

Chapter One

The Problem under Investigation

1. Introduction

Early in the 1970s, McKinnon and Shaw (hereafter: M-S) initiated the financial liberalisation paradigm. By the late 1970s, financial liberalisation was accepted world wide, and constituted the basic component of stabilisation and structural reform programmes in Less Developed Countries (hereafter; LDC's).

Financial liberalisation encompasses both domestic financial market deregulation and capital account (hereafter: CAP) liberalisation (i.e. establishing convertibility). Domestic financial market reform policies include nominal interest rate liberalisation, reduction or abolition of reserve requirements, elimination of inflationary finance and removal of other forms of taxation on the financial system¹. In addition, financial liberalisation may include the review of all policies that distort financial intermediaries' fund allocations, such as government direct credit lines with commercial banks and discriminatory loan rates. Domestic financial sector reforms by themselves are known as *marginal* reforms. Adding CAP liberalisation results in a *comprehensive* financial liberalisation programme.

Measures for establishing CAP convertibility include the abolition of control over the receipts of foreign exchange, elimination of restrictions on the holding of foreign securities and the elimination of restrictions on overseas borrowing. In addition, CAP reforms may involve relaxing the limits on the raising of funds for foreign-owned projects on domestic capital markets². These are all policies which are usually claimed to improve the efficiency of resource allocation. Much empirical evidence indicates that there is a positive relationship between the degree of development of the financial sector and economic performance in LDC's³.

The failed experience of the Southern Cone Group in the 1980s resulted in a temporary step backward in financial liberalisation programmes⁴. However, late in the 1980s financial liberalisation programmes restarted again and this was contemporaneous with the upsurge of private capital flows generally to LDC's and in

¹ In this Thesis, the nominal interest rate is defined as the nominal rate on commercial bank deposits, unless it is explicitly stated to be otherwise.

² Mathieson, D. & Rojas-Suarez, L., (1993).

³ See: McKinnon, R., (1973); and Shaw, E., (1973).

⁴ For example the privatised banks in Mexico had re-nationalised again. The Southern Cone group includes: Mexico, Chile, Argentina and Brazil.

portfolio investment especially. The latter includes all private capital flows which are not foreign direct investment (hereafter: FDI). Portfolio investment broadly speaking takes two forms: debt flows and equity flows. Debt flows are channelled through many instruments such as International Bond Issues, Commercial Papers, Certificates of Deposits and Commercial Bank Lending. Forms of equity flows include investment through Country Funds⁵, direct purchasing of shares, American Depository Receipts (hereafter: ADR's) and Global Depository Receipts (hereafter: GDR's).

The upsurge of private capital flows to LDC's in the early 1990s was considered to be a promising change, stimulating macroeconomic demand and growth for that group of countries which had suffered persistent balance of payment (hereafter: BOP) difficulties and which struggled through the debt crisis in the 1980s. In December 1994, however, one of the major recipients of capital flows, Mexico, witnessed a painful financial crisis. Capital flows reversed, leaving the economy in need of a massive devaluation and a new, higher level of external debt. US\$ 50 billions were added to its original external obligations of US\$ 120 billions. A similar crisis occurred in Thailand in 1997 and in the other Asian "tigers" in 1998.

Among the countries that underwent financial liberalisation programmes in the 1990s, both Egypt and Chile performed well. Economic performance improved dramatically. It is Egypt which has provided the case study for this **Thesis**. Over the past decade, which has involved financial liberalisation, Egypt's economic performance has improved, its aggregate growth rate has been positive and macroeconomic variables have moved in a favourable direction in accordance with the predictions of the financial liberalisation paradigm.

2. The Problem under Investigation

While all categories of private capital flows have increased dramatically since 1989, our main concern in this **Thesis** is with portfolio capital flows. The nature of such flows, known as "hot money", is that they are easy to move in and out of the economy. Significantly they have the potential to disrupt macroeconomic performance. There are, however, many positive effects of private capital inflows to

⁵ A country fund is a pool of foreign resources to invest in a specific country.

LDC's, such as the easing of external constraints, pushing down domestic interest rates, stimulating aggregate demand and affording higher investment. The consequence may be an increase in the growth rate.

Though the traditional M-S framework encourages us to concentrate on the potential of financial liberalisation to increase economic growth, the 1990s experience suggests that there is a risk factor (i.e. the possibility of a financial crisis) associated with financial liberalisation. The original M-S framework does not emphasise the risks of financial liberalisation or even concede that they have not been sufficiently analysed. Even after early liberalisation failures, the essence of explanations of the 1980s financial crises has been what have been termed *sequencing* problems. Peculiar to the 1990s financial crises has been the involvement of portfolio capital flows to most of the affected LDC's. Thus both the return and the risk factor of financial liberalisation in the 1990's should be investigated in the context of portfolio capital flows. Financial liberalisation programmes lead to portfolio shifts. Where financial assets are claims on the real sector, there is the long run question as to the effects of any such shifts on key macroeconomic variables, including growth rates.

3. Study Objective and Methodology

This **Thesis** explores a number of issues relating to the effects of financial liberalisation on portfolio shifts in both the short and the long-term. Much of the **Thesis** utilizes descriptive analysis. In Chapter Eight, however, there is a more formal methodology involving econometric testing. Different versions of vector autoregressive (hereafter: VAR) analysis are utilised.

The empirical work of the Thesis relates mainly to the 1990s, unless specific reference is made to other periods. For the Egyptian economy, the data cover the period from the early 1980s to 1998.

4. Portfolio Flows: Data Limitation, Technical Expressions and Indicators

In the 1990s emerging markets received the greater part of portfolio capital flows to LDC's⁶. According to the World Bank statistics (1998a) portfolio investment to LDC's increased from US\$ 18.2 billions in 1990 to approximately US\$ 135.7 billions in 1997⁷.

The upsurge of portfolio capital flows to the emerging markets of LDC's has been caused mainly by portfolio shifts. A portfolio is defined as a set of stocks (or equities), bonds and other securities, held by an investor or by a mutual fund. A portfolio shift can then be defined as an upward shift in the mean- variance efficient frontier (hereafter: M-V)⁸. M-V is a portfolio that has less risk than any other set with the same return. Alternatively it is a portfolio which has a greater return than any other portfolio with the same level of risk. Many studies of emerging stock markets (hereafter: ESMs) conclude that the inclusion of emerging markets' assets into a globally - diversified portfolio, shifts the efficient frontier upward. Such upsurges do not relate only to portfolio capital flows, but can be a **feature of aggregate and net private flows generally**. Aggregate net resource flows to LDC's include net flows on long-term debt, grants excluding technical assistance plus net flows on equity investment (foreign direct investment and portfolio equity investment). Aggregate net resource flows increased sharply from 1990 and have continued on an upward trend until 1998⁹. While aggregate net resource flows to LDC's jumped from US\$ 98.3 billions in 1990 to US\$ 300.3 billions in 1998, official development assistance fell from US\$ 56.4 to US\$ 34.7 billions over the same period.

It must be conceded that there are serious data limitations related to international portfolio capital flows. Data limitations may arise through inconsistencies in the definitions on which data are based and through statistical weakness or statistical failure. This was highlighted in a study of an International Monetary Fund (hereafter: IMF) working party, which found that recorded portfolio liabilities far outweighed

⁶ "Emerging Markets" include; Argentina, Brazil, Chile, China, Colombia, Czech Republic, Egypt, Greece, Hungary, India, Indonesia, Israel, Jordan, Korea, Malaysia, Mexico, Morocco, Nigeria, Pakistan, Peru.

⁷ See Appendix Table (A1-1), Chart (A1-1) and Chart (A1-2).

⁸ Harvey, C., (1993, pp. 110-144).

⁹ See Appendix Table (A1-4). As a result of the financial crises in South East Asia, such flows fall dramatically.

portfolio assets at the world-wide level.

Table (1-1) indicates that estimation discrepancies (liabilities less assets) have widened from US\$ 71.1 billion in 1991 to US\$ 148.6 billion in 1995. Different independent statistical survey systems indicate that there are differences both in the timing of and in the design of those systems. This creates difficulties for making cross-country comparisons, and prevents the exchanges of data between statistical bodies¹⁰.

Table (1-1)
Global Portfolio Investment Net Transactions
(In billions Of US\$)

	1991	1992	1993	1994	1995
Assets	332.5	354.6	554.8	327.1	412.5
Liabilities	403.6	456.2	687.4	401.8	561.1
Difference	71.1	101.6	132.6	74.7	148.6

Source: IMF Committee on Balance Of Payments Statistics: *Annual Report*, 1996.

Before 1992 the World Bank *World Debt Tables* had no category for portfolio investment flows.¹¹ Aggregate net resource flows were divided into three categories. These were official loans, official grants, and private flows (loans, direct private investment and private grants). This does not mean that portfolio flows did not exist before 1992, but simply that they had not been surveyed and categorised before that date.

Discrepancies in the asset-liabilities measurement of portfolio capital flows might be explained by statistical discrepancies in the measure of overall net long-term resource flows. The World Bank (1992a) has suggested five reasons for discrepancies in measures of net long-term resource flows:

¹⁰IMF, Co-ordinated Portfolio Investment Survey guide; www.imf.org/external/bopage/cpis.html.

¹¹World Debt tables no longer published, from 1996, The Global Development Finance Report includes besides debt flow, all other forms of capital flows.

1. Problems with coverage whereby figures of net long-term resource flows do not include such FDI outflows as residents buying foreign assets, net flows of short-term debt, and the use of IMF facilities.
2. Inadequacy of source data.
3. Concepts such as the World Bank *debtor recording system* which depends on the recording of actual payments transaction, whereas the BOP records all transactions which change the ownership or the obligations of the member country.
4. Transactions in derivatives are not recorded because Options may not have been exercised at or before the expiry date.
5. Offshore transactions are ambiguous due to the confidentiality of accounts and the fact that the nationality of clients is not recorded.

This Introductory Chapter of the **Thesis** discusses portfolio flows, focusing specifically on the reasons for, and indicators of, upsurges of portfolio capital flows. It is acknowledged from the outset, however, that there are serious data limitations in relation to portfolio flows.

This Chapter also discusses more generally the reasons for the upsurge in the portfolio capital flows to emerging markets. These reasons are discussed below under the sub-headings of Internal or pull factors, External or push factors, and Other Reasons.

Internal Reasons (or pull factors):

- (1) There have been significant increases in rates of return on portfolio investment in emerging markets. The high rate of return may be explained through the interest arbitrage hypothesis, and/or the risk premium¹². With financial liberalisation in LDC's, risk premium-related financial investment in the emerging markets has increased. For example, the nominal interest rate increased in Mexico from 14 percent in 1989, to 40 percent in 1995, and for the Egyptian economy, from 12 percent in 1990 to 18 percent in 1991. The same trend may be found among others, for example, in Thailand, Chile and Colombia in the 1990s.

¹² LDC's are characterised by a higher level of country risk that requires paying a high risk premium.

Appendix Table (A1-2) shows some regional return indexes of the International Financial Corporation Global Indexes (hereafter: IFCG). Before the financial crisis struck in 1997, investing in some ESMs gave returns equivalent to or surpassing returns on investments in developed country stock markets. During the period from 1988 to 1997, the IFCG Latin American index surpassed the Standard and Poor Index (hereafter: S&P 500) for investments in the US. In addition, the IFCG Latin American index surpassed the Financial Times return index (hereafter: FT) for European investment in the 1990s.

- (2) Debt relief and debt reduction under the Paris Club agreements¹³, not only helped in solving the 1980s world debt crisis, but also lowered uncertainties related to the sustainability of liberalisation programmes in LDC's and contributed to improve macroeconomic management. In October 1988, following the Toronto summit of the Group of Seven (G-7), the Paris Club creditors began to provide debt relief for official debt to the poorest rescheduling countries. Debt forgiveness amounted to one third of the payments rescheduled. By reducing the interest rate below the prevailing market rate, the ratio of one third was increased to one half in the London Summit of 1991, then to two-thirds in the Naples Summit of 1994. In addition, debt maturity was extended to over forty years, with a sixteen years period of grace.

Commercial bank debt restructuring has been supported by the International Development Association's (IDA) Debt Restructuring Facility for low-income countries, and through the 'Brady Operation' for middle-income countries¹⁴. Officially supported programmes and associated market swap operations reduced LDC's debt to commercial banks by US\$ 53.2 billion between January 1989 and December 1997¹⁵.

During the first five years of financial liberalisation (from 1990 to 1995), debt reduction for the Egyptian economy represented about US\$ 43 billion comprising US\$ 21.2 billion debt relief under the Paris Club Agreement, US\$ 14 billion military

¹³ Paris Club is a consortium of creditor countries. Members are mainly the OECD countries.

¹⁴ The essence of the Brady plan was to mix debt forgiveness with debt reform. Creditors could choose to swap old loans for new bonds that carried lower interest rates. Alternatively, the creditors could make new loans.

¹⁵ World Bank, (1998a)

debt relief, and US\$ 7.5 billion from Arab donors. Chile and Mexico also utilised debt rescheduling and debt reduction programmes in the 1980s.

- (3) Monetary stability and economic reform programmes. The tightening of monetary and fiscal policies was a prior condition for adjustment programmes, assuring stability in other macro-economic variables such as the inflation rate and the CA deficit. During the implementation of financial liberalisation programmes, exchange rate policy has ranged from that of a "crawling peg" in Latin America to the managed floating of the currencies of South East Asia and Egypt¹⁶.

External Reasons (or push factors):

- (1) Portfolio flows to emerging markets have been encouraged by the decline in world interest rates, or more specifically by a decline in the rates of interest in industrial countries. The US rate of interest is a clear example, especially the short-term rate, which declined from 9 percent in 1989, to 5.5 percent in 1991, then to 3.6 percent in 1992. The need to defeat a recession in the US encouraged a reduction in the discount rate from 7 percent to 3.5 percent, and then to 3 percent over the period 1989 to 1992. Also, in the UK, the rate of interest on deposits fell from 10 percent in 1991 to less than 4 percent in 1994.
- (2) There was significant movement towards the removal of barriers to capital outflows. All developed countries considered relaxing such barriers in order to establish CAP convertibility, to reinforce credibility of economic policies and to increase confidence in economic fundamentals. The United Kingdom, for example, relaxed capital controls in June 1979 and abolished them in October of the same year. Other countries proceeded more gradually to overcome adjustment difficulties¹⁷.

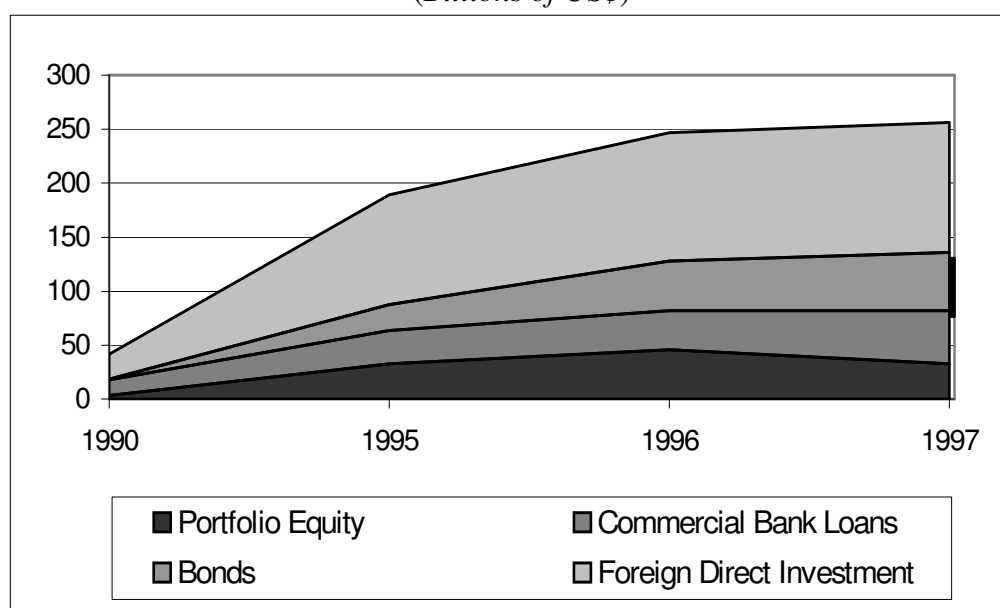
¹⁶ A crawling peg is a pre-announced upper and lower band for exchange rate movement over a specific period of time. In a managed floating system, the government intervenes using foreign reserves to reduce undesired fluctuations in that rate. For more details on the exchange rate policy; see sections: 3.2.4.2, 3.4 and 4.4.

¹⁷ Mathieson, D. & Rojas-Suarez, L., (1993).

- (3) There was an increasing demand for portfolio diversification. A negative market shock for one economy may have a positive effect or no effect on other economies. International diversification of the financial assets portfolio contributes to stability and gives investors an assurance of a portfolio's total value. Thus, net private capital flows to LDC's increased from US\$ 41.9 billion in 1990 to about US\$ 243.8 billion in 1996. Excluding FDI, about two thirds of the net private capital flows represented portfolio capital flows and with respect to FDI, portfolio investment represented one third of overall private flows.

Chart (1-1) demonstrates changes in the composition of private capital flow to LDC's between 1990 and 1997¹⁸.

Chart (1-1)
Composition of Private Flows to LDC's, 1990-97
(Billions of US\$)



Data Source: Appendix Table (A1-1)

The Return Arbitrage Hypothesis suggests that both competitive returns and low cross-country correlation are major determinants of portfolio investment across borders¹⁹. Emerging markets have offered both profitable investment and diversification benefits for the foreign investor, which helps explain the large

¹⁸ Also see Appendix Table (A1-1)

¹⁹ The low cross-country correlation implies less spillover effects between markets. Thus the benefits of portfolio diversification increase. This is discussed in more detail on Chapter Five, point 5.4.2.

portfolio investment inflows to these markets²⁰.

Other Reasons:

(1) Institutional innovations may facilitate portfolio diversification because they incorporate hedging mechanisms. Financial innovations include Futures, Options, Global Depository Receipts (hereafter: GDR's) and American Depository Receipts (hereafter: ADR's). These may be defined as follows:

- **Futures** contracts are standardised-negotiable forward contracts. They specify precisely the underlying asset or commodity to be delivered, the quantity and the quality as well as the date and location for delivery. Futures contracts guaranteed by a clearinghouse remove all default risk from the contract. The essential function of the forward market is to hedge against future spot-price fluctuations and to allow diversification of risk. In addition, the organisational structure of futures markets allows for the aggregating and dissemination of information about the future course of spot prices. This may reduce transactions costs.
- **Options** are mainly of two types. A European-type call (put) Option is a security that gives its owner the right to buy (sell) a specified quantity of a financial or real asset at a specified price (the exercise price), on a specified date, the expiration date. An American type Option allows its holder to exercise the Option on or before the expiry date. After that date, the Option expires and becomes worthless.

Futures and Options involve future action on underlying assets. A long position in Futures is one contract which obliges its holder to purchase an asset at the forward

²⁰ The correlation between ESMs returns and the S&P 500 return index is positive but smaller than 0.5 for most ESMs. For six emerging markets, the correlation coefficients are negative. For one market, there is no correlation. See: IFC, (1998, pp. 62,63) and Appendix Table (A1-3). Given that diversification benefits depend on the degree of market segmentation, where financial liberalisation proceeds the emerging markets have become increasingly integrated with the international capital markets. Consequently, correlation between returns in developed and the emerging markets will increase and diversification benefits will decline. The latter conclusion however, ignores the second component of portfolio analyses, which is the risk factor. Diversification through investing in ESMs reduces overall portfolio risks. In addition, there is a new wave of ESMs, which are still far away from integration with the international capital market. The new ESMs are referred to in an IFC report as "Frontier markets". They include Bangladesh, Botswana, Bulgaria, Côte-d'Ivoire, Ecuador, Ghana, Jamaica, Kenya, Lithuania, Mauritius, Slovenia, Trinidad, and Tunisia.

price. In contrast, a call Option holder has the choice to purchase or not to purchase at the exercise price.

- **ADR's:** an ADR is a certificate issued by a US bank, representing a number of shares of a particular foreign security on deposit with a bank in a foreign country. The ADR can represent a multiple or a fraction of one share of the foreign security, in order to ensure that its converted price is in an appropriate range in US\$. The advantages of an ADR over direct ownership of foreign securities are first, that the ADR follows US security laws and second that the price quotations of ADR's are in US dollars. In addition, ADR's help in avoiding foreign currency volatility. Dividends and any other distributions are in US dollars. Even if the return is denominated in other currencies, they are converted into dollars by the bank of deposit. Thus ADR's are highly liquid and easily exchangeable with any other foreign assets.
- **GDR's** are similar to ADR's but they can be issued on stock exchanges all over the world. In 1990, *Samsung Electric* of Korea was the first less developed country company to issue a GDR. A Rule 144A ADR (RADR) is a variation used by LDC's companies to raise the US portfolio equity investment before moving to the stock exchange directly²¹.

Technological changes in the information and communication infrastructure have integrated financial services worldwide. Computer links now enable investors to access information on asset prices at minimum cost. The analytical capabilities of computer software and hardware provide an opportunity to calculate correlation among asset prices, and between asset prices and other economic variables. Computer technology enables changes in macro and microeconomic performance variables to be monitored²².

- (2) **'Bandwagon' or 'herd like' effects:** The higher cost of information, which is required to undertake profitable stock market transactions, may be available only to market leaders (market makers and brokers). The followers are not able to

²¹ World Bank, (1992a)

²² Evidence indicates, however, that it is difficult for governments to control capital movement via electronic transfers. See; Eichengreen, B. & Mussa, M., (1998).

incur such a cost so, therefore they follow the leaders blindly. The bandwagon effect is triggered by the 'Herd' behaviour of financial investors. It has played a considerable role in the massive portfolio capital inflows to emerging markets²³.

(3) **Regional developments:** Research has indicated that regional development may be an important reason for the 1990s upsurge of portfolio capital flows, as opposed to more general macroeconomic changes. For example, the currency realignments in several large Asian economies drew Asian investors to the lower-cost regions of production, such as Thailand and Malaysia. Mexico's negotiations to join the North American Free Trade Area NAFTA were also influential factors in drawing investment into Mexico. Disruption in the Middle East encouraged capital, which had previously been part of the flight to return home. Savings were drawn back to Egypt.

(2) **Contagion effects:** Studies have suggested that capital inflows to one country in a region might generate externalities for emerging markets in neighbouring countries²⁴. It seems that the contagion effect has had some impact on the preferences of portfolio investors. The contagion effect implies that capital flows to one country would tend to be determined by reference to factors in another country perceived to be similar and/or interdependent through trade and financial linkages. In that sense, US investors have been drawn towards Latin American securities. In 1991, US investors shifted from net sales (including transaction on local market) of US\$ 3.5 billion of Asia Pacific Economic Council (hereafter: APEC) developing countries securities to net purchases of US\$ 8.5 billion of the same in 1992, rising to US\$ 20 billion in 1993. UK investors tend to prefer Asian financial assets. German investors have a preference for investing in Eastern Europe. Japanese investors on the other hand, have only devoted a small portion of their portfolios to Asian securities²⁵.

Any account of the factors leading to the upsurge of portfolio capital flow to emerging markets must also take into account the effects of the international agreements reacted in the final Uruguay Round of the General Agreement on Tariffs and Trade (hereafter:

²³ Schadler, S. *et al*, (1993).

²⁴ Calvo, L., & Reinhart, C., (1996).

²⁵ Ishii, S. & Dunaway, S., (1995).

GATT). Financial services were a central issue in the negotiations, leading to the General Agreement on Trade and Services (hereafter: GATS) in 1994. Developed countries were expected to liberalise their imports of goods from LDC's. In return, LDC's were required to liberalise their services sector, encouraging foreign activities²⁶. Liberalisation under the World Trade Organisation (hereafter: WTO) involves new principles such as Market Access and National Treatment. The latter implies a commitment to treat foreign activities in the services sector in the same way as national activities. These have improved expectations about the future of the world economy and have given assurance about the security and profitability of financial transactions in the emerging markets of LDC's. Moreover, the GATS efforts to open markets and eliminates trade-restrictions have stimulated national and foreign direct investments in the low cost LDC's.

5. Thesis Summary

Following the Introductory Chapter, the Thesis comprises eight further chapters summarised as follows:-

Chapter Two: Investigates the role of the financial system in the economic growth process, distinguishing between the functional, institutional and instrumental approaches. This Chapter also investigates the distortionary government intervention and the expected obstacles that hinder the liberalisation process. The 1990s developments in international capital flows are addressed, and the experience of monetary policy in response to those flows.

Chapter Three is devoted to financial liberalisation, looking at the impact of financial liberalisation on economic growth in theory and in empirical tests. The sequencing problem is highlighted as one explanation of the link between financial variables and real variables. Extensions of the M-S hypothesis are analysed. The impact of financial liberalisation on working capital and on the efficiency of investment with open economy extensions is illustrated.

²⁶ FDI in Services excluded, the treaty specifies four ways of Market Access as a trade in services.

The Thesis highlights the need for government intervention to provide prudent regulations, in order to reduce the risks associated with financial liberalisation. The 1990s experience has highlighted the importance of the legal environment and other aspects of corporate governance as necessary domestic reforms prior to liberalisation. Chapter Three also provides a comprehensive survey of the econometric tests of financial development models in the period 1968 to 2000.

Chapter Four examines the crucial monetary policy changes, following financial liberalisation, namely in interest rates, the inflation rate, credit availability, the exchange rate, all of which are related to real output growth.

In the first section of this chapter, the relation between monetary policy, inflation rate, interest rate, and output growth are addressed. A review of the literature leads to the conclusion that inflation is harmful for long-term economic growth. Financial liberalisation, by definition, aims at the elimination of financial repression, discouraging the use of the inflation tax and associated measures. For financial liberalisation to succeed, it is necessary to reduce the inflationary pressures in the economy.

Another school of thought suggests that the impact of monetary policy on the real economy comes through the interest rate rather than through the money supply and the rate of inflation. Monetary policy can affect not only the short-term interest rate but also long-term rates. Higher short-term interest rates may imply lower long-term rates.

The term-structure of interest rate, as a predictor of consumption growth and asset returns is a good predictor both of short-term business cycles and long-term business conditions. Consequently, it can predict real economic activity.

In the final section of Chapter Four, there is a portfolio balance model which starts with a CA imbalance. This stimulates the accumulation or de-accumulation of foreign assets. The awareness of portfolio balance dynamics stimulates policy intervention through open market operations (hereafter: OMO), foreign exchange markets operations (hereafter: FXO), and sterilised foreign exchange operation (hereafter:

SFXO). Sterilisation was heavily used during the upsurges of portfolio capital flows to LDC's in the 1990s. For a successful liberalisation experience, using SFXO helps in building a strong foreign reserve position, which eases the overall economic reform programme.

Chapter Five moves to the microanalysis of portfolio investments in ESMs. The history of portfolio analysis is reviewed starting with Harry Markowitz (1952). Developments in the M-V approach are addressed.

The Chapter goes on to investigate principles of portfolio selection in the context of ESMs. During the period from 1985 to 1997, ESMs offered a profitable opportunity to international investors. The annualised total return to the IFC Emerging markets composite index was greater than the Financial Times world index (for developed markets) by a factor of more than 5 percent. In addition, the ESMs offered an international diversification vehicle for international investors.

Chapter Six identifies financial crises as a major risk factor in financial liberalisation. An analysis of the 1990s financial crises indicates that financial liberalisation programmes improve expectations about investment productivity. High nominal interest rates associated with financial liberalisation increase the credit available from domestic and foreign savings (due to the upsurges of private capital flows). This leads to rapid growth of domestic credit. The unprecedented rate of economic growth (the return factor at macro level) which prevailed in markets two decades prior to the upsurge of portfolio capital flows supported expectations about emerging markets. The leaders and the followers, both investors and speculators, reinforce expectations about future growth of the ESMs. Expected share price movements initially come true. When prices reach a high value relative to investors' initial expectations (or more precisely, when prices are much higher than justified by the underlying real assets) there is a panic withdrawal of funds. Speculative behaviour then comes to dominate participants' actions. Uncertainty increases. Investors are ready to sell at the first signal of a fall in price, or when others begin to sell.

Upsurges in portfolio capital flows gave a characteristic dimension to the 1990s financial crises, i.e. widening of the CA deficit; rapid growth of domestic credit; a real exchange rate appreciation and an increase in vulnerability to adverse shocks.

Lax financial supervision and inadequate regulatory regimes were common phenomena in all affected LDC's. In addition, there was poor information disclosure and poor transparency in bank operations.

The final section of Chapter Six discusses the possibility of developing early warning systems for financial crises. The catastrophic consequences of crises show the need for such a system.

Chapter Seven offers a case study of the Egyptian experience which has many useful lessons for policy-makers. Financial development in Egypt takes us from the financially repressive regime of the 1980s to the financial liberalisation of the 1990s.

Since the start of the financial liberalisation programme in 1991 there have been many adjustments. The fiscal deficit 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. 53 percent of the 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. Resource allocation has improved by removing price distortion and through privatisation. About LE 10 billion of annual subsidisation has been cancelled. Moreover, the foreign exchange market has been reformed by the elimination of exchange quotas; permission for private exchange houses; and by adopting a unified foreign exchange system. In October 1991, the exchange rate was unified at LE 3.24 per US\$. In 1994, the exchange rate reached LE 3.39 per US\$ and is LE 3.41 per US\$ June 2000.

Capital inflows to Egypt since the introduction of financial liberalisation programme have been caused mainly by portfolio shifts. 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 creditors.

Strengthening the Egyptian financial system requires a strong and efficient stock market. The capital-market reactivation programme was started in 1992 and in the following five years there were many developments, most notably the inclusion of Egypt into IFC indexes in 1996. From 1996 to the present day some 30 percent of stock exchange trade is accounted for by foreign transaction.

Chapter Eight is devoted to an econometric analysis, applied to test the impact of interest rate movements on saving, investment, and economic growth, using a cointegration technique.

Results support the notion that financial liberalisation increases economic growth through the impact on savings and the productivity of capital. Financial liberalisation also influences financial depth represented by banking deposits. With liberalisation of interest rates and the achievement of real returns, banking deposits respond positively. It is worthy of mention that the real interest rate coefficient is very similar to that found in other econometric tests for many other countries²⁷.

The statistical analysis investigates the relationships between financial liberalisation (real interest rate increases and inflation rate reduction) and macroeconomic fundamentals such as GDP growth rate; M3/GDP ratio²⁸; banking deposits /GDP ratio; Investment/GDP ratio; and incremental capital output ratio (hereafter: ICOR). Except for the Investment/GDP ratio, all other variables are consistent. The foreign currency deposits/foreign reserves ratio is calculated as a suggested measure of the vulnerability of the financial system to risks of foreign currency exposure and as an early warning measure of financial crises. It concludes that the Egyptian economy is not exposed to a foreign exchange risk. The statistical analysis also investigates the impact of financial developments on the banking system. It concludes that following liberalisation; the role of the private sector in financial resource allocation has increased which is consistent with the adoption of market-oriented policies following liberalisation.

Chapter Nine sets out the conclusions to the Thesis, and offers both policy recommendations and suggestions for further research. Briefly, the Thesis concludes that financial liberalisation has significant returns in both the short and the long-term. Risk is related to the preconditions of financial liberalisation. The appropriate legal environment, strong government supervision and a strict regulatory regime are all important in reducing the associated risks with financial liberalisation and will help prevent future financial crises.

²⁷ In this Thesis, real interest rate is the nominal rate on commercial banks' deposits, minus the inflation rate (this is defined as percentage change in consumer price index).

²⁸ M3 is broader measure of money which includes money, saving deposits, and time deposits.

Chapter One: Key References

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