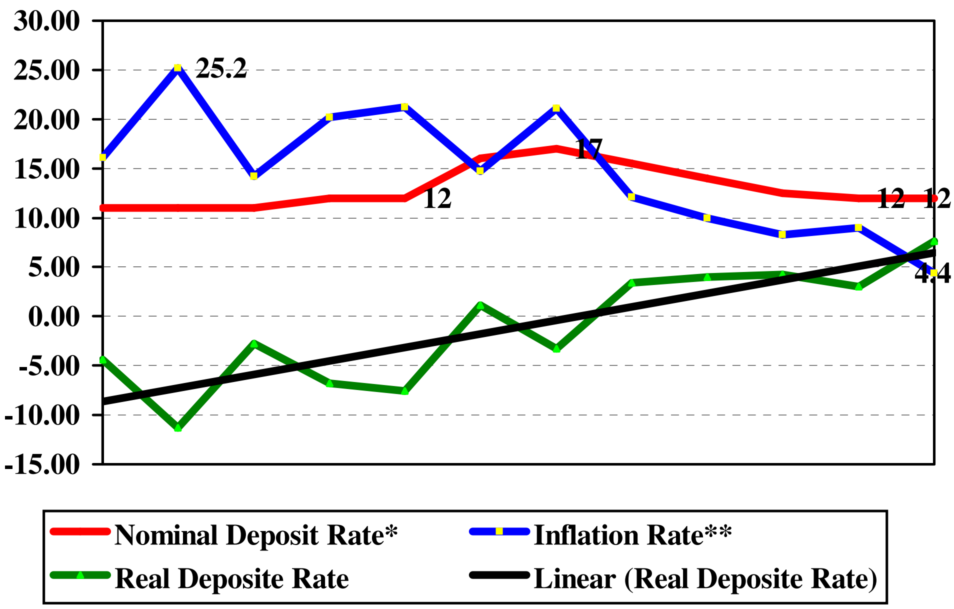


Figure (A2)
Egypt: Interest Rates & Inflation Rate
(1986 -1998)



Figure(A3)
Deposits Decomposition in Banking System

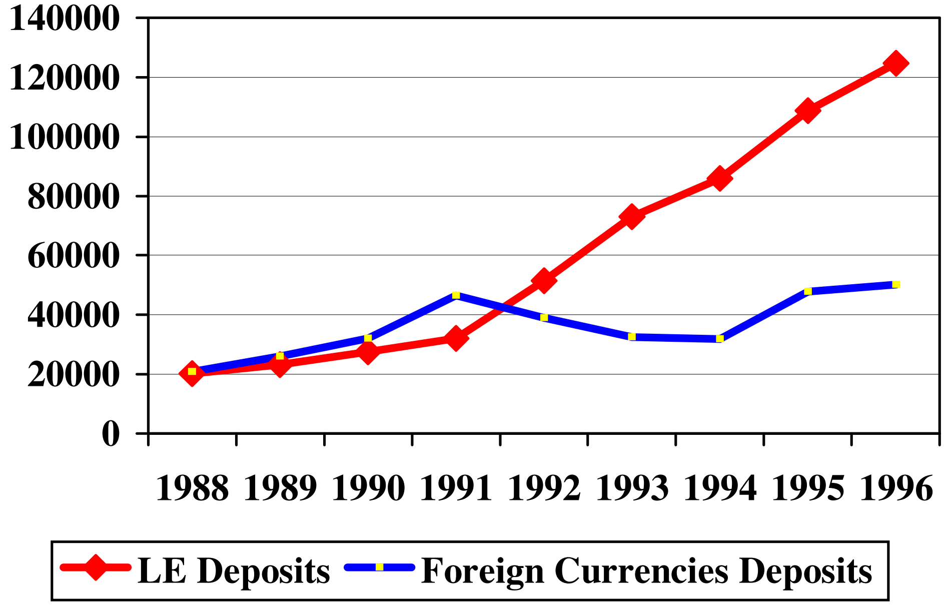


Figure (A4)
Foreign Asset Reserves

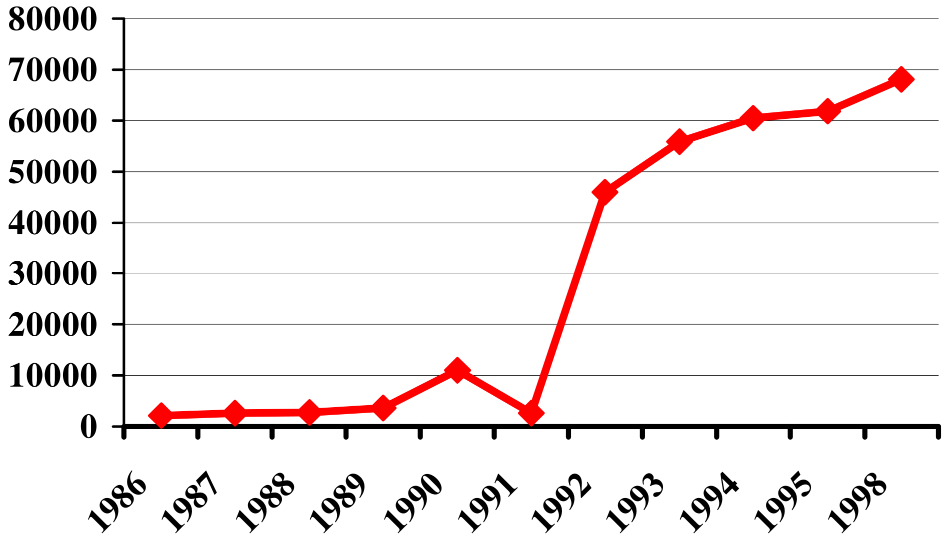


Figure (A5)
Saving Ratios

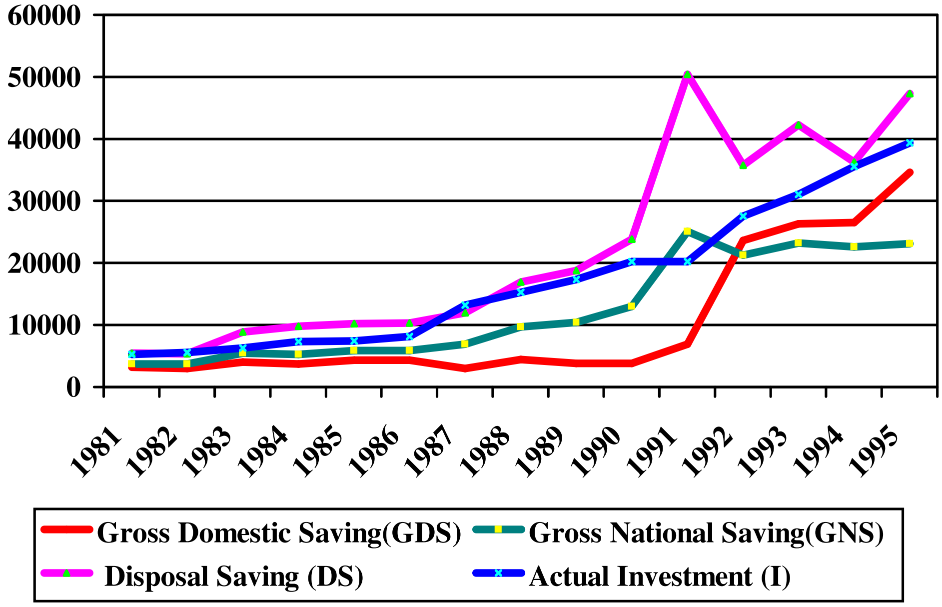


Figure (A6)
Stock Market Turnover Ratio

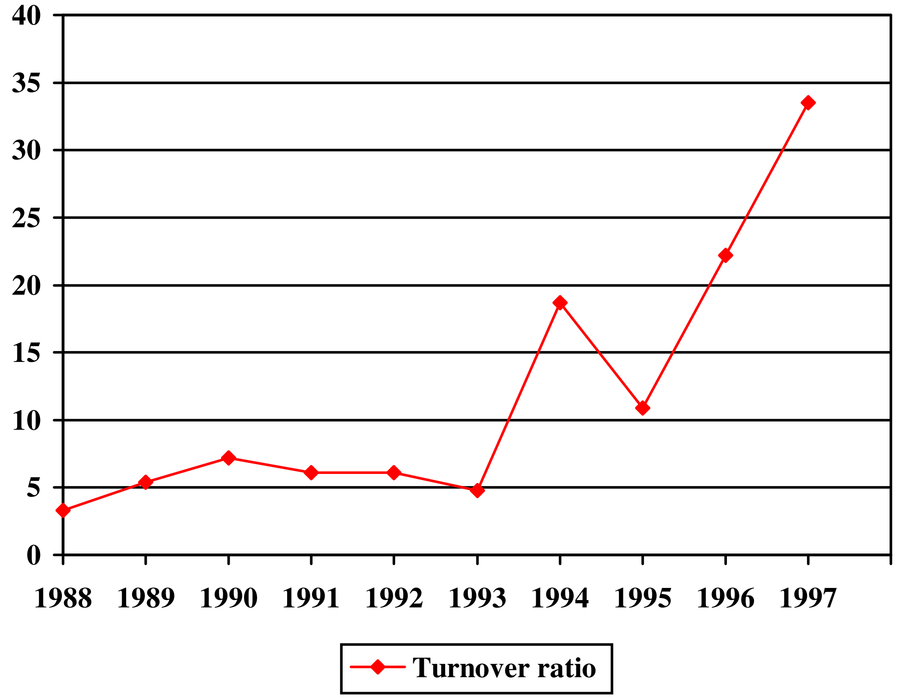


Figure (A7)

Stock Market Capitalisation

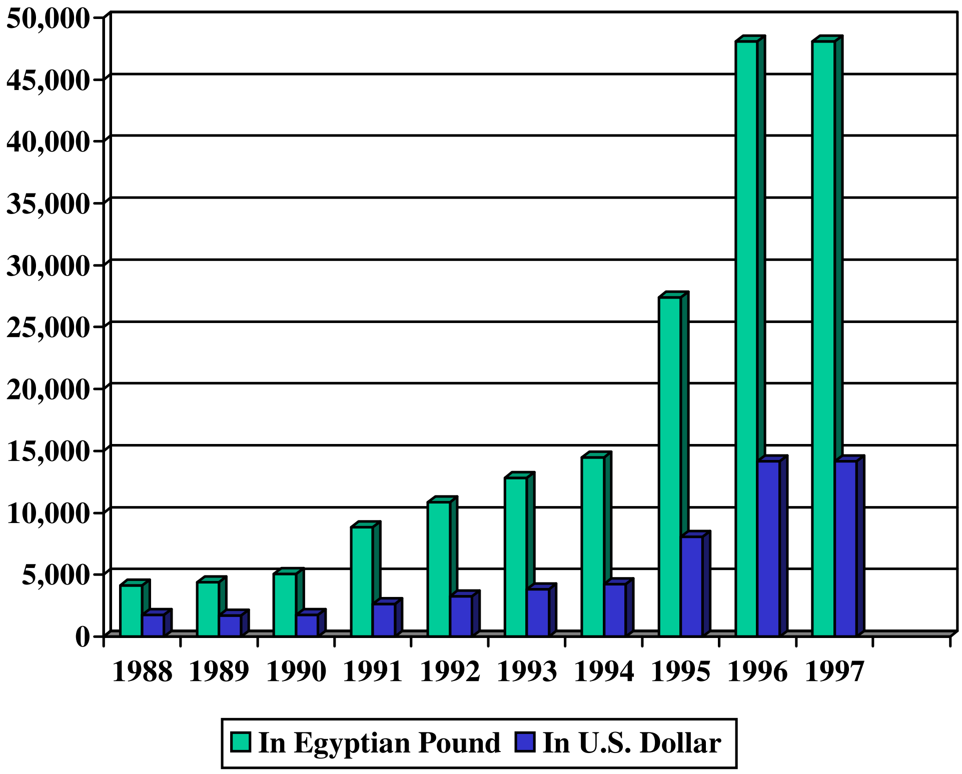
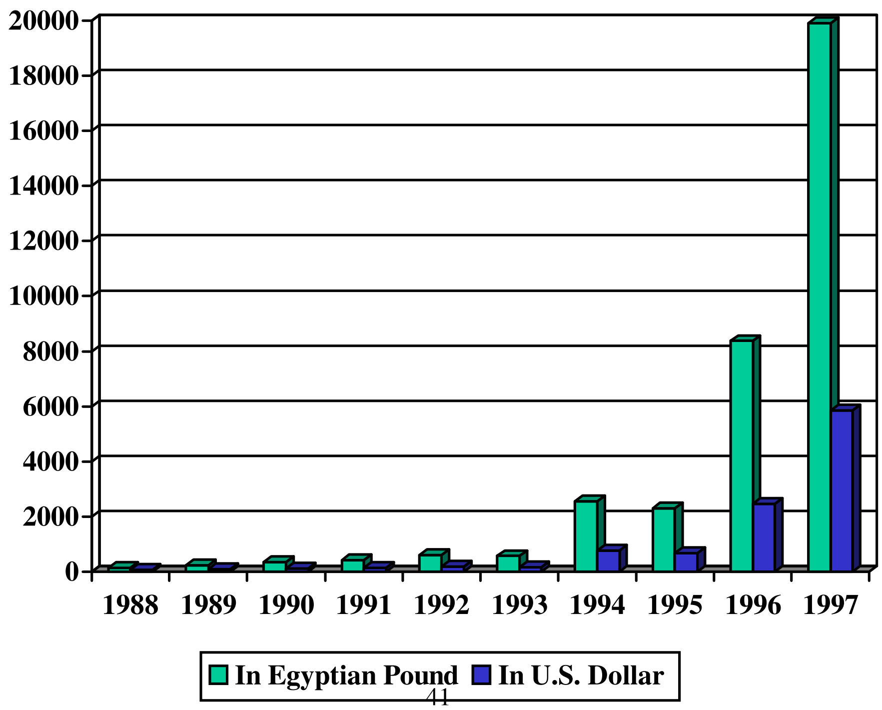


Figure (A8)

Stock Market Trading Value



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