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RESTRICTIONS ON CAPITAL MOBILITY IN EMERGING MARKETS

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ÖZ

Gelişmekte olan ekonomilerin global ekonomi ile finansal bağları son yıllarda önemli ölçüde artış göstermiştir. Bu süreçte, sermaye akımları gelişmekte olan bazı ülkelere yüksek büyüme oranları sağlarken, bazı ülkeler büyüme oranlarında dönemsel karmaşalardan zarar görmüş ve ülkelerine ciddi sosyal ve ekonomik maliyetler yükleyen ağır finansal krizlerle karsılaşmışlardır. Bu nedenle, finansal dışa açıklık birçok ekonomist ve politikacıyı ilgilendirme durumundadır. Ciddi finansal krizlere yol açan sermaye akımlarının olumsuz etkilerini bertaraf etme arayışlarında, ülkeler bazı politika araçları geliştirmişlerdir. Sermaye kontrolleri, sermaye akımlarının yıkıcı etkilerinden sakınmak için başvurulan ve politika özerkliğini sağlayan araçlardan biri olarak görülür. Aynı amaca hizmet eden alternatif araçların kullanımının sınırlı etkinliği sermaye kontrolü konusuna olan ilgiyi arttırmıştır. Bu çalışmada, sermaye kontrollerinin uygulanması ülke deneyimlerinin ışığı altında incelenmiştir.

ABSTRACT

Financial linkages of emerging economies with the global economy have risen significantly in recent years. In this process, while capital flows provide some developing countries with higher growth rates, some of them have suffered from periodic turmoil in growth rates and faced with severe financial crisis imposing serious economic and social costs on countries. Therefore, effects of financial openness tend to be the concern of a number of economists and policymakers. In search of eliminating the adverse effects of capital flows causing to severe financial crises, countries have developed some policy tools. Capital controls appear as one of the instruments resorted for avoiding devastating effects of capital flows and maintaining policy autonomy. The limited effectiveness of the use of the alternative tools serving to the same purpose has increased the attention to the capital control issue. In this study, the practice of capital controls is examined in the light of the country experiences

PREFACE

Contemporary economics is characterized by increased financial integration and greater opportunities brought by capital account liberalization. The main benefit of external liberalization is that it offers large scale of scopes for risk diversification by mobilizing international funds and that it enhances economic growth by facilitating the finance for investments. However, recent crises have revealed that the financial liberalization also brings financial fragility especially in developing countries that deprive of well-designed and sophisticated financial markets. The Asian crisis with its devastating effects on both regional economies and the world economy as a whole due to the contagion effect, has raised the call for various tools for management of excessive capital inflows and elimination of destabilizing effects of capital outflows.

In this respect, capital controls are used as temporary measures for avoiding potential crises arisen from the volatility that has been the most noticeable factor in recent crises. Besides the external factors, inappropriate policies pursued by the authorities may aggravate the instability. Capital controls give governments time for realizing crucial reform programs directed to curbing the volatility. Even though some costs are associated with capital controls, their usage is justified at least in the short run in some developing countries. Regarding that controls are defined as temporary policy tools aiming at affecting economic variables and realizing national objectives, it can be said that they have proved effective. Especially Malaysia's pronouncement to impose capital controls has raised more attention whether the wide usage of controls help prevent financial crises. The main objective of this study is to point out whether the implementation of controls as an alternative policy to neoclassical statements offering free international capital flows is likely to achieve national targets. For this reason, after analyzing the financial liberalization and capital flows across borders in the first chapter, the use of capital controls is presented in the second chapter. Chapter 3 is devoted to the country experiences with capital controls. Turkish case is also included in chapter 3 even though she has not resorted to capital controls so far. The aim of the inclusion of Turkey into the study is to indicate the vulnerability of

the Turkish economy as well as other developing countries and to point out and help raise questions on whether the use of capital controls is relevant for the Turkish economy.

I would like to thank my supervisor Professor Nihal Tuncer for her advice and help in this study. I also owe thanks to Professor Zafer Tunca and Assistant Professor M.K. Savaş Ökte for their advice and support for my study.

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LIST OF ABBREVIATIONS

CBRT	: Central Bank of the Republic of Turkey
CPI	: Consumer Price Index
DIV	: Debt Intermediation View
ERM	: European Exchange Rate Mechanism
FDI	: Foreign Direct Investment
FPI	: Foreign Portfolio Investments
GDP	: Gross Domestic Product
GNP	: Gross National Product
IIF	: Institute of International Finance
IMF	: International Monetary Fund
MNCs	: Multinational Companies
MR	: Malaysian Ringgit
ODA	: Official Development Assistance
OECD	: Organization for Economic Co-operation and Development
OLS	: Ordinary Least Square
OMOs	: Open Market Operations
PSBR	: Public Sector Borrowing Requirement
SIS	: State Institute of Statistics
SPO	: State Planning Organization
TFP	: Total Factor Productivity
TL	: Turkish Lira
UIP	: Uncovered Interest Parity
US	: United States of America
USD	: United States of America Dollars
VAR	: Vector Autoregression
WB	: World Bank
WPI	: Wholesale Price Index

INTRODUCTION

The global economy has undergone essential changes during the last three decades. The rush into globalization has forced the countries to carry out numerous policies to be more integrated with the global economy. Domestic financial and capital account liberalization policies are involved in this process as integral parts of the overall globalization route. Liberalized financial markets have prepared the ground for free international capital flows, which is a key factor underlying this process.

Foreign capital inflows tend to be an essential source of investment finance for all countries, especially for those with lower income levels. The primary defect of these countries is low domestic saving rates, which detain them from undertaking investment projects necessary for long run economic development. Hence, several developing countries have exposed their capital accounts to foreign investors so as to cover the saving-investment gap.

The first chapter of this study examines the general statements of the financial globalization process. After the domestic financial liberalization policies are reported through the financial repression theories and models originally based on McKinnon-Shaw hypothesis, the capital account liberalization is discussed with its striking features.

Free international capital flows facilitated by the capital account liberalization have many advantages. Particularly the positive effects are apparent for FDI, which is supposed to be associated with long-run economic development. Other types of capital flows have also positive effects. Whatever the type of capital flows, as long as it helps complement domestic savings; it is expected to cause an increase in investment and growth. The technological investment leads to greater productivity and hence it stimulates economic growth. With the free capital mobility, the allocation mechanism works through private markets instead of governments implying higher efficiency in allocation of resources. The proponents of free capital

mobility argue that it leads to increased policy discipline in recipient countries. Governments are encouraged to pursue policies directed toward maintaining international standards in macroeconomic performance and policy stance. The countries competing with each other to attract foreign capital tend to fight against inflation and corruption more firmly in that foreign investors take into account price stability and transparency while deciding the investment.

On the other hand, free capital mobility can also have negative effects. Particularly, the Asian financial crisis altered the international articulation about benefits of full capital account liberalization towards devastating effects of free capital flows and the potential benefits and costs of capital account liberalization has begun to be judged again by policymakers. The evidence from many emerging countries confirm that the vulnerability of these countries to financial crises is triggered by the short-term capital flows.

Pointing out the reverse side of the medal, Stiglitz assesses the capital account liberalization process by making resemble the financial movements to the sea and developing countries that have exposed their capital accounts to the boats on the sea.

"Financial movements of the past few years are like the sea. Small open economies are like rowing boats on an open sea. One cannot predict when they might capsize; bad steering increases the chances of disaster and a leaky boat makes it inevitable. But their chances of being broadsided by a wave are significant no matter how well they are steered and no matter how seaworthy they are.'[1]

One of the main concerns is that capital inflows create policy dilemma in emerging markets. The targets of the economies turn out to be contradictory with the macroeconomic variables set in accordance with the global capital market needs. The internal and external balances, hence, cannot be attained in concert. Capital inflows depend upon considerations of foreign investors on the availability of appropriate

[1] Joseph Stiglitz, 'Boats, Planes and Capital Flows', **Financial Times**, Wednesday March 25 1998, (Online) http://www.geocities.com/mugajava.geo/riwa/gstigl.htm, 23th March 2005.

economic and political environment. Thereby, they are likely to interfere with domestic policies, leading to lower policy autonomy in recipient countries. The other threat, at least as important as the former one, is created by the risk of reversal of these funds. Capital outflows cause depreciation of the domestic currency. The value of domestic assets diminishes leading to further outflows. The inception of financial instability extends to the currency and financial crises.

Moreover, opponents of capital account liberalization argue that it does not generate greater efficiency as it is supposed. Liberalization of the capital accounts, it was said, would permit financial resources to flow from capital abundant countries where expected returns were low to capital scarce countries where expected returns were high, leading to efficient allocation of resources and economic growth. This target can be achieved as long as the foreign capital is allocated to the productive investments. However, private agents have generally used these funds for unproductive activities such as speculative asset transactions in emerging markets, ending with speculative booms. Unless these funds finance productive projects that will lead to economic development, the complementary feature of them will lose its significance. Besides, the exchange rate risk adds to the existing problems in financial system. The depreciation of domestic currency aggravates the cost of external debt. Excessive external debt burden, in turn, leads to devastating economic and social outcomes. In this case, emerging countries tend to be more vulnerable to sudden and destabilizing reversals in capital flows. The crisis-hit Asian countries, which experienced large reversals, constitute remarkable instance for this fact.

Regarding the severe turmoil and even collapses in emerging markets in the 1990s and the early 2000s, intellectual opinion has moved against liberalization and some policy options have begun to be argued to eliminate the undesirable effects of capital flows. Of these policies, capital controls constitute the main theme of this study. In this respect, the second chapter of the study is devoted to the examination of the use of capital controls.

The theoretical examination, alone, tends to be insufficient to evaluate the effectiveness of capital controls since they have practical meaning rather than theoretical significance. Therefore, the third chapter is devoted to the survey of the country experiences with the capital controls. In this context, experiences of Chile, Malaysia, Thailand, Colombia and Brazil with the use of capital controls will be examined, which will enable us to evaluate the effectiveness of them.

Even though Turkey is not an example of the case of capital controls, Turkish experience with capital account liberalization and the effects of capital flows is presented in this study since in this process she faced with three severe financial crises, which have common features with those in other emerging market economies. Turkey differs from them in that in response to the crises, she did not resort to any restrictions on capital flows; rather she pursued IMF-backed stabilization policies. The purpose of inclusion of the Turkish case into the study is not to present an exact survey of liberalization process in Turkey but to indicate the vulnerable position of the country which is accompanied by capital surges. The Turkish economy has turned out to be more exposed to external shocks as the reliance on capital inflows increases. However, the use of capital controls in response to manage the capital inflows has not been comprehensively considered. Looking at the experiences of emerging economies with capital controls, their presence in Turkey should be at least a subject of thorough debate.

1. GLOBALIZATION, FINANCIAL MARKETS AND CAPITAL FLOWS

Globalization has been accepted as a natural process motivated by the improvements in integral parts of the social transformation, that is, economic, political and technological progress. All the participants of economic activities including people as labor, capital, companies and governments tend to be more integrated across nations in this process.

The first concern about globalization is debates on when this process began. O'Rouke and Williamson state that some economic historians believe that globalization process is as old as beginning of recorded history including pre-1500s, while some others claim that it occurred in line with the development of capitalism. However, O'Rouke and Williamson postulate that globalization did not exist before 19th century. They arrive at this point by taking globalization to mean the integration of international commodity markets and the convergence of commodity prices. There are two conditions enabling us to mention globalization. Firstly, domestic commodity prices must change relating to trade activities and this must cause reallocation of resources to affect living standard and income distribution. They refer that these two conditions were not maintained and the commodity price convergence effect of international trade was not seen before 19th century.[2] Taylor also shares this opinion that the date of emergence of globalization as an international phenomenon is 19th century. He divides driving forces of globalization into two groups: economic and technological forces versus political and institutional forces. Before 15th century, both forces are weak to encourage globalization. Between the period 16th and 18th century economic and technological forces are weak but institutional basis changed to promote globalization. During the 19th century both forces were so strong and in economic ground the volume of trade, international division and commodity price

[2] Kevin O'Rourke, Jeffrey G. Williamson, "When Did Globalisation Begin?", **NBER Working Papers**, No. 7632, Cambridge, MA, April 2000, pp. 1-20.

convergence were so high that it is sufficient to accept this period as outbreak date of globalization.[3]

These authors have considered the trade aspect of globalization. Technological innovations cause the transportation and communication costs to reduce, enhancing the international trade and investment across borders. However, globalization cannot only be linked to technological improvements and increased trade. The other aspects of globalization are increased mobility of labor and integration in capital markets. Globalization is not only measured by the convergence of commodity prices but also by asset prices. It can be said that throughout its history all sides of globalization have triggered and affected each other.

Singh defines five distinguishing characteristics of the contemporary globalization process. Firstly, he refers to a noteworthy growth in trade volumes with the ease of tariffs and other barriers. Second feature of present globalization is the high volume of trade in foreign exchange mostly arisen from capital flows across borders that are now rarely associated with international trade in goods and services. Thirdly, the global markets are more integrated than before. Fourthly, the increase in establishment of multinational companies has largely added to foreign direct investment. Finally, because of these improvements and the modernization of transportation and communication systems, the new technologies and ideas have spread all over the world.[4]

Accordingly, globalization of trade and capital are component parts of overall policy. Capital flows have had critical role in this process. This role can be made clear by evidence. The significant amount of capital flowed from industrial countries to developing countries fifty years before the World War I when this process ceased. During the Great Depression, governments attempted to impose some restrictions such as raising tariffs, in order to protect their economies. These restrictions

[3] Alan M. Taylor, "Globalisation, Trade, and Development: Some Lessons from History", **NBER Working Papers** , No.9326, Cambridge, MA, November 2002, pp.4-10.
[4] Kavaljit Singh, **The Globalisation of Finance: A Citizen's Guide**, IPSR Books, Cape Town, 2000, pp.3-4.

worsened the economic downturn, reducing the volume of trade and production and increasing the unemployment. This situation reversed in the post 1950s, barriers to trade in goods and services and capital were reduced and capital flows rose, accelerating the globalization process.[5]

The ties between commercial and financial activity is so strong that trade cannot be enhanced unless supported by finance. The main motivation for capital flows is to maintain the flow of funds from owners of them to ones who seek to meet the fund requirements for production and consumption of goods and services, that is, capital market integration is needed for globalization of trade. Both for benefiting from trade and effective operation of capital markets, the well-designed financial system is required. Besides, since capital flows have gained a new phase with the motivation of generating speculative gains from the variations of market prices of assets, it requires stronger financial support than before. In line with these advances, governments have opened their economies domestically and internationally in order to reap the benefits of globalization. They have pursued some properly designed policies to maintain increased productive capacity and reduce barriers to trade in goods and services and capital. All of these attempts have to be in accordance with the efforts of maintaining a sound financial system, which, in turn necessitates a sound public finance, stable money, development of banking sector, evolution of securities market and monitoring and controlling system by strong central banks.

The sequencing of liberalization, here, comes out as the most reliable measure to mitigate the unfavorable effects and benefit from it. When pursuing the liberalization policies, the authorities should comply with the sequencing issue. The order of the liberalization process is crucial for taking advantage of both domestic and external liberalization.

Since the capital account openness is theoretically supported by the first-best situation, when reflected in practice, liberalization of capital account has wide-range

[5] Paul Masson, "Globalisation: Facts and Figures", **IMF Policy Discussion Paper**, October 2001, http://www.imf.org/external/pubs/ft/pdp/2001/pdp04.pdf, 03th July 2004.

implications inducing economic development. However, in some cases freedom of capital movements is accompanied by some hazardous results. These distortions are generally due to some unfulfilled preconditions. Despite being arguable, it can be accepted that these preconditions are crucial for the countries to benefit from indispensable advantages of capital flows in the future.

One of the crucial considerations on capital account liberalization to be effective and produce its expected benefits without harming the economies, is the sequencing of the liberalization process. The concern is focused on the appropriate timing of current and capital account liberalization. That is, whether the capital account liberalization should precede or follow the current account liberalization. It is generally suggested that opening of the current account should be completed before the capital account due to the different adjustment speeds of commodity and capital markets. Williamson argues that unless current account liberalization is accomplished, the capital inflows will be channeled into industries, which are unlike to generate improvement such as import-substituting industries.[6] Krueger also contributes to this view by considering that unless the current account is liberalized, the distorted prices will be valid for the present value of capital flows, the investments will be assessed at these prices and the future investments will be discouraged. Besides, the reallocation of capital toward the industries, which gain more efficiency with integration in the world market, will be required after the liberalization of current account. This reallocation of capital involves costs, causing further distortion of prices.[7]

Another aspect of sequencing of liberalization is the fact that the domestic financial system should be liberalized before the capital account; that is, the completion of some prerequisites for capital market liberalization should be accomplished. Ignoring these conditions may cause serious distortions seen as the main reason for financial

[6] John Williamson, "Orthodoxy Is Right: Liberalize the Capital Account Last", **Capital Controls in Emerging Economies,** Ed. by. Christine P. Ries, Richard J. Sweeney, Westview Press, 1997, pp.13-14.

[7] Anne Krueger, 1984, cited in Clas Wihlborg, Kalman Dezseri, "Preconditions for Liberalization of Capital Flows", **Capital Controls in Emerging Economies**, Ed. by. Christine P. Ries, Richard J. Sweeney, Westview Press, 1997, p.40.

crises. Among them, first priority should be given to the strengthening the domestic financial system. Otherwise, the elimination of controls on capital before fulfilling the preconditions and opening the capital account to international competition with the entry of foreign banks, magnifies the existing problems in financial system. Domestic financial institutions, lacking of prudential regulation, monitoring system, proper risk management and other managerial facilities engage in risky positions, borrowing and lending beyond their capacity, which lies at the heart of the financial crises in developing countries.

Therefore, given the distortions in financial sector, the measures inclined to eliminate them should be taken before liberalizing the capital account. Primarily, the authorities to constitute confidence should pursue the transparent policies and sound accounting, auditing practices should be followed. The elimination of government's inappropriate guaranties that produce wrong signals for foreign investors and cause excessive capital inflows beyond its capacity to manage them, should help the development of financial system.

1.1 Globalization of Financial Markets

Globalization process in the 1980s and 1990s has signaled very important phenomena for the prospect of the global economy. With the surge in MNCs, the globalization of production has become necessity bolstered by the MNCs' profit maximizing intentions. The location of production has shifted from industrial countries where production costs are relatively high to developing countries where labor and raw materials are cheaper. Accordingly, faced with inducement of international institutions such as IMF and WB, developing countries have rapidly begun to open their markets to foreign investors. Related to these advances, globalization of finance has tended to be indispensable.

1.1.1 The Theoretical Basis for Financial Market Liberalization

The theories of financial liberalization emphasize the critical role of finance in the development process of developing countries. The main obstacle of these countries in maintaining sustainable economic development is the deficiency of savings that will turn out to be financial resources. The economic development accounts on both the generation of these funds and the way in which they are efficiently used. In this respect, liberalization of financial markets, that is, allowance of interest rates to be determined by market forces and elimination of other financial restrictions, leads the saving rates to rise, stimulating the domestic saving and investment and through increased financial intermediation; it leads the capital to be assigned in its best use.

1.1.1.1 The Concept of Financial Repression

In the economic literature, financial liberalization policies have been assessed in the context of financial repression hypothesis initially developed by McKinnon (1973) and Shaw (1973).

Many developing countries during the 1960s and 1970s have used financial repression policies conducted by governments on the purpose of generating revenue from seigniorage and stimulating economic growth by affecting the interest rate policy through restrictions on freedom of financial intermediaries to determine interest rates and allocate loanable funds. In those years, the belief that low interest rates provided by repression policies promoted the investment was very common. The attempts to hold the interest rates below its market level and pursue other policies require the government intervention in the economy. Besides, the intellectual and policy environment at this time were characterized by an optimistic view of the role of the government in development. The development policies had very specific industrial goals in which the government was expected to play a crucial role in carrying out the goals. These policies were motivated by government's role in

industrialization and based on concerns about "market failure" and "infant industries". Thus, the resulting policy was such that the government took an active role in setting the price of credit and in determining the allocation of credit.

Financial repression policies whose instruments include various policies namely both quantity and price restrictions on domestic financial market such as high reserve requirements, interest rate ceilings and selective credit ratios, were justified on several grounds. Firstly, government attempted to impose anti-usury laws to hinder usury through intervening in free determination of interest rates. Secondly, it was argued that through restrictions on credit assignments of banks, this policy aims at preventing the crisis effect of distortions of banking sector's capital structure due to excessive credit assignment to financial markets. Regulation and control of banking system would enable the authorities to control money supply easily and by this way to both take control over domestic prices and inflation and meet the government's resource requirements. Thirdly, it was thought that governments would have more information relative to private banks about what kind of investment projects had high social utility and how savings were optimally be allocated. Fourthly, interest rates determined below market rates also helped reduce the costs of servicing government debts to maintain cheaper credit for government enterprises.[8] The main motivation for financial repression is to generate easy revenue for governments. This revenue mainly emerges from inflation tax. Financial development causes the agents to hold less cash money owing to the introduction of new financial instruments. When this is the case, the revenue from inflation tax and seigniorage is lost. Hence, governments prefer financial repression to increase money demand and by this way, to gain seigniorage revenue to finance their deficits.

The reasons for choosing financial repression policies as a source of revenue for fulfilling the government's budget constraints rather than other taxation policies can be discussed on several grounds. Firstly, the revenue from other taxes is not sufficient. Secondly, these alternative forms of taxation are costly for government to

[8] Nouriel Roubini and Xavier Sala-I-Martin, "Financial Repression and Economic Growth", **Journal of Development Economics**, No.39, 1992, pp. 5-30.

administer and control. Thirdly, the government that matters redistribution of income may find imposition of tax on earnings of capital more appropriate. Finally, since the taxation related to the financial repression provides the application that is more implicit, the political environment may require this type of taxation. Whatever the reason for implementing these policies, the revenue from financial repression is so significant amount that the countries attempting to liberalize their financial markets should consider this amount and the potential loss that will arise from liberalization.[9] In this respect, Bai et. al. claim that the revenue from mild financial repression that does not leads to negative real interest rate on financial assets may be preferable to the revenue from income tax which is restricted by differences in income verification and corruption of tax collectors in developing countries. As a reference to their claim, they show Chinese experience with financial repression whose one third of total government revenue in 1986 through 1994 came from seigniorage and financial repression. According to them, the surpassing aspect of taxation through financial repression initially comes from the fact that domestic financial assets, in which all savings are held due to the capital controls, can easily be taxed. In addition, this kind of taxation is realized at the source of the assets, and the corruption is hardly ever seen. Therefore, financial repression leads to taxation of all savings at similar rates.[10]

1.1.1.2 Models of Financial Repression and Financial Liberalization

Given the crucial role of interest rates in economic activities, many aspects and objectives of the economic growth can be attributable to the interest rate policy. By influencing the interest rates, some objectives of government intervention in financial markets can be achieved. Therefore, governments have used this policy as a direct tool for pursuing the financial repression policies.

[9] Alberto Giovannini and Martha De Melo, "Government Revenue from Financial Repression**",** **American Economic Review**, Vol.83, No.4, September 1993, pp. 955-962.
[10] Chong-En Bai et al, "Financial Repression and Optimal Taxation", **Economic Letters** 70, 2001, pp.245-251.

The financial repression policies whose models were initially developed by McKinnon and Shaw, rely mainly on the interest rate policy which has been very much concern of economists so far and help analyze the contributions of McKinnon and Shaw. In Keynesian theory, low interest rates stimulate the investment, reducing the costs of credit necessary for finance of the projects. When the money supply is expanded, the demand for bond by the holders of excess cash balances increases, raising the bond prices and reducing the rates of return on them, namely interest rates. Low interest rates encourage investments and via multiplier effect income will raise but less than the full employment level without affecting the price level.
According to the Tobin's model, there are two assets substituting for each other: money and physical capital. When the interest rates are lowered with the expansionary monetary policy, the return on money will reduce and the demand for physical capital by economic agents as a substitute for money will rise. Thus, the capital/labor ratio will rise, causing the productivity of labor per capita income to increase. On the other hand, the classical and neo-classical theories state that the lack of savings in developing countries is the main reason for low rates of growth. Since the higher interest rates determined by the interaction of supply and demand of loanable funds, encourage the savings, tight monetary policy and higher interest rates are attractive for investments.

In 1973, McKinnon and Shaw confronted these traditional policy implications. They analyzed the financially repressed economies on the way of their analysis of financial liberalization. They claim that financial liberalization provides economic growth by causing the saving and investment levels to rise. Their considerations on interest rate policy resemble to those of the neo-classical school. However, McKinnon and Shaw also challenged the neo-classical framework of financial liberalization.

McKinnon states that higher interest rates contribute to the capital accumulation, which is viewed as a main part of economic development, by both, stimulating savings and inducing funds to be channelled to investments in improved technology rather than the lower yield investments. However, he opposed to the neoclassical theory of substitution between money and physical capital. The neoclassical theory

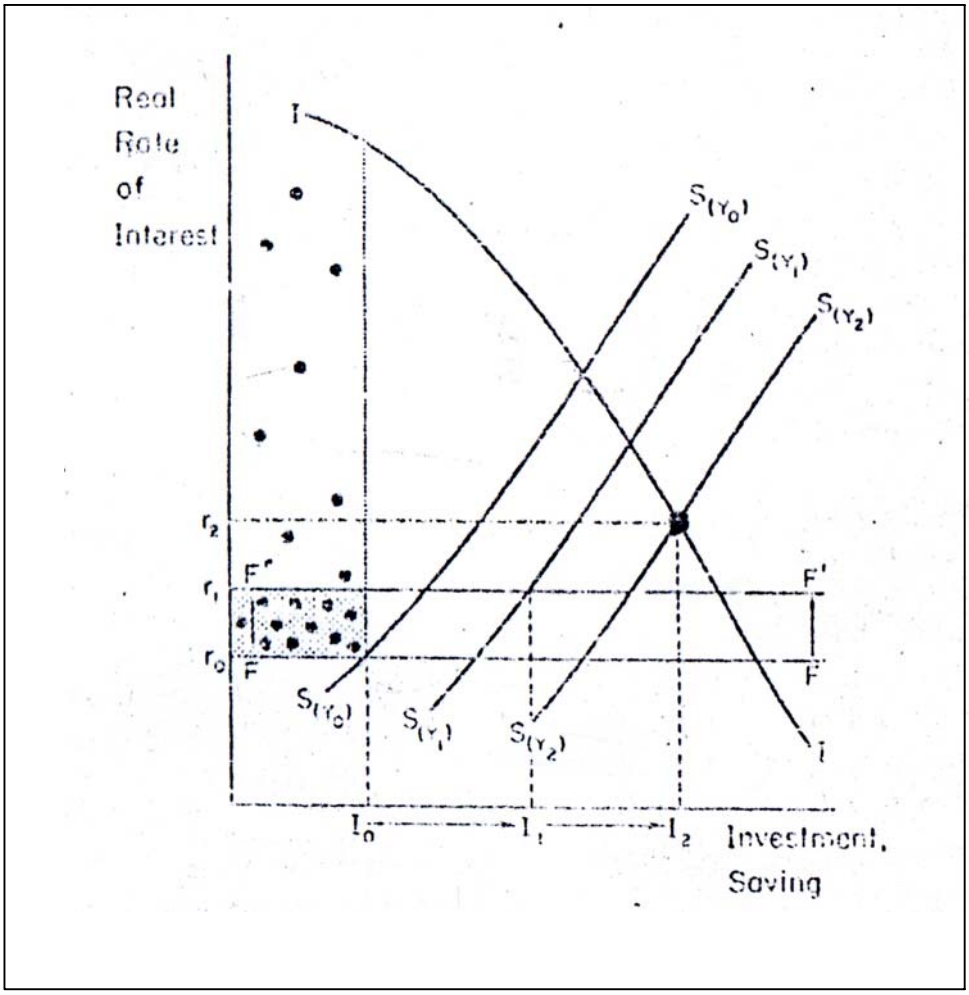
omits the main issues of less developed countries. One of the important realities of these countries is that they have fragmented markets for capital, land and labor. Fragmentation in capital markets causes large divergences in rates of return and implies the misuse of capital and other factors. In economies where unification of capital market does not exist, financial sector tends to be weak. Hence, the funds necessary for investment projects are limited to the wealth of the investors. This creates reliance on the self-finance for investment. Therefore, prior to undertaking the investment, investors must hold large money balances, that is, increase their savings. This consideration puts forward the hypothesis of the complementarity between money and physical capital. When the rise in rate of return to physical capital is seen, demand for real cash balances will also increase to undertake the self-financed investment. In other words, the more attractive the rate of return on deposits, the more prepared the investors to accumulate capital for their investment. In line with this argument, he states that increased interest rates cause the saving to rise and motive for investment will rise as well.[11]

The essence of the hypothesis of McKinnon and Shaw, the importance of financial conditions in the development process, is depicted by the Figure 1. The Figure shows the effect of interest rate ceilings on savings and investments. Saving, S, is a function of interest rate while F represents financial constraint which keeps the interest rate, r, below its market equilibrium level. As shown in the Figure, the investment level, I_0, is determined by the saving level at the interest rate level r_0 settled by financial constraint, F. The AB proportion of investment demand cannot be met by this level of saving. Hence, the banks prefer to finance less risky and low yielding projects. Easing the financial constraint to some level, F', causes the interest rates to rise to r_1 increasing both saving and investment. The efficiency of investment increases as riskier and high yielding investments are financed at this level of interest rate. The saving function shifts to the right increasing the economic growth to Y_1. At r_1 the investment level is I_1 and only CD amount of investment demand cannot be met. In

[11] Ronald I. McKinnon, **Money and Capital in Economic Development,** Washington D.C, The Brooking Institution, 1973, pp.8-16.

the case of relaxing all financial constraint, the equilibrium between investment and saving is realized at E point.[12]

Figure1. Saving and Investment under a Financial Constraint



Source: Maxwell J. Fry, November 1978, pp.464

The contribution of Shaw to the McKinnon analysis is captured by his debt intermediation view (DIV), his considerations on the role of financial intermediation in economic development. As a consequence of an increase in interest rates related to the financial liberalization policies, the capacity of financial intermediaries to lend is

[12] Maxwell J. Fry, "Money and Capital or Financial Deepening in Economic Development?", **Journal of Money, Credit, and Banking**", Vol.10, No.4, November 1978, pp.464-475.

increased through the rise in saving promoted by higher rates of return to savers. Financial institutions channel this larger savings to investment projects. The role of these financial institutions and banks in allocation of these funds among investment alternatives ensure the efficiency of investment due to the facilities of economies of scale in risk diversification, lending and information costs provided by banks.[13]

Both McKinnon and Shaw hold the view that interest rate ceilings can easily be evaded, as the savings are free to move towards high return areas, leading to capital flight. Shaw adds that " because savings are mobile, evasion of interest rate ceilings is routine in lagging economies. Capital flight away from domestic asset markets, where yields are depressed by ceilings, … to foreign asset markets is an expensive result of the statute and custom and moral law that tell excess demand for savings to behave itself and vanish".[14]

On the issue of inflation, Shaw confronts the belief that high interest rates accelerate the inflation. He notes that "high interest costs on capital in use are fixed costs and irrelevant for price formation in the short run." His second argument emphasizes that in the case of free flow of savings, the tendency for using cheap labor instead of expensive capital in production is discouraged on the basis of the fact that high interest rates cause the best use of savings for investment, which is more capital intensive and more efficient, reducing the output prices. In addition, by attracting more savings, allowing efficient allocation of production factors, in turn raising output and income and money demand, high interest rates lower the price level and do not have inflationary effect as opposed to be supposed.[15] On the other hand, Dornbusch and Reynoso claim that financial liberalization decreases the seigniorage revenue necessary for financing government deficits. These deficits begin to be financed by money creation. When the bankruptcies of financial institutions are

[13] Trevor M. Sikorski, **Financial Liberalization in Developing Countries**, Brookfield, Edward Elgar, 1996, p.68.
[14] Edward S. Shaw, **Financial Deepening in Economic Development**, New York, Oxford University Press, 1973, p.94.
[15] **Ibid.,** pp.94-95.

added to the financing requirements, the outcome of the liberalization may be higher inflation.[16]

Moreover, since the financial deepening, namely financial intermediation, is measured by the ratio of M2 to GNP and the bank deposits are a part of M2, the removal of interest rate ceilings causes more savings to be held in banks owing to the free functioning of banks, increasing M2 and hence the M2/GNP ratio. This implies that the improved financial intermediation, financial deepening. McKinnon observes this process from some country experiences: M2/GNP ratio rose from 0.29 to 0.91 in Germany from 1960 to 1980, in Korea from 0.11 to 0.34 and in Taiwan from 0.17 to 0.75.[17]

It can be concluded on the basis of this literature that the financial repression is an impediment to the economic development as it limits interest rates. The repressed interest rates lead the savings to decrease and the amount of loanable funds essential for investment to reduce. In the case of low interest rates, financial intermediaries are not motivated for allocating the capital consistent with its marginal productivity. Hence, both quantity and quality of investment due to misallocation of capital resources reduce and the economic development and growth are suppressed. Moreover, higher reserve requirements as a part of the repression policies, increase the wedge between lending and deposit rates, affecting financial intermediation negatively. In line with these detrimental effects of repression, McKinnon and Shaw hypothesis emphasizes the interest rate mechanism for enhancing economic development. Therefore, financial liberalization ensures economic development by implying the interest rates to be determined by their competitive market equilibrium level. The other relevant ways of affecting the investment efficiency can be extended. The savings intermediated by financial sector rather than self-investment lead to higher-productivity investment. Since low rates of interest entail the use of cheap labor, capital intensive and high tech investments are encouraged by increased

[16] Rudiger Dornbusch and Alejandro Reynoso, "Financial Factors in Economic Development", **American Economic Review**, May 1989, 79, 2, pp.207-208.
[17] Thomas J. Cunningham, "A Liberal Discussion of Financial Liberalization", **Economic Review-Federal Reserve Bank of Atlanta**, Nov/Dec 1991, 76, 6, ABI/INFORM Global, p.4.

interest rates. Besides, with the liberalization of financial markets, greater importance of the official markets at the expense of curb markets is realized. The elimination of fragmented markets and the unification of capital markets also enhance the efficiency both by offering savers wider investment opportunities and by reducing the differentials between investment yields in all over the world.

However, some critics are available on financial repression hypothesis. These are essentially based on market failure concept. Due to the market failures, interest rates cannot achieve its market equilibrium level. These market failures are caused by asymmetric information problem between investors and creditors. As a direct result of informational problems, Stiglitz and Weiss define credit-rationing concept.[18] A rapid increase in interest rates caused by financial liberalization increases the cost of capital. The riskier borrowers are willing to bear this higher cost whereas the safe borrowers are eliminated by the increased interest rates, implying adverse selection case. As the riskier projects provide higher return, the borrowers are willing to invest in those projects whose repayment probability is weak, defining the case of moral hazard. Owing to these failures, loan portfolios of banks are deteriorated especially in developing countries. Hence, critics focus on the fact that the presence of asymmetric information creates a justification for government intervention in financial markets and certain types of financial repression such as credit rationing may be welfare enhancing if the credit is assigned to its best use.

Proponents of repression policies such as Stiglitz generally argue that the financial repression policies enhance the capital efficiency. Their tenets are that the low interest rates will improve the quality of credits and by reducing the cost of capital, it will raise the net assets of the firms. In addition, the support of certain sectors by directed credit programs can encourage the economic growth when applied with other regulation mechanisms.[19]

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[18] Güven Sak, "Public Policies Towards Financial Liberalization: A General Framework and An Evaluation of the Turkish Experience in the 1980s, **Capital Market Board**, Publication No.22, Ankara, October 1995, pp.18-19.

[19] Maxwell J. Fry, "In Favour of Financial Liberalization", **The Economic Journal**, Vol.107, May 1997, pp.754-770.

Another critic on financial repression model comes from neo-structuralists. The main point of their critics put forward by Taylor, is the distinction between curb and official markets. In developing countries, the size of curb market is large. Since the curb market is free from reserve requirements and other legal restrictions, the credit multiplier in the curb market is larger than official market and all savings can be channeled into credit. The increase in interest rates expands the size of the official market whose credit creation mechanism is subject to legal requirements, and therefore reduces the amount of credit, leading the economic growth to contract.[20]

As an addition to this critics, Morisset put forward that the positive effect of domestic financial liberalization policies, namely elimination of interest rate ceilings, on investment through domestic credit market is not as much as suggested by McKinnon –Shaw hypothesis due to the presence of various factors affecting the relationship between real domestic interest rates, supply of domestic credit and private investment. The main impediment to increased investment in developing countries is the fact that these countries are surrendered by liquidity constraints on private investment which is supposed to be the result of artificial low interest rates. The demand for national liquidities and bank credits increase with the rise in domestic real interest rates. However, considering the public sector into the economic activity, crowding out effect occurs in that increased demand for money and capital goods makes the private sector unwilling to hold government bonds, reducing the government sources of financing its deficits. Upon this, the government demand for domestic credit increases and the amount of credit available for private agents reduces, crowding out the private sector of the domestic credit. Moreover, if the close substitution between bank deposits and capital goods exists instead of other unproductive assets, the investment-enhancing effect of rise in funds is eliminated, reducing the investment level.[21]

[20] Sikorski, **op. cit.,** pp.92-93.
[21] Jacques Morisset, "Does Financial Liberalization Really Improve Private Investment in Developing Countries?", **Journal of Development Economics**, Vol. 40, 1993, pp.133-150.

Pointing out similar problems, Balassa notes that prior to financial liberalization some certain conditions should be met. Initially, since both borrowers and banks tend to be more vulnerable to high interest rates, the inflation needs to be strictly controlled and the government must maintain the price stability. In addition, monitoring and controlling function of government in banking sector must be enhanced in case that the banks should not undertake risky investments and excessive liabilities that will lead their loan portfolios to deteriorate.[22] In addition, maintaining the fiscal discipline and agreeable government borrowing that will not cause the expansion of reserve money, the operation of commercial banks in a competitive and profit-maximizing manner and the avoidance of discriminative taxation imposed on financial intermediation are other necessary conditions for successful financial liberalization process.

On the issue of effects of financial liberalization policies, Arestis et al. in their study examining the effect of these policies on financial development across 6 countries, Greece, Thailand, Philippines, Korea, India, Egypt, for the period 1955 to 1997, show that to the extent that institutional improvement of the countries, financial liberalization policies have both long and short run direct effects. On the other hand, while financial restraints produce negative direct effects in some circumstances, their positive effects on financial development can be observed. Therefore, they conclude that in the presence of financial market failures, financial liberalization policies cannot be fully defended in that they always have positive effects.[23]

1.1.2. Capital Account Liberalization

The next step in overall liberalization policy is to maintain external liberalization across countries. Capital account liberalization, namely external financial liberalization, can be defined as the elimination of all restrictions on international

[22] Bela Balassa, "Financial Liberalization in Developing Countries", **Studies in Comparative International Development**, Winter 1990-91, Vol.25, No.4, pp.56-70.
[23] Philip Arestis, et. al., "The Impact of Financial Liberalization Policies on Financial Development: Evidence from Developing Economies", **International Journal of Finance and Economics**, Vol. 7, 2002, pp.109-121.

capital transactions. Restrictions on capital account may take various forms including limitations on foreign borrowing by domestic residents, investments in domestic market by non-residents, restrictions on the repatriation of capital earnings gained from investments in domestic economy. As an integral part of financial liberalization, capital account liberalization entails removal of all these restrictions. The link between domestic financial liberalization and capital account liberalization is so strong that their implications are interconnected. The precondition for successful capital account liberalization is greater degree of domestic financial liberalization. Only after domestic financial liberalization, removing interest rate ceilings, is realized, foreign investors tend to be willing for investing in domestic markets. This also helps stimulate retention of domestic capital in the economy. Further, improved investment quality and economic performance associated with the financial liberalization induce integration of trade in commodity and capital.

1.2 International Capital Flows

The first and typical reaction to relaxing the restrictions on capital account and the increase in degree of integration of world capital markets is the emergence of greater international capital flows. International capital flows have accelerated due to the recent wave of higher financial integration among industrial countries as well as between industrial and developing countries. The surge in capital flows has become differentiated from the past when it was associated with international trade and investment activity in that at present it is alone a drive for speculative gains from short-term flows.

The main force behind the rapid surge in international capital flows is the natural linkages between nations created by significant technological changes. The innovations in information and communication technologies have put the nations into the social transformation phase. In economic sphere, the use of computer systems have facilitated the investors to be informed of market prices of assets and to

appreciate the developments in the other countries' financial systems more efficiently so that more profitable and safer projects have been undertaken. In addition, the elimination of restrictions on foreign exchange transactions and attempts to economic liberalization and deregulation, the stabilization programs in the developing countries encouraging the issue of financial instruments and the creation of derivative instruments such as futures, options and swaps used to protect the investors against currency and commercial risks have added to the process.[24]

1.2.1 Types of International Capital Flows

Since the beginning of their presence, the composition, size, frequency and the content of capital flows have been significantly changed. Principally, two types of international capital flows can be defined: official flows and private capital flows.

Another distinction appears for these types of capital flows as short-term and long-term flows. This distinction seems to be useful for capital control programs, which intend to distinguish between short-term and long-term flows in order to tax them according to their maturities.

Short-term capital flows are capital movements that can be easily reversed and by nature speculative, whereas long term flows such as FDI and long-term bank lending, do not move according to cyclical changes but to changes in fundamentals and real conditions in an economy, therefore are not easily reversible. The financially driven short-term flows can be accepted to be more volatile and less predictable than the other forms of capital flows.

Short-term capital flows are generally characterized as short-term external borrowing/lending by domestic private banks, domestic currency holdings of non-

[24] Barry Eichengreen and Michael Mussa, "Capital Account Liberalization and the IMF", **Finance and Developmen**t, Vol. 35, No.4, December 1998, p.2.

residents deposited in domestic banks, resident holdings of foreign currency deposits, transactions of short-term financial assets and swap transactions in future markets.[25] This type of capital flows is seen as the most volatile as they have to be repaid in a shorter period than the longer-term ones.

However, Claessens et. al. claim that this nature of short-term flows is not sufficient to identify them as the most capricious ones. The reason for this argument is that short-term flows are associated with the long-term flows in that the financing needs of long-term investments may be relied on the short-term flows. Besides, the presence of an effective secondary market makes the long-term flows liquid, which in turn increases their volatility as well.[26] Therefore, it turns out to be complicated to distinguish between capital flows by their maturities.

Relatedly, Claessens et. al. go on to argue that to measure volatility by the type of capital flows does not yield a firm result because the close substitution between the various flows may have offsetting effects. Hence, all aspects of the capital account, factors that have influence on economic variables, should be totally taken into account.[27]

1.2.1.1 Official Flows

Official flows have been the main source of external finance for developing and low-income countries. Official flows consist of various forms of official development assistance (ODA) provided by industrial countries to developing countries. Modern official flows arisen from the intention of providing funds for reconstruction of Europe in the wake of World War II and then the scope of the aid was extended to

[25] G. K. Helleiner, "Capital Account Regimes and the Developing Countries", **International Monetary and Financial Issues for the 1990s,** Vol. 8, (Online) http://r0.unctad.org/p166/modules2001/mod4/Helleiner.pdf, 16th September 2004.
[26] Stijn Claessens, Michael P.Dooley and Andrew Warner, "Portfolio Capital Flows: Hot or Cold?", **The World Bank Economic Review**, Vol.9, No.1, pp.153-174.
[27] **Ibid.**

the developing countries. The ODA is directed to provide resources for investment on socially important sectors such as education, health and infrastructure which require lending with long-term horizon.

Official flows are primarily driven by two factors. First, there appears to be negative relationship between world market interest rates and official flows. High world interest rates are caused by the tight economic policies in industrial countries referring to the turmoil of these economies, which in turn lead to shrink in official flows. Secondly, another negative relationship can be found between growth rate of developing countries and official flows in that increasing growth rates invalidates the mission of these flows, which aim at contributing to remedy of economic problems sourced by low growth rates.[28]

Official development finance may have the forms of grants, concessional and non-concessional development lending with long interest and long periods for repayment and financial assistance by multilateral financial institutions.[29]

In the course of time, the source, instrument, ideology and size of ODA have changed. In 1950s, the donors of this aid were U.S. and a few countries until the establishment of international institutions such as IMF and WB by which the multilateral aid has been provided. The aid that had took the form of technical assistance to project and budget support, was very limited whereas in 1970s projects had become direct subject of the aid completely. The ideology of aid donors also changed in that the aim of aid had been state-directed development; but market-based growth gained more importance in 1970s.[30] The reason of this kind of financial support undertaken by the industrial countries is to avoid the contraction of the

[28] Dipak Dasgupta and Dilip Ratha, "What Factors Appear to Drive the Flows of Private Capital to Developing Countries? And How Does IBRD/IDA Lending Respond?", Development Economics Prospects Group, June 1999, (Online) http://econ.worldbank.org/docs/1147.pdf, 15th September 2004.
[29] K. Sheram and T. P. Soubbotina, **Beyond Economic Growth: Meeting the Challenges of Global Development**, Chapter 13, Foreign Aid and Foreign Investment, The World Bank, October 2000, p.73.
[30] Howard White, "Long-run Trends and Recent Developments in Official Assistance from Donor Countries", November 2002, (Online) http://www.wider.unu.edu/publications/dps/dps2002/dp2002-106.pdf#search='official%20flows, 14th October 2004.

market for their exports due to the financing problems of developing countries and to help the economic and social development by reducing poverty.

1.2.1.2 Private Capital Flows

While the size of official flows to developing countries declined in the 1990s, the private capital flows, which include all non-official flows, increased sharply. This rapid rise in private flows may be partly attributed to the increase in relative size of private sector in developing countries and partly to the investors' strategies and increase in MNCs. These flows may take various forms with different maturities.

Commercial Bank Lending:

The first surge in private capital flows was in the form of commercial bank lending in the 1970s. These flows were caused by the surplus funds deposited in Western Banks by oil producer countries. The profitable investment opportunities were not available in industrial countries due to the decline in rate of profit. Hence, these funds were directed to the emerging markets where the rates of return were increasing. During this period, commercial bank lending increased sharply.

Foreign Direct Investment (FDI):

The FDI refers to obtaining physical assets such as buildings, land, enterprises and equipment in foreign countries. MNCs which are governed by a centre and engage in simultaneous production in various countries usually carry out FDI. The expansion of MNCs is realized by constructing a new subsidiary plant, buying a domestic company or adding to the capital of the domestic company.

The most impressing feature is that FDI is accepted to be the most resilient among other types of capital flows, which were subject to large reversals. This can be made

clear by the evidence of financial crisis in East Asia. During this period, portfolio flows left the country quickly, falling from $ 17 billion in 1996 to $ 5 billion in 1998. Similarly, bank lending declined from $ 110 billion to $ 50 billion. However, FDI remained constant during crisis period. Further, as opposed to other types of flows, the volume of FDI increased during the Brazil crisis in 1999.[31]

There are number of factors behind FDI. One of the most noticeable is the motivation for corporations to shift the production operations from their high cost countries to the developing countries where labor is cheaper. Besides, they face less legislative requirements in these countries than in industrial ones. By this way, foreign companies also find ways of expanding the market for their goods and services.

Kamaly argues that there are some gaps in the existing literature on FDI and its determinants. The literature ignored some notable forces explaining the surge in capital flows as well as FDI. Initially, he holds that earlier studies based on static models include omitted variables making the robustness of results fall and therefore unreliable. In contrast, FDI is a dynamic process. This acceptance introduces the inertia of FDI, which helps explain the short term and long term explanatory variables separately. Political stability, host country reforms, countries' fundamentals and quality of government bureaucracy are examined by existing studies. However, besides these determinants, Kamaly emphasizes the strong positive relationship between interest rates and FDI flows as opposed to conventional wisdom which states that the FDI flows has nothing to do with the cyclical variables. The rise in international interest rates may imply that the returns to investment in the home country would fall indicating the opportunity cost of an investment like any other types of flows. In addition, the studies aim at examining the return factor in determining FDI such as degree of openness of a country and growth potential, but risk factor measured by creditworthiness such as credit ratings and the ratio of external debt to international reserves has not been taken into account. Pointing out

[31] Ahmed Kamaly, "Behind the Surge of FDI To Developing Countries in the 1990s", (Online) http://www.aucegypt.edu/academic/econ/wk3.pdf, 22th October 2004.

these gaps, he tries to develop determinants that are more reliable, shaping the body of FDI flows.[32]

Owing to its long-term nature, the FDI brings many benefits to the recipient country and is preferred much more than other types of international investment. Foreign investors whose profit expectations come from production activity requiring long-term investment undertake FDI. This creates the most reliable source of external finance for developing countries. Besides, FDI is the most effective way of transferring technology. New production and communication techniques, skills and managerial practices can be conveyed into the recipient country. The increased access to the international market partly because of outward oriented operations and partly due to communication facilities helps domestic investors to assess international opportunities efficiently. Further, FDI contributes to the employment level in recipient country and leads to greater competition among domestic companies. Considering these advantages, developing countries seek the ways to become attractive places for FDI so as to reap the benefits by changing or revising their political, economic and legislative frameworks.

However, despite all these benefits, the countries should be cautious about the potential risks related to FDI. Since FDI includes the transfer of control over domestic firms, foreign investors have the opportunity for obtaining the key inside information about these firms. As domestic savers investing in these firms through holding shares, do not have chance of controlling the firms, foreign investors take advantage over domestic savers creating the adverse selection problem and overinvestment. Besides, even though the reversal of FDI is not as easy as other types of private capital flows, it may be realized through financial transactions. Foreign subsidiary can borrow from domestic market and lend it to the parent company as the finance of FDI is largely provided among subsidiaries. Further, it has been made clear by evidence that the share of FDI relative to other capital flows to a country is high in countries whose institutions suffer from low quality and markets

[32] **Ibid.**

are inefficient. The reason of this case is that this kind of countries enables the foreign investors to operate directly without hindered by institutional and legal arrangements. Therefore, countries should engage in strengthening the market structure and institutions before attempting to attract more FDI. [33]

Foreign Portfolio Investment (FPI):

FPI is a kind of short-term investment consisting of the investments through stocks and bonds of a foreign corporation, assets of mutual funds and pension funds.

These flows are motivated by the investors' prospects of short-term profits related to the various factors that cannot be easily controlled by banks and investors. The short-term flows are known to flow out of a country as quickly as they flow in. Hence, the short-term profit motive of FPI makes it more prone to volatility and respectively unattractive for developing countries. As the portfolio investors are much more concerned with the return on finance capital and the easy access to market and repatriation of capital, in contrast to FDI investors, they may ignore the growth of market and infrastructure.

1.2.2 Determinants of Capital Flows

The determination of the factors behind the international capital flows is crucial for both enforcing the requirements to stimulate and get benefit from these flows and for coping with the side effects associated with them. These factors can be examined by dividing them into two groups: pull factors pertaining to internal circumstances and push factors defining the external conditions.

[33] Prakash Loungani and Assaf Razin, "How Beneficial Is Foreign Direct Investment for Developing Countries?", **Finance and Development**, Vol.38, No.2, June 2001, pp.4-6.

In addition, Taylor and Sarno define long and short run determinants of capital flows. The pull and push factors of capital flows differentiate according to expected duration of these flows. Permanent changes in push and pull factors cause permanent changes in net flows whereas transitory change in these factors reflect transitory movements in net flows. For instance, both domestic and international factors are required for the long-run determinants of equity and bond flows. On the other hand, bond flows are more sensitive to the global factors in the short run.[34]

Bleaney et. al. hold that domestic factors are more important than international determinants of capital flows. Their study of panel data econometrics suggests that unless an appropriate investment climate is provided by developing country, the fall in U.S. interest rates have nothing to do for inducing investors to invest in these countries. The superiority of domestic factors over global determinants seems to be more evident for capital flows to Latin America than to Asia, which had not suffered from market collapses as much as Latin America.[35]

Analyzing the surpassing factor of international capital flows is a bit difficult. Even though push factors seem to be the most defining factors, pull factors also important as they help explain the geographic distribution of capital flows over time.[36] On the other hand, it is more accurate to say that each type of capital flows is determined by different factors.

[34] Mark P. Taylor and Lucio Sarno, "Capital Flows to Developing Countries: Long and Short Term Determinants", **The World Bank Economic Review**, Vol.11, No.3, 1997, pp.451-70.
[35] Michael Bleaney, Paul Mizen and Lesedi Senatla, "Portfolio Capital Flows to Emerging Markets", **Credit Research Paper**, No. 99/12, 1999, (Online) http://www.nottingham.ac.uk/economics/credit/research/papers/cp.99.12.pdf, 23th February 2005.
[36] Suhejla Hoti, "Trends and Volatilities in International Capital Flows for Developing Countries", (Online) http://www.iemss.org/iemss2002/proceedings/pdf/volume%20due/354_hoti.pdf, 11th October 2004.

1.2.2.1 Domestic Determinants of Capital Flows (Pull Factors)

These are country- specific factors that influence both the size and composition of capital flows. The degree of openness of the country is the primary condition for these flows. Therefore, the country should show its willingness for realizing the liberalization and deregulation stages accordingly. The will for stable and sustainable structural, institutional and political reforms, reflecting the creditworthiness and increased productivity capacity of developing countries is also crucial for these countries to display confidential position for foreign investors. These economic indicators enable foreign investors to make risk-return evaluation. Actually, the high rates of return in developing countries where the capital formation is weaker constitute more critical factor.

Besides, the fixed exchange rates in developing countries may be attractive for foreign investors in that under the fixed exchange rate system, the risk of exchange rate volatility can easily be transferred to the government.[37] Since the return on investing in domestic assets equals to the difference between domestic interest rates and the depreciation of domestic currency, the overvalued domestic currency ensures high returns for investors.

In addition to these general sets of factors required by all types of capital flows to be attracted, some types of capital flows have specific determinants among the other factors. FDI mainly seek the environment for investment where the opportunity to put cheaper domestic raw materials and labor force into the production process and the appropriate legal framework is available. The political stance for privatization attempt is another key factor for FDI. As for FPI, the most important determinant tends to be the easy repatriation of capital and income. The restrictions on repatriation greatly discourage these types of capital flows.

[37] Alejandro Lopez-Mejia, "Large Capital Flows Causes, Consequences and Policy Responses", **Finance and Development**, Vol.36, No.3, September 1999, p.2.

Chen and Khan put this point from a cost of financing perspective and they relate the size, composition and stimulus of capital flows to the recipient country's growth potential and degree of financial market development. The countries with underdeveloped financial markets are required to pay some compensation to attract portfolio investments, which refers the increased cost of external financing. Hence, these developing countries with inefficient financial markets but high growth and rate of return potential get benefit from preferring other types of capital flows such as FDI as a source of external financing. This is especially true when the relative magnitudes of the degree of financial development and growth potential greatly differ from each other. Therefore, financial development level should be consistent with the growth potential. The countries that attract relatively more FDI are ones that cannot attract portfolio flows due to its underdeveloped financial markets.[38] For the same reason, Loungani and Razin add that the countries where the share of FDI in total flows is higher point to riskier countries in that they have poorly-developed markets and weak institutions.[39]

1.2.2.2 International Determinants of Capital Flows (Push Factors)

International factors primarily reflect the investment opportunities available in global economy. First, the structural and institutional changes in international financial markets and improvement in the integration of developing countries with the global financial markets have a key role for funds that have been accumulated in industrial countries to gain mobility.

The fundamental motive for international capital flows from industrial countries to developing ones is cyclical movements, the fall in rates of return in industrial countries and high-yielding investment opportunities in emerging market economies.

[38] Zhaohui Chen and Mohsin S. Khan, "Patterns of Capital Flows to Emerging Markets: A Theoretical Perspective", **IMF Working Paper**, January 1997, pp.25-29.
[39] Loungani and Razin, **loc. cit.**

The recession in industrial countries can partly be identified by the "law of diminishing returns" that can be expressed by the fact that the capacity of high tech production methods to increase the productivity of labor force fall beyond the optimal level and the costs of production tends to increase. As a result, the rates of return diminish and both the investment level and growth rates decrease in industrial countries. The rise in U.S interest rates, beginning in late 1993, can be accepted as the key reason explaining the reversal of capital flows from developing to industrial countries.

Depending upon the introduction of the dollar as international reserve money, the deposits that are called as Euro-dollar funds and held in European Banks flowing at the international level out of control of the US emerged and their volume increased. Besides, prices of the petroleum rose and since the economic and political structure of the petroleum producer countries were not appropriate to channel this extra income into investment and economic development, Petro-dollars were added to the Euro-dollars in the case of the banks of the Core (advanced) Countries. In the 1970s, profits were decreasing due to the reason explained above and investment opportunities were shrinking in developed countries. These funds turned out to be directed to the periphery (emerging) countries that were suffering from the lack of capital for profitable investments. This process proved the historical incline that during recession when the investors start to look for new instruments and investment opportunities due to the fact that in central countries the investment opportunities are shrinking and low interest rates are discouraging the attractiveness of the deposits, financial capital directs towards developing countries that grow rapidly and ensure risky but higher returns. [40]

The industrial countries attempted to seek new markets where these funds were channeled in 1970s. In line with the economic environment that accelerated the process of capital flows, industrial countries and international institutions such as IMF forced developing countries to open their economies to these private flows.

[40] Ergin Yıldızoğlu, **Globalleşme ve Kriz,** İstanbul, Alan Yayıncılık, Kasım 1996, p.41.

With the accepted liberalization and deregulation policies, developing countries have tended to be profitable investment areas. Since the reason of capital flow is the high rates of return and the most important factor yielding high return is the high real interest rates, developing countries try to pursue the appropriate interest and exchange rate policies.

Therefore, foreign investors in industrial countries seek the high returns on their investments not available in their countries due to the fall in the world interest rates and direct toward emerging markets where the interest rates and growth potential are so high to attract these funds.

In an effort to indicate the change in interest rates in developed countries as a push factor for capital flows to developing countries, Bleaney et. al. identify the changes in U.S. nominal interest rates categorizing its two components: the expected inflation and real interest rate components. They show that the real interest rate component appears to be the global factor determining the surge in capital flows whereas the expected inflation part of nominal interest rate constitutes one of the domestic determinants of capital flows, of which low rates indicate and insure more credible investment environment.[41]

In addition to the cyclical influences, which were the most expressing motives for capital flows until 1990s, structural forces are also important for explaining the movements of capital. Inspired by some changes in financial markets of industrial countries such as decline in communication costs, increased competition and rise in investment costs, the capital tends to move from industrial countries to developing countries whose economic prospects are expected to be sound. Further, capital movements help the investors to gain from more diversification of risk due to easy access to international capital markets.[42]

[41] Bleaney, et. al., **loc. cit.**
[42] A. Lopez-Mejia, **loc. cit.**

Bartolini and Drazen approach this issue from different aspect holding that the developing countries hasten to engage in liberalization policies when the low interest rates in industrial countries encourage the foreign investors to invest in these countries. Hence, the policies in developing countries are driven by world interest rates and external macroeconomic situations. They hold that the capital inflows and reversals can be explained by the response of investors to available information. External factors induce developing countries to decide on liberalization policies, on the other hand the external shocks impede the investors to obtain exact information about the essence of the liberalization policy. Therefore, they tend to invest in these countries so much without a sound consideration due to the lack of information. Since the failures in these policies begin to be noticed by foreign investors, they tend to escape from emerging markets.[43]

1.2.3 Measuring the Degree of Capital Mobility

The degree of international capital mobility is a bit difficult to measure. Since a certain method has not been developed, the measure is conducted by several methods based on various authors' calculations.

Haberger measured the convergence of private rates of return to capital across countries. He estimated the rates analyzing national account data of various countries in his study and found important similarity between them. Accordingly, he concludes that the integration of capital markets is significantly high. The negligible, small divergence in national rates of return to private capital found in this analysis is attributed to the country risk premia applied to some countries that are accepted as risky owing to debt default probability and international reserve positions.[44]

[43] Leonardo Bartolini and Allan Drazen, "When Liberal Policies Reflect External Shocks, What do We Learn?", **Journal of International Economics,** Vol. 42, 1997, pp.249-273.
[44] Sebastian Edwards, **Capital Controls, Exchange Rates and Monetary Policy in the World Economy,** U.S., Cambridge University Press, 1995, p.4.

In contrast to Haberger, Feldstein and Horioka found that global economy cannot be identified by the perfect capital mobility. They reached this finding on the basis of the relation between domestic saving, investment and capital mobility by analyzing 21 OECD countries for the period 1960 to 1974. According to them, if perfect capital mobility is to exist, there should be no or little correlation between domestic investment and domestic savings in any particular country. That is to say, in order to be able to mention the fully integrated capital markets, the domestic investments should be financed largely by foreign savings. In contrast, if there are some kinds of controls on capital markets, changes in domestic savings tend to be reflected in changes in domestic investments. As a consequence of their study based on the estimations of their well-known equation*, they found the correlation between domestic saving and investment to be so high to arrive the conclusion that the world capital markets are not fully integrated as it is supposed.[45]

Another approach is the interest parity conditions including covered interest parity, uncovered interest parity (UIP) and real interest parity, among which the latter is generally accepted as more empirically relevant for most developing countries. Expected returns to various assets denominated in common currency are compared in this method. If capital mobility is perfect, the parallel movement of differences between interest rates of each country and expected exchange rates should exist. That is, for the reason of UIP to hold, the expected change in nominal exchange rate must be equal to the difference between nominal interest rates in countries, equalizing the expected rates of return on domestic and foreign assets.[46]

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* Given $(I/Y)_i$ is the ratio of gross domestic investment to GDP in country i and $(S/Y)_i$ is the ratio of gross domestic saving to GDP, the equation takes the following form:

$$\left(\frac{I}{Y}\right)_i = \alpha + \beta\left(\frac{S}{Y}\right)_i$$

[45] Martin Feldstein and Charles Horioka, "Domestic Saving and International Capital Flows", **The Economic Journal**, Vol.90, June 1980, (Online) http://papers.nber.org/papers/w0310.pdf, 10th April 2004, pp.314-329.

[46] Peter J. Montiel, "Capital Mobility in Developing Countries: Some Measurement Issues and Empirical Estimates", **The World Bank Economic Review**, Vol. 8, No. 3, pp. 315-317.

On the issue of evaluation of UIP's implications, Montiel claims that some complications are associated with application of this method. According to this method, the financial integration can be accepted as to be strong to the extent that this parity conditions hold. Meanwhile, weak financial integration is implied by the existence of identical rates of return on identical assets, eliminating the opportunity of profitable arbitrage. In addition, the variable costs associated with identical assets in different countries impede the realization of UIP.[47]

Edwards and Khan used time series on domestic and international interest rates in order to measure the degree of capital integration. In their study, the findings are assessed in line with the deviations from the interest parity conditions. As a result, they found that actual degree of capital mobility is high even if some restrictions on capital mobility pose impediments on the process of interest rate convergence.[48] However, Willett et al. claim that actual capital mobility is not as high as put forward by Edwards and Khan formulation which relates the domestic interest rates and expected depreciation to external factors. Since these variables are determined by domestic inflation, this method misses the point that it leads to overestimation for high-inflation countries. Similarly, the methodology developed by Haque and Montiel as an extension to Edwards' and Khan's approach which suffers from unavailability of data on market-clearing interest rate, aims at using this approach through estimates of the difference between market clearing rates. On the other hand, this method ignores the existence of sterilization of capital flows, which has been seen in many developing countries. Therefore, Willett et al. hold that this method also overestimates the degree of capital mobility and in essence, the capital mobility is not so high in developing countries as held by these studies.[49]

Hussein and Mello indicate another measurement criteria assessing capital mobility by its consumption-smoothing effects when domestic expenditure is affected by exogenous shocks. They test capital mobility in 9 developing countries using VAR

[47] **Ibid.,** pp. 311-350.
[48] Edwards, **op.cit**, p.5.
[49] Thomas D. Willett, Manfred W. Keil and Young Seok Ahn, "Capital Mobility for Developing Countries May Not Be So High", **Journal of Development Economics**, Vol. 68, 2002, pp. 421-434.

representation of the current account dynamics. In order to be able to assess the degree of capital mobility, the consumption-smoothing benefit associated with free capital mobility, should increase the mean of private consumption and also reduce its variance. Comparing the variance of current account balances, the degree of capital mobility is measured. To the extent that low degree of the variance due to the consumption-smoothing effect is prevailing, the capital mobility is said to be high.[50]

1.3 Capital Flows to Developing Countries

The main obstacle of developing countries that hinders them from maintaining the sustainable economic development is that they deprive of adequate capital for embarking on productive investment projects. Industrial countries, on the other hand, seek to invest their excessive funds in places where the returns are higher. Thereby, with the relaxation of restrictions on capital transactions, the surge in capital flows is expected to serve to both sides.

1.3.1 Net International Capital Flows to Developing Countries

Essential shifts concerning the composition, size and direction of capital flows have been observed in both developing and developed countries, reflecting the changes in international investment environment, financial and economic structures of countries. Particularly, the composition of capital flows has altered substantially in the 1990s. Official flows declined while the share of private capital flows increased in external financing of developing countries. The composition of private flows has also changed. Initially commercial bank lending was the major form of private flows. However, total amount of commercial bank lending diminished in the 1990s due to the decreased credibility of emerging markets after the debt crisis in the 1980s.

[50] Khaled A. Hussein and Luiz R. de Mello Jr., "International Capital Mobility in Developing Countries: Theory and Evidence", **Journal of International Money and Finance**, Vol. 19, 1999, pp. 367-381.

Besides, speculation opportunities were more attractive than loans. When coming to the 1990s, since both official flows and commercial bank lending ceased, the developing countries attached importance to attract FDI and portfolio investments. These flows have increased since the 1990s. Nevertheless, the large share of them has concentrated on middle-income countries, rather than on lower income countries.

Table 1. Emerging Market Economies' External Financing

	1998	1999	2000	2001	2002	2003	2004e	2005f
Capital account balance	-7.9	23.1	49.3	26.4	78.8	119.6	169.8	113.3
Net External Financing:								
Net Private flows	141.5	143.2	169.0	130.5	120.4	207.6	303.4	310.7
Net Equity investment	134.2	163.5	147.3	148.4	118.8	125.1	176.6	184.9
-Net Direct investment	120.7	147.7	132.5	139.9	117.7	92.7	138.3	148.2
-Net Portfolio investment	13.4	15.8	14.8	8.5	1.1	32.5	38.5	36.7
Net Private Creditors	7.3	-20.3	21.7	-17.9	1.6	82.5	126.7	125.9
-Net Commercial banks	-53.6	-48.9	-5.9	-26.1	-3.9	30.6	54.2	46.2
-Net Nonbanks	60.9	28.6	27.6	8.2	5.4	51.9	72.5	79.7
Net Official flows	51.2	10.2	-1.9	11.1	-3.3	-21.0	-27.9	-50.4
-IFIs	38.4	1.6	2.9	22.7	7.8	-6.7	-18.7	-16.9
-Bilateral creditors	12.7	8.5	-4.8	-11.6	-11.1	-14.3	-9.1	-33.5
Net Resident lending / other[1]	-143.2	-121.7	-146.1	-80.8	-45.1	11.2	-53.5	-46.3
Reserves (- = increase)	-41.6	-54.7	-70.3	-87.7	-150.8	-317.4	-391.8	-327.4

e = estimate, f = IIF forecast

[1] Including net lending, monetary gold, and errors and omissions

Source 1 : IIF, http:// www.iif.com/data/public/cf_0102.pdf

Source 2 : IIF, http://www.iif.com/verify/data/report_docs/cf_0305.pdf , p.1

Table 1 represents external financing of emerging market economies. It is evident that there has been almost as much as twice surge in the volume of external financing sources of developing countries between 1998 and 2005. It can be captured in the rising volume of net private flows that private flows have gained large share in financing sources of emerging markets.

1.3.1.1 Net Capital Flows by Type

Table 1 also presents a useful instrument for evaluating the underlying reason to which this recent surge in the volume can be attributed. When assessing the recent figures, it may be appropriate to mention some previous figures briefly.

Official Flows:

During the last 20 years, the level of ODA, which was the most primary source of external financing before, has declined. In 1950s, the developed countries had a target of providing 1% of their GNP as ODA. In 1970, this level was set at 0.7%. Since then, a steady decline in ODA has been observed despite the attempts of developed countries to reduce their defense expenditures and create additional sources for ODA.[51] Official flows fell from 29% of total flows in 1990 to 6% in 1994. It rose in 1995 owing to the aim of assisting the recovery of Mexico from the crisis. In 1996 for the first time, it reached at negative figures.[52]

Table 1 shows that official flows that were remarkably high in 1998 when compared to following years, turned out to decrease beginning from the year of 1999. Relatively high figures were attained only in 2001 owing to the loans of international institutions provided to crisis-countries such as Argentina.

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[51] Nguyen qui Binh, "Current Problems of Debt Negotiations and Management for Developing Countries", April2000, (Online) http://www.unitar.org/dfm/Resource_Center/Document_Series/Document9/Binh/3Impacts.htm, 13th May 2004.

[52] Singh, **loc. cit.**

Private Flows:

In the 1970s, private capital flows began to increase primarily in the form of commercial bank lending. This process was ceased by the debt crisis in the 1980s. By this time, also the direction of flows had changed. While in the 1980s, it was directed to the developed countries, it turned out to flow to developing countries in the 1990s mostly in the form of FDI and FPI. However, private flows, in these years, were subject to variability mainly due to the economic turmoil in emerging economies, such as Asian crisis in 1997, Russian and Brazilian crises in 1998.

Private capital flows that were increasing gradually by the year of 1998, seems to decrease in 2001 and 2002 due to the financial crises in some developing countries such as Argentina and Turkey. In 2003, this type of flows began to rise and 2004 was the year in which private flows reached more than twice as much as 2002. In 2005, it is forecasted to amount to nearly same figures as in 2004.

As for components of private flows, it seems that equity investment was the dominant source of external financing over commercial bank and nonbank loans. The proportion of direct investment in equity investment is overwhelmingly higher than portfolio investments during all reported years. However, for the last three years, portfolio investment has reached relatively higher figures, being forecasted to amount to 36.7 in 2005. Capital flows to emerging markets, taking the form of direct investment is likely to continue to rise in 2005, reaching at the highest figure after 1999. As well as portfolio investment, commercial bank loans have increased remarkably since 2003 relative to previous years. However, these loans are expected to decline in 2005 because they will much more flow to the emerging European countries suffering from the lack of financing sources. Nonbank-sourced loans that

gradually declined during 1999-2001, started to rise in 2002 and by the year of 2003, it reached noticeably to higher levels, as was the case in 1998.[53]

1.3.1.2 Capital Flows by Region

Table 2. Net Financial Flows to Emerging Market Economies by Region (billions of dollars)

	2002	2003	2004e	2005f
Private Flows	120.4	207.6	303.4	310.7
-Latin America	22.6	23.9	29.9	42.9
-Europe	35.6	62.5	107.3	122.4
-Africa/Middle East	1.6	4.4	10.1	11.2
-Asia/Pacific	60.5	116.8	156.0	134.3
Official Flows	-3.3	-21.0	-27.9	-50.0
-Latin America	6.1	0.5	-9.2	-11.4
-Europe	4.1	-4.8	-9.2	-34.5
-Africa/Middle East	-1.4	-2.3	-2.6	-2.9
-Asia/Pacific	-12.1	-14.4	-6.9	-1.6

e = estimate, f = IIF forecast
Source: IIF, http://www.iif.com/verify/data/report_docs/cf_0305.pdf, p.4

By evaluating the capital flows to emerging markets from a geographical perspective, Table 2 shows that Asian countries seem to receive the highest proportion of private funds in 2005, as was the case in previous years. However, the ratio of private funds that will be received by Asia to total volume of private flows

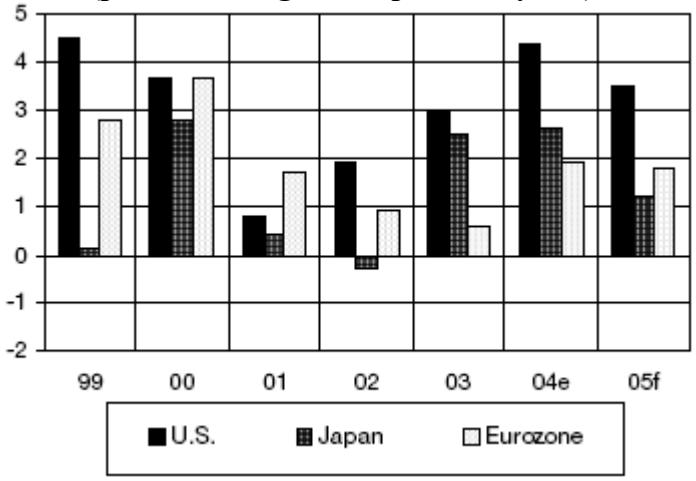
[53] IIF, "Capital Flows to Emerging Market Economies", October 2, 2004, (Online) http://www.iif.com/verify/data/report_docs/cf_0105.pdf , 28th February 2005, p.1.

will decline due to the rising volume of funds flowing to European countries. It is expected that this rising share will be due to the rise in funds flowing to Russia and Turkey in 2005. In Latin America, private flows are likely to continue to rise slightly in 2005.[54]

1.3.1.3 Recent Trends in Capital Flows

In the light of the factors that have influenced both the volume and type of capital inflows, as mentioned above, it is possible to assess the direction of international funds for 2005. Broadly speaking, in 2005, the global recovery period is expected to continue, which, in turn, is likely to cause the surge in capital flows to emerging markets.

Figure. 2 Industrial Countries' Real GDP Growth (percent change from previous year)



Source: IIF, http://www.iif.com/verify/data/report_docs/cf_0305.pdf, p.2

It can be derived from Figure 2 that in 2005 the U.S. is expected to grow less than in 2004. The decline in GDP growth seems to noticeable in Japan mainly due to the stronger domestic currency and low levels of growth in Asian countries, which in

[54] IIF, "Capital Flows to Emerging Market Economies", March 31, 2005, (Online) http://www.iif.com/verify/data/report_docs/cf_0305.pdf, 12th April 2005, p.9.

turn cause its export values to decrease. In 2005, Euro zone is expected to maintain almost same levels of 2004.[55]

The following table demonstrates that the rate of growth will decline in emerging market economies below the level prevalent in 2004.

Table 3. Emerging Market Economies' Output Growth (percent change from previous year)

	2002	2003	2004e	2005f
Real GDP	3.7	5.2	6.6	5.6
Latin America	-0.9	1.5	5.7	3.9
Europe	4.3	5.5	6.7	5.2
Africa/Middle East	3.4	4.1	4.0	4.1
Asia/Pacific	6.6	7.2	7.3	6.9

e = estimate, f = IIF forecast

Source: IIF, http://www.iif.com/verify/data/report_docs/cf_0305.pdf , p.2

The only region that is likely to encounter an increase in output growth relative to 2004 seems to be Africa in 2005. Latin America that has the lowest output growth levels during the last three years is expected to keep its place with 3.9 level in 2005. Likewise, Europe and Asia will experience deceleration in growth more modestly than Latin America.

[55] **Ibid.,** p.2.

Table 4. Emerging Market Economies' Current Account Balance (billions of dollars)

	2002	2003	2004[e]	2005[f]
Current Account Balance	79.0	120.8	159.9	127.5
-Latin America	-9.1	11.1	22.6	7.7
-Europe	8.2	-1.1	3.1	-6.7
-Africa/Middle East	6.4	9.9	13.7	13.4
-Asia/Pacific	73.6	100.7	120.4	113.1
Current Account Balance (% of GDP)	1.4	1.9	2.2	1.5
-Latin America	-0.6	0.7	1.3	0.4
-Europe	0.9	-0.1	0.2	-0.4
-Africa/Middle East	2.1	2.6	3.1	2.7
-Asia/Pacific	2.6	3.1	3.3	2.8

e = estimate, f = IIF forecast

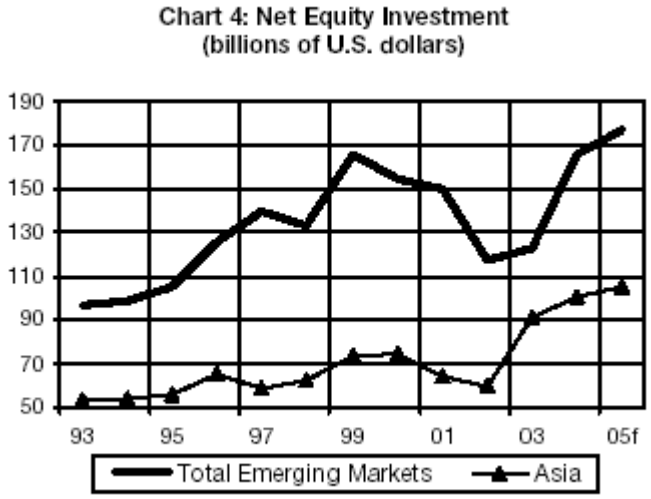
Source: IIF, http://www.iif.com/verify/data/report_docs/cf_0105.pdf , p.6

Table 4 shows that the current account surpluses of emerging markets seem to decrease in 2005. Their export volumes are expected to remain the same as 2004, yet the export prices are forecasted to rise less than in 2004, leading to decline in trade surplus. On the other hand, decline in import growth due to the slowdown in economic activities, is likely to avoid large current account deficits. The exception to the large deficits seems to be emerging Europe.[56]

[56] IIF., 2004, **op. cit.**, p.6.

This review justifies the interpretation emphasizing the fact that despite a decline in the volume relative to last year, the growth rates of emerging countries are likely to exceed the rate of industrial countries in 2005. International investors with improved confidence in these countries do not hesitate to take advantage of relatively favorable economic growth. This prospect is likely to be reflected in the increase in net equity investment moving up from 176.6 in 2004 to 184.9 in 2005 as can be observed from Figure 3.

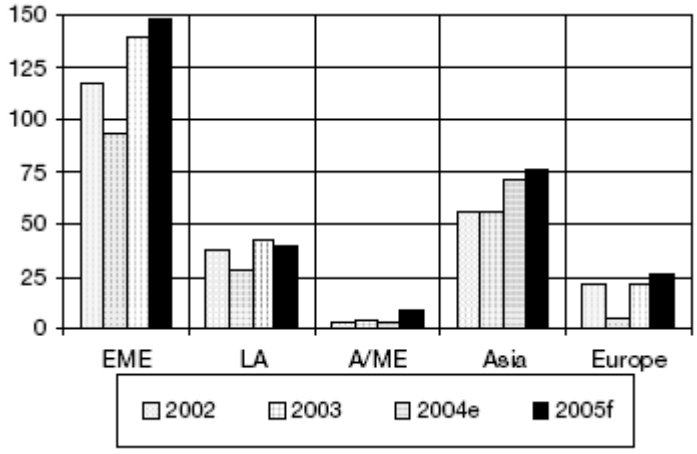
Figure 3. Net Equity Investment (billions of U.S. dollars)



Source: IIF, http://www.iif.com/verify/data/report_docs/cf_0105.pdf , p.9

The predicted surge in equity flows are mainly attributed to the increase in direct investment from 138.3 in 2004 to 148.2 in 2005. On the other hand, portfolio flows are anticipated to decrease from 38.5 to 36.7.

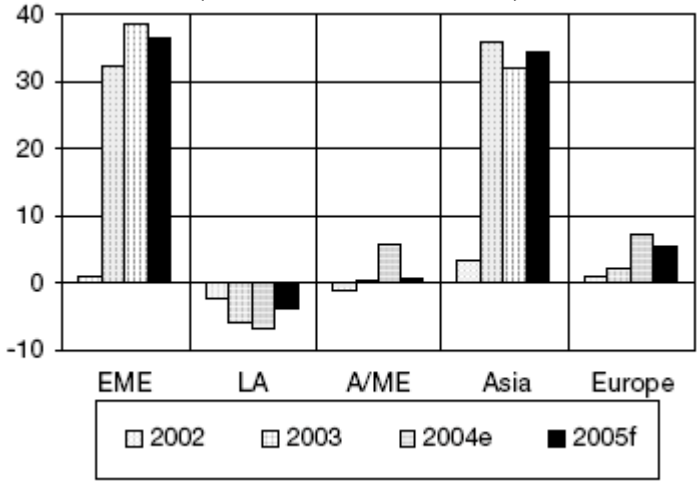
Figure 4. Net Direct Investment by Region
(billions of U.S. dollars)



Source: IIF, http://www.iif.com/verify/data/report_docs/cf_0305.pdf, p.10

In addition, the Figures 4 and 5 prove that the very large proportion of capital movements in the form of FDI and equity investment is supposed to be directed towards emerging economies. It is expected that 2005 will be the year in which the highest volume of capital flows is realized for the last 4 years.

Figure 5. Net Portfolio Investment by Region
(billions of U.S. dollars)



Source: IIF, http://www.iif.com/verify/data/report_docs/cf_0305.pdf, p.11

On the other hand, Figure 5 reveals that total amount of portfolio investment is likely to be more sluggish in 2005. Yet, emerging market economies and Asia are forecasted to receive the largest proportion of these flows. Latin America, which used to be the centre of these types of flows in 1990s and has received a little volume recently, is expected again to be more unattractive for portfolio investment relative to other regions in 2005.

Eventually, it can be said that in addition to relatively higher growth rates in emerging markets, constituting one of the main determining factor of capital flows to these countries, in an environment of lower inflation, higher interest rate and acceptably priced stocks, investing in these economies is expected to generate favorable earnings.

1.3.2 Macroeconomic Effects of Capital Flows to Developing Countries

From the perspective of the countries trying to attract capital flows, the primary aim is to maintain the stable and sustainable economic growth. Developing countries are lack of domestic savings required for this aim, which constitutes the most essential problem of these countries. Since they do not have the chance of covering the saving and balance of payment deficits and removing the foreign exchange problems through their own resources and exports, they attempt to attract capital inflows. The required amount of foreign resource is determined by the ratio of capital to output. This ratio indicates that how much investment is required for per capita output. The larger the ratio, the larger the requirement for foreign resource. The need for foreign resource decreases if higher output can be obtained with less investment. The countries that greatly necessitate external finance are said to be the ones with high potential growth and whose ratio of capital/output is high.

However, besides the capacity of creating growth potential, capital flows, especially short-term capital flows, come to these countries with some costs. The countries with poorly designed and volatile financial sector and weak macroeconomic fundamentals, find themselves into greater difficulties, sometimes in a crisis, rather than better economic conditions because of capital flows.

Therefore, the macroeconomic effects of capital flows are various and complicated related to economic structures of countries and policies pursued by the governments of these countries. In this sense, it can be said that the effects are two sided. The capital flows have great influence on macroeconomic variables and similarly, the political and economic environment of the recipient countries shapes them.

1.3.2.1 The Effects on Exchange Rates and Balance of Payments

One of the primary effects of the surge in capital flows is that it causes the domestic currency to appreciate by increasing the foreign exchange supply. This effect is magnified by the high interest rate and low exchange rate policies of countries aiming at attracting the capital flows. In this case, the rising inflation becomes inevitable. The nominal depreciation falls behind the inflation rate and the real appreciation goes on. As a result, the import increases and the foreign trade balance goes into a deficit.

There comes, here, a question that whether this increase in imports is directed toward the import of investment commodities or import of consumption commodities. If the former is realized, economic development is enhanced due to its effect on real sector. Otherwise, only the domestic consumption increases. The proper allocation of these flows by the government is a crucial problem here in that foreign funds should be

directed towards the sectors with increasing capacity of export, which, in turn fulfill the foreign exchange requirement.[57]

Since capital flows help increase the foreign exchange reserves in a country, the current account deficit is not seen as long as low exchange rate and high interest rate policy is pursued. However, this policy cannot be sustained forever and the balance of payment deficits cannot be financed through capital flows. The permanent and stable policy should be to encourage the policies aiming at increasing the export. Otherwise, due to the sudden reversal of capital flows, financing balance of payment deficits would require devaluations larger than the inflation rate, which decrease the aggregate demand and deteriorate the economic growth.

1.3.2.2 The Effects on Inflation

Capital flows have an increasing influence on inflation through two channels; expansion of the monetary base and appreciation of the domestic currency. Therefore, removing the adverse effects of capital flows on inflation requires eliminating both its effects on the expansion of money supply and on the appreciation of domestic currency. The countries that receive large capital inflows, have generally attempted to either sterilize or implement tight monetary policies in order to avoid the expansionary effects of capital inflows on the monetary base. However, as will be explained in chapter 3, both the sterilization and tight monetary policy cause the interest rates to increase, attracting more capital inflows.

[57] Sadi Uzunoğlu, Kerem Alkin, Can Fuat Gürlesel, **Uluslararası Sermaye Hareketlerinin Gelişmekte Olan Ülkelerde Makroekonomik Etkileri ve Türkiye**, İstanbul, İMKB Araştırma Yayınları, No. 6, p.66.

1.3.2.3 The Effects on Monetary Policy

Capital flows lead the use of money substitutes to increase in any economy. With the abundance of foreign exchange associated with large capital inflows, residents of especially high inflation countries tend to hold foreign exchange instead of holding domestic currency. The increase in money substitutes makes it difficult to pursue the monetary policy. Financial repression policies hinder the introduction of money substitutes in the form of financial instruments, aiming at increasing seigniorage revenue by keeping the demand for domestic money high. Hence, the government revenue from seigniorage and inflation tax decreases as new money substitutes are introduced related to capital flows.

The effect of capital flows on monetary expansion depends on whether the money demand is determined by capital flows or capital flows are directed by the money demand by residents according to domestic requirements. If the latter is true for a developing country, then the expansion of money supply does not have an inflationary effect whereas in the former case controlling the monetary expansion becomes more difficult. Just as, the country with large inflows, is left without an effective tool for controlling and managing economic variables.[58]

1.3.2.4 The Effects on Interest and Saving Rates

Domestic financial liberalization policies that precede capital account liberalization imply that removal of financial repression and higher interest rates encourage domestic saving and cause increased investment through better financial intermediation. Accordingly, by the guidance of the attempts to the financial liberalization and relaxation of interest rates by developing countries, capital flows have accelerated and tended to be directed toward these countries in the extent of external financial liberalization policies. In this process, interest rate policy is seen to

[58] **Ibid.**, p.68.

be one of the most attractive factors for capital flows to developing countries suffering from the saving shortage and looking for capital inflows. These countries have attempted to pursue the low exchange rate and high interest rate policies in order to attract and get benefit from capital flows.

However, critics of domestic financial liberalization are focused on the fact that an increase in interest rates in developing countries may reduce aggregate savings since the public savings decrease with higher interest rates due to rising debt burden. The real sector is also adversely affected by the higher interest rates. Consequently, the distorted budgets of the public and real sectors impede improvement in financial sector.

The policies of capital account liberalization impart that foreign savings are transferred to the countries suffering from capital shortages. Thereby, foreign funds can be used for profitable investment opportunities by flowing from countries with low rates of return to those with high interest rates on funds. The flow of funds is ceased when the rates of return on funds, interest rates, are equalized in all countries. Theoretically, capital flows that come to developing countries under these conditions are expected to have a decreasing effect on interest rates due to the increase in liquidity and supply of savings. This statement holds for under the assumption of perfectly competitive financial markets. The evidence, on the other hand, supports the opposite case. Capital surges beyond the absorptive capacity of the country lead the interest rates to rise due to the rising public deficits, interest payments and external debt. Besides, the policies aimed at eliminating the expansion of money supply associated with excessive inflows such as sterilization and tight monetary policy, lead the interest rates to rise. Therefore, the convergence of rates of return, which will lead the cease of capital flows, is not realized.[59]

Besides, some studies examining the relationship between foreign savings and domestic investment in developing countries, in particular Latin American countries,

[59] Nurhan Yentürk, "Impacts of Capital Inflows on Saving and Investment: A Comparison of Turkey and Latin American countries", **METU Studies in Development**, Vol. 23 (1), 1996, pp.154-164.

support the view that domestic investment rates fell below the domestic saving rates. This case is originated from the fact that foreign funds are increasingly used for financing external debt payments, current account deficits and for consumption expenditures on especially import goods, rather than real investment projects which will enhance the economic growth.[60]

1.3.2.5 The Effects on Public Sector

Since the exposure to the international capital markets increases, the government's leading financing source tends to be the borrowing from international markets. By this way, reduced liquidity constraints on governments make it possible to undertake crucial investments for economic development and to maintain the continuity of the living standard of its society. However, as the international capital flows to the country rise so do the costs associated with them and the government is forced to take some measures to deal with the side effects, which, in turn, pose additional costs on the economy, such as costs related to the sterilization policy, which will be mentioned later.[61]

In addition, the government aiming to attract some kind of capital into the country, especially FDI flows, may implement some policies such as privatization that is strongly advised by IMF and foreign investors. This policy, in some cases, may take irrational form leading to huge income losses when domestic assets are sold being undervalued.

The capital flows also have effects on public sector through distributional channel. In order to encourage capital flows, the tax on capital is reduced and gradually tax is imposed on less mobile factor, that is labor, reducing its income and promoting the informal sector. As for foreign investors, they seek to invest in the countries with low

[60] **Ibid.**
[61] Alex Cobham, "Capital Account Liberalization and Poverty ", (Online) http://www.qeh.ox.ac.uk/pdf/qehwp/qehwps70.pdf, 25th May 2005.

tax rates on capital. Therefore, especially developing countries are competing for being attractive investment areas and they may become tax heavens, reducing their tax on capital substantially.[62]

Besides, the governments may lose their independence to pursue domestic policies and to engage in economic activities that are vital requirements of the economy and consistent with the fundamentals and realities of the country.

1.3.2.6 The Effects on Economic Growth

As shown before, McKinnon and Shaw hypothesis suggests that domestic financial liberalization has generated numerous gains in terms of increased efficiency in allocation of investment, increased saving rates accompanied by a substantial rise in the size of investment and financial depth, which in turn promote economic growth. However, the evidence is also available for supporting the view that the domestic financial liberalization and increased real interest rates do not produce the rise in the volume of investment, especially in developing countries. Considering these two conflicting effects, it can be said that positive effect of financial liberalization on the volume of investment is not obvious. On the other hand, the evident channel through which financial liberalization affects growth may be the increased market efficiency. That is, higher gains may be generated from the rise in quality of investments instead of higher quantity of investments.

Similarly, extracting an exact result from the literature on the effects of external financial liberalization on economic growth is not seen possible. On this issue, there are also conflicting results.

According to Henry, capital account liberalization decreases the cost of capital in developing countries, increasing investment in terms of both volume and allocative

[62] **Ibid.**

efficiency so that total factor productivity (TFP) also increases. This increase in TFP can be linked partly to the economic reforms associated with requisitions of liberalization policies such as relaxation of some capital restraints serving to the use of some technologies that is not possible to finance before the liberalization and increase in risk sharing, encouraging firms to engage in investment on riskier production technologies. Therefore, benefits of liberalization can be transmitted to the real economy, enhancing the economic growth. [63]

Quinn also adds to the growth-enhancing effects of financial openness. In his cross-section study of 58 countries during the period 1960 to 1989, he estimates correlation between the change in an index of financial openness and long-run economic growth over the same period. He finds that the coefficient of openness variable is significant and positive beyond the level of .01, and the relationship between capital account deregulation and economic growth is statistically robust. Hence, his empirical estimates suggest that the change in capital account liberalization has a strong effect on the growth. [64]

Klein and Olivei suggest that capital account liberalization has an improving effect on economic growth through the channel of its effect on financial development. The more efficient market associated with the improved financial development tends to eliminate the asymmetric information problems and reduce transaction costs so that substantial amount of savings can be directed towards more productive investment projects, indicating higher level of growth. In their cross section study of 82 industrial and developing countries, they analyze the correlation between capital account liberalization and change in financial depth over the period 1986 to 1995. The results support their hypothesis that capital account liberalization has a positive impact on economic growth for only industrial countries; but evidence for developing countries is not found. They conclude that the benefits of capital account

[63] Peter Blair Henry, "Capital Account Liberalization, The Cost of Capital, and Economic Growth", **NBER Working Papers**, No. 9488, February 2003, pp. 10-11.
[64] Dennis Quinn, "The Correlates of Change in International Financial Regulation", **American Political Science Review**, Vol. 91, No. 3, September 1997, p.531.

liberalization at least in terms of financial development as an important aspect of growth, can only be accrued by developed countries where financial and institutional regulations are completed.[65]

For the same reason, Kraay conducted cross-sectional analysis regressing per capita GDP and GNP growth over 1985-1997 on the change in financial openness over the same period by using OLS estimation method. He finds that the results are not statistically significant and concludes that capital account liberalization does not have statistically significant effect on economic growth. That is, as opposed to the supportive hypothesis that financial openness has positive impacts on income and growth, change in financial adjustment is not related to economic growth. It is because capital account liberalization also causes greater volatility and related negative effects, neutralizing the growth-enhancing impacts of the free capital mobility.[66]

Mishra et. al. hold that the positive effect of free international capital mobility on investment growth is less than before. The reason for this is shown as the change in composition of capital flows so that portfolio capital flows has an increasing share in total capital flows and FDI from which the strongest productivity effect is expected, is now less directed to the projects that require factory building than it did before. Another reason is that larger foreign exchange reserves are hold by countries rather than used for productive projects, in case it should be used in the face of financial crises that emerge from sudden reversal of these flows. Besides, higher capital outflows associated with relaxation of controls on them reduce the availability of funds required for investment projects. Hence, the capability of capital flows, especially FDI to promote productivity and growth is limited to only some countries that have invested in physical infrastructure and human capital. Similarly, portfolio

[65] Michael W. Klein and Giovanni Olivei, "Capital Account Liberalization, Financial Debt and Economic Growth, **NBER Working Papers**, No. 7384, October 1999.
[66] Aart Kraay, "In Search of the Macroeconomic Effects of Capital Account Liberalization", October 1998, (Online) http://www.worldbank.org/research/bios/akraay/CALMacroEffects.pdf, 26 May 2004.

capital flows tend to be more productive in countries whose capital markets are well-designed.[67]

Investigating growth effect of capital mobility, Soto presents the similar distinction between types of capital flows in his paper in which an estimation of a dynamic panel for 44 developing countries during the period of 1986-1997 is conducted. He holds that FDI and portfolio equity flows due to their contributions to domestic capital accumulation process and to the technological improvement, have positive and significant effect on income growth in these countries while the short and long-term bank lending have the opposite one. However, these types of capital flows may add to the economic growth provided that financial strength, high capitalization of banks necessary for efficient allocation of resources, which in turn increases the domestic investment, is maintained.[68]

Similar conclusion that free capital mobility promotes economic growth only in financially developed countries, can be reached at Bailliu's study in which the effect of capital flows on growth is analyzed by using panel data for 40 developing countries during 1975-95. Different from previous studies that focus on the effect of financial integration on growth by increasing the domestic investment rate and by leading to the transfer of technology and skills, he emphasizes the influence of capital flows on growth through its effects on financial intermediation. This effect on economic growth is positive as long as capital flows cause increased financial intermediation. The results suggest that growth-enhancing effect of capital flows is realized only in countries that reached at certain level of financial development, that is, in countries where the financial system exercises the role of allocating capital to profitable projects and facilitating the risk management. Hence, the degree of

[67] Deepak Mishra, Ashoka Mody and Antu Panini Murshid, "Private Capital Flows and Growth", **Finance and Development**, Vol. 38, No. 2, June 2001, p.3.
[68] Marcelo Soto, "Capital Flows and Growth in Developing Countries: Recent Empirical Evidence", **OECD Development Centre Technical Papers**, No. 160, July 2000, (Online) http://www.oecd.org/dev/publication/tp1a.htm, 12th March 2004.

countries' financial development levels is the main determinant of economic growth related to capital flows.[69]

Prasad et al. examine the growth effect of financial openness through a number of channels that can be grouped as direct and indirect channels. Direct channels are firstly activated through the increased domestic saving rates accompanied by substantial rise in investment. With the globalization of capital markets, the cost of capital reduces due to the increased risk sharing opportunities, thereby encouraging investment. Another direct channel enhancing growth is technological and managerial spillovers brought by foreign investors mainly with the FDI flows. Final direct benefit is obtained through its effect on domestic banking sector by improving the supervisory and technological system, increasing the variety of financial instruments and the quality of financial services due to the increased competition. Facilitating risk sharing, financial globalization stimulates specialization in production, raising the growth rate. It also brings the policy discipline to policymakers who are refrained from imposing restrictive and disastrous policies, which in turn constitutes greater credibility for prospects of the country.[70]

Although these are potential benefits marked in theory, it is difficult to find clear and robust relationship between financial globalization and economic growth in developing countries. By the list of countries according to their growth rates during 1980-2000, Prasad et al. also show that the countries with limited capital account liberalization have high growth rates, while economies that are relatively more open have experienced decline in growth rates. Besides the conclusion that no clear support for relationship between financial openness and economic growth exists, it can be derived from the evidence that the theories omit some necessary factors such as institutional structure and governance capacity in order to experience increased

[69] Jeannine N. Bailliu, "Private Capital Flows, Financial Development, and Economic Growth in Developing Countries", **Bank of Canada Working Paper**, 2000-15, July 2000, p. 3.
[70] Eswar Prasad et al., "Effects of Financial Globalization on Developing Countries : Some Empirical Evidence", March 17, 2003, (Online) http://www.imf.org/external/np/res/docs/2003/031703.pdf, 13th February 2004.

growth. Hence, these potential benefits cannot be obtained unless some set of preconditions are fulfilled.[71]

1.4 Concerns about the Capital Account Liberalization

Capital account liberalization has generally been associated with higher investment, rapid growth and economic development. As considered from the point of view of the foreign investors, the essential motivations for financial openness are the opportunities for greater portfolio diversification and higher rates of return. The easy access to world capital markets also provides some potential benefits to recipient countries, enhancing growth potential. On the other hand, both domestic and external financial liberalization have been accused of leading to costly crises in many developing countries so that many arguments can be available to counter the potential benefits generated from financial market openness.

The primary potential gain brought by the access to the global capital markets is its capacity to provide a chance for developing countries' residents to borrow from abroad so as to smooth their consumption even during a recession period which is generally shaped by the lower ability to borrow. However, most of the developing countries have faced with credit constraints in crisis periods. Hence, access is determined by cyclical changes in developing countries, requiring the high-cost policies generally contradictory to their fundamentals to attract the capital flows. In addition, more financial stability and efficiency can be obtained related to the entry by foreign banks to the domestic financial markets. By this way, more sophisticated techniques for risk management, monitoring and controlling systems have been introduced. More proper financial intermediation leads the cost of investment to fall and resource allocation to improve. On the other hand, as an outcome of easy entry to domestic markets, foreign banks may prefer to concentrate on certain firms in their lending operations. It causes the smaller firms to be deprived of the credit required

[71] **Ibid.**

for engaging in entrepreneurial activity. This credit rationing works in favor of stronger corporations over smaller ones, giving them monopoly power. In addition, in order to be able to compete with foreign banks, domestic banks tend to merge against them so that the bankruptcy of a single bank puts the whole domestic financial system into danger.[72]

The global mobility of capital may bring policy discipline to recipient countries that are conscious of the importance of pursuing proper and transparent policies to reap the benefits of capital flows. This adds to the macroeconomic stability limiting the ability of policymakers to implement unfavorable policies. On the other hand, severe side effects related to free capital mobility such as monetary expansion, exchange rate appreciation, large current account deficits and inflationary pressures pose impediments on stability efforts. In addition, policy responses to these adverse effects cause additional problems and deepen the existing shortcomings.

As mentioned before, short-term capital flows with the maturity of less than one year, are subject to the speculative, pro-cyclical considerations such as interest and exchange rate differentials rather than long-run prospects of the countries. During an economic downturn period, this type of flows leaves the country as fast as it comes in. Hence, this pro-cyclical nature of short-term flows has caused large reversals in a number of developing countries, indicating high degree of volatility of capital flows. The fact that increasingly volatile capital flows would cause macroeconomic instability when combined with other side effects of these flows, may also lead to financial crises. The crisis of emerging market economies in 1990s have caused the considerations to be focused on the volatility of international capital flows. The relationship between volatile capital flows and macroeconomic instability seems to be two-sided: the volatility adds to the instability as well as it is caused by the distortions in the economic conditions. In fact, this case proves paradoxical since financial integration is, in principle, expected to enhance the growth rate.

[72] Pierre-Richard Agenor, "Benefits and Costs of International Financial Integration: Theory and Facts", (Online) http://econ.worldbank.org/files/2585_wps2699.pdf, 06 March 2004.

Osei et al. identify four types of capital flows, namely official flows, FDI, debt and other private flows; and three groups of countries; low, lower-middle and upper-middle income countries, respectively LICs, LMICs and UMICs, for their study that analyzes the trends in volatility of capital flows. Besides the simple measure of volatility used in many studies; the standard deviation expressed as a percentage of the mean value, two other measures; standard deviation around a simple time trend and around a forecast trend are used. Their measure of volatility is based on the weighted average of the last two measures in order to consider the expectations. According to their findings, official flows to all groups of countries are less volatile than private flows. Of all groups of countries, private capital flows are the most volatile in LICs where FDI has the lowest volatility among private flows. Both instability of FDI and other private flows are lower in LMICs. As for UMICs, FDI is more volatile while other private flows are less volatile than in LMICs. The most volatile flows for all groups are the debt flows. This volatility also varies over the period. For LICs, the instability of official, debt and private flows fell in 1970s while it has increased since then, except for FDI whose volatility fell in 1990s. Similarly, the volatility declined in 1970s and 1980s and increased in 1990s in LMICs except for FDI. Instability decreased in 1970s and increased in 1980s and 1990s in UMICs, but as opposed to other groups of countries, instability of FDI increased in 1990s.[73]

Volatility of capital flows may emerge from domestic factors as well as external factors such as movements in world interest rates. Domestic reasons of sudden reversals are partly related to political and economic deficiencies of a country when policymakers engage in unpredictable activities concerning capital flows and also related to the changes in economic fundamentals of a country and high ratio of debt to international reserves which lead to the loss in credibility of borrowing country. In an unreliable environment, the investors' confidence in domestic policies falls so that speculative attacks on currencies and balance of payments crises occur.

[73] Robert Osei, Oliver Morrissey and Robert Lensink, "The Volatility of Capital Inflows: Measures and Trends for Developing Countries", (Online) http://www. nottingham.ac.uk/economics/credit/research/papers/CP.02.20.pdf, 08th February 2004.

Asymmetric information problems and contagion effects also produce reasons for volatility of capital flows. Information problems introduce some defects impeding the realization of efficient allocation of resources, which has been usually seen as the main benefit of free capital movements. The opponents of financial liberalization hold that the presence of incomplete information invalidates the hypothesis of efficient markets. They claim that especially in developing countries the information is asymmetric referring to the situation that one side of financial transaction has more information than the other side so that the outside investor (lender) who provides capital has less information about economic activity than its inside partner (borrower) who uses and manage the capital. Such asymmetries in information cause three market failures.[74] The adverse selection occurs when incomplete information about creditworthiness of each borrower makes lender increase interest rates both for borrowers having potential risk of default and other borrowers so that the riskier projects would receive funds rather than credible ones. Since the riskier projects provide more profit, a borrower may tend to invest in these projects in the absence of good observation and monitoring activities by lenders due to the lack of information. Hence, the borrowers with risky projects pretend as if their investments were good credit risks in an attempt to receive funds or after they maintain funds, they may use them for investments with bad credit risk. This situation indicates the moral hazard problem.[75] Other distortion caused by asymmetric information is herding behavior, which can be summarized as following the other investors' actions regardless of the actual information. It appears when investors who are about to invest in a country, rely heavily on information of other investors rather than their own knowledge and follow the behavior of them especially in cases when information is difficult to acquire. These assessments are generally not related to the changes in fundamentals of the country in question, rather than the short-term considerations of the investors and generally subject to informational asymmetries. Therefore, large fluctuations in capital movements may be caused by these market failures.

[74] Barry Eichengreen et al, "Liberalizing Capital Movements: Some Analytical Issues", **IMF Economic Issues**, No.17, February 1999, p.3.
[75] Michael K.Ulan, "Should Developing Countries Restrict Capital Inflows ?", **Annals,** Vol.579, January 2002, p. 251.

The presence of these market failures also harms one of the most important expected benefits of capital account liberalization by introducing credit rationing and poses doubt on the case of accepting it without any condition. One of the justifications for defending financial liberalization over financial repression is to eliminate credit rationing related to repression policies. However, even in liberalized capital markets credit rationing may arise owing to the market imperfections. As a consequence of asymmetric information mentioned above, market failures such as adverse selection and moral hazard cause lenders to take unknown risks. Lenders charge a market premium on their loans in that borrowers may not reflect the truth. In the presence of high premium, borrowers still willing to borrow at the expense of paying excessive premium are evaluated as being risky borrowers. Yet, good borrowers avoid borrowing at this high rate. In this case, despite demanded, lenders do not want to lend, leading to credit rationing. Therefore, the presence of market failures may also cause credit rationing.

Contagion effects also have an important role in explaining the volatility of capital flows. When investors following each other, decide to take their funds from one market, other countries are also affected and face with severe economic crises even if they were accepted as appropriate investment areas before. Contagion effects may arise from several factors. Agenor states that the loss of confidence in robustness of country's economic fundamentals due to some developments elsewhere causes the financial contagion. Another channel through which contagion may occur is that the fall in import demand in crisis countries leads the world commodity prices to reduce pushing other countries into recession.[76] Besides, the collapse of one country's currency casts doubts on certainty of other countries' economic fundamentals, which is called 'wake-up call' phenomenon. [77]

Related to the contagious effects of currency crises, Rose and Wyplozs identify two channels. First channel focuses on the effect of speculative attack in one country on its trade partner. When one country faces with the attack, its currency depreciates and

[76] Agenor, **loc. cit.**
[77] A. Lopez-Mejia, **op. cit**., p.4.

competitiveness increases. This amounts to lower export and higher import for its trade partner. This country is left with current account deficits and loss in international reserves, which in turn, experience an attack on its currency. The second channel works through the macroeconomic similarities, focusing on information-related effect of speculative attack. When seen in one country, it spreads to other countries with similar fundamentals and economic policies, allowing the information about validity of a policy pursued by attacked country to spread. Besides, they argue that trade related effect of contagion overcomes the other channel through which the contagious effect is realized.[78]

This volatile nature of capital flows also adds to the consumption volatility in developing countries. The sudden surge in capital flows to developing countries leads to the consumption booms financed by foreign investors unless the absorption capacity of the economy is sufficient. If the sequencing issue is not taken into account so that the domestic financial liberalization and capital account liberalization are simultaneously undertaken, the liquidity constraints are aggravated. Faced with an external shock combined with the difficulty in accessing to international capital markets, these countries are entailed into financial crisis.

1.5 Capital Flows and Crises

In line with the financial liberalization policies, many countries have restructured their financial markets for the last 20 years. In this period, such reform policies as relaxing interest rate and credit constraints, regulations related to the banking sector, removing the restrictions on capital flows, have been implemented under the guidance of Bretton Woods Institutions. However, it is seen that most of the developing countries following this recommendation have faced with financial crises. The fact that many countries liberalizing their capital markets have found themselves in the midst of financial crises and harmful bankruptcies casts doubts on

[78] Andrew K. Rose and Charles Wyplosz, "Contagious Currency Crises", **Capital Flows and Financial Crises**, Ed. by Miles Kahler, London, The MIT Press, 2003, pp.155- 185.

free mobility of capital flows. All of the crises which are seen as the most evident cost of financial liberalization, have had so high economic and social costs that both economists and policymakers have to reconsider whether the high relationship between these crises and increased international capital flows exists. In the light of the modern financial crisis episodes, it can be observed from the evidence that while the real internal shocks are gradually disseminated through trade channels, the transmission of effects of external shocks is now easier and quicker through financial linkages.

Evaluating the crisis from Keynesian perspective, the reason of contemporary crisis appears to origin from external factors rather than internal sources, especially international market forces. The main determinant of the crisis phenomenon is the domestic consequences of these forces, which have taken the form of increased capital mobility. Considering their unregulated and unfettered nature, capital flows may introduce a type of market failure. The volatile short-term capital flows cause uncertainty and variation in domestic macroeconomic variables, which were seen by Keynes as primary impairment for the economic activity. The uncertainty leads to the herding behavior and makes the rationales for investment decisions far from the considerations of long-run economic prospects of the country. With the increased global economic integration, the nation states have tended to be a part of the same unit pursuing almost the same policies regardless of their own facts. These constitute the reasons for financial crisis leading to the low rates of growth globally.[79]

In accordance with this tenet, Bhagwati points out that the Asian crisis and also other crisis cannot be thought without considering the effects of excessive short-term foreign borrowings as exposure to international financial market has increased, preceded by relaxation of restrictions on capital mobility. When examining the recent crises, it can easily be recognized that the crisis-hit countries had received large amount of foreign capital and had been overexposed to short-term capital flows soon before the crisis. Sudden reversals put pressure on macroeconomic policies so that

[79] Jonathan Kirshner, "Keynes, Capital Mobility and the Crisis of Embedded Liberalism", **Review of International Political Economy**, Vol. 6, No. 3, Autumn 1999, pp.313-337.

policymakers are forced to design them to make the capital return to their countries by the guidance of IMF regardless of their own policy precedence. This generally requires increased interest rates. As a consequence, they are left with unsustainable debt burdens and large income losses caused by the sell of domestic assets to foreign buyers at a lower price than their own value which, in turn, cause the deepening of the crisis. Considering both the benefits and costs of free capital mobility, he holds that the net benefits may be negligible. Besides, as these crises are revived on a number of occasions, none of the solutions of defenders to the consequences of capital mobility correct the losses generated by capital flows permanently.[80]

The crises suggested to be the result of periods of capital inflows occur in the form of banking, currency or twin crises, which are interconnected. Principally, the theories aiming at explaining the crises can be classified into 2 groups. The traditional explanation of currency crisis implies that the crisis is caused by weak economic fundamentals of the countries leading to depletion of international reserves. The speculative attack occurs due to the concerns of investors about the sustainability of the fixed exchange rate. Further loss in reserves forces the authorities to abandon the peg, ending with the collapse of exchange rate regime. This approach is called as first generation model.[81]

In their paper examining the evidence on currency crises and suggesting a warning system, Kaminsky et al. also show the indicators of crises developed by both traditional and recent approaches. The leading indicators held in traditional models are the evolution of the real exchange rate, domestic interest rates, real wages and the current account balance. On the other hand, recent models focus on the changes in authorities' objectives as indicators of the crises. Under a fixed exchange rate, in order to maintain the parity, authorities hold the interest rates high. Yet, authorities may prefer to be more concerned of the effect of high interest rates on other economic variables such as output and employment than its use for defending the

[80] Jagdish Bhagwati, "The Capital Myth", **Foreign Affairs**, Vol. 77, No. 3, May/June 1998, pp.7-12.
[81] Paul Krugman, "A Model of Balance-of Payments Crisis", **Journal of Money, Credit and Banking,** Vol.11 August 1979, pp.311-325.

parity and hence they may opt for abandoning the parity. Therefore, the outbreak of a crisis needs not to be related to initial economic fundamentals, defining the self-fulfilling crisis.[82] Wyplosz presents another perplexing argument holding that the self-fulfilling crises are more likely to occur in countries which do not suffer from severe macroeconomic difficulties, due to the irrational market conditions.[83]

In the context of recent explanations of crises, Rose and Wyplozs emphasize political variables as driving factor for speculative attacks and crises. To the extent that the government is willing to reduce unemployment in an economy, speculative attacks are more likely to occur related to the policies. These policies lead to higher levels of inflation. The government facing with the loss of foreign investors' confidence to its commitment to peg, attempts to increase interest rates in order to defend the peg. However, it raises unemployment, which followed by further increase in interest rates and unemployment, constituting a vicious circle. Eventually it ends with the collapse of the peg. Therefore, futile policies pursued by the authorities are more likely to cause speculative attacks. Since the left-wing governments and governments with short expected life spans are the ones who wish to decelerate inflation due to the populist considerations, they opt for abandoning the peg, which in turn raises sudden attacks on the currency.[84]

Despite this set of explanations of crises, Rodrik confronts them in that these models are lack of consistency due to their fashionable nature. He argues that when a new crisis occurs, the explanations pertaining to earlier crisis become inadequate to identify the new one. The models were based on the impossible trinity phenomena for the crises in 1970s. The debt crisis in 1982 was seen as the consequence of over-borrowing caused by expansionary fiscal policies. However, the ERM crisis in 1992

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[82] Graciela Kaminsky, Saul Lizondo and Carmen M. Reinhart, "Leading Indicators of Currency Crises", **Policy Research Working Paper**, No. 1852, November 1997, (Online) http://econ.worldbank.org/files/11594_wps1852.pdf, 18th October 2005.

[83] Charles Wyplosz, "Globalized Financial Markets and Financial Crises", **Graduate Institute of International Studies**, April 1998, (Online) http://heiwww.unige.ch/~wyplosz/fondad.pdf, 03th February 2005.

[84] Andrew Rose and Charles Wyplosz, "Exchange Market Mayhem: The Antecedents and Aftermath of Speculative Attacks", **Capital Flows and Financial Crises**, Ed. by Miles Kahler, London, The MIT Press, 2003, pp. 99-111.

was seen in the absence of expansionary fiscal and monetary policies. Upon that, also the Mexican crisis in 1994-95 did not suit to the model; the blame was mainly cast on exchange rate overvaluation. The evidence on Asian crises made these interpretations invalid so that moral hazard problem and crony capitalism in developing countries have been theorized as new explanation of the crises.[85]

The conventional wisdom acknowledged that almost all crises that are related to the capital inflows are mostly caused by short-term inflows leading to capital volatility rather than longer-term flows determined by economic fundamentals. These funds flow to the country where returns on capital are high due to the interest rate premiums and add to the accumulation of international reserves, as was the case during the East Asian crisis in the 1990s. On the other hand, the short-term flows are so sensitive to small changes in the host country that in cases where little loss in confidence of foreign investors causes rapid withdrawals of capital. The reversal is quicker in foreign commercial bank lending than in portfolio equity investments. If these short-term liabilities cannot be met by international reserves, the potential crisis tends to be inevitable. Therefore, the collapses of developing countries' currencies are due to the large and rapid reversals.

The types of crises trigger each other and their effects are interrelated, as made evident by the experiences of Latin American and East Asian countries. The economies of Latin American countries were deteriorated by the debt crisis in 1982 in terms of low levels of international capital flows to these countries, increasing the financing problems so that they had little choice but to implement the structural adjustment program by the guidance of IMF. During this period, inflation rate was very high and the budget deficits were unsustainable, besides the financial sector was restricted by some repression policies. After implementation of adjustment programs, inflation rates continued to increase and the domestic currencies appreciated. On the other hand, the difference between world and domestic interest rates stimulated the capital inflows, leading to an expansion of the monetary base. Unregulated domestic

[85] Dani Rodrik, "Who Needs Capital Account Convertibility?", February 1998, (Online) http://www.ksghome.harvard.edu/~.drodrik.academic.ksg/essay.PDF, 04th February 2005.

banks, taking the government guarantee, undertook excessive lending denominated in domestic currency with higher interest rates than they obtained the credit denominated in foreign currency. With the devaluations, these debts increased as did bankruptcies of domestic banks, pushing countries into banking crisis. Later, the fact that the private debts were transmitted into the social debts with generalization of bank by the government led another concern to arise, namely, distributional concerns.

Similar set of events was also seen in Mexico during the crisis period of 1994, with which the modern big crises era started in 1982. Yet, Mexico was differentiated from the Latin American countries in that it was in relatively stable economic conditions in terms of low inflation rate and budget deficit. Because of stable growth rates, it became attractive for international capital flows in 1993. The rapid capital movements increased aggregate demand and consumption, reducing the private saving rates and leading to current account deficits. During this period, downturns in banking system due to the increased bad loans and excessive lending in the absence of monitoring and controlling system, were added to the external shock caused by increase in U.S. interest rates making the investment in U.S more attractive for foreign investors. The peso depreciated and the international reserves began to be depleted; later peso allowed to be floated. International investors took their funds from the Mexican markets. With the increase in interest rates, bank portfolios much more deteriorated. In order to avoid the further increase in interest rates due to the large reversals, depletion of international reserves and depreciation of the peso, the central bank engaged in sterilization policy. However, the liquidity was used for purchasing foreign exchange, further reducing the reserves, which in turn caused higher interest rates. The crisis spread to Latin American countries with the contagion effects.[86]

As for the crisis in Southern East Asia in which the countries were boosted as 'Asian Tigers' before the crisis by the international institutions such as WB, macroeconomic

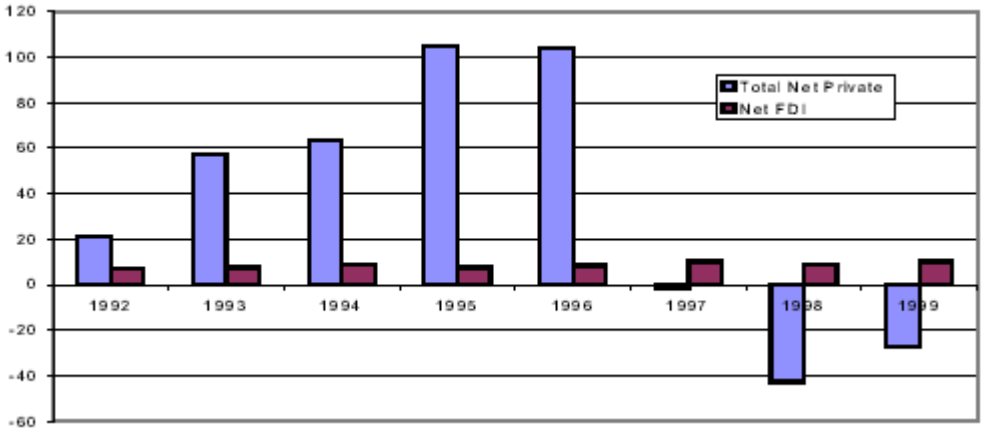
[86] Douglas W. Arner, "The Mexican Peso Crisis: Implications for the Regulation of Financial Markets", (Online) http://iibf.law.smu.edu/pub/doug1a.htm, 09th March 2005.

instability was not as serious as Latin American countries. The economies of these countries were, then, marked by fiscal surpluses, low inflation and stable exchange rates. South Korea, Malaysia, the Philippines and Thailand were the countries attractive for foreign short-term capital flows. On the other hand, financial fragility that was the leading factor of the crisis among the other factors was rising. The financial fragility primarily originated from the excessive external foreign currency denominated borrowing, high share of short-term debt in total debt and poor credit allocation, causing increased bad loans and excessive lending to the private sector with the guarantee of government. Thereby, the country tended to be vulnerable to an external shock and capital flight, which would cause currency depreciation. However, due to the interest rate premiums, capital inflows continued to accelerate adding to the bank liabilities. As the ratio of external debt to the international reserves increased, so did the fear of devaluation. Devaluation became compulsory as the speculative attacks occurred and the existing problems in banking sector, current account deficits continued. Upon this, in order to prevent further devaluations interest rates were raised and international reserves were used. However, the collapse of exchange rate could not be avoided. [87] The Tai economy was the first hit by the turbulence in currency markets in July 1997 and then the neighboring countries, mainly Indonesia and Korea, were affected. In the end, the economies of these countries were left with rising unemployment, inflation, reduction in wages, public spending and reduced standard of living.

It is commonly acknowledged that these crises occur in the eve of an environment of overvalued exchange rates, large current account deficits and excessive domestic credit due to the surge in international capital flows. The expectation of devaluation causes large reversals, depleting the international reserves. After the crisis, the country is left with high inflation, undervalued exchange rates and high interest rates. Another remarkable point is that domestic asset prices do not decline until the emergence of the crisis.[88]

[87] Timothy Lane, "The Asian Financial Crisis: What Have We Learned?", **Finance and Development,** September 1999, Vol.36, No.3, p.1-2.
[88] Wyplosz, **loc. cit.**

Figure 6. External Capital Flows for Crisis-Asia



Source: Rudi Dornbusch, June 2001, p.5

Figure 7 illustrates the large reversal of capital inflows to the crisis-Asian countries, which in turn put pressure on currency depreciation, lead to high interest rates as an immediate response and decline in aggregate demand, deepening the financial turmoil. It is generally recognized that large capital flight aggravated financial fragility through these effects on macroeconomic variables, causing outbreak of severe crises in the region.

In the face of the crisis, the response of the countries encountering disastrous consequences in both economic and social terms, varied. While some countries remained in the liberalization path pursuing IMF-supported policies, some of them preferred to resort capital controls and delayed the liberalization.

Looking at the matter from another point, namely from solutions advised by proponents of capital mobility and the IMF, some other questions arise. These receipts origin from the so-called second wave of liberalization program, following the first one that was questioned on the ground of its undesirable consequences. The typical advice for the crisis-hit countries is to implement tight monetary policy and imposition of high interest rates aiming at offsetting the depreciation of domestic currency. This leads to the excessive debt burdens and besides, puts constraints on domestic firms' borrowing opportunities. It can also be observed from the crisis

experiences that the increased interest rates cause large amount of small firms to shut down and enormous unemployment. Other conventional advice is the tight fiscal policy mainly in terms of reducing government spending, which is seen as one of the key element of regaining the confidence of foreign investors. Nevertheless, the cuts in government spending introduce undesirable outcomes, influencing the social structure of the country. The living standard of the country worsens due to the reduced expenditures for education and health. As a result of these advices, domestic residents, households and firms, may be penalized for the sake of attracting capital flows again to the country. Interestingly, the funds are generally used for repayment of the debts. In other words, their use did not support the target of strengthening the fundamentals and promoting the long-term growth, which are required for addressing the root causes of the crisis.

The invalidity of these recipes mainly arises from misinterpretations and even omission of the pre-crises conditions. The fact that the crises are likely even in countries with sound economic conditions may also mislead the measures taken by international institutions such as IMF that traditionally advice the crisis-stricken countries to pursue tight monetary and fiscal policies even though they do not have problems which can be corrected by these measures. In other words, in cases where the crisis is caused by fundamental weaknesses of the crisis-hit country, traditional advices prove effective whereas in self-fulfilling-crisis they are not appropriate measure instruments.[89]

Another view inclined to abstain from the side effects of international capital flows differentiates between the types of capital flows and concludes that if the total flows are largely formed by FDI flows, the likelihood of running into a crisis reduces significantly. This is achieved due to the well-known growth-enhancing effects of FDI. Hence, developing countries can restrain from the crisis by switching the composition of capital flows. However, Bird and Rajan challenge this popular belief. They state that the large amount of FDI does not ensure financial stability. It is

[89] **Ibid.**

mainly due to the possibility of FDI to flow in a country and flow out of the same country in the form of other types of capital flows. Foreign investors can easily borrow from domestic banks by using the physical capital as collateral and then transfer these short-term funds to abroad. They show it by examining the Malaysia where the proportion of FDI is the largest among other crisis-hit countries. Prior to the crisis period, Malaysia received capital inflows mostly in the form of FDI, while other countries experienced boom and bust due to the sudden reversals of short-term flows. However, while the net portfolio inflows were about US$ 38 million during 1990-96, it tended to be a net outflow of US$ 325 million in 1997, reaching the level above total inflows recorded from 1980 to 1996. That is, these inflows were offset by the portfolio outflows in 1997. This case indicates their belief that portfolio outflows had flowed to Malaysia in the form of FDI.[90]

The main attention has been drawn to the need for developing countries to fulfill some certain pre-requisites so as to remove the side effects or mitigate them. First, as mentioned before, the appropriate sequencing of liberalization is crucial. It is largely suggested that in order to reap the benefits of capital market integration, domestic financial strength should be maintained. Besides, the countries with stronger institutions, serviceable prudential regulation and better corporate governance are said to reap the benefits of capital account liberalization.

On the other hand, Rodrik claims that this cure for transforming the adverse effects of free capital mobility into beneficial effect by the means of enhanced financial system is not likely to achieve its objective. According to him, owing to the practical difficulties faced by even advanced countries, it is much more difficult to strengthen the domestic financial system for developing countries than imposing some restrictions to deal with the undesirable consequences even though capital controls do not constitute the entire answer to these problems.[91]

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[90] Graham Bird and Ramkishen S. Rajan, "Financial Crises and the Composition of International Capital Flows: Does FDI Guarantee Stability?", **Institute of Southeast Asian Studies,** Visiting Researches Series, No.6, November 2001, pp.1-11.
[91] Rodrik, **loc. cit.**

Whatever the explanation and recipe for the crises are, that they are likely to occur in the future seems evident. As mentioned before, self-fulfilling nature of the crises has obscured the timing, direction, location and magnitude of crises. As long as the countries face with the risk of crises in an environment of free capital mobility, they will also be in an effort to find ways for managing large capital inflows and insulating their economies from its disastrous effects.

The evidence that the short term capital flows make emerging economies more vulnerable to financial crises has raised the debate on the view that capital flows should be regulated through various types of restrictions on capital mobility.

2. CAPITAL CONTROLS IN DEVELOPING COUNTRIES

Despite it is accepted as an inevitable process of our days, capital account liberalization remains one of the most controversial policies. Even in well-designed financial markets, rapid financial liberalization may introduce distortions. Moreover, financial crises have tended to be a common feature of the global economy in recent years. In the wave of the benefits and costs associated with capital account liberalization, countries subject to large capital flows have developed tools to deal with the side effects. Among these instruments, capital controls are widely resorted policies designed to maintain economic stability.

2.1. Historical Background of Capital Controls

In the economic literature, modern capital controls were accepted as being adopted in World War I when the countries were participant of the gold standard and adopted fixed exchange rate system. Capital controls were then implemented in order to finance the wartime expenditures and maintain a tax base for governments. At that time, restrictions on capital outflows served to keep the capital inside the domestic economy to tax the wealth and obtain income for powerful countries of the war. Another direct benefit of restricting capital outflows was to have more revenue generated from inflation tax via higher inflation rate. Besides these effects, capital controls had impacts on interest rates, leading them to reduce and hence, enabling the government to reduce the costs of its debts.[1]

Since World War I, the use of capital controls on outflows have turned out to be a convention for developing countries. By this way, governments of those countries could get benefit from generating revenue and allocating credit domestically without the fear of capital flight.

[1] Christopher J.Neely, "An Introduction To Capital Controls", **Review,** November/December, 1999, p.3.

Controls disappeared after the war and the gold standard was reestablished with the allowance of free capital mobility. Nevertheless, the countries aiming at pursuing the macroeconomic policies in accordance with their targets, maintaining the gold standard and free capital flows simultaneously, failed. It was during the Great Depression of the 1930s when the capital controls returned. At that time, the purpose of the capital controls was to help the countries to recover their economies through greater ability to pursue appropriate economic policies. Since the IMF permitted capital controls at the Bretton-Woods conference in 1944, the use of capital controls was accepted as standing on a legal basis.[2] Following the principle of 'Impossible Trinity', the fact that the achievement of three policy goals, namely free capital flows, fixed exchange rates and monetary policy autonomy is not possible at the same time, the countries preferred latter ones to the former during the Bretton-Woods period.[3] The aim of Bretton Woods Agreement was mainly to maintain currency convertibility on current account at fixed exchange rates aiming at liberalizing current account transactions. However, in accordance with the nature of fixed exchange rates, the use of capital controls was necessary to avoid both speculative capital flows and the halt of the current account payment caused by international capital movements. [4]

After the legal acceptance, as John Maynard Keynes, a strong proponent of capital controls, was participated in this conference with an article, their use can be said to have gained theoretical justification.[5]

Standing on these arguments, many countries with fixed exchange rates limited asset transactions to cope with adverse effects of capital movements, mainly with balance-of-payments difficulties. Thus, the use of capital controls as a remedy for these problems used to be widespread in many countries during the Bretton Woods period of fixed exchange rates (1948-1973).

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[2] **Ibid.** p.1.
[3] Stormy Mildner, "Financial Crises Prevention: Should the IMF Support Capital Controls?", (Online) http://www.weltpolitik.net/texte/finance.pdf, 24th March 2004.
[4] George Fane, **Capital Mobility, Exchange Rates and Economic Crises**, UK , Edward Elgar Publish., 2000, p.3.
[5] Neely, **loc. cit.**

In 1958, the industrialized countries maintained the current account convertibility as foresighted by the Agreement. However, the Sterling Area and all European countries except for West Germany kept capital controls. The liberalization of international capital movements was supported by the establishment of OECD in 1960. The OECD introduced two internationally accepted codes concerning the liberalization of capital transactions, Code of Liberalization of Capital Movements and Code of Liberalization of Current Invisible Operations. These codes had no binding nature and had little participation. Just as, Britain began to use tight controls on outflows between the periods of 1961-1966. The U.S. had also resorted to capital controls on outflows as a balance-of-payments measure by introducing 'interest equalization tax' (IET) which was imposed on 'outflows of portfolio equity and bonds with more than 3 years to maturity' aiming to 'impose a charge of 1 per cent per year on foreign borrowing by U.S. residents'. The sphere of IET was extended to bank loans and 'quantitative guidelines were proposed on lending abroad by banks and other financial institutions and on outflows of capital from U.S. corporations to their branches and subsidiaries in other industrialized countries'. These guidelines became obligation in1968.[6]

Table 5. Capital controls in seven industrial countries, 1963-82

Country	Years capital controls in place
Canada	none
France	1969-82
Germany	none
Italy	1967-82
Japan	1967-79
United Kingdom	1967-79
United States	1963-74

Source: It was formed on the basis of Greenwood and Kimbrough (1985)

[6] Fane, **Ibid.,** p.4.

As shown in Table 5, including the U.S., which besides IET, had imposed less formal programs such as the Voluntary Foreign Credit Restraint Program, almost all leading economies of the date had pursued restrictive policies.[7] The main rational for standing on capital controls by these countries was to achieve exchange rate stability without losing monetary autonomy.

After 1973, there was a rising sense that a new monetary policy was to be adopted in industrial countries. Some economic and financial developments shed light on these developments and foreign exchange rates began to float freely. With the collapse of the Bretton Woods system and the recognition of distortions created by these restrictions, most of industrialized countries being supported by the IMF, began to remove capital controls gradually after this date.[8] In addition, capital account liberalization was regarded as the main complementary policy to the trade liberalization, forcing the countries that involved in international trade to engage in liberalization policies.

The U.S. seems to be the first to remove all of the capital controls in 1974. Following the U.S. and some other developed countries, the rest of those countries began to engage in some policies to dismantle the capital controls in case they should not fall behind the international economic developments.

U.K. eliminated its controls in 1979, while Japan in 1980, Australia in 1983, New Zealand in 1984 removed their exchange controls, and adopted the floating rates. At the end of the 1980s, the rest of the OECD countries eliminated the controls and the scope for codes was greatly extended. Initially the codes were not compulsory, yet with the Single European Act in 1987, the EU forced the members to complete the removal of all the restrictions on goods, services, people and capital until 1992. Consequently, with the transition to the capital account convertibility in Portugal,

[7] Jeremy Greenwood and Kent P. Kimbrough, "Capital Controls and Fiscal Policy in the World Economy, **The Canadian Journal of Economics**, Vol. 18, No. 4, November 1985, pp. 743-765.
[8] Jeffrey R. Shafer, "Experience with controls on international capital movements in OECD countries: solution or problems for monetary policy?"**, Capital Controls, Exchange Rates, and Monetary Policy in the World Economy**, Ed. by Sebastian Edwards, Cambridge University Press, 1995, pp. 119-135.

Spain and Greece that were given additional time, the capital controls for developed countries became historic.[9]

The experience of developing countries with capital account liberalization has not been as smooth as developed ones. There have been severe impact of capital inflows on the economic variables of these countries due to contagious nature of crises, reflecting itself as adverse effects not only on other economies in their region but also on the operation of the world economy. It is possible to assert a number of reasons such as inadequate formation of financial markets, political instability, lower credibility etc., which have had great role in those crises; but whatever the reason is, the turbulence of these economies have hit the acceleration of the economic development expected from liberalization policies in all over the world. Moreover, the course of the capital flows in developing countries has fluctuated over time changing the nature of the cycle and the problems and remedies associated with them.

Therefore, controls were not eliminated in many developing countries that aimed at maintaining fixed exchange rates in the 1970s. After then, a tide of liberalization spread all over the world and there were seen two great epochs of capital inflows to the developing countries. The first one was in the midst of the 1970s, which was ceased by the occurrence of the debt crisis in Latin America. The fluctuation dominated the second epoch as beginning in the early 1990s, stopping temporarily during Mexican crisis and ending entirely during the Asian crisis in 1997. This caused the IMF to delay its plans of removing all capital controls gradually and of liberalizing the capital accounts of developing countries, allowing some exchange controls until the currencies became stronger. Hence, including both the IMF and the WB, most institutions and policymakers did not at least reject the use of capital controls as a temporary measure in order to cope with the exchange rate speculation and to regulate short-term capital flows.[10]

[9] Fane, **Ibid.,** p.5.
[10] **Ibid.,** pp.5-8.

On the other hand, the practice of capital controls is controversial due to both their impact on the economy in the long run and their effectiveness in achieving the target of eliminating the undesirable outcomes of capital mobility.

2.2. Objectives of Capital Controls

In the economic literature, capital controls are defined as the policy tools to help control volatile movements in capital flows in and out of a country's financial system. They often operate as taxes that restrict the possibility of residents and non-residents to buy or sell any assets or liabilities.

Capital controls can also be regarded as complementary policy measures of the financial repression system in which the government has the opportunity to reduce interest rates in case it would help reduce domestic debt service and would permit the government to obtain seigniorage revenue easily.[11]

Capital controls have recently served to a different purpose than in the past. They had been used for avoiding nominal devaluations of the exchange rate and low medium-term growth caused by declines in investment and consumption after capital outflows. However, recently they have been generally used for reducing nominal and real appreciations of the exchange rate.[12]

The other classification of the use of capital controls can be made based on the periods of capital inflow and capital outflow. During inflow periods, the purpose of capital controls is to support macroeconomic objectives by reducing monetary and credit expansion and to avoid international speculation whereas they seek to avoid balance-of-payments imbalances and high interest rates during outflow periods.[13]

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[11] Vittorio Grilli and Gian Maria Milesi-Ferretti, "Economic Effects and Structural Determinants of Capital Controls",**IMF Staff Papers,** Vol.42, No.3, September 1995, p.519.
[12] Kumari Dheerasinghe**,** "Capital Controls: Do They Work?", (Online) http://www.business.uiuc.edu/gpinteri/kumaripaper.doc, 12th February 2004.
[13] **Ibid.**

Edison and Reinhart claim that controls on capital inflows are seen as 'prudential' measure in contrast to controls on outflows, which are regarded as 'last resort' measure.[14] Inflow controls are used as alternatives to other costly policies such as sterilized intervention so as to mitigate the real exchange rate appreciation and inflationary pressures associated with large capital inflows. Controls on outflows, on the other hand, can be used to prevent currency crisis and collapses.

Johnston and Tamirisa state that in some countries the use of capital controls are pervasively pursued, mainly because they regard it as a legacy of the past whereas in the others it is selective so that it carries a practical meaning as an active policy tool for overall stability.[15] This use of capital controls as an emergency measure is generally justified to deal with a recession in an economy by regaining the autonomy in the use of macroeconomic policy instruments. When a government attempts to activate its macroeconomic stabilizers whose use is irrationally impeded by market agents, then the government resorts to capital controls so as to avoid overreaction of investors. Besides, their use is sometimes realized in an environment where recipes of some powerful international institutions oppose their implications.

Whatever the motivations for capital controls have been so far, it can be stated that their likelihood to achieve the target largely depends upon whether the effectiveness of capital controls can be maintained by the government. Grilli argues that the government's ability has weakened over time. He states both endogenous and exogenous reasons. Endogenous reason is that financial agents are able to find various ways to circumvent official restrictions.[16] For example, since implementing an explicit tax on capital flows is a way of capital control and this sort of taxation, say Tobin tax, applies only to spot transactions involving foreign currencies, it is likely to be inadequate due to the fact that agents have developed some other kinds of new short-term financial instruments to circumvent the tax. These instruments such

[14] Hali J. Edison and Carmen M. Reinhart, "Capital Controls During Financial Crises: The Case of Malaysia and Thailand", International Finance Discussion Papers, No. 662, March 2000, (Online) http://www.federalreserve.gov/pubs/ifdp/2000/662/ifdp662.pdf, 14th March 2004.
[15] R.Barry Johnston and Natalia T.Tamirisa, "Why Do Countries Use Capital Controls?", **IMF Working Paper,** December 1998, WP/98/181, p.4.
[16] Grilli and Milesi-Ferretti, **loc.cit.**

as forward transactions, futures and financial swaps, help transform long-run trading into short-run trading, assisting the avoidance of the tax.[17] As for exogenous reason, it can be said that structural changes and technological progress in the global financial markets not only have led the capital movements to accelerate around the world, but also made it harder to monitor.[18] As a result, related to all those reasons explained above, the ability of capital controls to achieve the objectives has weakened over time.

Broadly speaking, capital controls have been implemented for a number of various motivations related to the economic conjuncture. However, in many authors' common categorization they can be related to the balance-of-payments, macroeconomic management, market and institutional problem, prudential and other factors.

2.2.1. Theories of the Second-Best

International economics relies on the idea that wider opportunities associated with trade make people better off in an open economy than in a closed economy. With trade, excess goods that are domestically produced can be sold, by this revenue goods that are not domestically produced can be consumed. The same logic is relevant for the international finance. International trade in capital offers wide-range alternatives in just the same way as international trade in goods. In a state that there is no trade in capital, savings are supposed to be equal to investments. However, with free capital mobility, the countries have more choice of investment and saving since they can afford to invest more than what they saved through funds from abroad.

[17] Paul Bernd Spahn, "The Tobin Tax and Exchange Rate Stability", **Finance and Development**, June 1996, pp.2-3.
[18] Grilli and Milesi-Ferretti, **loc. cit.**

Accordingly, free capital movements tend to allocate capital to its most productive uses across countries. This case introduces the well-known 'first-best hypothesis'. In this context, taxes and restrictions on free trade in assets are accepted as distortions as is the case for goods market.

However, this general situation may not be realized in all cases. The economic theory also suggests that some exceptions to this general economic rule may be possible to occur. The "first best" competitive equilibrium may not be satisfied in some cases due to distortions resulting from economic situations of the countries and market failures caused by asymmetric information problems. In this situation, economic theory identifies the "second best" argument.

'Second best' considerations say that in some cases, it may be logical to live with two or much more distortions instead of facing with a larger one. According to this argument, taxes and some restrictions that are accepted as distortions for the economy may be implemented if they are used to remove some other distortions that, otherwise, are believed to cause larger difficulties. "Second best theory tells us that we cannot blindly apply the lessons of first-best economies."[19]

Relying on this argument, capital controls are assessed in the context of the theory of the second best. The reason of this assessment is that second best theory serves to offset the distortions of the free markets implied by the first-best theory. While realizing the elimination of market-based distortions, second best policies introduce additional ones such as taxes and quantitative restrictions. However, these distortions created by the second best theory might be seen necessary for the improvement of the economic welfare. In other words, distortions arisen from second best situation are preferred to those of the first best long-lasting and pervasive ones.

In line with the second best argument, government programs are considered to have the ability to produce welfare-improving interventions in international capital

[19] Joseph E. Stiglitz, **Economies of the Public Sector,** New York/London, W.W.Norton&Company, 2000, p.551.

markets. As several adverse implications of first-best situations are possible due to the market failures, it is also likely to encounter various welfare-improving second-best policies.[20]

2.2.2. Balance-of-Payments Problems

Balance-of payments imbalances are greatly related to the foreign exchange rate regime. Under flexible exchange rate regime, the equilibrium between supply and demand for foreign exchange is automatically satisfied by the changes in the price of foreign exchange. International reserves remain unchanged. On the other hand, under fixed exchange rate regime, because changes in the foreign exchange rate are not permitted, changes in reserves are required to eliminate imbalances.

Under the fixed exchange rate system, the government attempts to maintain the exchange peg. There are several ways of maintaining the peg such as open-market operations, intervention in the forward exchange market, changes in bank reserve requirements and direct operations in foreign assets. However, the government faces with some difficulties in using these instruments. If it aims at preventing its currency from depreciation, it will have to use its reserves, which will soon be exhausted, or it will have to find ways of borrowing, which is not possible evermore. Similarly, when the government attempts to avoid appreciation, it may soon suffer from the rise in inflation.

The government attempting to defend its exchange parity faces with the balance of payments problem meaning that the government loses its reserves. At that time, the speculative attack takes place. Krugman defines the speculative attack as a process in which the investors intend to exchange the domestic currency for foreign currency due to their anticipation of change in exchange rate system from fixed to floating and

[20] Michael P. Dooley, "A Survey of Academic Literature on Controls over International Capital Transactions", **NBER Working Papers**, No. 5352, November 1995, p.1.

they act in a manner of acquiring a large portion of the central bank's foreign reserve stock. With the appearance of the speculative attack, balance of payments problem becomes balance of payments crisis.[21]

Krugman regards government budget deficits financed with the domestic credit as lying at the heart of the speculative attacks on pegged currencies. Events start with the withdrawal of the portion of domestic credit supplied by foreign investors and go on with speculative attack and loss in international reserves. In his model, it is accepted that the speculative attack occurs as an extension of policy choices of the government in an effort to reduce unemployment. The government, hence, pursues loose monetary and fiscal policies, leading to higher inflation and real exchange rate overvaluation and entailing the loss in reserves. In other words, the speculative attack and crisis are due to the government attempts to correct some economic distortions.[22]

Park and Sachs also point out that in the face of persistent budget deficits financed through domestic credit, pegged exchange rates and free international capital mobility, the loss in international reserves is inevitable since certain amount of official reserves is held as foreign exchange. Speculative attack occurs during the abandoning of the peg and transition to floating rates after maintaining the peg becomes unsustainable.[23]

However, as explained in chapter 1, this traditional approach to speculative attacks and currency crises is not sufficient to explain the recent crises. The self-fulfilling feature of crises implies the fact that they do not need to be caused by expansionary monetary and fiscal policies. It is possible to face with the crisis in countries that do not suffer from budget deficits, overvalued exchange rate, current account deficits and large losses in reserves. Even though economic fundamentals of the country are good, crises may occur related to the foreign investors' considerations, contagion

[21] Paul Krugman, "A Model of Balance-of Payments Crisis", **Journal of Money, Credit and Banking,** Vol.11, August 1979, pp. 311-325.
[22] **Ibid.**
[23] Daekeun Park and Jeffrey Sachs, "Capital Controls and the Timing of Exchange Regime Collapse", **NBER Working Paper**, No. 2250, May 1987, pp. 1-18.

effects and policy shifts by the governments. This unpredictable feature of the crises makes it difficult for governments to cope with them. The more does the government turn out to be reliant on capital flows to finance budget deficits the more is it affected by the unexpected movements of these flows. Thereby, the volatile nature of capital flows poses additional difficulties on balance of payments problems.

In the case of a balance of payments deficits caused by capital outflows, the country meets two situations related to its policy choices: devaluation or high interest rates. While devaluation awakes the fear of inflation, high interest rates may worsen the whole economy by causing the economic activity to slow down. Besides, the monetary contraction accompanied by high interest rates worsens the economy through not only its effects on the real economy but also on the banking system. High interest rates increase the costs of funds for banks; reduce the demand for loans and many loanable funds remain unperformed in banks. The other policy– devaluation- does not help this situation. Since obligations of banks to foreign creditors are denominated in foreign currency, their debts when measured in the domestic currency increase. In addition, this may reduce public's confidence in the monetary authorities' anti-inflation program.[24]

In the absence of capital controls, as discussed above, governments use tight monetary policy or other complicated measures in order to avoid nominal currency depreciation. This leads the interest rates to rise to offset capital loses of asset holders. If the economy is very sensitive to interest rates in such situations where the government has large short-term public debt or longer debt but indexed to short-term interest rates, then the rise in interest rates affects the economy negatively.[25]

On the issue of resorting capital controls in the face of speculative attacks and balance-of-payments crises, Park and Sachs point out that the speculative attack also emerges from the fact that in the transition period from fixed to floating rates, domestic residents may escape from holding their assets in domestic currency and

[24] Neely, **op. cit.,** p.6.
[25] Grilli and Milesi-Ferretti, **op. cit.,** p.520.

prefer to hold foreign exchange denominated assets, accelerating the period of attack on currency. This situation raises the call for capital controls in the form of exchange controls. By restricting the ability of domestic residents to alter domestic currency with foreign currency, capital controls help limit the depletion of reserves to only occur through current account deficits. However, controls have a limited effect in that they only allow government to buy some time, avoiding the sudden collapse. Under fixed exchange rates, exchange controls cause domestic credit expansion to be reflected only in increase in domestic real money balances since holding it in foreign assets is prohibited. This leads to higher inflation and current account deficits, which eventually causes losses in reserves and collapse of fixed exchange rate regime.[26]

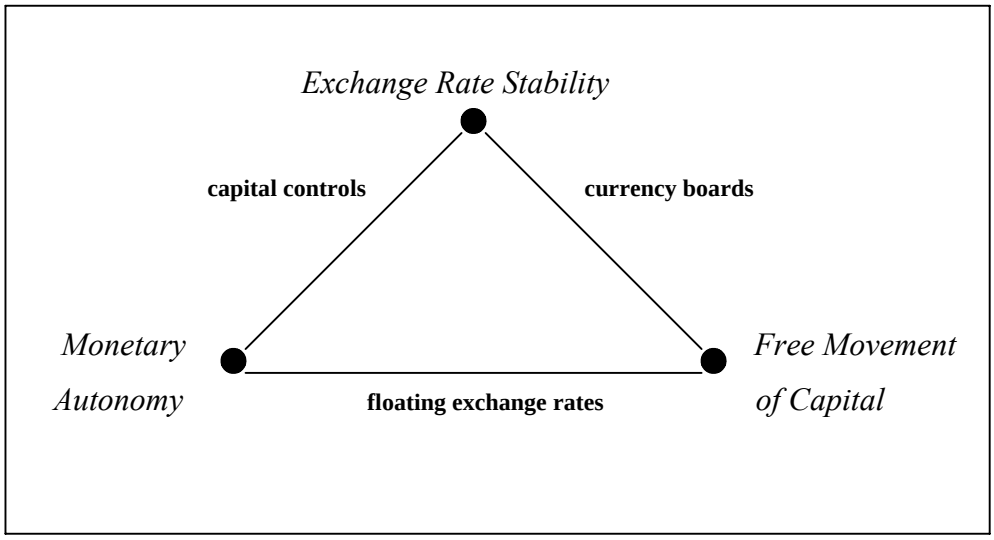
Regarding capital controls in the light of limited alternatives to deal with the balance of payments crises and defects of all these traditional policies used for insulating the economy from destabilizing effects of capital flows on balance of payments and of speculative attacks that are now explained by self-fulfilling motions, mentioned above, capital controls may be resorted as another policy option. Relying on the effect of capital controls on maintaining the monetary and exchange rate policy autonomy, they are used for reconciling the use of interest and exchange rate policies to pursue inconsistent internal and external balance objectives. As this is the case, outflow controls help this objective by reducing the demand for foreign assets. In contrast, inflow controls are used in an attempt to avoid nominal exchange rate appreciation. Both domestic objectives like inflation and employment and external objectives like balance-of payments can be maintained without sacrificing the control over domestic monetary conditions for maintaining the exchange rate stability. By this way, the use of some policy tools inconsistent with the exchange rate regime may be prevented.

[26] Park and Sachs, **loc. cit.**

2.2.3. Impossible Trinity

There are three main goals that many countries would like to achieve: independence in monetary policy, stability in the exchange rate, and the free movement of capital. However, it is impossible to maintain these policy objectives at the same time. The experiences have shown that for open economies it is more difficult to manage some policy trade-offs. Of these three goals, only two can be reached simultaneously. This is known as "Trilemma" or "Impossible Trinity".[27]

Figure 7. Impossible Trinity



Source: Paul Krugman and Maurice Obstfeld, 2000, p. 713

Figure 7 shows these three objectives schematically. As it is not possible to achieve all three objectives at the same time, one of the others must be given up to achieve one; one of the sides of the triangle must be chosen. The policy regimes shown between two goals in the diagram are possible regimes to be applied for reconciling trilemma.[28]

[27] Paul Krugman and Maurice Obstfeld, **International Economics- Theory and Policy,** 5th edition, Adison-Wesley Publishing Company, 2000, pp.712-713.
[28] **Ibid.**

According to the implications of the above illustration, the country that would like to maintain exchange rate stability with the free movement of capital is able to achieve these two objectives by adopting the fixed exchange rate if only it gives up the objective of monetary autonomy. Alternatively, the country may prefer to obtain monetary autonomy and to be integrated into global capital markets, allowing for free capital movements. However, it is possible to maintain these two policies through the choice of floating exchange rates provided that the exchange rate stability is not chosen as a target policy. Another option implied by the triangle is that the exchange rate stability and monetary autonomy can be achieved simultaneously but it requires giving up the free capital movements and it is possible only by the way of implementing capital controls.

The impossible trinity has been looked at from different perspectives regarding the different policy solutions for high volatility of capital movements that have increased and caused much turbulence in especially financial markets of developing countries.

However, as it will be examined in more detailed later, the bipolar view, which is an extension of the Impossible Trinity, postulates that with capital market integration the intermediate exchange rate regimes are not sustainable. Therefore, the policy choices of the country are to be either the pairs of exchange rate stability and free capital movement or the monetary autonomy and free capital movement. As emphasized by the proponents of free capital mobility, if the free capital flows are inevitable and the use of capital controls are not feasible any more, the exchange rate choice is reduced to two exchange rate regimes: either fixed or floating which is called as 'corner solution'.[29]

Yet, it is suggested that by the help of capital controls governments would not need to choose either fixed or flexible exchange rate regimes; they can maintain stability

[29] Vijay Joshi, "Financial Globalisation, Exchange Rates and Capital Controls in Developing Countries", **Technical Report Working Papers in Trade and Development,** No:19, Economics, RSPAS, ANU., 2003, (Online) http://rspas.anu.edu.au/economics/publish/papers/wp2003/wp-econ-2003-19.pdf, 17th March 2005.

by selecting the exchange rate regime to fit their economic conditions such as intermediate exchange rate arrangements.[30]

2.2.4. Real Appreciation of the Exchange Rate

The large capital inflows and outflows generally cause internal and external imbalances. Motivated by either a fall in world interest rates or lenders' optimistic views about the developing countries' economic prospects and the expected profitability of the domestic economy, capital inflows lead the domestic currency to appreciate under the flexible exchange rate system whereas appreciation reveals in the form of rise in demand for domestic assets and their prices in the case of fixed rates. However, success in liberalization policy and hence, higher growth levels through expansion of exports should be supported by real exchange rate depreciation. Therefore, the expected benefit from capital account openness is threatened by real exchange rate appreciation.

Looking at the recent crises, it is easily observable that especially currency crises have been preceded by large real exchange rate appreciations and current account deficits. As can be seen from the following table, pre-crisis periods were underlined by real exchange rate appreciations and current account deficits that were overlapping and unsustainable.

[30] Jürgen von Hagen and Jizhong Zhou, "The Determination of Capital Controls: Which Role do Exchange Rate Regimes Play?", **Journal of Banking and Finance,** 2004, in press, (Online) http://www.elsevier.com/locate/econbase , 24th July 2004.

Table 6. Pre-crisis current account deficits and real appreciation: some examples

	Mexico (1988-94)	Indonesia (1990-97)	Korea (1990-97)	Malaysia (1990-97)	Philippines (1990-97)	Thailand (1990-97)
Real exchange rate appreciation (%)	38	25	12	28	47	25
Current account (% of GDP)		-6.4	-2.6	-13.5	-5.8	-14.3

Note: The current account is average annual over the period 1989-95.
Source: Charles Wyplosz, April 1998, p.8

The first impact of the capital inflows is the reduced interest rates and increased domestic spending both for tradable and non-tradable goods produced in the domestic economy. If all the spending were directed to the tradable goods, the increased demand for traded goods could be met by borrowing from abroad through increased import and the trade deficit would increase and so were the foreign currency demand, raising the exchange rates. Thus, the appreciation would not occur. However, the higher demand for non-traded goods cannot be easily met and the excess demand causes their prices to rise, that is, the real appreciation occurs which means that the production switches from traded to non-traded goods- producing sector and the country under fixed exchange rates is left with smaller tradable sector, larger non-tradable sector and larger trade deficits.[31] Additionally, if the country is under fixed exchange rate regime, the monetary authorities are committed to the action of buying foreign exchange –selling domestic currency- in order to maintain the exchange peg. This action increases the domestic money supply and creates inflationary pressure, leading to an increase in the prices of domestic goods and assets. The prices of domestic goods and assets become higher than those in the rest of the world. This causes exported goods to become more unattractive and ultimately

[31] Vittorio Corbo and Leonardo Hernandez, "Macroeconomic Adjustment to Capital Inflows: Lessons From Recent Latin American and East Asian Experience", **The World Bank Research Observer,** Vol.11, No.1, Feb. 1996, pp.61-85.

the country loses its competitiveness in the world market.[32] If the country is under flexible exchange rate regime, the exchange rates appreciate because of capital inflows and the relative prices of the domestic country's goods rise. Besides, due to the irrational expectations made by market forces it causes further capital inflows, which lead to increase in real estate returns and greater appreciation. In order to remove internal imbalances created by large trade deficits, lower interest rates are required which will discourage the capital inflows.

Under these circumstances, there have been several ways to cope with the real appreciation pressures associated with the large capital inflows. The one way of preventing appreciation is to permit the exchange rate to change. This tactic cannot avoid real appreciation but can be an effective way of preventing domestic inflation. With the existence of appreciation, imported goods become attractive and the demand for domestic goods decreases in line with their prices and the domestic inflation is eliminated to some extent.[33]

Alternatively, the countries with fixed exchange rates may use the sterilization policy. By this way, the expansion of the money supply is prevented. As the sterilization process will be examined later under the heading of Alternatives to Capital Controls, it may be sufficient to cite here that the sterilization has also so hazardous effects on the economy that it is difficult to achieve the aim of eliminating the monetary effects of capital inflows.

Fiscal contraction is regarded as another way for preventing the real appreciation due to its decreasing impact on interest rates and the demand for domestic assets. However, it may also decrease the national income since the taxes raise and government spending falls with tight fiscal policy.

Another policy tool that have been chosen so far by some countries like Brazil, Chile and Columbia is to restrict capital inflows by using capital controls on inflows. The

[32] Neely, **op. cit.,** p.5.
[33] **Ibid.**

capital controls on inflows are justified based on the need for depreciation for the development plans of the developing countries. As explained above, with the rise in the capital inflows, the supply of foreign exchange rises and so does the demand for all goods. Related to the different supply and demand structures of traded and non-traded goods- producing sectors, the outcome of the increased demand for and price of non-traded goods relative to traded goods is the real appreciation. As a result, export of this country falls due to the original increase in domestic demand and the shift of resources from traded-goods industry to the non-traded goods- producing industry induced by the increase in the prices of the non-traded goods occurs. In the case of trade barriers, the export sector, which is essentially small on the contrary of the industry producing import-competing goods, contracts more than expected unless the capital controls on inflows are not implemented so as to avoid the appreciation of the exchange rate.[34]

The use of capital controls on inflows in order to avoid appreciation and in turn export sector contradiction, is a crucial support for the developing countries intending to achieve a successful liberalization program, which requires an expanded and strong export sector. Therefore, it is suggested that the liberalization of capital account should be realized only after the trade sector is strengthened enough to guarantee the robustness of the economic variables.

2.2.5. Retention of Domestic Saving

The capital controls on outflows are also implemented to keep the domestic capital in the domestic economy. Their imposition is justified in cases where social return from holding domestic assets is higher than the private return from holding them due to the positive externalities from domestically invested capital. If this is the case, controls on capital outflows may have welfare-improving effect. Relatedly, when the

[34] Fane, **op. cit.,** pp. 73-74.

government pursues an economic policy, which requires higher domestic saving rates, the domestic savings are stimulated by imposing controls on capital outflows.[35]

In a closed economy, domestic saving capacity determine the size and volume of the investments and capital accumulation which is accepted as main determinant of development of a country. The lower the degree of openness of a country the more dependent is it to the domestic savings for capital accumulation. This explains the fact that the governments of such countries heavily rely on the capital controls on outflows in an attempt to make capital remain in the country.

2.2.6. Financial Sector Distortions, Prudential Measures

Capital controls are generally used as an alternative policy tool in order to avoid some potential costs of the policies otherwise necessary to correct distortions. These policy tools may potentially cause some other distortions while they are being used for correcting main distortions. It can also be said that capital controls buy time to governments for not picking any inevitable policy that should be used to correct existing distortions.

The turmoil in financial markets in the recent crises has highlighted some crucial questions associated with the free capital mobility. Discussing the matter, the focus is on the absence of the perfect markets in reality of financial markets, which are subject to some distortions such as asymmetric information, low competition, leading to market failure. In such cases, free capital flows do not produce expected beneficial implications owing to the inefficiency in capital allocation. Moreover, the macroeconomic and financial crises are blamed on increased financial integration.

Capital controls are justified in cases where the banking system faces with the risk of collapse due to the excessive risk taking, poor risk-management practices and also

[35] Grilli and Milesi-Ferretti, **op. cit.,** p.521.

political pressures. Open capital account may put the banks into danger in that they now find it easy to borrow in foreign currency, regarding themselves as backed by government guarantees. Therefore, through capital controls banks are not allowed to go beyond the determined level of foreign exchange positions and to engage in their intermediation activities without financial safety net. As long as these measures are not subject to corruption by authorities such as discrimination of certain banks and residents against the rest, these can be helpful. However, as Eichengreen stresses, it is important to regard them as transitory measures that should be active until financial strength is restored. [36]

On the other hand, it is argued that the capital controls themselves make the volatility and related financial problems deeper. The investors causing moral hazard problem by undertaking risky investment projects can find ways not to give up all of the risk realizing that they are backed by government guarantee. Therefore, capital controls may not always assure safer investments as believed.[37]

2.2.7. Infant Industry Argument

According to the infant industry argument, the industries in the developing countries that will have the potential comparative advantage in the future should be protected with tariffs until they reach the optimal production level to compete with well-established manufacturing industries in developed countries. Governments should support new industries until they become strong enough to stand up against international competition. This support should be temporary. In this context, the proponents of this argument believe that new industries will reach the optimal production level to meet foreign producers thanks to the internal and external

[36] Barry Eichengreen, "Capital Controls: Capital Idea or Capital Folly?", **Capital Flows and Financial Crises,** Ed. by Miles Kahler, London, The MIT Press, 2003, pp. 282-285.
[37] Christopher A.Hartwell, "The Case against Capital Controls", **Policy Analysis,** No.403, June 14,2001, http://www.regulationmagazine.com/pubs/pas/pa403.pdf, 08th November 2004.

economies. This argument may be applied to the developing countries in which the economies of scale can be maintained.

However, it is possible to find many pitfalls in the practice of this argument. Firstly, it is crucial to do right assessment and to make a right decision on the choice of industries in order to generate productivity increase. The right evaluation, on which countries are able to benefit from economies of scale and from the progress of the long-term change in the costs, should be done. Yet, the probability of making a mistake is very high. Secondly, even if assessments are correct and the chosen industries are able to create economies of scale and to have the potential to reduce its average costs below the prices of the rest of the world, the entrepreneurs may misuse the protection being reluctant to reduce the costs due to the high profits associated with the protection. Thus, the prices cannot be reduced to the level of the world prices. It hinders the country from being integrated into the foreign markets. Besides, there is a risk that temporary protection world become permanent.

This argument for trade protection reflects the second best argument in the welfare economics and similar issues arise in the application of the infant industry argument to financial markets. A case for infant industry protection could be made when the capital market does not work efficiently. In financial sector, protection manifests itself as policies aiming at the protection of the financial sector of the emerging market. In this context, the government interferes with the market by restricting the introduction of new financial products, limiting competition in the domestic financial system and favoring banks that provide credit for domestic sectors over the others that lend to export-oriented sectors. Thus, it can be said that capital controls may hinder rather than facilitate the development of financial markets and institutions. The export sector is also adversely affected.[38] In addition, protections may cause the feeling that these are long-lasting policies, discouraging the domestic financial institutions to engage in permanent recovery programs. As the risk of remaining

[38] Johnston and Tamirisa, **op. cit.,** pp.14-15.

dependent on protection has never helped grow up in both goods and financial markets, the justification of this argument is suspicious.

2.3. Types of Capital Controls

As explained in the previous section there are several possible objectives of capital controls. The types of capital controls change according to the objective they will serve. In addition, the types of capital controls are determined by the type of asset transaction that capital controls aim at affecting. According to the structure of asset transaction, the capital controls may tax the transaction, limit or prohibit it outright. As explained before, since capital inflows and outflows have different effects on the economic variables, the purpose and the type of capital controls on inflows and outflows will differentiate in relation to the possible results expected from them.

While large capital inflows result in real appreciation and inflationary pressure, capital outflows mainly cause devaluation. Similarly, controls on capital inflows aim at preventing an expansion of money supply and inflation whereas the purpose of capital outflows is to maintain low interest rates and high money growth.[39]

The types of capital controls may also take various forms depending upon through which mechanism they aim at affecting the international financial flows. Some controls are imposed through price mechanism while some others may be effective through quantitative restrictions. Price-based measures generally include taxes on returns to international investment and reserve requirements. On the other hand, quantitative controls take the form of quotas, outright prohibitions or some rules including ceilings or requiring special authorization for new or existing borrowing from foreign residents. The following table summarizes the types of capital transactions subject to controls. The type of capital controls are determined according to these types.

[39] Neely, **op. cit.,** p.8.

Table 7. Types of Capital Transactions Possibly Subject to Controls

Inflows	Outflows
Capital and Money Markets	
-Shares or other securities of a participating nature	
Purchase locally by nonresidents	Sale or issue locally by nonresidents
Sale or issue abroad by residents	Purchase abroad by residents
-Bonds or other debt securities	
Purchase locally by non-residents	Sale or issue by non-residents
Sale or issue locally by residents	Purchase abroad by residents
-Money market instruments	
Purchase locally by nonresidents	Sale or issue locally by nonresidents
Sale or issue locally by residents	Sale or issue locally by nonresidents
-Collective investments securities	
Purchase locally by nonresidents	Sale or issue locally by nonresidents
Sale or issue locally by residents	Purchase abroad by residents
Derivatives and other instruments	
Purchase locally by nonresidents	Sale or issue locally by nonresidents
Sale or issue locally by residents	Purchase abroad by residents
Credit Operations	
-Commercial credits	
To residents from non-residents	By residents to non-residents
-Financial credits	
To residents from non-residents	By residents to non-residents
-Guarantees, sureties, and financial backup facilities	
To residents from non-residents	By residents to non-residents
Direct Investment	
Inward direct investment	Outward direct investment
	Control of liquidations
Real Estate Transactions	
Purchase locally by non-residents	Purchase abroad by residents
	Sale locally by non-residents
Provisions Specific to Commercial Banks	
Nonresidents deposits	Deposit overseas
Borrowing abroad	Foreign loans
Personal Capital Movements	
To residents from non residents	By residents to nonresidents
Transfer into the country by immigrants	
Provisions to Specific Institutional Investors	
Limits on portfolio invested locally	Limits on securities issued
	Non-residents and portfolio invest

Source: Johnston and Tamirisa, 1998, p.6

It can also be said that the types of capital controls are country-specific. However, it is possible to put the capital controls into two broad forms: (1) Direct or

administrative controls; (2) Indirect or market-based controls. Direct or administrative controls restrict capital transactions through outright prohibitions or explicit quantitative limits. Affecting the volume of the cross-border financial transactions directly, they impose obligations on the banking system in an administrative sense. Indirect or market-based controls, on the other hand, discourage capital flows by making them costly to undertake. They aim at affecting only the price or both price and volume of a transaction. Such market-based controls may take various forms including dual or multiple exchange rate systems, explicit or implicit taxation of financial flows and other price-based measures.[40]

Such controls are discussed below in more detail.

2.3.1. Direct Controls

Direct controls on inflows and outflows take the form of quantitative restrictions. These restrictions that are also called as administrative controls, generally include limitations on purchase of external assets by residents, sale of domestic assets to non-residents and liability positions of banks. They are regarded as more disruptive applications of capital controls than market-based controls, as is the case in trade policy.

2.3.2. Indirect Controls

Indirect controls are market-based controls, including some taxes on international capital flows. These types of controls are much more preferable than the quantitative restrictions in that they aim at discouraging the capital flows, rather than prohibiting them entirely.

[40] Akira Ariyoshi et. al., "Capital Controls: Country Experiences with Their Use and Liberalization", **IMF Occasional Paper**, No. 190, May 2000, (Online) http://www.imf.org/external/pubs/ft/op/op190/pdf/part1.pdf, 21th April 2004, p.6.

2.3.2.1. Explicit Taxation of Cross-Border Flows: Tobin Tax

Tobin tax is the most popular form of international taxes, mentioned and studied on in the literature. Hence, in the context of discussions on realization of capital controls, it is important to examine this tax in detail.

2.3.2.1.1. The Emergence and Purpose of the Tobin Tax

The international taxes are imposed on interest earnings of foreign investors generated by capital inflows on the purpose of reducing both the amount of the capital inflows and interest rate differentials between domestic and international markets and restricting the opportunity for arbitrage. The main purpose of this kind of taxes is to discourage the speculators seeking short-term profit. Speculation rests on the exchange rate fluctuations and interest rate differentials and operates with very small margins. Taxes on such short-term transactions cause the transaction costs to increase and thus fall in the margin of profit.

The most common version of international tax on currency exchange is the Tobin tax, initially proposed by James Tobin in 1978 when the speculative attacks became serious after the collapse of the Bretton Woods system.

The theoretical justification of the tax derives from the earlier designs of such taxes. The history of the tax dates back to the proposition of a small transactions tax on all stock exchange dealings, put forward by Keynes inspiring from the eruption of U.S. stock market in 1929, which he defined as a casino operating with so little transaction costs. Since the tax increases these costs, speculative activities would be discouraged. He regarded the tax as a convenient reform to mitigate instability of the

domestic stock market in U.S. owing to the speculation, which is not consistent with economic fundamentals.[41]

Another theoretical argument for Tobin tax can be built upon the theory of Pigouvian taxes. Pigou stated that the speculative activities should be taxed to make them costly and unattractive. Since the sudden reversal of capital by speculators causes the exchange rate to rise and the depreciation of the domestic currency, the debt burden of the investors denominated in foreign currency increases, which he regarded it as negative externality to the investors. In this regard, since the externality arises from the negative effects that are not internalized as part of the considerations of the speculators, the Tobin tax can be cited as Pigouvian tax to the extent that it emends the negative externalities imposed by speculators on other investors.[42]

In 1970s, Tobin stated that the essential matter of those days was not any kind of exchange rate regime, but the case of international mobility of private financial capital. The capital mobility makes the government and the central bank incapable of pursuing nation-specific monetary and fiscal policies that should be directed to the needs of the economies for economic development. Besides, the speculation on exchange rates originated in accordance with the nature of the capital mobility, has severe consequences, including mainly the shifts of official assets, exchange rate fluctuations and large debts, which the authorities are restricted to cancel out through domestic policies. Tobin proposes two resolutions. First one is to move toward common currency, common monetary and fiscal policy and economic integration, which he thinks, is not possible to be created any time in the near future. His second proposal seems much more viable, "to throw some sand in the wheels of our excessively efficient international money markets", namely imposing "an internationally agreed uniform tax on all spot conversions of one currency into

[41] Howell H. Zee, "Retarding Short-Term Capital Inflows Through Withholding Tax", **IMF Working Paper,** No.40, March 2000, p.2.
[42] Thomas I.Palley, "Destabilizing Speculation and the Case for an International Currency Transactions Tax", (Online) http://www.globalpolicy.org/socecon/glotax/currtax/original.htm, 16th October 2004.

another, proportional to the size of the transaction."[43] In this way, the international financial capital mobility would be reduced and thus the authorities could set interest rates regardless of international considerations. However, Buiter points out that Tobin's proposal should not be regarded as a support for the arguments of the anti-globalization movement. Tobin states that when the attempts of financial integration are performed among the countries with various currencies, side effects of this intention should be handled. He, in essence, is in favor of trade liberalization and open economy. According to Buiter, he only tolerates the existence of the government as supporter for the participants of the trade activity that are hit by liberalization process by adjusting the reallocation of resources.[44]

2.3.2.1.2. The Tax Base

Tobin states the importance of avoiding the speculative transactions through the tax rate of 0.1% - 0.5% for every international exchange transaction. The tax, whom sphere of influence includes all of the spot transactions, the purchases of financial instruments, which necessitate the use of the foreign exchange, makes the short term investments unattractive owing to the high tax burden on speculative transactions. All the bank activities and multinational corporations that are at the center of the imperfect operation of the financial markets should particularly be taxed. Tobin refers that only the countries that form currency areas and less developed countries that aim at tying their currencies to another currency can be possibly exceptions to the global implementation of the tax.[45]

One of the causes of ineffectiveness of the Tobin tax is believed to arise from the determination of the taxable transactions. As stated by Tobin applying the tax only to the spot transactions cannot be resolution for deterring the speculation. By the means

[43] James Tobin, "A Proposal for Monetary Reform", (Online) http://www.globalpolicy.org/socecon/glotax/currtax/original.htm, 04th September 2004.
[44] Willem H.Buiter, "James Tobin: An Appreciation of his Contribution to Economics", **NBER Working Papers,** No.9753, June 2003, pp.27-28.
[45] Tobin, **loc. cit.**

of new financial instruments such as financial derivatives, the investors can find rooms for avoiding the tax. Assuming that these assets are also taxed, in this case damaging of the forward market due to the tax would be more hazardous for the efficiency of the foreign exchange markets since the transactions in these markets provide protection for investors to avoid uncertainties.[46]

2.3.2.1.3. The Effective Tax Rate and the Tax Revenue

Tobin defines the annual nominal tax rate as 0.1 per cent. The tax rate of 0.1 percent may be low for traders that look for long-term productive investment opportunities; however, for short-term speculation it implies very high levels since the rate differentials are so small. As the time horizon and holding period decline, the tax rate tends to increase for each transaction as can be clearly seen from Table 8 below.

Table 8. Effective Tobin Tax on a Two-Way Transaction

	1 day	1 week	1 month	3 months	1 year	5 years
Effective Tax Rate (Annual %)	73	10.4	2.4	0.8	0.2	0.04
Annual Tax Paid on $ 50 million Deal	36.5	5.2	1.2	0.4	0.1	0.02

Source: Entries are based on Rodney Schmidt, January 19, 1995, p.10

Table 8 shows the amount of tax that must be paid by the investors at the effective annual rate when $ 50 million is invested for the purpose of speculation or financial arbitrage.

[46] Spahn, **loc. cit.**

The amount of tax revenue counts on the achievement of the tax in deterring the speculative activities in exchange market. In cases where its influence on speculation is small, the tax revenue will be larger reflecting that the demand for currency is inelastic. On the contrary, considering its large impact, the tax revenue is smaller. However, in this case the gain is also obtained since the speculation and its negative externalities on other investors will have been reduced.[47]

As can be seen in the Table above, the revenue generated from the tax is not negligible for governments to finance its public projects and for international institutions to finance global social projects. Pointing out this enormous amount, Frankel stresses that the opponents of the tax who challenge it due to its disruptive effects on financial system, should first consider the other ways that generate the same amount revenue. He claims that no other way does exist to provide the same revenue with less damage.[48] According to a calculation, it is supposed that the tax could generate between $150-300 billion annually, which is well sufficient for solving one of the global problems as environment, poverty, peace and security.[49]

2.3.2.1.4. The Incidence of the Tax

Schmidt deals with the incidence matter under the guidance of the impact of the tax on bid-ask spread differentials. Initially, the nature of the market participants that is likely to be affected by the tax is assessed. Banks in interbank market mostly engaging in short-term speculative, covered interest arbitrage and other two-way foreign exchange transactions are the first target of the tax, which are expected to be the most heavily affected, whereas non-financial customers involved in foreign exchange market for the purpose of commercial project are expected to least heavily affected. The tax has a decreasing effect on liquidity and an increasing effect on

[47] Palley, **loc. cit.**
[48] Jeffrey A. Frankel, "How Well Do Foreign Exchange Markets Function: Might A Tobin Tax Help?", **NBER Working Papers**, No.5422, January 1996, p.34.
[49] Heinz Stecher, "Time for a Tobin Tax? Some practical and political arguments", May 1999, (Online) http://www.attac.org/fra/toil/doc/oxfam.htm, 20th March 2005.

transaction costs, which are seen to be the two sources of the narrow bid-ask spread in interbank market unlike the customer market in which productive sector is working with wider spread. With the implementation of the tax, the differential between spread in interbank and customer market rises. By increasing the spread differential, the banks pass the costs of the tax on to the customers who are the final bearers of the tax burden and whose demand for foreign exchange is inelastic.[50]

2.3.2.1.5. The Effects of the Tobin Tax on the World Economy

In the face of enormous daily movement in foreign exchange market preceded by the rapid expansion of financial derivatives and increased number of tradable currencies, it can be said that reducing exchange rate volatility by deterring speculation is the primary aim of the Tobin tax. Regarding the huge trade volumes in foreign exchange markets offering various opportunities for speculation in both spot and option markets, it is obvious that an attempt to curb the volatility of the currency markets is necessary especially for development of emerging markets. Since the Tobin tax is designed to discourage destabilizing speculation in foreign currency trade, the volume of destabilizing short-term capital flows is believed to decrease and thereby greater exchange rate stability will be maintained. The supporters of the Tobin tax believe that the tax discriminates against short-term capital flows automatically. This comes from the structure of the tax. The Tobin tax is paid twice, once when the foreign exchange is acquired and then when it is sold. This double taxation at a fixed rate results in discrimination against short-term capital flows.

For example, when the tax levied on foreign exchange transactions is 0.1% and the annual domestic interest rate is 5.0%, the interest rate on foreign currency denominated asset –with one year holding period- has to be at least 5.2% to attract foreign investment. If holding period is only a month, the interest rate has to be at least 7.4% to offset the tax. As the holding period declines, the interest rate necessary

[50] Rodney Schmidt, "Feasibility of the Tobin Tax", January 19, 1995, (Online) http://www.globalpolicy.org/finance/alternat/schmidt2.htm, 04th February 2004.

for offsetting the tax increases.[51] Thus, Tobin tax is said to be effective to discourage the short-term capital flows. In this respect, Tobin tax is generally accepted superior to other types of capital controls especially unremunerated reserve requirements due to its discriminative feature.

Furthermore, Schmidt appraises the tax being superior to the other control mechanisms in that it discourages the short-term speculative activities by changing the economic motives and investment preferences of traders unlike the other measures that perform 'command and control' process.[52] Besides, the need for hedge against exchange rate fluctuations and hence investment costs, would be reduced due to lower exchange rate volatility, which in turn encourages foreign investors to engage in long-term investments.[53]

In addition, the Tobin tax is believed to give government more fiscal and monetary policy autonomy by permitting to create differences between short-term interest rates in different currencies. It also permits the central banks to change exchange rate trends by intervening in currency markets. In order to maintain the stability of the domestic exchange markets and to mitigate the speculative attacks, the central banks intervene in the exchange market by buying the domestic currency to avoid the depreciation of the domestic currency. This process necessitates large reserves, which are largely acquired by the investors engaging in the speculative transactions. This impairs the ability of the central banks to pursue the monetary and exchange rate policies. The intervention of the central banks in currency markets, here, is directed by the demands of the international financial markets. Since the Tobin tax reduces the amount of the currency transactions, not much reserve is required for intervention as before. Thus, the policies are not determined according to the needs

[51] Kenneth Kasa, "Time for a Tobin Tax?", April 9, 1999, (Online) http://www.frbsf.org/econrsrch/wklyltr/wklyltr99/el99-12.html, 05th February 2004.
[52] Rodney Schmidt, "A Feasible Foreign Transactions Tax", **North-South Institute**, July 1999, (Online) http://globalpolicy.igc.org/socecon/glotax/currtax/schmidt1.htm, 01th March 2004.
[53] David Felix, "The Tobin Tax Proposal: Background, Issues and Prospects", UNDP Paper, 1995, cited in Heinz Stecher, "Time for a Tobin Tax? Some practical and political arguments", May 1999, (Online) http://www.attac.org/fra/toil/doc/oxfam.htm, 20th March 2005.

of the unstable financial environment any more. Rather, the needs of the domestic economy for stable development can primarily be considered.

Another advantage of the Tobin tax is that it would raise the revenue for governments and generate important resources to support sustainable development. Besides, it provides a significant source for financing the international social projects globally determined, such as international public health, education, refugee and peacekeeping operations. In this respect, Patomaki emphasizes that the tax will help to build a body concerning social control and regulation and it would lead to reconsideration of the social and political matters.[54]

According to Joseph Stiglitz, a proponent of the tax, who suggested to implement such a tax especially after the stock market crash of U.S. in 1987, the Tobin tax has two important features: First, it is providing the basis for revenues to pay for public goods and second, "it is trying to address the imbalance associated with the free mobility of capital that has brought such devastation around the world".[55]

On the other hand, there have been some critics about the implementation of the Tobin tax. The critics focus on technical and political concerns about the tax. In fact, they arise from the conflict between two extremist political views. One of them argues that the problems of foreign exchange markets are associated with the inappropriate domestic policies whereas the other one claims that the nature of the markets cause the turbulence.

Primarily, it is argued that the tax must be unreasonably high to prevent speculative attacks against fixed exchange rates. Since banks account for the majority of foreign exchange deals, they would be directly affected by the tax, which in turn cause

[54] Heikki Patomaki, "The Tobin Tax: A New Phase in the Politics of Globalisation?", (Online) www. globalpolicy.org/socecon/glotax/currtax/original.htm, 03th March 2004.
[55] Joseph Stiglitz ,"Interview with noble prize winner Joseph Stiglitz" Interview by Sonia Mikich, May 2002, (Online) http://www.attac.de/archiv/stiglitz_interview.pdf#search='interview%20with%20noble%20prize%20winner%20Joseph%20Stiglitz', 12th March 2004.

distortions in banking sector. Moreover, the customers engaged in trade as a part of commercial activity are damaged by such a tax.[56]

The Tobin tax is supposed to be imposed on all of the currency transactions. However, the derivative transactions such as the futures and forward, which reduce the exchange rate risk, are not subject to the tax. As previously discussed, this creates the room for evasion of the tax. If the sphere of the Tobin tax is expanded to the derivative markets, the development of the tools necessary for the stability of the exchange market is impeded. Attempting to disprove this counter argument, Schmidt states that the assets in derivative market can also be taxed. The reason is that traders are required to pay the settlement price of these assets, which comprises of simple payments of the principal amounts traded. The same process does not address to the foreign exchange options due to their likelihood of remaining unexecuted. However, options have also prices that traders must pay while purchasing them and that would be taxed.[57]

As another critic of the tax, it is seen questionable that whether the Tobin tax is enforceable or not. This enforceability is discussed around two issues. Firstly, since transactions in the foreign exchange market take place around the world, global cooperation to implement it universally and simultaneously by all countries is necessary for the Tobin tax to be effective. Otherwise, the speculative foreign exchange transaction jumps into another country where it is more likely to obtain high revenue due to the absence of the tax. Yet, global use of the tax seems to be unfeasible both technically and politically.[58] In response to this argument, proponents of the tax claim that if the implementation of the tax were globally approved, evasion arisen from both greater trade in derivatives and tax heavens would not be a problem. Since most of the foreign exchange transactions are conducted by large international banks, which are properly controlled and monitored by the tax authorities, evasion could be prevented. In addition, Stecher suggests that in order to maintain global

[56] Schmidt, 1995, **loc. cit.**
[57] Rodney Schmidt, "Is the Tobin Tax Practicable?", 2000, June,7, (Online) http://www.currencytax.org/files/research_items/schmidtjune2000.pdf, 05th March 2004.
[58] Kasa, **loc. cit.**

acceptance of the tax, the IMF may make the country's participation in the global tax system one of the conditions for membership.[59]

Secondly, there is some doubt about the definition of the tax base. The opponents of the Tobin tax argue that it cannot distinguish between normal trading necessary for stability of financial markets and destabilizing trading which should be the only target of the tax. However, supporters of the Tobin tax, namely Spahn, suggests that the two-tier Tobin tax consisting of a low tax rate for normal transactions and a high tax rate for very short-term transactions can be a solution to the tax base problem.[60]

On the other hand, Tobin, himself referred to the possible pitfalls of enforcement and administration and he was also aware of the possible introduction of the various kinds of evasion and the costs associated with them. Comparing the distortions of the existing system with these costs, he came to the point where the latter distortions can be preferred to bear so as to eliminate first distortions, as implied by the second best argument. In line with this conclusion, Tobin emphasized that the main objective of the tax is to render the governments the short run autonomy, as was the case before currency convertibility.[61]

To sum up, the technical aspect of the implementation of the tax is associated with the intention of the policymakers and may be subject to ideological evaluations. Hence, it is argued by the proponents of the tax that the political aspect of the critics is much more worth being emphasized.

As for political aspect of the critics about the implementation, supporters of the tax claim that the economic actors that get benefit from the instability in the exchange rate markets are reluctant to the global transaction taxes. Short-term gains can only be generated when the markets are volatile. Thereby, most of the banks and other financial institutions intending to gain from increased turnover, would be damaged

[59] Stecher, **loc. cit.**
[60] Spahn, **op. cit.,** p.2.
[61] Tobin, **loc. cit.**

by the tax which is designed for reducing the exchange rate volatility by discouraging speculative short-term capital flows.[62]

2.3.2.1.6. Two-Tier Tobin Tax

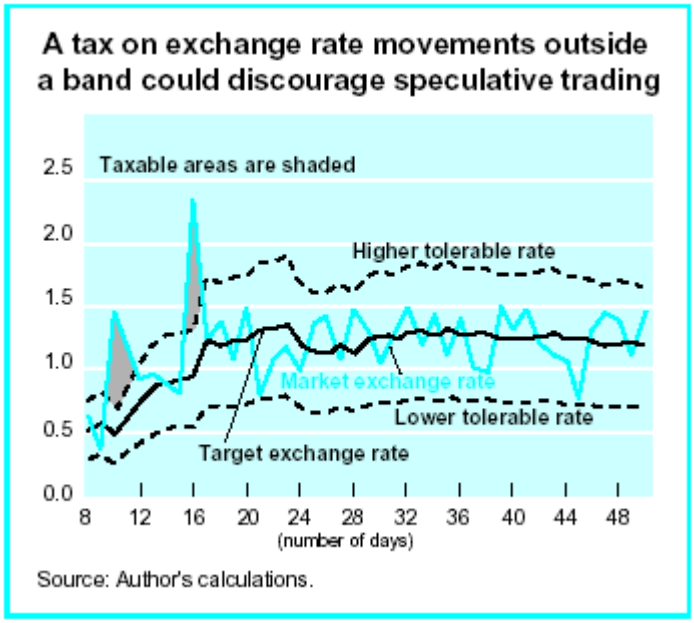
One of the arguments against the Tobin tax is that the tax rate of 0.1 percent is too small to discourage the speculation. Assuming that the expectation of devaluation by the speculator is about 0.4 or 0.5, actually more than this when considered the recent devaluations in developing countries (50% in Thailand and 40% in Brazil), then the Tobin tax rate will be far from deterring the speculation in foreign exchange market.[63] If the tax rate is designed at a higher rate, it will have a distortionary effect on the operation the financial market.

Besides, it is regarded as disruptive for productive investments across borders since it is applied for all transactions involving foreign exchange. In response to this argument, Spahn proposes "a two-tier structure" in which the two different rates called minimal rate transaction tax and exchange surcharge are offered. Minimal transaction tax has an unceasing functioning mechanism and continues to generate constant revenues. This operation is not detrimental to the typical functioning of the international financial markets, as its role is to eliminate the noise trading and generate revenue. It is also used as a monitoring and controlling tool for the exchange surcharge, which constitutes the other part of the system. This rate functions as an automatic circuit-breaker, activating when the speculative attacks occur and remaining inoperative with the zero tax bases at normal times without speculation. The activation of the surcharge depends on whether the trading price of the currency jumps over or falls under the predetermined interval set by a crawling peg plus a safety margin. Spahn shows these intervals in Figure 8. The higher and lower tolerable rates are determined by the target rate. Within this interval, the tax is

[62] Stecher, **loc. cit.**
[63] **Ibid.**

not activated for daily fluctuations. The areas in the figure which climb over or fall under the interval are taxed at a higher but constant rate. [64]

Figure 8. The Workings of the Two-Tier Tax



Source: Paul Bernd Spahn, June 1996, p. 26

The tax increases the transaction costs that, in turn, induce the traders to refrain from engaging in trading activities that create large and taxable fluctuations. Hence, the investor behaviors are adjusted to the system. Ideally, the two-tier tax seems as a well-designed tool to make perfect discrimination between speculative trading and normal trading.

However, Stotsky argues that the two-tier tax is not enough to correct the defects of original Tobin tax. He refers that Spahn overlooks some issues while designing his proposal. Firstly, he states that, generally these variable-rate taxes are rarely preferred owing to the uncertainty in prices associated with them, especially caused by the surcharge. It changes the market behavior and in turn, deters even the operation of the tax in question. Besides, with these taxes the tax burden and administration tend to be more complicated leading to substantial fiscal costs.

[64] Spahn, **op. cit.**, p. 26.

Secondly, Spahn does not notice that the monetary and tax policies do not move together. While the monetary policy changes more rapidly regardless of politics, rapid changes in the tax policy, which is a part of political considerations, are not seen. Stotsky goes on to argue that, as opposed to Spahn, the evidence does not prove the link between transaction costs and volatility. In the past, transaction costs in these markets were higher than today, and price fluctuations were also higher. In contrast, recently transaction costs have reduced but volatility has not significantly increased.[65] Stecher responds to this argument by holding that this could have reflected the situation in the 1970s and early 1980s, however the currency crises in the 1990s proved the counter argument that efficiency gains from liberalized financial markets have been offset by the destabilizing effects of the greater financial integration.[66]

2.3.2.2. Exchange Controls

Exchange controls are evaluated as means of implementing capital controls. They act as explicit taxes by restricting the use of foreign exchange by domestic residents or the use of domestic currency by non-residents. The basic route for placing the exchange controls is to separate the price of demand for and supply of foreign exchange from its open market price. By this way, different exchange rates for current account transactions and capital account transactions are used. The main concern of the government or the central bank is to take care about these differentiated rates in case they should not be subject to arbitrage by private traders of foreign exchange. For this reason, some restrictions on holdings of foreign currency deposits by domestic residents and on holdings of domestic currency deposits by non-residents are implemented. All trade activities between residents and non-residents are carried out through the guidance of the central bank which further

[65] Janet G. Stotsky, "Why a Two-Tier Tobin Tax Won't Work", **Finance and Development**, 1996 June, Vol 33 No.2, pp.28-29.
[66] Stecher, **loc. cit.**

requires all traders to be registered and to hand over their receipts from trade.[67] For the same reason, the central bank or a government agency may induce traders to surrender all foreign currency inflows to them so as to determine their use coordinated with their macroeconomic targets.

Exchange rate controls can be implemented through fixed exchange rates requiring broad application, managed exchange rates or global interest rates whose practice necessitates synchronized fiscal and monetary policy. In practice, the implementation of this kind of measure through fixed exchange rates is a bit difficult. The attempt of Thailand to arrange its currency by a range of prices failed due to its inability of enduring against the speculative attacks. On the other hand, Hong Kong had in success in adopting currency board since it could cope with the speculative attacks by means of its enormous foreign reserves.[68]

The central bank has the right to define a number of exchange rates according to the kind of activities which generate foreign currency receipts. Besides, it can force the buyers of foreign exchange to pay the price determined by the central bank according to for what purpose it will be used. Hence, the exchange controls produce the case called as 'multiple exchange rate' or 'dual exchange rate', which is most popular in practice.

2.3.2.3. Dual (two-tier) or Multiple Exchange Rate System

In a dual or multiple exchange rate system, governments set different exchange rates for different types of transactions. This system affects both the price and quantity of capital transaction through binding rules. The main purpose of two-tier exchange rate system is to find a way of separating current and capital transactions and to prevent speculative activity caused by high short-term interest rates by raising the cost for

[67] Fane, **op. cit.,** p.33-34.
[68] Matthew Siegel, "Control of International Capital: A Survey of Policy Options", Discussion Paper for Working Group I, Towards a Progressive International Economy, December 9-10, 1998, Washington D.C, (Online) http://www.foe.org/progressive-economy/capital.html, 08th February 2004.

speculators of the domestic credit used for a net short domestic currency position. The nonspeculative domestic credit demand is satisfied at normal market rates. By this way, foreign exchange transactions associated with trade flows, FDI and equity investment are excluded from restrictions.[69]

The dual exchange rate system serve as a tax on outflows or equivalently a subsidy on inflows, generally implementing current account exchange rate for inflows and relatively high capital account exchange rate for outflows. Considering this, in order to be able to tax them, differentiations between flows, which is more elaborate, can be done. In this respect, the same exchange rate is not applied for borrowings, interest payments and repayments of principals. The system that try to restrict the new outflows by charging high price for foreign exchange, may allow for repatriation of principal at some premium exchange rate but this premium rate is not applied to non-residents who wish to buy domestic currency at this rate for financing the new inflow. That is, it imposes a kind of tax on outflows, but does not subsidy the inflows. The same is true for opposite case. In addition, the exchange rates for interest and dividend payments are not the same as the rates for inflows and outflows of principal. The exchange rate for interest and dividend receipt must be below the rate for new outflows whereas, the higher rates for interest payments to abroad are applied for new inflows. [70]

Adams and Greenwood examine the welfare effects of dual exchange rate systems in their study and state that the use of the system in small open economies where distortions are very likely to occur, tends to be welfare-reducing due to the validity of the theory of the general international economics in such circumstances, that is, free trade is better than restricted trade. Such a country generally benefits from the use of the flexible exchange rates to offset its macroeconomic imbalances and the distortions since it is too small to affect the world interest rates or terms of trade.

[69] Akira Ariyoshi et. al., "Capital Controls: Country Experiences with Their Use and Liberalization", **IMF Occasional Paper**, No. 190, (Online) http://www.imf.org/external/pubs/ft/op/op190/pdf/part1.pdf, p. 7.
[70] Fane, **op. cit.,** pp. 12-13.

However, in a small open economy without any distortion, the dual exchange rates may increase welfare.[71]

2.3.2.4. Indirect Taxation of Cross-Border Flows: VDR (Variable Deposit Requirement) and URR (Unremunerated Reserve Requirement)

This kind of restrictions acts as taxes on international capital flows. They are generally identified as 'asymmetric tax' as they differ from other taxes being imposed more heavily on short-term capital inflows.

One of the ways of the taxation of capital inflows preferred by central banks is the VDR. The VDR brings obligations to domestic residents who borrow from non-residents and sell securities to non-residents. It forces them to deposit a certain percentage of the inflow in a non-interest-bearing account at the central bank. After a specified period such as one year or at the certain date of repayment of loan, it is repaid. The percentage depends on the duration of the borrowing, higher for short-term than long-term ones. Both the industrialized and the developing countries use the VDRs for different purposes. The aim of industrialized countries in using it is to maintain lower inflation rate than the countries to which their currencies are pegged whereas the developing countries use them to make spending booms moderate.[72]

The URR, specific form of VDR, has been one of the most frequently resorted market-based controls. Under this sort of control, a certain amount of foreign exchange inflows into the country are required to be deposited with the central bank at zero interest rate. At the end of the investment period, the central bank repays the reserve requirement in the currency, which it was initially deposited.

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[71] Charles Adams and Jeremy Greenwood, "Dual Exchange Rate Systems and Capital Controls: An Investigation", **Journal of International Economics**, Vol.18, 1985, pp.43-63.
[72] Fane, **op. cit.,** p.11.

URR serves as the tax on capital inflows due to its opportunity costs. It differentiates from the Tobin tax by both its smaller tax base and higher rate, which is also imposed on the long-term investments. The tax rate varies with the duration of investment in the country and the amount of investment that must be held in the central bank.

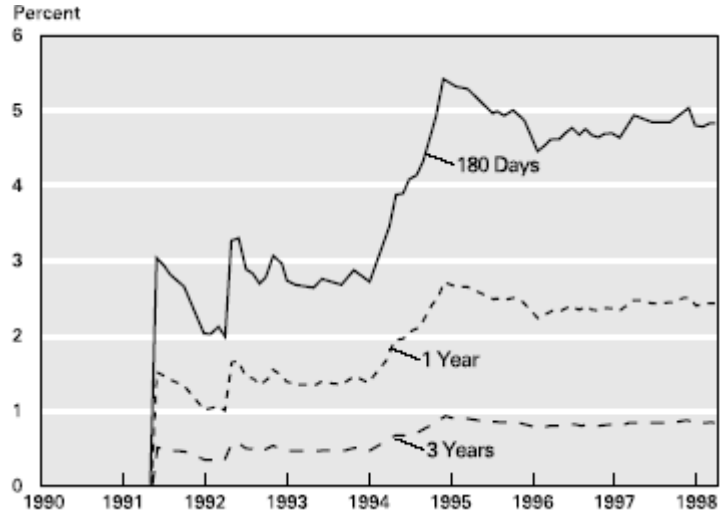
In order to evaluate the URR, Gregorio et. al. engage in computing the interest rate-equivalent cost of the URR in Chile. Their analysis consists of the opportunity cost considerations. The interest rate for k-months investment, i_k, which is given away due to the amount deposited with the central bank is computed as the sum of the foreign investor's cost of borrowing abroad, i^*, so as to invest in Chile and tax-equivalent of the unremunerated reserve requirement, μ_k:

$$i_k \equiv i^* + \mu_k$$

This type of cost computation of URR may vary with the inclusion of some other factors determined by the policymakers. In some applications of URR, the investor is allowed to choose the currency denomination of reserve requirement in order to minimize its costs, the investor prefers either the currency, which is subject to the lowest interest rate, or the currency, which is thought to appreciate in the future. In this case, the cost of URR reduces. Besides, when the investor is conformed to some other taxes in the country such as a tax on interest paid abroad, which was imposed in Chile, the cost also varies. [73]

[73] Jose De Gregorio, Sebastian Edwards and Rodrigo O. Valdes, "Controls on Capital Inflows: Do They Work?", **NBER Working Papers**, No. 7645, April 2000, pp.7.

Figure 9. Tax Equivalent of Capital Controls: Stay of 180 days, 1 year and 3 years



Source: Sebastian Edwards, "International Capital Flows and the Emerging Markets: Amending the Rules of the Game", p.145

The Figure 9 represents the tax equivalent of the URR in Chile. As the length of time that funds stayed in the country decreased, so did the tax rate, aiming at penalizing the short-term capital inflows. It can be seen that the tax rate was changed with time consistent with the government policies intended to change the URR rate.*

The experiences of some countries with the tax can be seen in both 1970s and 1990s. Germany used this kind of tax in 1972 under the name of 'Bardepot' and it was exercised by Spain in 1992 when the peseta crisis had occurred and by Chile and Colombia in 1990s. Among them the experience of Chile is accepted as the most referred argument for URR due to its achievement to discourage the speculative capital flows into the country. [74]

* The policy shifts are presented by Box 1 in Appendix.

[74] Cornelia Staritz and Ralf Widtmann, "Financial Markets and Sustainable Development- The Tobin Tax", May 2002, (Online) http://www.wu-wien.ac.at/inst/vw7/Tobintax.pdf , 12th March 2004.

2.4. Alternatives to Capital Controls in the Management of Capital Inflows in Developing Countries

Many developing countries have committed various reform programs and some regulations to reap the benefits of the capital inflows. However, the need for managing the capital inflows has also turned out to be an urge as consequences of capital inflows have caused negative effects such as undervalued exchange rate, inflation, which in turn impair the competitiveness of export sector and erode the financial system.

The application of capital controls in developing countries requires more sophisticated institutions to be effective due to their relatively complex nature. Therefore, countries may resort to some other policies in order to manage capital inflows and cope with their effects on domestic macroeconomic variables. These policies include sterilization, fiscal restraint, discount rate policy, more flexible exchange rate, foreign exchange swaps and relaxation of controls on capital outflows, which are also not free from some costs.

2.4.1. Sterilization

Sterilization is the wide-range policy used for controlling and managing the large capital inflows aiming at eliminating the monetary and exchange rate effects of capital inflows.

If the money supply is assumed to be consisting of the sum of the domestic credit and foreign assets and the domestic credit is kept constant, the increase in official foreign exchange reserves due to the persistence of large capital inflows affect monetary conditions adding to the money supply. The monetary effects of these flows are tried to eliminate by the authorities by giving up to keep the domestic credit constant and allowing it to vary with the change in foreign exchange reserves. In this case, the central bank engages in the sterilization which involves open sale of

government securities denominated in domestic currency and which involves quasi-fiscal costs in the form of difference between interest rate on domestic securities and return on foreign exchange reserves. When the increase in money supply is sterilized by contracting the domestic credit, the new interest rates are determined at higher level and additional inflow is motivated: the demand by non-residents for domestic securities increases and the demand by residents for foreign currency denominated securities falls. In the case of capital inflows, the central bank sells securities to contract domestic credit, whereas sterilization of outflows can be made by the central bank's purchases of securities. The capital outflows arisen from the rise in world interest rates lead to the official foreign exchange rates to fall. In the absence of sterilization, the purpose of holding domestic credit constant under the fixed exchange rate system causes the money supply to decrease and the domestic interest rates rise. If the central bank sterilizes the fall in the money supply by expanding the domestic credit through purchases of securities, the lower interest rates are determined rather than the case in which the domestic credit is held constant producing additional outflows.[75]

The main defect of the sterilization policy is that it magnifies the effects of the capital inflows and outflows by creating additional inflow and outflow. As explained above, if sterilization is directed towards the monetary effects of capital inflows, the domestic credit is contracted to absorb the increase in money supply causing the interest rates to rise and creating more incentives for capital inflows. Similarly, when capital outflows are sterilized, domestic credit is expanded causing the domestic interest rates to fall and more capital outflows occur.[76] Moreover, due to the high interest rates associated with the sterilization of capital inflows, the return on foreign exchange reserves that are sold by the central bank falls below return on assets denominated in domestic currency that the central bank buys in return for foreign exchange. Hence, the income losses would occur for the central bank.[77]

[75] Fane, **op. cit.,** pp.138-140.
[76] **Ibid.,** pp.138-139.
[77] Grilli and Milesi-Ferretti, **op. cit.,** p.522.

The other critic on sterilization is about its preventing the domestic economy from taking advantages of some adjustment policies. The fall in world interest rates giving rise to capital inflows can be thought as an opportunity for importing foreign capital at a cheaper price. In order to induce imports, the factors used for traded goods-producing sector are directed to the non-traded goods- producing sector in an effort to decrease export relative to import sector. The demand for foreign goods is also to be increased. Therefore, the appreciation of the exchange rate is a necessity. Besides, sterilization undermines the credibility of the government's commitment to maintain the fixed exchange rate since it causes the foreign exchange reserves to be exhausted.[78]

In addition to these shortcomings, the fact that most of the developing countries are deprived of the tools and suitable instruments for sterilization due to the absence of well-developed financial markets or that they find them too costly to apply, poses another limitation to the operation of sterilization.[79] For these reasons, the other supplementary measures that are reckoned as on the same purposes of the sterilization may be engaged in.

Sterilization can be conducted through various forms that are thought to be successful in affecting the money supply, namely through OMOs and reserve requirements.

2.4.1.1. Sterilization by Open Market Operations (OMOs)

In response to the side effects of large capital inflows, the most resorted type of the sterilization is the OMOs in the domestic bond markets. As a part of the sterilization policy, OMOs enable the central bank to absorb the monetary swelling caused by the foreign currency inflows to the domestic economy. The increased demand,

[78] Fane, **loc. cit.**
[79] Nadeem Ul Haque, Donald Mathieson and Sunil Sharma, "Causes of Capital Inflows and Policy Responses to Them**", Finance and Development**, March 1997, p.5.

inflationary pressure and real exchange rate appreciation pertaining to the capital inflows are tried to be avoided. In this respect, the central bank engages in the policy of selling bonds instead of domestic currency in exchange of foreign currency.

In order to make the government bonds more attractive and to increase their demands enough to absorb the excess liquidity brought by the foreign reserve accumulation, the interest rate differentials between domestic and international markets are to be high. The high domestic interest rates, in turn, cause the continuity of the further capital inflows and the persistence of the inflationary and exchange rate pressures associated with the capital inflows. Hence, the targets of the sterilization cannot be realized.

Another case for sterilization to cause more inflow through increased interest rates is brought by the imperfect substitution between the central bank or treasury bonds and the financial assets preferred by foreign investors. Despite the high interest rate caused already by sterilization, prices of these financial assets persist to increase instead of decrease owing to the limited supply of them. [80]

2.4.1.2. Increased Reserve Requirements

The other policy directed to isolate the economy from monetary expansion is applied through the rise in reserve requirements by the central bank as a traditional stance for contracting the money supply. The high reserve requirement ratio leads the banks to increase the credit interest rates, curtailing the credit demand by both residents and non-residents. In turn, the amount of capital into the country and related monetary effects reduce.

[80] Jang-Yung Lee, "Sterilizing Capital Inflows", **IMF Economic Issues** No. 7 March 1997 , p.4.

This process serves as the implicit tax on banking system. The economic outcomes of the increased reserve requirements will rest on the way of allotting this burden among the banks, depositors and loan customers.[81]

Although this policy has been widely preferred by developing countries due to its relative low costs to the government, the higher credit interest rates make the finance of investments costly discouraging the profitable investment projects. In addition, the foreign investors may find rooms for investing in domestic economy through institutions other than domestic banks.

2.4.2. Fiscal Restraint

The sterilized intervention may be appropriate response to the capital inflows and its deteriorating effects on the domestic country. Nevertheless, if the substitution between the domestic and international assets is high, the effect of sterilization on the target of decreasing money supply is limited.[82] In this case, the sterilization policy should be supported by some other fiscal regulations to be effective.

Since the capital inflows cause the domestic expenditure for both tradable and non-tradable goods to expand and the supply of non-tradable goods cannot be increased unless their relative prices are increased, the fiscal policies directly inclined to decrease the demand for these goods can be effective for avoiding the real appreciation of the domestic currency. In this respect, the government may decrease its expenditures or it may switch the composition of its expenditures from non-tradable to tradable goods, causing the price of non-tradable to decrease.

This policy is also conducted by the higher taxes as well as lower government expenditure addressing the lower aggregate demand and inflationary pressure

[81] Eduardo Fernandez-Arias and Peter J. Montiel, "The Surge in Capital Inflows to Developing Countries: An Analytical Overview", **The World Bank Economic Review**,Vol.10 No.1, January 1996, p.76.
[82] Haque, Mathieson and Sharma, **loc. cit.**

provoked by large capital inflows. Lower government expenditure may be more effective than the higher taxes to mitigate overheating arisen from excessive capital inflows. If the capital mobility is high in a country and the facility of accessing credit is easily provided either by domestic or world markets, the higher tax liability may not defer individuals from expenditure. On the contrary, curtailing government expenditure or shifting its composition influences the aggregate demand directly. However, in the face of persistent capital inflows, the matter with the use of this policy arises from the lags related to the adjustment and implementation of these measures since the existence of capital inflows requires operation that is more advanced.[83]

On the other hand, tight fiscal policy may not satisfy the desired outcomes as seen in some developing countries such as Chile and the Republic of Korea. Even though they had maintained fiscal balance, eliminating the fiscal deficits, they continued to suffer from the adverse effects of excessive capital inflows. The reason is that fiscal balance increases the credibility of the country, maintaining the continuity of the capital inflows.[84]

2.4.3. Discount Rate Policy

Another traditional way of controlling the monetary base for the central bank is to change the discount rates. As the higher discount rates make the central bank credit expensive, the expansion of credit can be avoided. However, this policy can be cited as costless only if the authorities do not target to support the development of a particular sector by providing it with the facility to access the credit at a cheaper price.[85] In addition, as is the case in increased reserve requirements, foreign capital

[83] Guillermo A.Calvo, Leonardo Leiderman and Carmen M. Reinhart, "Capital Inflows and Real Exchange Rate Appreciation in Latin America", **IMF Staff Papers**, Vol.40 No.1, March 1993, p.146.
[84] G. K. Helleiner, "Capital Account Regimes and the Developing Countries", **International Monetary and Financial Issues for the 1990s**, Vol.8, (Online) http://r0.unctad.org/p166/modules2001/mod4/Helleiner.pdf , 18th January 2004, p.7
[85] Lee, **op. cit.,** p.6.

may enter the domestic economy through other financial institutions instead of domestic banks.

2.4.4. More Flexibility in Exchange Rate Determination

Allowing the domestic currency to appreciate may be another instrument for managing capital inflows. In this case, inflation can be taken under control to some extent via the fall in the prices of imported goods as the demand for them increases. By this way, the speculative attack seen in the fixed exchange rate systems due to the expectations of speculators about the undervalued domestic currency, may also be averted.[86] On the other hand, the appreciation has deteriorating effects on the competitiveness of the country's products, which in turn introduces additional difficulties in the economy. Moreover, the country is left with a vicious circle in that it encounters even worse problems than before.

2.4.5. Foreign Exchange Swaps

In the foreign exchange swaps, the central bank makes a contract to substitute the foreign exchange with the domestic currency and to buy it back at the end of the swap contract. This replacement is priced at the forward exchange rate. Since this kind of intervention works as sterilization through OMOs, the domestic monetary base will be curtailed even if the banks that purchase foreign currency use it for lending to the domestic residents or for investing it abroad. The foreign exchange swaps have preeminent feature of being highly flexible and the fact that it does not require large stock of government securities surpasses the OMOs. Nevertheless, likewise these operations, the central bank provides profitable margin on the interest rate differentials incurring losses. Another risk occurs if the foreign exchange sold by the central bank is resold to the central bank in domestic currency in a concealed

[86] **Ibid.,** p.10.

manner. This can be dealt with through the improved monitoring and controlling mechanism.[87]

2.4.6. Relaxing Controls on Capital Outflows

Another measure observed in many economies is to ease the restrictions on capital outflows in case it should compensate for the capital inflows. The capital outflows are stimulated by some policies directed to liberalize them including relaxation of the requirements on earnings of foreign investors, allowance for investment abroad by residents.

Capital outflows can also be fostered by the intervention of the central bank in the forward exchange market. By the forward exchange rates, the central bank provides the opportunity to prevent the loss in value of the investments denominated in foreign currency. However, this policy can only be pursued by the presence of the developed financial instruments, the well-designed and efficient forward markets and increased liquidity, which developing countries lack of. Since it may cause losses for the central bank, the forward discount of the domestic currency should not be much deviated from the interest differentials implied by the interest parity.[88]

Even if it turns out to be possible to intervene in the forward market by the help of the enhanced financial facilities, liberalizing the capital outflows increases the credibility of the country inducing capital inflows. Moreover, since this policy is inclined to the elimination of impediments on the repatriation of the funds invested in domestic economy, foreign investors can bring their funds into the country without considering repatriation difficulties. When this is the case, the removal of obstacles serves as the removal of tax on foreign investments, encouraging further inflows.

[87] **Ibid.,** p.8.
[88] **Ibid.,** p.11.

2.5. Determinants of Capital Controls

From the previous section, it is clear that the countries have several different purposes for imposing capital controls. All the reasons that constitute basis for capital controls and the policy targets that are thought to be attainable with capital controls are firmly related to the economic structure of the countries. Therefore, just as the objectives of capital controls, determinants of capital controls also differ from country to country. However, it seems possible to make a general framework for the determinants of capital controls. In order to examine the determinants of capital controls, it is necessary to consider that in which countries the capital controls are mostly used, what kind of problems the countries suffer from and for which economic structure it is optimal to resort to capital controls.

Considering the fact that the countries with lower income resort to capital controls more frequently, it can be said that among many determinants, the level of development and welfare of the countries are the most noticeable determinants of capital controls. The reason is that distortions intended to be eliminated by capital controls, are mostly seen in the poor and developing countries related to the weak economic and political structure of these countries. For example, at the beginning of 1995, capital controls were implemented by 126 of 158 developing countries whereas only in 3 of 24 advanced countries.[89]

It is more likely to apply capital controls for the developing countries due to the fiscal reasons. The problems of tax collection in developing countries make the macroeconomic balances worsened. The countries with inefficient tax systems face with distributional and budgetary problems. Capital controls also take place to eliminate these important distortions. By imposing tax on domestic capital, capital controls enable governments to generate an income resource. The countries with poor taxation systems are more prone to inflation tax for financing the government

[89] Reuven Glick and Michael Hutchison, "Stopping Hot Money or Signaling Bad Policy? Capital Controls and the Onset of Currency Crises", June 15, 2000, (Online) http://www.econ.ku.dk/epru/files/wp/00-14.pdf, 15th February 2005.

spending. It can be said that as the well-designed tax system is associated with the level of development, capital controls may contribute to the development by improving the tax system.[90]

The other argument to be linked to this fact includes the political leaning of the governments. According to Alessina and Tabellini, the preference of using capital controls for the government originates from its political structure. The left-wing governments that aim at preventing the interests of workers and increase the share of labor in the national income impose capital controls on financial transactions extensively. Yet the right-wing governments do not prefer to impose controls on transactions.[91] Political stability is also a driving factor for capital controls so that the countries in political chaos may prefer to use controls in an effort to gain the economic stability and policy autonomy.

Besides, the imposition of capital controls may be linked to the share of government in the economic activity. The countries with large share of government in the economy are more inclined to apply capital controls due to fiscal reasons. It is discussed in previous section that one of the most important objectives of the capital controls is to maintain monetary autonomy. If the monetary policy is a target variable for the government, it seeks to maintain monetary autonomy and for this reason resorts to capital control. Maintaining the monetary autonomy, it aims at gaining revenue from seigniorage by raising money demand. On the other hand, as is the case in modern economies, if the monetary policy is a policy variable autonomously determined due to the independence of the Central Bank, the incentive to use capital controls reduces. Relatedly, in addition to the several contributions of the independence of the Central Bank to the economy, it helps to the resolvement of credibility problems. As the countries with credibility problems use capital controls mostly, the independent central bank may reduce their usage by making the monetary

[90] Grilli and Milesi-Ferretti, **op. cit.,** p.537.
[91] Alberto Alesina and Guido Tabellini, "External Debt, Capital Flight and Political Risk, **Journal of International Economics,** Vol. 27, 1989, pp.199-220.

policy other than a subject of the government policy. Consequently, the countries with independent central bank are less likely to impose capital controls.[92]

Besides these internal determinant factors, it is possible to define some external factors. As explained, the choice of exchange rate regime is very important determinant of capital controls. The countries with fixed exchange rate resort to capital controls more frequently to prevent policy conflict. The other external factor is current account balance. The countries suffering from the current account imbalances are those that prefer the imposition of controls. The degree of openness is also an external factor. In a closed economy, the capital control is a policy tool that is frequently used.[93]

Grilli and Milesi-Ferretti evaluate the determinants of capital controls mentioned above in their econometric model by using logit and probit models. The results found in the model are consistent with the ideas discussed above with one exception: there is no clear evidence showing the link between capital controls and political stability. They also differentiate the effects of capital controls on developing countries and industrial countries by examining their annual data and values separately and show that for industrial countries, the most explanatory determinants are macroeconomic variables and the degree of the independence of the central bank. For the developing countries, the level of output and the exchange rate regime are found to be insignificant while the other determinants are same as for industrial countries.[94]

Briefly, it seems that the share of government in the economy, the degree of openness and the level of development measured in per capita income are most significant determinants of capital controls.

[92] Grilli and Milesi-Ferretti, **op. cit.**, p.538.
[93] **Ibid.**, p.539.
[94] **Ibid.**, pp.517-545.

2.6. The Exchange Rate Regime and Taxation in the Application of Capital Controls

Exchange rate policy and taxation system in a country affect the type, duration, structure and sphere of influence of capital controls. Similarly, as a policy tool for correcting the distortions arisen from weaknesses of these policies, capital controls also affect these variables.

2.6.1. Capital Controls and Exchange Rate Regimes

Initially, capital controls have an impact on the choice of an appropriate exchange rate regime. The usage of capital controls enables the countries that cannot adopt floating rates due to the weak fundamentals to pursue intermediate regimes. In addition, as a part of the national objectives of the countries, capital controls serve to maintain external balance by eliminating either the real appreciation of the domestic currency through controls on capital inflows or depreciation through controls on outflows as will be examined in more detail in chapter 3.

2.6.1.1. Choice of the Exchange Rate Regime

For most countries, determining the proper exchange rate regime to suit their economic structures is crucial since it affects the overall economic performance by influencing the capability of implementing other economic policy decisions required for triggering the economic growth. The currency crises have dominated for the last decade increasing the debates on the role of exchange rate regime choices of countries. However, there is no clear evidence on the existence of one particular currency regime to avoid currency crises. According to the opinion emerging from the experiences, it is not possible to arrive at a point where the choice of the optimal

exchange rate regime is exactly determined for countries. The countries consider their own structural needs while they are deciding on the exchange rate arrangement. Even though the criteria for the choice of optimal exchange rate are defined by some economic theories, the problems faced in practice such as economic shocks, different policy targets make the generalization ineffective. However, considering the traditional wisdom may help improve the debate on exchange rate regime choice.

The countries that are completely integrated into the global capital markets and that have sophisticated financial markets, stable economic and political decisions are generally offered to adopt floating rates as appropriate regime. The fixed exchange rates are better for the countries that suffer from high and long-lasting inflation, low credible and weak financial systems and that have difficulties in integrating into global capital markets owing to their structural deficiencies. The intermediate regimes are accepted as suitable for emerging economies that have more sophisticated and well-designed financial markets relative to those with fixed exchange rates and that yield a good sentiment to investors about the future of their economies.[95]

In addition to this generalization, it is available to find some other theoretical framework in international economic literature aiming to capture the general lines for choosing the exchange rate regime, namely 'Standard Theory of Choosing an Exchange Rate Regime'. Standard Theory defines the exchange rate choice by evaluating the responses and effectiveness of different regimes to the shocks and by analyzing the nature of these shocks. According to the theory, when a country faces with nominal shocks resulting from money demand or supply, the fixed exchange rates serve better to reverse the shocks and to reduce the volatility of domestic output. Otherwise, assuming that inflation appears because of monetary shock, the floating rates would allow for depreciation causing a real shock. On the other hand, in cases where the shocks are real stemming from productivity or terms of trade, if

[95] Fahrettin Yağcı, "Choice of Exchange Rate Regimes for Developing Countries", Africa Region Working Paper Series, April 2001, (Online) http://www.worldbank.org/afr/wps/wp16.pdf, 08th September 2004.

the exchange rates are fixed, the demand for domestic money decreases necessitating the authorities to absorb excess money supply by selling for foreign exchange and in exchange buying domestic currency. This leads to capital outflows and increase in interest rates deepening the crisis. However, the flexible rates meet the requirements of the economy in this case by allowing for the change in relative equilibrium prices and reducing the adverse effects of shocks on output and employment. This theory has some presumptions constituting its main shortcomings in practice. It assumes that the institutions are enough well-designed to guarantee the fixed exchange rates, that it is possible to make time-consistence choice, and it is much more concerned with the real sector ignoring the financial sector. These assumptions are inconsistent with the realities of the emerging markets.[96]

Even though both the making generalizations and transmitting the theories into the practice do not always help choose the appropriate exchange rate regime and it is not possible to find an exchange rate to avoid the economic turbulence, it can be helpful for countries to analyze the characteristics of their economies properly and decide on the exchange rate that better suits to.

Frankel also claims that the crises have shown that it is not likely to search for a single currency regime helping to prevent the country from the crisis. The choice of exchange rate regime depends on the specific conditions of countries. If the country suffers from the external shock, it might be rational to prefer floating exchange rate while choosing fixed exchange rates is more suitable for the country facing with internal imbalances. The appropriate regime for countries also varies with the time. However, he claims some additional arguments in order to offer more suitable regime. The countries are being forced to choose between fixed or flexible rates so called 'corner solution' and the intermediate regimes are accepted as unsustainable. Yet, many developing countries still prefer implementing the intermediate rates namely 'interior solution'. Other large countries with developed economic and political system choose floating rates while some very small open economies find it

[96] Guillermo A. Calvo and Frederic S. Mishkin, "The Mirage of Exchange Rate Regimes for Emerging Market Countries**", NBER Working Papers**, No. 9808, June 2003, pp.6-13.

optimal to implement fixed rates. Frankel argues that the interior solutions are more suitable for small neighbor countries that have tight relations to each other and that are too small to prefer floating rates.[97]

Corner solution is, in essence, is linked to the impossible trinity phenomena. Mundell shows that an outstanding difficulty created by the impossible trinity is that if the capital mobility is inevitable due to the economic developments, the choice is limited to the two extreme exchange rate regimes: the hard pegs or floating rates.[98]

As was examined in previous section, Trinity postulates that in the presence of the capital mobility the other option will be either maintaining exchange rate stability by adopting the fixed exchange rate regime or maintaining the monetary autonomy by adopting the floating exchange rate regime. The intermediate regimes are no longer seen as sustainable with the free capital movements. Therefore, the choices of the countries are limited to two options.

The case for developed countries support the bipolar view adopting one of the corners: most of them such as U.S., Japan, Canada, the Euro-zone, and Australia have floating exchange rates while the Euro-zone countries are at the other extreme adopting the common currency. As for developing countries, 72 out of 186 IMF members are in the intermediate exchange rate regime category. However, their inclination is towards the floating rate. [99]

For developing countries, the principle of impossible trinity poses an additional limit for choosing appropriate exchange rate regime. Moreover, Cooper argues that even the exchange rate is floating, these three goals; namely floating rates, free capital mobility and independent monetary policy is not compatible. In developing countries, since the price level is generally under the great effect of exchange rates

[97]Jeffrey A. Frankel, "No Single Currency Regime is Right for all Countries or all Times", **NBER Working Papers**, No.7338, September 1999, p.13.
[98] Michael D. Bordo, "Exchange Rate Regime Choice in Historical Perspective", **NBER Working Papers**, No. 9654, April 2003, p.7.
[99] Joshi, **loc. cit.**

having a role as asset price at the same time and cannot be fixed in the long run due to the unsophisticated financial markets, free capital movements cause the swings in domestic asset prices by influencing the exchange rates.[100]

Cooper continues to argue that the choice of exchange rate regime for developed countries with strong financial system is differentiated on the basis of the argument stating that the financial factors play more important role compared with the trade factors for determining the exchange rate. According to this argument, the developed countries having credibility in financial transactions are likely to have more flexibility for choosing suitable exchange rate regime.[101]

Calvo and Mishkin argue that due to the crisis-prone characteristics of emerging countries, they always get into a hard situation. The chain of events that drags them into the crisis begins with their weak fiscal, monetary and financial institutions. Together with the poorly regulated banks and relatively dependent central banks, they turn out to be highly vulnerable to inflation and crisis and they cannot assure the real value of their domestic currency. The currency substitution, escape from domestic currency and incline to the foreign currency, appear due to residents' fear of high inflation. Then banks are allowed to offer foreign exchange deposits and foreign exchange denominated loans. This case called as liability dollarization causes devaluation and net values of earnings of residents to fall and their foreign currency denominated debts to increase which in turn ends with bankruptcies all over the economy and economic downturn as a whole. Eventually, the capital outflows occur due to the crisis and incredible economic environment contributing to the deepening of the crisis. The developing countries facing with this circle are generally advised to adopt the flexible exchange rates, which cause depreciation injuring the economy. In addition, it is not certainly known whether the fixed rates are suitable to this situation. Calvo and Mishkin claim that instead of trying to find appropriate

[100] Richard N. Cooper, "Exchange Rate Choices", June 1999, (Online) http://www.bos.frb.org/economic/conf.43/99p.pdf, 09th September 2004.
[101] **Ibid.**

exchange rate regime, it serves better to find effective ways of improving financial, fiscal and monetary institutions; that is surging to the main problem.[102]

Tornell and Velasco bring a different dimension to the exchange rate choice in their study, which discusses the connection between exchange rate regimes and fiscal discipline by the help of dynamic general equilibrium model in which it is possible to compare the disciplinary features of exchange rate regimes. For them, the exchange rate choice is made based on the evaluation of which exchange rate regime provides more fiscal discipline, which in turn contributes to the welfare mechanisms. According to the widespread belief, fixed exchange rates provide more fiscal discipline. The bad policy choices cause the reserves to exhaust and as was the case for the most of the crisis-countries, cause the regime to collapse. 'Bad behavior today would lead to a punishment tomorrow'. The policymakers fearing from this punishment make more effort to be disciplined. However, their argument is that the flexible exchange rates provide more fiscal discipline. The unsound policies immediately reflect to the exchange rates, unlike the case for fixed exchange rates where the adverse effects are only seen at unsustainable level. 'Bad behavior today would lead to a punishment today '. Therefore, this forces the policymakers to be more prudent and disciplined.[103]

2.6.1.2. Exchange Rate Regimes and Capital Controls

The link between exchange rates and capital controls can be created based on the guidance of capital controls to the selection of optimal and feasible exchange rate regime especially for developing countries.

Besides the advantages of fixed exchange rates, when considered with the existence of capital mobility, this system has high crisis potential due to the speculation that is

[102] Calvo and Mishkin, **op. cit.,** pp.10-13.
[103] Aaron Tornell and Andres Velasco, "Fixed Versus Flexible Exchange Rates: Which Provides More Fiscal Discipline?", **NBER Working Papers Series,** No:5108, May 1995, pp.1-2.

very costly for many countries. The other extreme regime, floating, also has some pitfalls. This system is not prone to currency crisis but due to the volatility of exchange rate movements, it causes some other problems and unless it is backed by a strong domestic anchor, it is inflationary. To prevent inflationary pressure, inflation-targeting program is necessary which requires high degree of credibility and some conditions difficult to meet. Therefore, developing countries with weak economic infrastructure and low credibility, lack of the tools to cope with the distortions associated with both fixed and floating regimes. It can be said that intermediate regimes, which allow for some scope for monetary autonomy and some for exchange rate targeting, are relatively suitable for developing countries at least for a short time. Nevertheless, under the free capital mobility the intermediate regimes do not provide backup for avoiding the crisis. Thus, the most effective way for emerging economies is to adopt the intermediate regime with some capital controls. Of course, capital controls are not free from costs but it is possible to reduce the costs by contradicting their sphere of influence. As the emerging economy matures, it turns toward the floating regimes and dismantles the capital controls.[104]

Capital controls here have a temporary function in accordance with their general purpose. As the emerging country succeeds in fiscal, monetary and financial reform and tends to be stronger against the macroeconomic shocks associated with both the capital inflows and the exchange rate movements, it is possible to benefit from the advantages of floating exchange rate regime likewise other developed countries. In turn, the country can guarantee the continuation of the system by using these gains.

Another way of putting the link between the use of capital controls and exchange rate regimes is provided by Berger et. al. in their study by using a simple model with data for 53 non-OECD countries during period 1980-94. They find that the decline in the use of capital controls are partly because of liberalizing the capital transaction but mainly because of the loss in the attractiveness of the fixed exchange rates that the capital controls aimed at defending before. With the loss in popularity of fixed

[104] Joshi, **loc. cit.**

exchange rates, the currency risk associated with the fluctuations in exchange rates of currencies in question of trade was undertaken by the private agents instead of governments. On the purpose of minimizing this risk, many new instruments have been produced invalidating the use of the capital controls.[105]

Wijnbergen exposes another approach to the effects of capital controls on real exchange rates by using general equilibrium model with intertemporal considerations in contrast to old studies using partial equilibrium, one country approach. As for Wijnbergen, the effects of capital controls on exchange rates stem from the differentiated expenditure patterns. The controls on capital inflows cause the world interest rates to decrease while leading to an increase in domestic interest rates inducing consumers to buy from abroad and the composition of world expenditure changes. The value of domestic currency decreases. Assuming that the consumers prefer domestic goods, due to the shift in expenditure patterns and relative increase in purchasing power of foreign consumers the demand for domestic goods declines and the exchange rate lowers as a consequence of capital controls. If the patterns do not change, it can be said that the capital controls have no effect on exchange rates. Wijnbergen goes on to argue that if the country with capital controls is a debtor country, it can benefit from the decline in world interest rates caused by capital controls which in turn increases the purchasing power of debtor country, reduces the adverse effects of change in the composition of world expenditure and corrects the real exchange rate effect of capital controls.[106]

[105] Helge Berger, Jan-Egbert Sturm and Jakob de Haan, "Capital Controls and Exchange Rate Regimes: An Empirical Investigation", **CESifo Working Papers**, No: 433, March 2001, (Online) http://cesifo.de/pls/guestci/download, 17th November 2004.
[106] Sweder van Wijnbergen, "Capital Controls and the Real Exchange Rate", **Economica,** Vol.57, No.225, February 1990, pp.15-28.

2.6.2. Capital Controls and Taxation

Capital account liberalization has led the governments to pursue policies directed to maintain high-yielding investment opportunities for foreign investors. For this reason, many incentives are provided. As a part of the international tax competition, tax reductions are the most resorted ways for attracting foreign capital. In this case, governments incur serious income losses. The competition may reach at such critical point that the loss from tax reductions may not be offset by the potential gains from free capital mobility. This leads to the fall in country's living standards and the loss in government's budget, diminishing its spending for social needs of the society. The notion of taxing capital more heavily may be mainly accepted as a response to the increasing shift of tax burden from capital owners to the less mobile factors, namely labor. Therefore, as a way of dealing with the budgetary and distributional problems capital controls in the form of taxes on capital inflows and outflows, are resorted.

As is well known, the taxation is the most efficient, veteran and direct channel to constitute the substantial part of the governments' revenue and indirect channel to achieve some policy targets also aiming at enhancing the long run economic growth. Hence, as considered the objectives of capital controls, the direct link can be made on the ground that the main way for operation of capital controls has been the introduction of various taxes. In this respect, some tax instruments serve to implementation of the capital controls and are used to prevent capital export and thus maintain a large tax base and to avoid the adverse effects of excessive capital inflows on overall economy. Therefore, capital controls are generally preferred by the governments with weak taxation system and narrow tax base as an important policy tool in order to generate revenue for government expenditures.

The countries lacking of well-developed tax structure and feasibility of lump-sum taxes such as consumption and income taxes, resort to the disruptive tax policies at the lowest possible social cost as a way of raising revenue. These policies include tariffs, inflation tax and capital controls. The magnitude and type of these taxes are

related to the finance requirements of the government. If this amount is high, then the inflation tax is used. Otherwise, capital controls are more appropriate with lower deadweight loss. Moreover, these policies can be simultaneously used, referring to their complementarity. In cases when the revenue from inflation tax reduces due to the availability of currency substitution, capital controls help raise the revenue by limiting the use of foreign currency and encouraging the domestic currency.[107]

The taxes on capital outflows are justified as measures to retain domestic capital in the domestic economy. The governments resort to some measures in case the retained capital can be easily taxed creating a large tax base and can be domestically employed which in turn, contribute to the economic development. As well as it is possible to tax the capital outflows directly, indirect measures can also be used. The multiple exchange rates, discrimination between the exchange rates for capital and current account transactions, are useful tools for this reason. As the premium of the exchange rate for capital account rises, the residents' demands for offshore assets reduce. The restrictions that prevent domestic residents from preferring the offshore investments to onshore ones, raise the revenue for governments arisen from the taxation of capital held by domestic residents since it is easier to monitor or tax the onshore investments than offshore ones. It also causes the demand for domestic money and seigniorage revenue to rise.

Similarly, the taxes on capital inflows also help the government to generate revenue besides its usage for moderating spending booms, eliminating real appreciation of exchange rates and preventing the domestic investors from excessive borrowing, which further are supposed to be lying at the heart of the financial crisis. In line with this purpose, the governments can impose the tax on the inflows directly by determining some tax ratio for all capital flowing into the domestic economy and forcing all non-residents to pay this amount or the residents who import the capital by the means of borrowing.

[107] Joshua Aizenman, "On the Complemantarity of Commercial Policy, Capital Controls, and Inflation Tax", **The Canadian Journal of Economics**, Vol. 19, No. 1, February 1986, pp. 114-133.

Fane defines two cases for restricting capital inflows related to the imposition of taxes. The first case comes from the classical monopsony case. If the country receiving capital inflows is so large that it is able to affect the world interest rates by changing the quantity, it can reduce the average interest rate by imposing the tax on capital inflows and interest payments abroad, which is used as a way of reducing the debts of its residents. Fane indicates the sovereign default risk as the other case, which is postulated by Haberger and Aizenman. The standard formulation of the case for sovereign default risk states that the risk increases with the increase in foreign borrowing and emerges from the consideration of the fact that whether the default country is better off than the case in which it pays off its all debts. Even though the default impairs its trade, reputation and the possibility of international borrowing, the repayment of the debts may be more hazardous so that the country may decide on the default. The default risk induces lenders to request compensation called as contract interest rate constituting the country-specific risk premium explained as the difference between the contract interest rate and the world interest rate. As the amount borrowed abroad increases so does the risk of sovereign default with the increase in contract interest rate and the country-specific risk premium. Therefore, the sovereign risk default is a strong justification for the small capital importing country to tax the capital inflows.[108]

The optimal tax both for these cases is related to the contract interest rate elasticity of the supply of foreign loans. Haberger and Aizenman define the optimal tax on foreign borrowing. Considering that the increase in contract interest rate is associated with the increase in the amount borrowed, the optimal tax is determined as equal to the country risk premium. If the country has imposed no tax before, then the optimal tax should be below the risk premium. According to them, capital inflows lead to the increase in sovereign default risk and therefore should always be taxed. However, this view is criticized on the grounds that in crisis periods, even though the country risk premium is higher, governments do not prefer to impose tax on inflows. Since the capital inflows provide official and private borrowers with the funds for

[108] Fane, **op. cit.,** pp.63-64.

repayment of their debts, any kind of capital inflow is welcome and the tax on inflows in these periods is not appropriate.[109]

2.7. Capital Controls and Economic Growth

Economic growth is essentially associated with the efficient allocation of capital resources among the vital sectors on which the investment will provide the highest return. To the extent that this return is put in good uses, the components that determine the economic growth can be enhanced. In this context, all restrictions that attempt to impede the efficient allocation of resources are regarded as disruptive to the economic growth. It is reasonable to examine the adverse effects of such restrictions, namely capital controls, on the main determinants of economic growth such as investment decisions, industrial structure and human capital. Even though it has not been made clear by the evidence, these impacts may be accepted as their long run effects on growth. However, disruptive effects of financial crises triggered by large capital inflows especially when domestic conditions are not appropriate for capital account openness may offset growth-enhancing effect of capital account liberalization. Therefore, it may also be appropriate to examine capital controls by their impacts on insulation from the crisis as another effect of controls on growth.

2.7.1. The Impact of Capital Controls on Investment Decision

The countries need funds to finance the investment projects that will contribute to economic development. In a globalized world, the investment is made across borders and the funds flow freely in the world. The countries are in a great competition for reaping the benefits of the profitable investments for their development targets. They are in an effort of creating an attractive investment environment for investors to

[109] **Ibid.,** p.64.

induce them to invest in their countries. The investors' choice depends on some combinations of both economic and political factors.

The investors seek the project whose expected rate of return is greater than the risks inherited in it. These risks are resulted from the uncertainties of the future and accounted by the discount rate, which reflects the value of expected future receipt in terms of present value of the investment. Discount rate is the main determinant of the investment decision reflecting also the cost of capital. The investor essentially considers the required amount of payment for the project and the risks of it comparing with those of the other investment alternatives. When discount rates are higher, it means that the required rates of return for investors are higher and that the present value of the future receipt is lower. In this case, investors prefer to pay less for initial investment and to participate in the projects with revenue to be received in the short-term. On the other hand, if the discount rate falls, they prefer to invest in the projects that require larger initial investment but promise growth in the future. The factors reducing the discount rate and risk are very important for the investment choice. Among them, the diversification possibility of an investment is greatly related to the determination of the investment's discount rate. When the larger diversification opportunity is available, the discount rate tends to be lower and the investment choice shifts toward projects with longer-term growth. Thus, any policy that restricts the diversification of risks causes the discount rates to rise. The effects of capital controls on investment decision emerge from this point. Capital controls limit the diversification opportunity and discourage the investment projects and capital flows to the extent that they lead to increase in discount rates. The foreign investors do not find profitable to invest in the countries practicing capital controls. As for domestic investors, depriving of this opportunity they commit to risky projects with shorter-term gains.[110]

[110] Christine P. Ries, **"Capital Controls and Corporate Investment Behavior", Capital Controls in Emerging Economies**, Ed. by Christine P. Ries and Richard J. Sweeney, Westview Press, 1997 pp.92-102.

In an environment where the countries compete with each other for attracting investments to their countries in an effort to enhance economic growth, the use of capital controls have adverse effects on future productivity and competitiveness. The countries with capital controls are doomed to fall behind the countries that do not impose capital controls in the competition for global resources. When considered from a developing country standpoint, it becomes more problematic. The emerging economies are in great need for adopting more competitive and productive systems in order to benefit from long-term investment projects to promote economic growth. In this respect, the use of capital controls by the emerging economies whose primary objective should be enhancing the economic fundamentals for overall development becomes paradoxical in the long-run.

2.7.2. The Impact of Capital Controls on the Structure of Industry

The endowments and intensities of capital and labor and the comparative advantage determined by them are the basis for the structure of the industry in a country. The capital-intensive industries are characterized by their contribution to technological progress and to the process of creating more value-added relative to the labor-intensive industries. The commodities produced by the capital-intensive technologies provide more export income, reducing the cost of production and increasing the efficiency.

Capital controls affect the industrial structure, worsening the factor intensities against capital. Since the economic development requires reproduction of technology, the countries lacking of adequate capital formation due to the controls, cannot achieve high level of development in the long run. The investments in industry requiring the capital intensity cannot be made so that the country deprives of the infrastructural investments vital for the improvement of all components of economic structure. [111]

[111] **Ibid.,** p.104.

Ries adds another point to this evaluation demonstrating the impact of capital controls on the ownership and control structure of the industrial sector. As explained above, because the discount rates are higher in the countries implementing capital controls due to the reduced diversification opportunities, the limited local investors tend toward the risky projects with shorter-term revenues neglecting the growth perspective. Thus, the global investors with growth considerations seize the ownership and the right for control of the strategic industries, which provide both political and economic power to whom they are owned by.[112]

2.7.3. The Impact of Capital Controls on Human Capital

The enhanced technology brings innovations not only in the sense that it has contributed to the economic growth but also it has put both the people and the communities as a whole to a new path. These innovations have resulted in new requirements for the people and communities. In a globalized world, everyone is aware of these necessities and reflects them to the governments as a demand. Especially for developing countries that have noticed the prosperity of advanced countries and the facilities associated with it, this means a lot. While the economic prosperity is accepted as the result of the efficient arrangement of economic variables that form the infrastructure of the country, the social welfare develops related to the economic infrastructure and contributes to it. The phenomenon of 'human capital' is accepted as one of the main component of economic growth nowadays and the share of investments in this sphere increases in the course of time. In line with this perception, the people do now demand to be provided with more education.

To the extent that the human is endowed with cultural and professional knowledge, the investment for human leads increase in economic welfare. Therefore, in advanced countries education, incentives for social and cultural activities and the activities aiming at promoting standards of living are the main policy targets for governments.

[112] **Ibid.,** p.105.

The investment in education and all the efforts for creating quality brains for the establishment of science making the country a leader in technology serves to the success of further strategic investments such as space and computer technologies. This, in turn, leads to the increase in incentives for research activities to support these sectors. The high quality of human capital needed for the success of these research efforts can be attained as long as the labor force is endowed with a high level of general and specific education.

The limitation on private sector investments and foreign capital that supports the development of human capital especially in developing countries suffering from capital shortage causes the economic growth to decrease so that these countries fall behind the advanced ones. In addition, the tendency of migration of highly educated persons, skilled workers and the intellectual elites residing in the country implementing capital controls will increase since they seek for higher living standards.

2.7.4. Indirect Effects of Capital Controls on Economic Growth

One of the major justifications for capital controls is the existence of crises. The costs of especially recent financial crises have been very severe for both the crisis countries and the region and furthermore the world economy as a whole due to its contagious effects. Besides the improvement effects of financial market integration, it also causes some hazardous effects such as increase in financial instability, systemic risks and foreign exchange risks which in turn, result in financial crises. Experiences from the crises of especially Mexican, East Asian, Russian economies in 1990s have shown that the worsened financial stability have had adverse effects on macroeconomic variables of countries causing decrease in output, employment, investment and increase in poverty. As the domestic financial markets of countries act as a single unit and have strong links with international financial system, the devastating effects of these financial crises constitute a great threaten for other countries and the world economy. With the fear of investors facing with income

losses in these countries, the reversals in capital flows become inevitable leading deeper economic problems. These difficulties are generally magnified in developing countries due to the inflexible production structures causing slow accommodation process to real shocks. Similarly, with their poor financial sectors they have more difficulties in coping with financial shocks as compared to advanced countries. Therefore, the prevention of financial crises becomes vital for both developing and industrialized countries.

In order to determine the proper measure for financial crises, it should be investigated that which factor causes the crisis since the way of prevention of crises varies with the sources of financial crises.

Financial crises emerge from various factors. Some of them can be explained as stemming from market failure while others result from government failure. According to this argument, it is argued that if the financial crisis is caused by the government failure such as structural problems, these problems are previously considered. In this context, in order to remove these distortions, some reform programs should be adopted including the regulation of financial system, the improvement of macroeconomic fundamentals, strengthening of the national institutions, stabilizing the banking sector, etc. However, in case of market failure such as asymmetric information, irrational behaviors of investors, the call for capital controls is discussed. In practice, since the causes of financial crises are thought to be combination of government and market failure, the measure against the financial crises are to be mixture of reform programs and short-term capital controls. In this sense, the short-term capital controls may be implemented until the required regulations for stabilization of financial markets are maintained. However, the costs of even short-term capital controls should not be ignored and after the completion and enforcement of reforms, they should be removed.[113]

[113] Mildner, **op. cit.,** p.16.

In this context, Eichengreen and Leblang regard the use of capital controls in response to crises as having an indirect impact on the economic growth. According to them, the effects of capital account liberalization on the economy may be thought as working through two opposing channels, associated with efficient allocation of resources on the one hand and increase in the risk of financial crises on the other hand. The former adds to the economic growth while the latter neutralize these beneficial effects. The adverse effects are more likely to occur in emerging markets where domestic financial system is weak. Similar channels may be counted for capital controls working in opposite direction. One channel works through their adverse effects on resource allocation and hence economic growth as mentioned above. On the other hand, the other one occurs in the face of financial crises. Capital controls may be effective to insulate the country from external shocks and to prevent financial crisis in the short-run enhancing economic growth.[114]

In an attempt to analyze the overwhelming effect of capital controls, Eichengreen and Leblang estimate the model on a panel of historical data for 21 countries during 1880-1997. By this way, they add domestic and international financial crises to the studies that analyze the growth effect of capital account liberalization. According to this study, the latter effect is more robust in that capital controls mitigate the disruptive effects of financial crises. In the face of financial distortions, the latter effect of capital controls is valid while in cases where the risk of financial crisis is absent, the former effect of capital account liberalization transcends.[115]

2.8. Costs and Benefits of Capital Controls

The main advantage of capital controls is to assist to maintain monetary autonomy, which can only be sustained through floating exchange rates under free capital mobility as implied by impossible trinity phenomenon. The presence of capital

[114] Barry Eichengreen and David Leblang, "Capital Account Liberalization and Growth: Was Mr. Mahattir Right?", **International Journal of Finance and Economics**, Vol. 8, 2003, pp. 205-224.
[115] **Ibid.**

controls, on the other hand, assures that in line with the domestic needs, it is possible to preserve both monetary autonomy and exchange rate stability. Besides, given the other rationales, capital controls serve as a shield for evading potential crises, which have been known to be associated with capital account liberalization to some extent. Crisis-countries had liberalized their capital accounts, which means removal of capital controls before the crises, confirming the idea that relates recent crises to capital account liberalization. As considered from this point, it is seen that capital controls help protect the country from crisis.

In addition, as Williamson et. al. hold, the objective of preserving the tax base is at least as important as other objectives both for developed and developing countries. The developed countries have the opportunity to control the earnings of residents generated abroad via multilateral official agreements facilitating the sharing of tax information, whereas developing countries generally do not. Therefore, it is beneficial to keep some capital controls on outflows so as to protect the tax base.[116]

According to Guitian, the more serviceable way is to develop norms and standards that are globally accepted and that address all country situations. Of these measures, giving countries chance to follow their own order for liberalizing the capital account is the main requirement that should be done at the beginning of the liberalization process. Secondly, common prudential norms and transparent, sound financial standards should be determined. Only in emergencies, countries should resort to temporary capital controls within the limits of determined standards. In this process, policymakers and governments should undertake crucial role for maintaining a well-functioning market environment and a good management of capital flows.[117] Capital controls here help buy the policymakers time for engaging in those reform programs.

[116] John Williamson, Stephany Griffith-Jones and Ricardo Gottschalk, "Should Capital Controls Have a Place in the Future International Monetary System?", May 2, 2003, (Online) http://www.ids.ac.uk/ids/global/pdfs/Madrid3.pdf, 13th December 2004.
[117] Manuel Guitian, "Economic Policy Implications of Global Financial Flows", **Finance and Development**, Vol. 36, No. 1, March 1999, pp.5-8.

Capital controls, on the other hand, are not free from some costs as well as all other second best policy instruments as commonly acknowledged. Tobin define the unavoidable costly nature of the capital controls as '…throwing some sand in the wheels of our excessively efficient international money markets' while he suggests the use of them as a second best policy.[118] Moreover, implying these costs Forbes goes further by characterizing capital controls as 'mud in the wheels'. [119]

Costs and benefits of capital controls can be assessed in the context of the traditional trade policy perspective by the help of static and dynamic analysis of trade restrictions. Since the principles of trade in goods, services and capital are similar, the many of issues pertaining to trade policy can be applied to trade in capital. International trade in goods and services are directed by the price differences likewise international finance. The movement of goods and services is inclined to the market that provides highest return whereas the trade in capital is determined by the exchange rate differences between markets. As for restrictions on both trade in goods, services and capital, the similar principles are valid for both of them. When social costs of international finance caused mainly by capital flight, investment swings, exchange rate fluctuations pose some risk on financial system of a country and eliminate the benefits of free capital flows across borders, some restrictions may be imposed on capital movements. Even countries refusing to use capital controls, resort to some other regulations. Just as the case for restrictions on trade in goods and services, the choice of type of control is very important. The type of controls having the least adverse effect on economy should temporarily be chosen in case when it is removed, the economy should turn to its original functioning. The differentiation between quotas and tariff-like restrictions made in international trade is also valid for trade in capital. The quotas cause more rent-seeking behavior enabling investors to borrow from international capital markets at international interest rates and lend it in the domestic market at the higher domestic interest rate and it causes corruption such as bribery due to its much dependence on bureaucratic functioning. It also makes the

[118] Tobin, **loc. cit.**
[119] Kristin J Forbes, "Capital Controls: Mud in the Wheels of Market Discipline", **NBER Working Papers**, No. 10284, January 2004, p.3.

country isolated from the international financial market avoiding the country from following some inventions, which in turn causes slowing down the economic growth.[120] However, market-based controls intend to discourage capital inflows that are thought to threaten the economic stability.

The capital controls on outflows deprive the foreign investors of the chance to withdraw their capital from the country and investors would not invest in this country with the fear of having difficulty in getting their capital out of the country. This would serve as investment irreversibility causing the output and employment levels to fall in the economy.[121] On the contrary, if a country engages in liberalization policies, this would serve as a signal for future willingness of the country to maintain the profitable environment for investment, which is favorably met by foreign investors.

Related to this perception, Laban and Larrain point out a paradoxical advantage of elimination of controls on capital outflows. This would have increasing effect on capital inflows and investments as just the opposite way as described above. The removal of restrictions on outflow persuades the investors in that their capital is not bound to remain the country until the authorization of the authorities and encourages the investment.[122] The reason is that the foreign investors that do not have uncertainty of the withdraw of their funds in case of any crises and of the repatriation of the profits, can use their funds for investments in the countries since these countries provide credibility for not using the controls on capital outflows in the future. Thus, the incentive for capital inflows increases.

A reasonable investment can be made as long as the expected rate of return is greater than the expected risk associated with the investment. The differentiation between

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[120] Ludger Schuknecht, "A Simple Trade Policy Perspective on Capital Controls", **WTO Staff Paper 98-11,** October,1998, (Online) http://www.wto.org/english/res_e/reser_e/pera9811.doc, 23th April 2004.

[121] Dooley and Isard cited in Glick, Hutchison, **loc. cit.**

[122] Raul Laban and Felipe Larrain 1993 cited in John Wlliamson "Ortodoxity is Rigth: Liberalize the Capital Account Last"**, Capital Controls in Emerging Economies**, Ed. by Christine P. Ries and Richard J. Sweeney, Westview Press, 1997, p15.

domestic interest rates and world interest rates makes the estimation difficult in a closed economy leading to misallocation of capital. Sweeny postulates that the informational costs of capital controls pose the other difficulty that leads to capital misallocation. The countries integrated with the global capital markets can obtain qualified information easily and benefit from the experiences of other investors to use them in the process of investment choice and to put capital in its best usage. The isolated country with capital controls, lacking of accurate information, fails to decide on which investment projects are worth taking the risks. The capital controls hinge them from making decisions regarding global standards.[123]

Tamirisa states the various costs and benefits of capital controls in the context of their effects on trade. The basic effect of exchange and capital controls on trade is to reduce trade by imposing tax on foreign currency and increasing the domestic price of imports. Besides, international transaction costs tend to increase since controls impede the introduction of new payment instruments and liquid foreign exchange markets. The lack of opportunities for hedging foreign exchange and poor financial intermediation associated with the controls reduce the trade volume. Besides, capital controls discourage FDI flows and hinders the country from benefiting from transfer of technology and managerial knowledge associated with these flows, which are regarded as increasing exports and imports. On the other hand, through some channels exchange and capital controls may enhance trade. Controls may discourage short-term capital flows and by this way mitigate exchange rate volatility. In addition, higher domestic savings accompanied by controls stimulate exports. The other channel works through increased domestic tax base. Since the government obtains revenue from taxes, it may reduce tariff rates and increase the trade volume. Consequently, examining the net effect of controls on trade measured by unique indices, she finds that controls have a significant negative effect on trade.[124]

[123] Richard Sweeny, **"**The Information Costs of Capital Controls"**, Capital Controls in Emerging Economies**, Ed. by Christine P. Ries and Richard J. Sweeney, Westview Press, 1997, pp.46-55.
[124] Natalia T. Tamirisa, "Exchange and Capital Controls as Barriers to Trade", **IMF Staff Papers**, Vol. 46, No. 1, March 1999, pp. 69-88.

As an adverse effect of capital controls, Greenwood state that the channel through which international transmission of domestic policies to the foreign economy is realized, is broke down by the capital controls. The increased convergence of interest rates through integration of financial markets causes similar intertemporal substitution effects and thereby, harmony in macroeconomic aggregates such as consumption, investment, output and employment across countries. However, driving a wedge between domestic and world interest rates, capital controls prevent this process. Under capital controls, substitution effects and wealth effects associated with the change in interest rates produce negative correlation between national and foreign macroeconomic aggregates. In addition, the method of government financing becomes more important than the type and volume of government spending under the capital controls. The government is domestically financed rather than the international sources. Although this would prevent the country from fiscal shocks arisen from foreign countries, the fiscal fluctuations due to domestic reasons are much more difficultly reversed than integrated countries in which these fluctuations become clearer when countries with capital controls are their trade partners.[125]

Extending this argument, Guidotti and Vegh add the monetary policies and analyze transmission of both fiscal and monetary policies under capital controls. The inclusion of transmission of monetary policies to the study introduces new outcomes different from the analysis of transmission of fiscal policies. On the contrary to perfect capital mobility under which foreign economy is not influenced by domestic turmoil, foreign variables are affected by domestic policy misarrangements since the world money supply is redistributed only through the current account. The dynamic adjustment process of foreign economies to the unexpected domestic fiscal and monetary shifts produces uncorrelation between domestic and foreign variables. When the government spending increases in the country, this is positively transmitted abroad, by causing reduction in domestic and foreign consumption, whereas devaluation is negatively transmitted, reducing domestic consumption but increasing foreign consumption due to depreciation of exchange rate in domestic

[125] Jeremy Greenwood and Kent P. Kimbrough, "Capital Controls and Fiscal Policy in the World Economy, **The Canadian Journal of Economics**, Vol. 18, No. 4, November 1985, pp. 743-765.

economy. In constant situation, both policy shifts cause negative transmission to foreign countries. They conclude that against foreign shocks, domestic economy is better protected under perfect capital mobility than capital controls.[126]

Frenkel et. al. also examine the effects of capital controls in the form of price-based ones by considering a monetary model of exchange rate determination, a simple theory of real capital stock formation and potential costs of capital movements. They show some indirect effects of capital controls on financial markets. Subsequent to the implementation of capital controls, exchange rate volatility can be reduced; however, as this implies a new statue for the country, initially the exchange rate volatility may arise, extending to overshooting. The country intending to the imposition of capital controls, faces with a higher risk premium due to the lower credibility by foreign investors to its restrictive exchange and payment systems. This causes the interest rates to increase, declining the investments, growth rates and income mainly due to the fact that in this case, investing in capital stock turns out to be unattractive.[127]

Additionally, when it comes to judging feasibility of capital controls, it can be observed that the application of capital controls is subject to evasion, deteoriating their effectiveness. Under dual exchange rate system, traders find ways for capital inflows or outflows by overinvoicing of imports and underinvoicing of exports. The exporter, for instance, may transmit the funds abroad through underinvoice of exports and use the unreported funds to invest in foreign assets. Similarly, the importer may overinvoice the imports in order to allow foreign investors to bring their funds to invest in domestic assets.[128] Therefore, capital controls may encourage evasion and rent-seeking, especially in developing countries where capital controls are not properly and transparently implemented and where crony capitalism is prevalent.

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[126] Pablo E. Guidotti and Carlos A. Vegh, "Macroeconomic interdependence under capital controls", **Journal of International Economics**, Vol. 32, 1992, pp. 353-367.
[127] Michael Frenkel et. al., "The Effects of Capital Controls on Exchange Rate, Volatility and Output", **IMF Working Paper,** WP/01/187, November 2001, pp. 5-23.
[128] Donald J. Mathieson and Liliana Rojaz-Suarez, "Capital Controls and Capital Account Liberalization in Industrial Countries"**, Capital Mobility: The Impact on Consumption, Investment and Growth**, Ed. by Leonardo Leiderman, Assaf Razin, Cambrigde University Press, 1994, p.333.

3. COUNTRY EXPERIENCES AND EFFECTIVENESS OF CAPITAL CONTROLS

3.1 Evaluation of Effectiveness of Capital Controls

Capital controls are not new measures in that most countries, even the advanced ones have used them. In the light of recent financial crises, as well as other policies, capital controls are relied on to insulate the countries from the severe effects of financial crises. Their presence is generally justified on three grounds: Firstly, the aim is to break the policy dilemma faced when both the external and internal stability are targeted. The external stability requires the stability in exchange rates, which are distorted by real appreciation due to excessive capital inflows. Maintaining the internal balance, on the other hand, calls for appropriate monetary policy so as to control inflation rate which generally forces the countries to pursue tight monetary policy. This policy, in turn, encourages further capital inflows, threatening the external balance. Secondly, capital controls are designed to manage capital inflows that are thought to be at the heart of economic turmoil. For this reason they help alter the composition of inflows from short-term to medium or long-term ones. Finally, reducing the larger reliance on external borrowing and attaining the long run economic development targets are regarded as crucial rationales for resorting this second-best policy tool. Thus, capital controls are said to be effective to the extent that how much of these goals can be achieved and that whether the costs can be offset by the benefits associated with them.

One of the leading justifications for capital controls is the reliance on them to avoid the balance of payments problems. Capital controls are suggested to be effective tools for maintaining exchange rate and balance of payments stability so that probability of currency crises should reduce. However, Dallas and Stockman put forward that resorting this policy produces the opposite effect, increasing the volatility of exchange rates and the risk of balance of payments crises. Under the fixed exchange rate regime with free capital flows, the possibility of speculative

attack is increased by the capital controls that are expected to be imposed by the government on the purpose of maintaining the continuity of the fixed exchange rate regime. The crises experienced during the Bretton Woods system, namely sterling crises in 1964-67, the French crisis in 1968-69 and the dollar crisis of the late 1960s and early 1970s are shown as noticeable examples by these authors in that all these crises are preceded by the speculative attacks and wide-range use of various capital controls. [1]

The efficacy of capital controls is also evaluated on the ground that whether these restrictions have achieved the reduction of the total volume of capital flows or they have only led the change in their composition.

Relatedly, in their panel regression study of 15 countries including some Latin American, Asian and other developing countries during 1990-96, Montiel and Reinhart examine whether the volume and composition of capital inflows are affected by sterilization policy and capital controls. They state that sterilization policy with the imposition of tight monetary policy causes the volume of capital flows to increase due to higher interest rates and also changes the composition from longer-term to short-term flows. Capital controls, on the other hand, differ from sterilization policy in that they are not expected to decrease the volume but to change the composition from short-term to long-term flows.[2]

Nevertheless, Cordella argues that the target of capital controls is not only to reduce the volume of capital inflows. Hence, the effectiveness of capital controls should not be judged by this target. On the contrary, he holds that the effective capital controls may increase the volume of capital inflows by reducing the vulnerability of emerging economies to financial crises. Since both the foreign and domestic capital owners seek to invest in credible markets, the markets of countries that are made less prone

[1] Harris Dellas, Alan Stockman, "Self-Fulfilling Expectations, Speculative Attacks, and Capital Controls", **Journal of Money, Credit and Banking**, Vol. 25, No. 4, November 1993, pp. 721-730
[2] Peter Montiel, Carmen M. Reinhart, "Do Capital Controls and Macroeconomic Policies Influence the Volume and Composition of Capital Flows? Evidence from the 1990s", **Journal of International Money and Finance,** Vol. 18, 1999, pp. 619-635

to crises by the help of capital controls, become attractive for these funds. As an evidence of the view that the decrease in total capital inflows is not necessary for assessing the effectiveness of capital controls, he refers to the Chilean case. It cannot be said that capital controls decreased the aggregate volume of capital flows in absolute terms; rather the decrease in short-term capital inflows was offset by the change in composition of them from short-term to longer term ones in Chile due to a fall in country risk premium. Besides, being less vulnerable to crises due to the capital controls, the risk premium of the country decreased raising both economic activity and growth.[3]

Providing an excellent survey of the academic literature on capital controls, Dooley shows that of the leading objectives of capital controls they are much more effective in driving a wedge between domestic and world interest rates. Yet, this impact has been short-lived in that it lessens as foreign investors turn out to gain proficiency in evading the control. On the other hand, the volume and composition of capital flows are not affected by the controls. As well, exchange rate appreciation and the speculative attacks cannot be avoided by the controls.[4]

Dooley goes on to argue that despite these arguments, evaluations of effectiveness vary with the considerations of the observers on the definition of the capital controls. The authors who regard them as temporary policy tools claim that they are effective in achieving the macroeconomic objectives until measures that are more credible are taken whereas the authors relating the failure of regimes to the use of the capital controls consider them as ineffective.[5] Therefore, the efficacy issue remains controversial since any consensus on it has not been maintained.

[3] Tito Cordella, "Can Short-Term Capital Controls Promote Capital Inflows**?", Journal of International Money and Finance**, Vol. 22, 2003, pp. 737-745
[4] Michael P. Dooley, "A Survey of Academic Literature on Controls over International Capital Transactions", **NBER Working Papers**, No. 5352, November 1995, pp.29-35
[5] **Ibid.,** p.29

3.2 Country Experiences and Effectiveness of Capital Controls

Relying on country experiences rather than general expressions on the effectiveness of capital controls may be more appropriate since they are supposed to serve various purposes in different countries. The countries examined in this study are the ones, which embarked on series of liberalization policies beginning from the 1970s and accelerating in the 1990s. It is remarkable that these countries encountered similar problems arisen from the rapid liberalization process. In pursuit of elimination of undesirable effects of capital account openness, the countries resorted to capital controls. In this respect, Chile and Malaysia are regarded as two prominent paradigms in that their experiences provide perplexing outcomes particularly for opponents of capital controls. Additionally, Thailand, Colombia and Brazil, as will be examined in this chapter, present cases for the use of capital controls even though their presence in these countries was not as wide-range as those in Chile and Malaysia. Finally, even though the Turkish case does not present an example of the use of capital controls in any time of her liberalization process, it may be proper to indicate the vulnerable position of the country to external shocks in case the implementation of the capital controls may be at least brought to the agenda.

3.2.1 Chile

Policymakers have been much more concerned of the methods of preventing the undesirable effects of international capital market integration since recent crises in emerging markets turned out to threaten the global economy. Both supporters and opponents of capital controls have dealt with Chile in the context of evaluation of capital controls. It has been argued whether the URR, or *encaje*, on external borrowing proved effective for achieving targeted economic objectives. Chile experienced two episodes of capital controls; during 1978-82 and 1991-98, which took the form of URR, forcing foreign investors to deposit their funds with the central bank at zero interest rate.

3.2.1.1 Imposition of Capital Controls

As well as most developing countries in the region, Chile also attempted to liberalize its financial market in 1970s in an economic environment where financial system were suffering from poor management and supervisory facilities due to the effects of repression policies which lasted until 1970s. In the face of large exchange rate appreciation associated with excessive capital inflows after the implementation of market-oriented policies in 1974, Chile introduced capital controls in 1978 by the first time. This period was characterized by total prohibitions for inflows with maturities below 24 months and application of URR for inflows with 24-66 months maturities at the rate varying from 10 percent to 25 percent of the value of inflow. [6]

Besides, reserve requirements were accompanied by some set of bank regulations. In this context, intermediation of foreign funds by domestic banks was limited through restricting banks' foreign liabilities and limiting foreign liabilities of banks to monthly set levels. However, while the latter restriction was held, the former limitation was removed in June 1979, leading foreign loans to increase by almost 100 percent. In 1980, the second one was also relaxed and the foreign liabilities of domestic banks increased significantly. Until the relaxation of restrictions on banking sector, the interest rates were so high that average borrowing cost was 18.9 percent in 1978 and 13.2 in 1979. With the increased capital inflows and elimination of banking controls, this rate decreased to 4.1 percent in 1980. The loss of confidence in macroeconomic stability of the country caused, however, the borrowing rates to increase to 15 percent and lending rate to 20 percent at the end of the 1980, inducing large capital inflows, and then ex-post borrowing rate climbed to 27 percent and lending rate to 37 percent in 1981. Following the devaluation of the domestic currency in the beginning of the 1982, real borrowing rate reached to 37 percent while lending rate amounted to 43 percent. Consequently, external debt of the country increased remarkably in which proportion of private debt much more increased. The private debt, which amounted to 12 percent of total foreign debt in

[6] Sebastian Edwards, "How Effective Are Capital Controls?", **NBER Working Papers**, No. 7413, November 1999, p.11.

1973, climbed to 65 percent in 1981. The fact that maturities of these foreign debts also shortened was the other noticeable point. Nevertheless, since the government did not take the debts under its guarantee, the problem of excessive indebtedness was seen as the problem of private debtors, which soon later proved wrong. It was made clear by the fact that when the government refused to bail out in 1983, most private borrowers gone bankrupt, constituting the factor behind banking crisis whose cost was 18 percent of the GDP. Yet, the banks were not allowed to take the exchange rate risk by forcing them to record their foreign debts denominated in foreign currency. On the other hand, the devaluation was inevitable for Chile, facing with excessive bank loans, exchange rate appreciation, large reversals of inflows and outflows due to the profitable investment environment in other regions and due to these distortions, being left with significant decline in GDP and employment.[7]

After the crisis period of 1982-83, reducing inflation and current account deficit became dominant objectives for Chilean economy. In order to reduce inflation, monetary policy was used while for elimination of current account deficit, policies aiming at strengthening the external sector were pursued. In this context, real exchange rate adjustments were conducted to regain competitiveness. During the period of 1982-85, the peso was devalued by 220 percent whereas the inflation was 100 percent. As for reduced-inflation objective, real interest rate targeting policy was introduced in an effort to reduce the gap between aggregate demand and supply. It was believed that inflation would be curbed via lower levels of this gap. As a result of devaluation, current account deficit declined from 11 percent in 1984 to 1 percent in 1988 and the growth rate amounted to 5.7 percent. On the other hand, increased consumption and investment, reduced unemployment level and higher level of inflation were seen as indicators of overheating. The response was to increase interest rates via tight monetary policy. In an environment of favorable conditions for

[7] Sebastian Edwards, "International Capital Flows and The Emerging Markets: Amending the Rules of the Game?", (Online) http://www.bos.frb.org/economic/conf/conf43/137p.pdf, 11th February 2005.

international investment owing to both a fall in world interest rates and improvement in foreign investors' sentiments towards Chile, capital inflows boosted in 1989.[8]

In the beginning of the 1990s, a different scenario was in place. Due to the surge in capital inflows, the exchange rate began to be overvalued. Besides, accessing to the international capital markets after the relaxation of capital controls and large inflows induced by high interest rates had put some other pressures on monetary policy. Upon this, in 1991, restrictions on capital inflows identified by non-interest bearing deposits at 20 percent of the value of all portfolio inflows were imposed once again. For inflows with less than a year, this rate was relevant throughout the investment period while for longer-term inflows, the rate was applied for 1 year. In 1992, both the rate of URR was fixed at 30 percent for one year holding period and it began to be also applied to trade credit and FDI loans. FDI as well as portfolio flows were also subject to minimum stay requirement, which was initially determined as 3 years and then reduced to 1 year in 1992. [9]

Table 9. Cost of URR in Chile

		Cost of URR (in percent a year)			
	Real Interest Rate Differential	3-month borrowing	6-month borrowing	1-year borrowing	Nominal cost of borrowing[a]
1991	3.6	1.5	1.5	1.5	6.0
1992[b]	6.6	1.1	1.1	1.1	4.5
1992[c]	6.6	7.7	3.9	1.9	4.5
1993	6.4	6.9	3.4	1.7	4.0
1994	4.1	9.4	4.7	2.4	5.5
1995	4.4	10.3	5.1	2.6	6.0
1996	5.2	9.4	4.7	2.4	5.5
1997	4.0	9.4	4.7	2.4	5.5

[a] The nominal cost of borrowing abroad does not include country risk premium
[b] January-April, [c] May-December

Source: Bernard Laurens, May 2000, p.72

[8] Bernard Laurens and Jaime Cardoso, "Managing Capital Flows: Lessons from the Experience of Chile", **IMF Working Paper**, No. 98/168, December 1998, pp. 5-8.
[9] Edwards, November 1999, pp.11-14.

The cost of the URR, as can be captured from the Table 9, decreases with the rise in the maturity of capital inflows. The URR intended to discourage the short-term capital inflows in the face of increase in interest rate differentials required for internal objectives. The aim was to cover up the gap between domestic and world interest rates. [10]

By the year of 1998, rate of URR was initially reduced to 10 percent and then to zero due to the contagion effect of East Asian crisis, increasing the fear of receiving so little inflow.

3.2.1.2 Objectives of Capital Controls in Chile

The main motivation, here, was to reconcile the interest rate and exchange rate targets. In order to reduce inflation, Chile aimed at increasing interest rates to close the gap between aggregate demand and supply, which induced further inflows. The surge in inflows, in turn, led to large pressure on domestic demand and real exchange rate appreciation, which was inconsistent with its initial target of increasing competitiveness. Facing with this vicious circle, as well as other countries, Chile had also targeted to avoid side effects of excessive capital inflows by restricting them. By this way, it was planned to reduce total volume of inflows and change its composition, eliminate exchange rate appreciation, pursue an independent monetary policy on the way of reducing inflation without encouraging excessive capital inflows. In turn, these were supposed to serve to reduce its vulnerability to financial crises. However, it is controversial that to what extent controls on inflows were successful in achieving these targets.

[10] Bernard Laurens, "Chile's Experience with Controls on Capital Inflows in the 1990s", **IMF Occasional Paper**, No.194, May 2000, (Online) http://www.imf.org/external/pubs/ft/op/op190/pdf/part1.pdf, 11th February 2005.

3.2.1.3 Effectiveness of Capital Controls in Chile

The effectiveness of capital controls in Chile is evaluated to the extent that how much it proved successful in reaching policy objectives. Regarding the initial objectives of URR, mentioned above, its effectiveness is analyzed through its impacts on short-term capital inflows, interest rates, exchange rates and the vulnerability of the country. However, it should be underlined in the very moment that given the studies aiming at measuring the effectiveness of URR, it seems difficult to speak clearly.

3.2.1.3.1 Impacts on Composition of Capital Flows

Of the goals, it can be said that the most evident achievement was realized in shifting the composition of invested funds from short-term to long-term inflows. The following table makes it clear that the maturity of foreign investment changed significantly. The long term flows that were very small percentage of total flows to the country before capital controls, turned out to be almost 3 fold of this volume with the imposition of stringent controls in 1992. The decline in short-term capital inflows is noticeable between 1995 and 1997 when the controls are tight. By the year of 1997, the percentage of long-term investments had reached at 97.2 percent of total inflows.

Table 10. Capital Inflows (gross) to Chile (Millions of US$)

Years	Short-term flows	Percentage of total	Long-term flows	Percentage of total	Total	Deposits*
1988	916,564	96.3	34,838	3.7	951,402	--
1989	1,452,595	95.0	77,122	5.0	1,529,717	--
1990	1,683,149	90.3	181,419	9.7	1,864,568	--
1991	521,198	72.7	196,115	27.3	717,313	587
1992	225,19728.9	28.9	554,072	71.1	779,269	11,424
1993	159,462	23.6	515,147	76.4	674,609	41,280
1994	161,575	16.5	819,699	83.5	981,274	87,039
1995	69,675	6.2	1,051,829	93.8	1,121,504	38,752
1996	67,254	3.2	2,042,456	96.8	2,109,710	172,320
1997	81,131	2.8	2,805,882	97.2	2,887,013	331,572

* Deposits in the Banco Chile due to reserve requirements; short-term flows have a stay of less than one year.

Source: Sebastian Edwards, November 1999, p.33

Gregorio et. al. also acknowledge that with the imposition of URR the composition of capital inflows changed from short-term to long-term funds. They evaluate the effect of URR through the VAR system using monthly data for the period January 1991 to July 1998 and including endogenous variables such as the cost-equivalent of the URR, domestic indexed interest rate, expected depreciation, short and long-term capital flows. By this estimation method, they find the chance of estimating a reaction function including the effects of past macroeconomic variables on the URR. According to implications of this study, they share the view that the URR reduced the short-term capital inflows in favor of longer investments and add that owing to

the reduction of sudden reversal risk associated with short-term capital inflows, the country becomes less vulnerable to sudden shocks.[11]

Table 11. External Debt in Chile (millions of US dollars)

	1990	1991	1992	1993	1994	1995	1996	1997	1998
TotalExternal Debt	17425	16364	18242	19186	21478	21736	22979	26701	31691
Private	5633	5810	8619	10166	12343	14235	17816	21613	25977
Public	11792	10554	9623	9020	9135	7501	5163	5088	5714
Long& Medium term	14043	14165	14767	15699	17613	18305	20344	25414	30081
Short-term	3382	2199	3475	3487	3865	3431	2635	1287	1610
Short-term / Total (%)	19.4	13.4	19.0	18.2	18.0	15.8	11.5	4.8	5.4

Source: Jose De Gregorio, Sebastian Edwards, Rodrigo O. Valdes, April 2000, p. 24

The changing pattern of financial sources also helps indicate the shift in composition of capital inflows. As can be seen from the table above, following the imposition of URR, the percentage of short-term debts to total external debt decreased gradually compared to the previous years. The total external debt, on the other hand, continued to rise moderately. It is also noteworthy that beginning from the 1991, the portion of public debt in total external debt began to decrease while the private debts increased significantly.

Even though the numerical data enables us to conclude that the composition of capital inflows changed obviously owing to the URR, it is possible to encounter some authors, as presented in the appendix, arguing that even the effect of URR on the change in composition of capital inflows is negative.

[11] Jose De Gregorio, Sebastian Edwards and Rodrigo O. Valdes, "Controls on Capital Inflows: Do They Work?", **NBER Working Papers**, No. 7645, April 2000, p.14.

3.2.1.3.2 Impacts on Total Capital Inflows

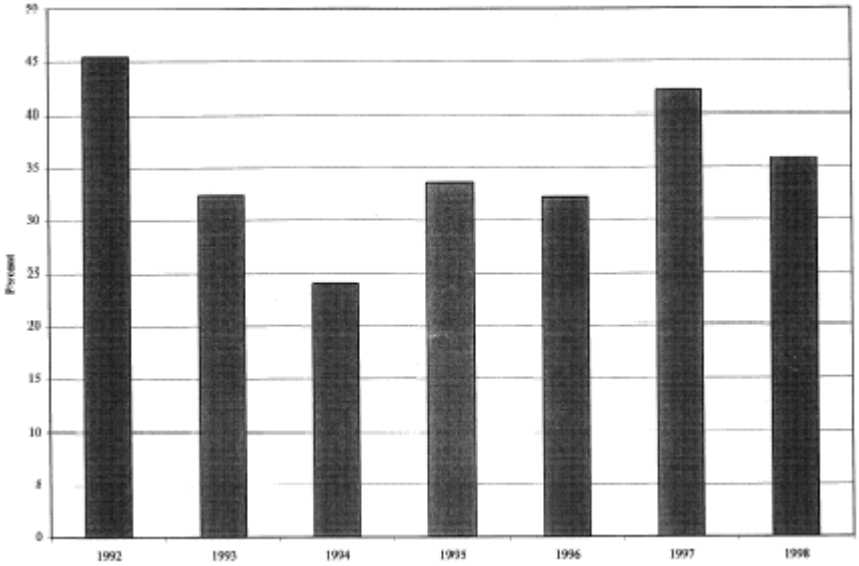
While the composition of capital inflows was altered by the URR from short-term to longer-term, the Table 10 demonstrates that on the contrary to its objective, total amount of capital inflows increased. This fact may partly be linked to the relaxation of controls on capital outflows in the 1990s. With the easing of capital outflow controls, the irreversibility of investments reduces. Ensuring the repatriation of funds, foreign investors increase their investments in this country. Chile, liberalizing the outflow controls, may be subject to this fact.

In addition, changing the composition of capital inflows, URR would be effective in affecting the country's risk premium due to the lower probability of currency and banking crises, which in turn, may cause inflows to rise.[12]

Another explanation of ineffectiveness of the URR in reducing the total amount of capital inflows presented by Simone and Sorsa is the changes in extension in the coverage of the URR. The following figure demonstrates that half of total flows were subject to capital controls in 1992. The coverage of the URR was reduced during 1993-94 and raised again in 1995 and 1996 when tighter controls were implemented. According to the figure, they claim that the URR, which was effective to reduce total capital inflows during stringent controls, tended to be ineffective during easing periods since investors found ways for evasion.[13]

[12] **Ibid.**
[13] Nadal-De Simone and Piritta Sorsa, "A Review of Capital Account Restrictions in Chile in the 1990s", **IMF Working Paper**, No. 99/52, April 1999, p.12.

Figure 10. Chile: Share of URR-covered Flows in Gross Capital Inflows



Source: Nadal-De Simone and Piritta Sorsa, April 1999, p.13

3.2.1.3.3 Impacts on Exchange Rates

As for other targets of URR, namely reducing exchange rate appreciation, the effect of URR is not as clear as its impacts on composition of inflows. In his VAR study including four endogenous variables such as change in the log of exchange rate relative to the U.S, tax equivalent of controls, rate of nominal exchange rate devaluation and some kinds of measures of interest rates Edwards shows that capital controls did not influence the exchange rate significantly.[14] Moreover, Laurens and Cardoso point out that on the contrary to the aim of preventing the appreciation, real exchange rate continued to appreciate by 4 percent during 1991-94.[15]

[14] Edwards, **op. cit.,** pp. 16-26.
[15] Laurens and Cardoso, **op. cit.,** p. 13.

Table 12. Real Exchange Rates in Chile between 1990-99

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Real Exchange Rate	112.7	106.4	97.6	96.9	94.3	88.9	84.7	78.2	78.0	82.3

a real exchange rate index, 1986= 100

Source: Antonio C. David, 2003, p. 12

The Table 12 confirms that starting from the year of 1991 when the capital controls were introduced, the domestic currency appreciated throughout the controls period. Furthermore, it was 1999 when both the controls were dismantled and the domestic currency began to depreciate.

However, the study of Gregorio et. al. introduces confronting results with both Edwards' study and previous studies. They relate the difference in results to the use of different estimation methods. Their claim, now, turns out to be the fact that little depreciation can be derived from the analysis. Still, the effect on real exchange rate seems to be inconclusive because of the possible offsetting effect of change in composition of inflows, which in turn increases the volume of capital inflows associated with decline in vulnerability of the country. This would cause appreciation, neutralizing the increase in depreciation.[16]

3.2.1.3.4 Impacts on Interest Rates

With the imposition of capital controls, the instrument for inflation-reducing targets continued to be the same as interest rate targeting policies of 1980s, which had worked through the efforts of holding interest rates above the world interest rates. The major purpose of imposition of capital restrictions in 1991 was to maintain the high interest rates. The expectation of devaluation related to capital controls is

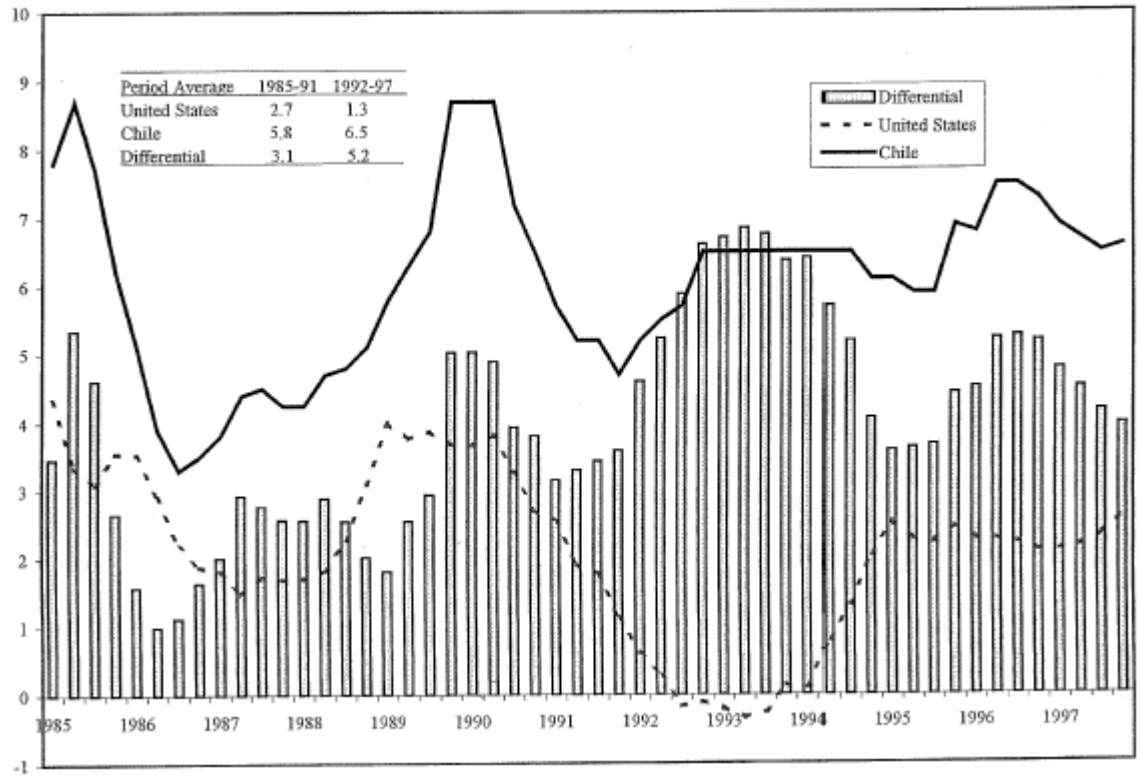
[16] Gregorio, Edwards and Valdes, **op. cit.,** pp.15-21.

supposed to increase the interest rates. However, Edwards claims that this effect of capital controls on the long-term differentials of interest rates between domestic and world interest rates was small and he adds that controls caused interest rates to return their equilibrium in a long time. Therefore, the central bank was able to pursue an independent monetary policy by rising interest rates a little, yet at the expense of deteriorating the Chilean firms due to the increased cost of capital.[17]

The results obtained from the study of Gregorio et. al. confirm that the effect of URR on interest rates was to generate small and temporary increase, leading interest rate differentials ranging from 5 to 16 percent between 1991-97. Therefore, the central bank achieved its target of pursuing independent monetary policy in the way of reducing the inflation by differentiating interest rates between domestic and international rates and due to the imposition of URR, this was done without falling into the dilemma caused by higher interest rates, the surge in capital inflows, sterilized intervention and further increase in interest rates, following each other. [18]

[17] Edwards, 1999, **loc. cit.**
[18] Gregorio, Edwards and Valdes, **loc. cit.**

Figure 11. Differential of Interest Rates in Chile, 1985-1997



Source: Bernard Laurens, Jaime Cardoso, December 1998, p.17

Figure 11 demonstrates that interest rates in Chile differentiated especially during 1992-95. Therefore, even if the effect was not prolonged, it can be said that the aim of increasing the interest rate differentials was achieved for short-term period.

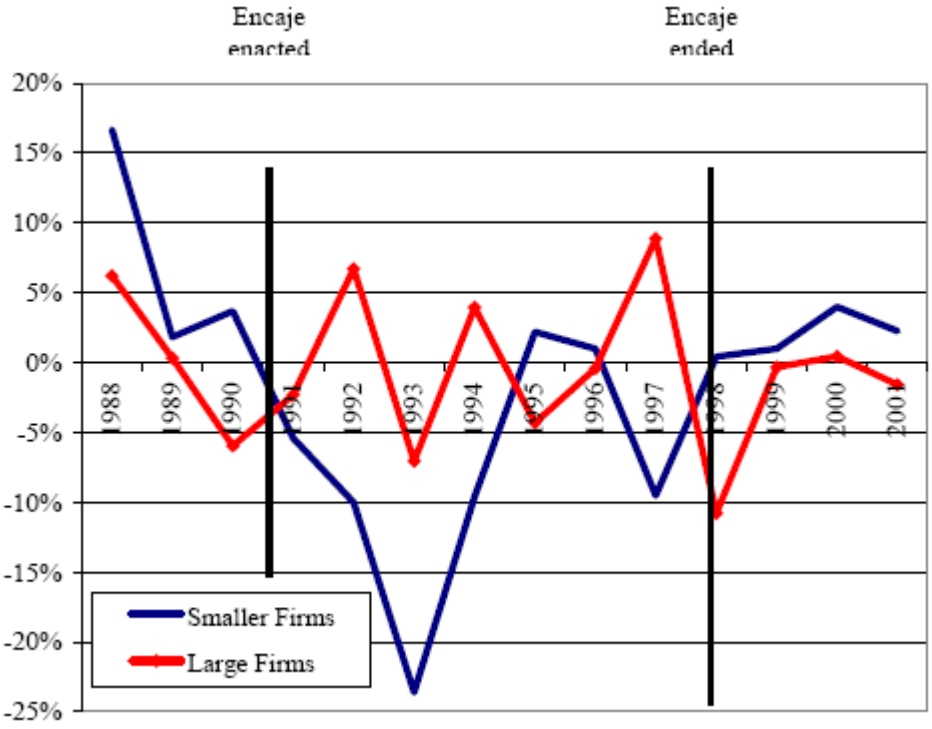
3.2.1.3.5 Impacts on Vulnerability and Insulation from the Crisis

Edwards argues that controls were not effective in reducing vulnerability. The first episode of controls in 1978-81 did not avoid the country from rushing into the currency crisis in 1981-82, which was mainly due to the poor banking sector. He holds that the country were prevented from small shocks; yet capital controls were not able to refrain her from being worsened by contagious effects of the large financial shocks in 1997-99 East Asian crisis. Therefore, he concludes that the only

noticeable effect of capital controls was to their impacts on changing the composition of capital inflows.[19]

In addition, evaluating the Chile experience from a different point of view, Forbes shows that the period between the imposition and elimination of capital controls is characterized by the significant reduction in investment growth of smaller and publicly traded companies for whom the growth ratio was higher before and after capital controls. This is because capital controls made it difficult to find financial sources, increasing their prices beyond the capacity of these firms to afford. As a result, since the cost of capital increased, the productive investment projects were not undertaken, leading to decreased economic growth.[20]

Figure 12. Growth in Investment/Capital Ratios for Chilean Firms



Source: Kristin J. Forbes, January 2004, p.11

[19] Edwards, 1999, **loc. cit.**
[20] Kristin J. Forbes, "Capital Controls: Mud in the Wheels of Market Discipline", **NBER Working Papers**, No. 10284, January 2004, pp.10-11.

The following table demonstrates that Chilean economy was not affected by the Asian crisis as much as the other emerging economies. Real GDP growth did not fall to negative levels, as was the case in crisis-hit countries. Coupled with the reform programs directed toward strengthening and stabilizing the financial and the public sectors, the URR help insulate the country from devastating effects of the crisis.

Table 13. Chile: Selected Economic Indicators

	1990	1991	1992	1993	1994	1995	1996	1997	1998
Current account balance[a]	-1.6	-0.3	-2.4	-5.8	-3.1	-2.0	-5.1	-4.9	-5.7
Financial account balance[a]	9.6	2.6	7.4	7.0	10.4	3.5	7.7	9.8	4.5
Net private capital flows[a]	9.9	5.5	6.9	7.2	11.2	6.7	10.4	9.9	3.6
Direct investment[a]	0.7	1.7	1.7	2.0	3.7	2.9	6.0	5.8	6.2
Net portfolio flows[a]	1.0	1.7	1.9	1.6	0.8	0.3	0.6	2.5	-2.7
General government balance[a]	3.5	2.3	3.1	1.7	2.9	3.9	3.1	2.5	0.1
Real GDP[b]	3.7	8.0	12.3	7.0	5.7	10.6	7.4	7.6	3.4
Real effective exchange rate[b, c]	-3.8	6.5	10.4	0.4	5.8	1.7	3.9	9.6	-6.1

[a] In percent of GDP
[b] Annual percentage change
[c] Increase means an appreciation

Source: Akira Ariyoshi et. al., May 2000, p.108

The effect of the URR can be said to have been short-lived if it exists. However, when looking at some set of selected indicators of the country shown in the Table 13, it can be seen that real GDP growth increased a little. The growth reached to higher rates especially during the years when controls were tightened. In 1992 and 1995, these rates were relatively higher than the periods during which the URR rate was

reduced. With respect to the exchange rates, not was a significant change seen, as claimed by the authors. It is robust that URR led to a sounder composition of inflows. As for interest rate differentials, the data shows that it differentiated a little, especially in 1992. However, when regarding the capital controls as a second best policy aiming at mitigating the distortions in the economy, their usage serves to buy policymakers time until well-designed institutions are established and proper policies are implemented. Therefore, even though the effects of URR on the other target variables such as exchange rate and interest rate are seen to be inconclusive, the composition of capital inflows changed by the URR from short-term to long-term funds, may be said to constitute a shield for relative insulation of the country from recent crises.

3.2.2 Malaysia

One of the most polemical countries over which the effectiveness of capital controls is evaluated has been Malaysia. The imposition of Malaysian-style capital controls has attracted much concern of policymakers. They began to investigate which factors had played role in their relative success. Even though it has been approached with some caution, the achievement of capital controls at least in the short run has been commonly acknowledged.

3.2.2.1 Malaysian Economy before the Crisis

Malaysia consisting of various ethnic minorities had pursued discriminative economic policies from 1970 to the end of 1990s. These policies aimed at increasing the share of the ethnic Malays in total company shares via subsidies by the government.[21] By the date, the government-company relationships were

[21] Rawi Abdelal and Laura Alfaro, "Capital and Control: Lessons from Malaysia", **Challenge**, Vol. 46, No.4, July-August 2003, p.43.

strengthened. On the other hand, Malaysia abandoned the import-substitution growth strategy in 1970s relying on export-supported growth and allowed the foreign capital to be invested in the country. Malaysia had become an attractive investment area especially for some industrial countries suffering from the loss in competitiveness due to the increased wages.

Accordingly, capital account liberalization policies began to dominate the Malaysian economy in 1973 with allowance of domestic currency, ringgit, to float. In 1987-89, deregulation of financial system accelerated. Because of high interest rates, capital inflows surged in the early 1990s, leading to increase in debt securities and external liabilities in banking system. With the fear of losing the monetary control, the government imposed capital controls on inflows in February 1994 in the form of increases in reserve requirements, limits to acquisition of short-term assets by non-residents, restrictions on external liabilities of banking sector and on speculative swaps and forward transactions.[22]

Capital controls on inflows were suggested to break the policy dilemma, as was the case in Chile. In the face of capital surges, the country began to suffer from overheating of the economy with increased inflation rates and current account deficits due to the appreciation of the ringgit. Similar to the Chilean case, Malaysia was in need to reconcile the external and internal objectives. In order to curb the inflation, interest rates were to be kept high without stimulating the further inflows that would cause appreciation. The use of capital controls was resorted as a second measure after sterilization attempts, which failed to reduce capital inflows due to higher interest rates.

[22] Ron Hood, "Malaysian Capital Controls" **World Bank Policy Research Working Paper**, January 2001, (Online) http://econ.worldbank.org/files/1396_wps2536.pdf, 12th January, 2005.

Table 14. Malaysia: Selected Economic Indicators

	1990	1991	1992	1993	1994	1995	1996	1997	1998
Current account balance[a]	-2.1	-8.8	-3.8	-4.8	-7.8	-10.0	-4.9	-5.1	12.9
Financial account balance[a]	-0.5	7.0	1.4	-2.2	8.4	8.3	4.1	8.8	-11.0
Net private capital flows[a]	3.3	9.1	12.8	16.2	3.8	6.4	6.7	5.0	-4.3
Direct investment[a]	5.5	8.3	8.9	7.8	6.0	4.8	5.8	7.0	2.8
Net portfolio flows[a]	2.6	1.8	2.3	7.0	-0.6	1.7	0.8	-3.7	-2.0
General government balance[a]	-2.2	0.1	-2.6	-2.3	0.9	3.7	4.8	3.5	-1.1
Real GDP[b]	9.6	8.6	7.8	8.3	9.3	9.4	8.6	7.7	-6.7
Real effective exchange rate[b, c]	-7.8	-1.1	11.6	0.6	-2.8	0.2	4.4	-23.2	0.2
Interest rate differential[d]	-2.1	1.5	4.5	4.2	0.5	-0.1	1.7	2.1	3.1

[a] In percent of GDP
[b] Annual percentage change
[c] Increase means an appreciation
[d] In percent

Source: Akira Ariyoshi et. al., May 2000, p.113

The Table above demonstrates that as a result of capital controls on inflows in 1994, the portfolio inflows in the form of short-term borrowings declined sharply to negative levels. As well, the volume of total private capital flows was reduced from 16.2 in 1993 to 3.8 in 1994. It is seen that interest rate differential was narrowed, assisting to curtail the capital inflows. The monetary expansion was prevented so that higher interest rates were not required to curb inflation. The controls in 1994 were thought to be temporary. Accordingly, they were lifted within a period of less than a year after they proved successful in achieving the targeted objectives in terms of reducing inflows and changing the composition. The liberalization attempts resumed in line with unrestricted capital inflows.

Table 15. Economic Indicators in Malaysia

	1990-95	1995	1996	1997	1998	1999	2000
Inflation	3.7	3.2	3.3	2.9	5.3	2.8	1.5
Investment[a]	37.5	43.6	41.5	42.9	26.7	22.3	24.1
External Debt ($Bill.)		34.3	39.7	47.2	42.6	43.6	45.0
% of GDP		38.7	39.3	47.1	58.8	55.2	50.4
% Short-term[b]		19.1	27.9	25.3	17.8		
Reserves ($Bill.)		23.8	27.0	21.7	26.2	30.9	33.2

[a] Percent of GDP
[b] IMF (1999c)

Source: Rudi Dornbusch, June 2001, p. 7

As can be seen in Tables 14 and 15, the growth rates and investment levels were at favorable levels. Especially, in 1995 the growth rate was heightened. Economic indicators seemingly did not reflect any failure until 1998.

On the other hand, behind this scene were some facts lying, which would soon put the economy into a risky position. Owing to favorable growth rates, capital inflows increased from 2.4$ billion in 1995 to 11.3$ billion in 1996. Hence, share prices increased encouraging the firms to borrow from abroad. Private domestic bank credits financed through foreign capital rose rapidly. External debts of domestic banks most of which were used for risky investment projects and purchase of shares rather than for real economy, also increased. The lending to the real sector, which used to be 30.7% in 1995 fell to 14% in 1996. The vast majority of the lending went to the equity purchases rising from 4% in 1995 to 20.1% in 1996. When coming to the end of 1996, 42.6% of total credits were used for purchases of equities and real estate whereas 21% was used for financing the production sector. Despite some interventions of the central bank via credit ratings, in 1997 speculation bubble in real

estate and share markets raised to undesirable levels. [23] The following table shows that the ratio of stock market capitalization to GDP reached to enormous amounts compared to the other Asian countries due to the surge in capital inflows. This high ratio indicates that the vast majority of the bank credits are used for purchase of equities in stock exchange.

Table 16. Vulnerability Indicators: 1996

	Stock Market Cap./ GDP	Debt/Equity Ratio	Private Bank Credit/GDP	Short-term External Debt/Reserves
Indonesia	40	310	55.4	177
Korea	28.6	518	57.6	193
Malaysia	310	150	89.8	41
Philippines	97.3	160	49	80
Thailand	55	250	100	100

Source: Rudi Dornbusch, June 2001, p. 12

As a consequence of liberalization attempts in 1990s, the ringgit offshore market was activated particularly in Singapore. The spread was narrow in this market since the reserve ratio prevailing in domestic market was not relevant for the offshore market. Additionally, offshore market offered hedging opportunities to investors, which in turn increased the attractiveness of this market. Thus, the demand for ringgit credit raised. Offshore currency traders increased their short positions, expecting the depreciation of the ringgit just like the other domestic currencies of the region. Thereby, interest rates in offshore markets increased above those in onshore market, inducing the funds to flee from the country.[24]

Besides, the recession of Japan economy and the crisis of Asian countries affected the export revenues of Malaysia. Moreover, the depreciation of domestic currencies

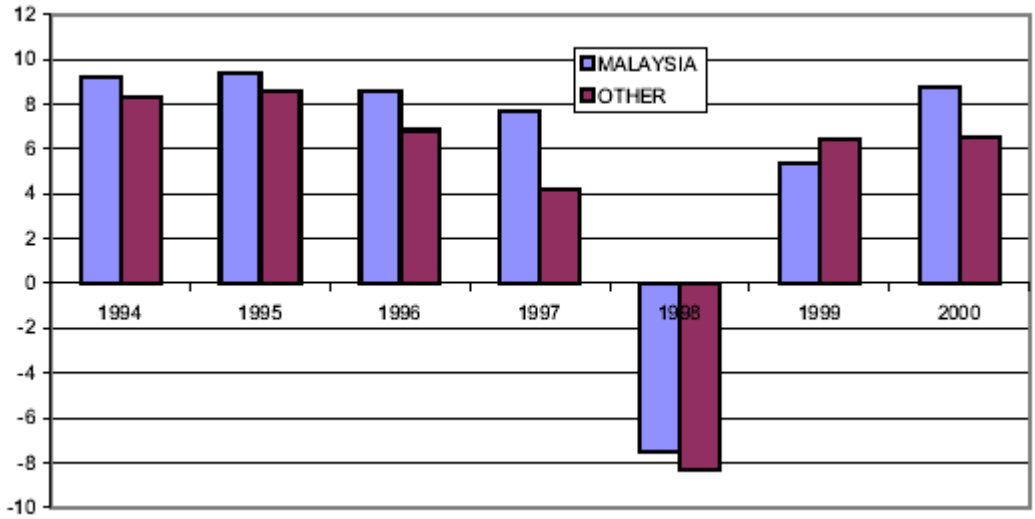
[23] Giancarlo Corsetti, Paolo Pesenti and Nouriel Roubini, "What Caused the Asian Currency and Financial Crisis? Part II: The Policy Debate", **NBER Working Papers,** No. 6834, December 1998, p.3.
[24] Hood**, loc. cit.**

of the crisis countries decreased the competitiveness of Malaysia, causing further income losses. Consequently, these facts were accompanied by capital outflows. Foreign capital flight led the funds of firms to decrease, causing difficulties for them, which were heavily relied on these foreign resources for production. In addition, higher interest rates and contraction in aggregate demand impaired the private firms. With the decrease in their capacity to pay back their borrowings, the balance sheet of banks was also deteriorated. The downturn in stock exchange market was accelerated by withdrawal of funds from the country by foreign investors. The domestic currency, ringgit, began to depreciate rapidly.

3.2.2.2 The Asian Crisis and Responses to the Crisis

Coming to the date of 1998 with these distortions, the Malaysian economy that grew by 7,7 percent in 1997, contracted rapidly to the negative levels. The following figure confirms that the year of 1998 was a departed year for the whole region, as well as Malaysia.

Figure 13. Malaysia and Other Crisis Countries: GDP Growth (%)



Source: Rudi Dornbusch, June 2001, p. 6

Initially, in response to the crisis, Malaysia pursued orthodox stabilization policies,[25] which have been traditionally recommended by IMF for crisis-hit countries. These programs aim at mitigating the adverse effects of capital flight accompanied by severe recessions and putting the economy into the stable path to regain the confidence for further capital inflows. The recommendations include tight monetary and fiscal policies, which have been subject to much debate. Accordingly, when faced with this turmoil, Malaysia followed the set of IMF policies. In order to avoid massive capital outflows that cause the rapid depreciation of the domestic currency, tight monetary policy was pursued, holding interest rates higher. However, despite the tight policies, depreciation of the currency could not be avoided. Furthermore, high interest rates led much more decrease in investment spending and hence stock market index. Due to this decrease in value of share and profits of the domestic firms, the share of bad credits in total bank credits tended to increase. The reversal of foreign funds, collapse of the domestic currency and stock exchange market and the high interest rates worsened the Malaysian economy, pushing it into the crisis, even with the IMF policies.

These policies were supported and directed by vice president Anwar Ibrahim. On the other hand, President Mahattir established the National Economic Action Council and brought Daim to the head of the council.[26] Contrary to IMF program and Anwar, the aim of Mahattir and Daim was to increase the economic performance through lower interest rates and higher credit levels. However, lower interest rate policy was impeded by the speculation in offshore market. Financial investors in offshore market had the opportunity of providing credit denominated in domestic currency with lower interest rate. The credit was used for purchasing foreign exchange, causing further depreciation of the ringgit, which provided offshore-investors with high revenues. Therefore, low interest rates could not be used due to the presence of offshore market.[27]

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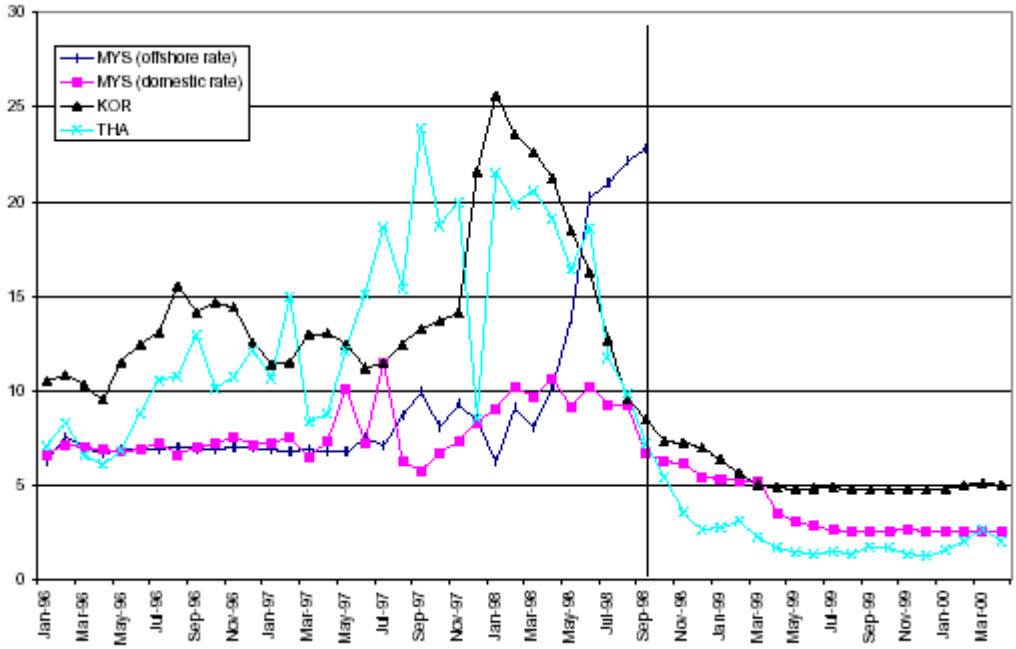
[25] Abdelal and Alfaro, **op. cit.,** p.44.
[26] **Ibid.,** p.41.
[27] Ethan Kaplan and Dani Rodrik, "Did the Malaysian Capital Controls Work?", **NBER Working Papers,** No. 8142, February 2001, p.9.

Upon this, the disagreement between Mahattir and Anwar raised, causing political conflict. [28] The policies suggested by Anwar did not help reduce the loss in value of domestic currency, besides the alternative policy of Mahattir and Daim was avoided by the presence of offshore market and speculative capital. At the end, Mahattir won the political struggle with Anwar and Anwar was fired.[29]

3.2.2.3 Imposition of Capital Controls

As mentioned before, Mahattir's policy had also failed to avoid depreciation in that the low interest rate policies had not been free of the risk of speculation in offshore market and besides, the loose monetary policy caused further loss in ringgit value. Indeed, the domestic credit expansion was also hindered by the leakage of the domestic currency abroad.

Figure 14. Interest Rate Differentials (%)



Source: Ethan Kaplan, Dani Rodrik, February 2001, p.40

[28] Rudi Dornbusch, "Malaysia: Was It Different?", **NBER Working Papers**, No.8325, June 2001,p.2.
[29] Abdelal and Alfaro, **loc. cit.**

The speculation was supported by the high differential between offshore and domestic interest rates. These markets were providing the domestic currency denominated credit at low interest rates and offering high rates for that credit to attract ringgit credit. The ringgit deposits, in turn, were used for funding the short positions of offshore banks and other offshore financial institutions.[30] From the Figure 14, it can be noticed that the differential reached at its highest level prior to the imposition of the capital controls on September 1, 1998.

Besides, by the end of August 1998, Malaysian foreign exchange reserves had greatly declined as capital outflows reached at $ 10.5 billion. The depreciation of the ringgit against U.S. dollar was about 65 % while stock market was close to collapse, falling by 75 %. [31]

Facing with these conditions, capital controls on outflows were implemented by the government on September 1, 1998. The main objective of capital controls in Malaysia was to regain monetary policy autonomy by averting the ringgit speculation through elimination of offshore market. The controls were accompanied by measures directed towards providing exchange rate stability through pegged rates.[32] These measures, on the other hand, were regarded as a temporary policy instrument to close the offshore market and reduce outflows.

Outflow controls are generally designed to disconnect the interest rates and exchange rates. Accordingly, when interest rates are lowered, the economy would not suffer from currency devaluation.[33] Therefore, capital controls on outflows were supposed to serve to Mahattir's low interest rate policy.

[30] Kaplan and Rodrik, **op. cit.,** p. 6.
[31] Natalia T. Tamirisa, "Do macroeconomc Effects of Capital Controls Vary by Their Type? Evidence from Malaysia", **IMF Working Paper,** WP/04/0, January 2004, p. 10.
[32] Kaplan and Rodrik, **op. cit.,** p.10.
[33] Corsetti, Pesenti and Roubini, **op. cit.,** p.24.

Capital controls excluded the trade sector and FDI flows. They were imposed only on short-term capital flows. With the capital controls, the capital outflow by the residents was restricted and withdrawal of short-term portfolio investments was prohibited for 12-month holding period. In the context of capital controls, the ringgit was pegged at 1 USD = 3,8 MR.[34] All financial transactions had to be carried out by domestic financial institutions. Hence, offshore market was closed and all offshore transactions were prohibited. By this way, lower interest rate policy associated with the loose monetary policy began to be pursued without the fear of speculation against the ringgit in offshore market.

On February 4 1999, capital controls were mitigated. For investments came into the country prior to February 1999, if it was to remain in the country less than a year, the principal was to taxed at a declining rate and the profits were to be taxed at 10 % percent. For investments made after February 14 1999, the principal was not to be taxed, the profits were initially to be taxed at 30 %, and if it was to remain more than a year in the country, this rate was to decrease to 10 %. On September 21 1999, the profits were subject to tax at 10 % in the form of exit tax. After this date, capital transfer in terms of both principal and profit was not taxed, implying the elimination of capital controls.[35]

3.2.2.4 The Effectiveness of Capital Controls

The effectiveness of Malaysian capital controls has been debated over the comparison of its performance for recovery with the other crisis-stricken countries, South Korea, Thailand and Indonesia. The comparison is centered over the different policy responses to the crisis. The latter countries relied on the orthodox stabilization policies of the IMF to cope with the financial crisis while Malaysia followed a different path, resorting to capital controls. The fact that both groups of countries

[34] Kaplan and Rodrik, **op. cit.,** p.36.
[35] Hood, **loc. cit.**

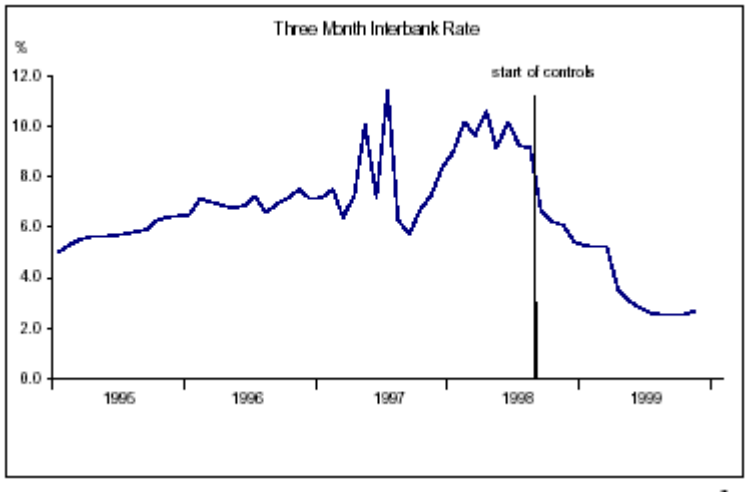
recovered from the crisis pursuing different policies has made it more complicated to isolate their effectiveness.

Besides, just as in the Chilean case, the effectiveness can be evaluated basing on whether the objectives were attained via capital controls in the short run. However, it is much more difficult to determine its effects in the long run.

3.2.2.4.1 Impacts on Interest rates

As a part of adjustment policy, lowering the interest rates was regarded to serve as an instrument for maintaining economic stability through increased demand and credit expansion. The Figure 15 represents that the interbank rates that had been following an increasing path, turned out to decline by the date of enforcement of capital controls. Further decline in interest rates was realized in subsequent years and by the end of 1999, it had remained at the level consistent with the purpose of the controls.

Figure 15. Interbank Rates in Malaysia

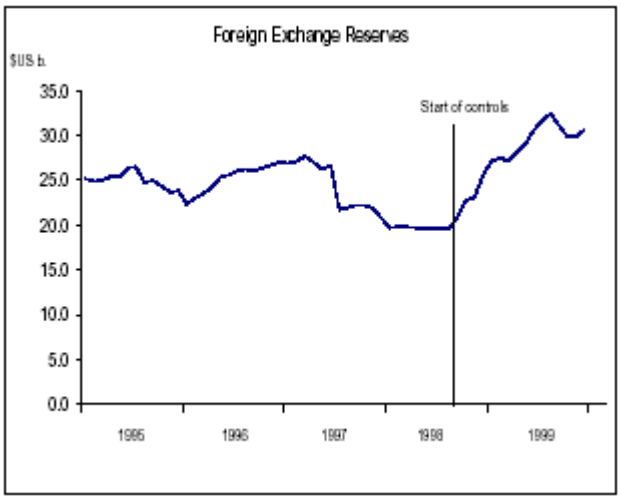


Source: Ron Hood, January 2001, p.7

3.2.2.4.2 Impacts on International Reserves

Both the Figure 16 and Table 15 make it clear that with the imposition of capital controls on outflows, the build up of international reserves was realized. On the other hand, the relatively high foreign exchange reserves prior to crisis were seen as lying behind the success of the implementation of capital controls.

Figure 16. Foreign Exchange Reserves in Malaysia

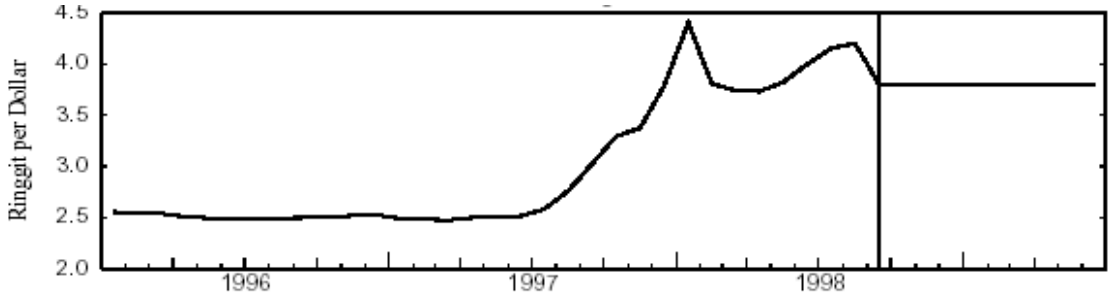


Source: Ron Hood, January 2001, p.8

3.2.2.4.3 Impacts on Exchange Rates

The value of the domestic currency declined greatly beginning from 1997. One of the main purposes of the capital controls was to cease this undervaluation and maintain a stable exchange rate. As a part of the capital controls, the exchange rate was fixed at 3,8 ringgit per U.S. dollar. As illustrated by the following figure, with the introduction of capital controls exchange rate fluctuations were eliminated.

Figure 17. Exchange Rates in Malaysia



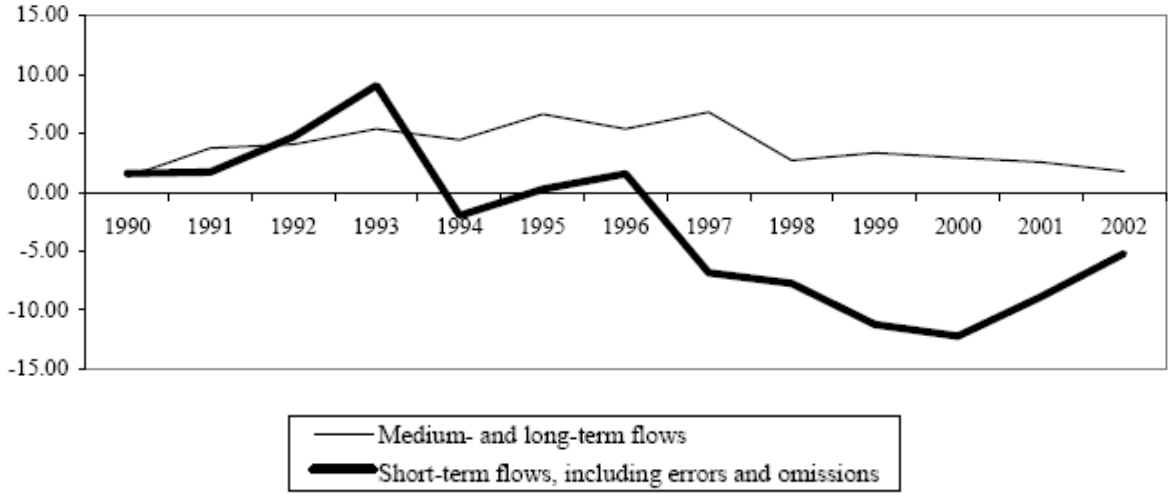
Source: Hali J. Edison and Carmen M. Reinhart, March 2000, p. 31.

Even though the interest rates were reduced, currency devaluation was not seen by means of outflow controls. This fact reveals that the low interest rate policy would not be effective unless the controls on outflows are used. Only after these two policies are separated, can the independent interest rate policy be pursued without causing the exchange rate fluctuations.

3.2.2.4.4 Impacts on Capital Flows

The following figure shows that short-term inflows that began to rise in 1991 and heightened in 1993, fell in 1994 with the introduction of the capital controls on inflows. After then, it was in the late 1990s that they declined to the unprecedented levels. As for long-term flows, they did not reach their high values prior to the Asian crisis, at all.

Figure 18. Capital Flows in Malaysia, 1990-2002



Source: Natalia T. Tamirrisa, January 2004, p.6.

It is sensible to impart that the medium and long-term flows have followed a stable path since the enforcement of capital controls on outflows in 1998. It may be partly linked to restrictions on capital transfer and partly to the reform programs encouraging the foreign investors for medium or long-term investments.

3.2.2.5 The Comparison with the other countries in the region

Comparing the Malaysian economic situation and vulnerability indicators with the other crisis-countries before the crisis may be useful to capture underlying reasons of the efficacy of Malaysian capital controls during the crisis.

Table 17. Financial and Debt Indicators in Malaysia, 1996

	Malaysia	S. Korea	Thailand
External Debt/GDP	0.39	0.32	0.55
External Debt/Exports of Goods and Services	0.41	0.98	1.32
Short-term Debt/GDP	0.11	0.20	0.21
Short-term Debt/Reserves	0.42	2.84	1.03
M2/GDP	1.00	0.46	0.79
M2/Reserves	3.64	6.21	3.86
Claims on Private Sector/GDP	1.45	0.66	1.42
Current Account Balance (% of GDP)	-4.9	-4.7	-7.9
Stock Market Capitalization (% of GDP)	310	29	54

Source: Ethan Kaplan, Dani Rodrik, February 2001, p.37

It is seen from the Table 17 that the ratios of short-term debt to GDP and of reserves to GDP were lower than the other two countries, South Korea and Thailand. The table demonstrates that as compared to other crisis countries, Malaysian economy encounters with conditions that are more favorable prior to the Asian crisis. It is claimed that the pre-crisis economic conditions in Malaysia express the relative success of the capital controls.

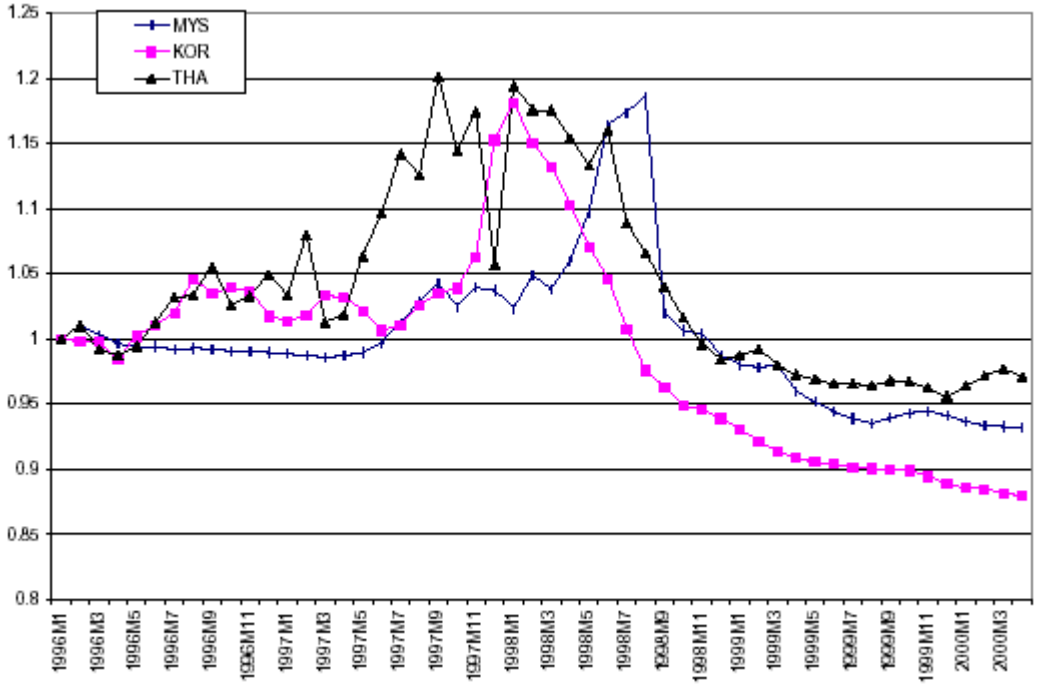
Much debate over the effectiveness of Malaysian capital controls has been focused on the view that whether the other countries in the region had also recovered from the crisis as fast as Malaysia. The question, here, is whether Malaysia would have better done by pursuing the orthodox policies as well as other countries. The fact that the countries with IMF-style recovery program had also dealt with the crisis without resorting capital controls was put ahead of the effectiveness of the capital controls of the country as a controversial fact.

Dornbusch, evaluating the effectiveness of capital controls in Malaysia, claims that the initial conditions are important when comparing the performance of the crisis-countries in dealing with the crisis. As can be detected in the Table 16, initial conditions prevailing in the Malaysia prior to the crisis are more favorable than the other Asian countries. The measures of vulnerability made by Dornbusch show that Malaysian economy was less vulnerable in that debt/equity ratio and the ratio of short-term external debt to reserves were the lowest one among other countries. However, its response to the crisis was different from the other group. Pointing out that the other countries were also succeeded in recovering from the crisis, he claims that Malaysia would not have been much worse by following the policies of IMF program, especially while having better conditions.[36]

On the other hand, Kaplan and Rodrik claim that to evaluate the performances of the Malaysian economy and the economies of the other crisis-countries on the same ground is not appropriate. This statement emerges from their financial market pressure index for the 1996-2000 periods, which is calculated as a weighted average of the exchange rate, foreign currency reserves and the interest rates. Financial pressure index is said to be high when depreciation of the currency, a decline in reserves and an increase in interest rates are observed. In other words, when speculative attacks increase, the index value turns out to be high. According to the index reflected in the following figure, the timing of speculative attacks differs across countries. The direction of financial pressure index for Malaysia differs from the other countries. When the attack hit the Asian countries, Malaysia was not suffering from any turmoil and when the Malaysian economy began to be distressed, crisis countries had become more stable. Figure 14 also shows that the interest rates in Malaysia and the other countries did not move in the same direction. The same fact holds for the direction of the foreign exchange reserves. Therefore, they compare Malaysian performance one year after the imposition of capital controls to those of Thailand and Korea one year after the implementation of IMF-supported programs.[37]

[36] Dornbusch, **op. cit.,** pp. 9-14.
[37] Kaplan and Rodrik, **op. cit.,** pp.19-21.

Figure 19. Financial Market Pressure Index (Jan. 1996 = 1)



Source: Ethan Kaplan, Dani Rodrik, February 2001, p.39

Accordingly, the policymakers should avoid comparing the conditions of Malaysian economy in the summer of 1998 when the country began to suffer from financial pressures with the conditions of other countries at the same date when they began to recover from the crisis. Regarding this fact, Kaplan and Rodrik hold that Malaysian economy's performance in almost all scope was better than the rest of the region. In addition, they add that it may be fantastic to consider the situation in which the IMF had provided Malaysia with billions of dollars, just as other crisis-countries. The capability of the capital controls to help improve the economic conditions would have probably been remarkable.[38]

[38] **Ibid,** p.7.

3.2.2.6. Overall Assessment of the Capital Controls in Malaysia

Johnson and Mitton assess the effectiveness of capital controls from the perspective of the microeconomic evidence, believing that this point of view provides more conclusive results than macroeconomic considerations. In this context, they impart some microeconomic distortions of capital controls in Malaysia by emphasizing the nature of crony capitalism in developing countries, which affected stock returns for individual Malaysian companies. During the Asian crisis, politically connected companies faced with $5.7 billion loss in market value, greater than others did. However, with the use of capital controls which were imposed soon after the first effects of the crisis, in 1998, this situation reversed. That is, it was seen that after controls, market values of politically connected firms increased and $1.3 billion gain was provided due to the subsidies by the government to favored firms. This, in turn, decreased the market discipline by helping the firms to get rid of the financial pressures and providing more assurance to them. These firms in turn became dependent on these subsidies. [39]

In contrast to the view that the crony capitalism of the Malaysia had reflected to the application of the capital controls, some authors, Kaplan and Rodrik, argue that there is no evidence on the presence of political corruption during control periods. Conversely, it can be said that capital controls put in place transparently.[40]

On the other hand, it is proper to mention some costs of them to the Malaysian economy. After the implementation of the controls, it is rumored that the confidence of international investors declined, as can be observed from fall in foreign direct investment levels. Relatedly, the risk premium of the country also increased, leading

[39] Simon Johnson and Todd Mitton, "Cronysm and Capital Controls:Evidence from Malaysia", **Journal of Financial Economics**, Vol. 67, February 2002, pp.351-382.
[40] Kaplan and Rodrik, **op. cit.,** p.4.

to a rise in cost of funds from abroad. In addition, the administrative costs added to the costs of agents in the domestic economy.[41]

Nevertheless, when evaluating the effectiveness of the capital controls in Malaysia, it may be more appropriate to consider their success in attaining the initial economic objectives. From the tables and figures reflecting some economic indicators of the country, it can be observed that the economic objectives, lowering interest rates, stabilizing the exchange rate and eliminating the speculation against the ringgit by closing the offshore market, were achieved by the capital controls in the short-run. That is to say, capital controls helped insulate the country from financial turbulence. However, this observation does not seem to provide further evidence on assessments of economic consequences of the capital controls in the long-run and it seems that a consensus on the effectiveness of Malaysian controls has not been maintained yet.

3.2.3 Thailand

Thailand experience also deserves attention in that during the outbreak of the Asian crisis, capital controls were initially resorted. However, the presence of the controls was short-lived. After 8 months, Thailand decided on the implementation of the orthodox IMF policy as a response to the crisis. As the other side of the debate, Malaysian-style measure is generally compared with the policies of Thailand and other crisis-countries. It may be appropriate to examine the Thailand case as a country that had implemented both controls and IMF recipes. Similar to Malaysia, Thailand resorted both inflow controls in 1995-97 and controls on outflows in 1997-98.

Thailand experienced high inflation and large current account deficits beginning from 1993, which forced the authorities to pursue tight monetary and fiscal policies. Coupled with the relaxation of restrictions on capital outflows and inflows, rising

[41] İnci Ötker-Robe, "Malaysia's Experience with the Use of Capital Controls", **IMF Occasional Paper**, No.194, (Online) http://www.imf.org/external/pubs/ft/op/op190/pdf/part1.pdf, 26th January 2005, p.105.

interest rate differentials owing to tight policies and the pegged exchange rate, foreign investors found it profitable to invest in Thailand, leading to the surge in short-term and debt-creating capital inflows. Beginning from 1995, some constraints on capital inflows were imposed to avoid the adverse effects of excessive capital inflows. In this context, open positions of banks were limited, 7 % reserve requirement on baht transactions by nonresidents was imposed and banks was required to report their foreign exchange and derivatives trading. These measures helped reduce overheating in economy, yet the short-term capital inflows continued because of the fall in interest rates in US. In 1996, the measures were strengthened in the form of the extension of 7 % reserve requirements. By the help of the controls, net capital inflows decreased and the share of short-term debt in total debt reduced. However, the country continued to be vulnerable to reversals of capital flows.[42]

When hit by the Asian crises accompanied by speculative attacks on Thai baht due to the rising concerns of foreign investors about the sustainability of the peg regime, Thailand resorted capital controls as a substitute policy tool in response to the crisis. The authorities avoided the high interest rates for defending the currency in that increase in interest rates would have produced undesirable effects on economic activity and financial system. Therefore, they preferred to use capital controls in May 1997, which were dismantled only after 8 months, on January 30 1998.

In the context of capital controls, domestic financial institutions were prohibited from engaging in transactions with nonresidents that lead to build up of baht position in the offshore market. Residents that purchased foreign equity were not allowed to bring the funds in baht. When converting the domestic currency denominated assets into foreign exchange, nonresidents were forced to use onshore exchange rates. Therefore, dual exchange rates were imposed for transactions in domestic and overseas markets.[43] The short-term speculation was reduced by these measures. On the other hand, the offshore interest rates rose above the onshore rates, stimulating

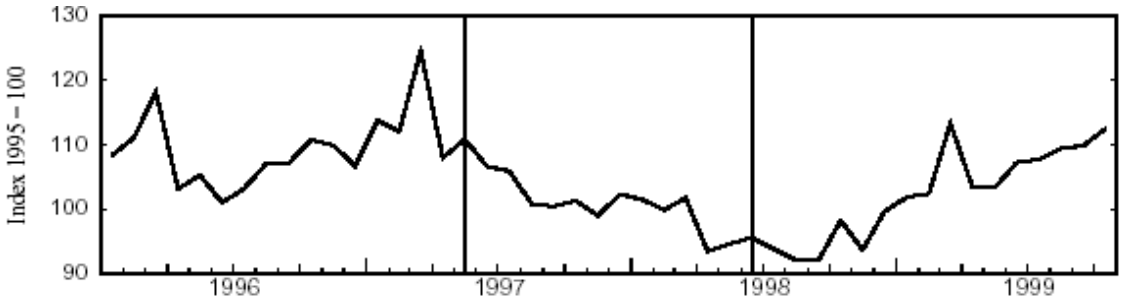
[42] Akira Ariyoshi et. al., "Capital Controls: Country Experiences with Their Use and Liberalization", **IMF Occasional Paper**, No. 190, May 2000, (Online) http://www.imf.org/external/pubs/ft/op/op190/pdf/part1.pdf, 21th April 2004,, **op. cit.,** pp.51-52.
[43] **Ibid.,** p.57.

the foreign funds to flow out of the country and causing large outflows. Upon this, the authorities could not defend the peg and let the domestic currency to float. Capital controls were regarded as ineffective to overcome the crisis. After then, the orthodox policies backed by the IMF were implemented in order to mitigate the effects of the Asian crisis.

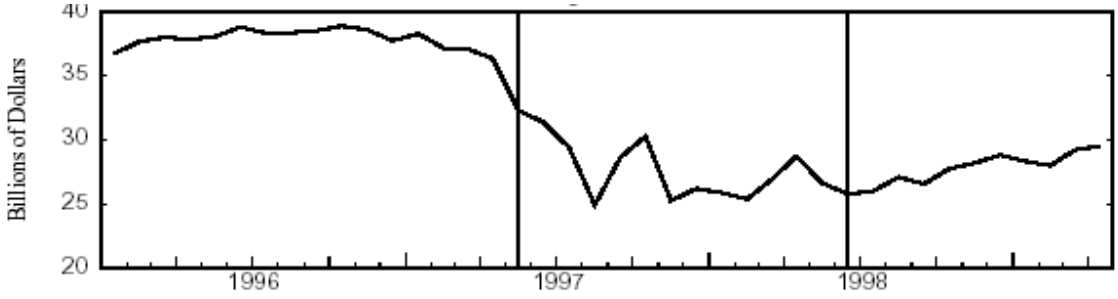
The fact that capital controls did not produce favorable results in Thailand constitutes the reason for their short-lived history. Looking at the following Figures, it can be seen that during implementation of capital controls the economic performance could not be improved.

Figure 20. Industrial Production, Foreign Reserves, Interest Rates and Exchange Rates in Thailand

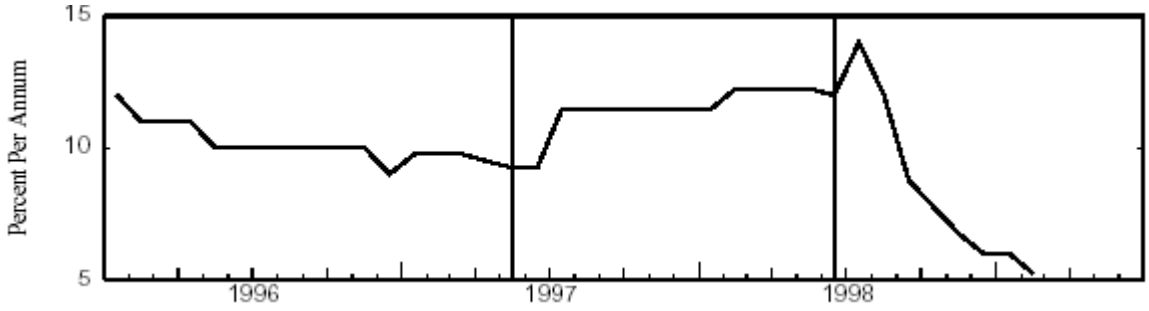
a. Industrial Production



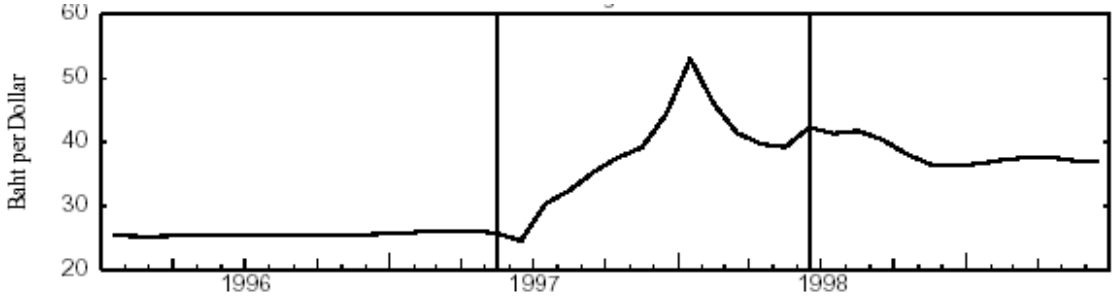
b. Foreign Reserves



c. Interest Rates



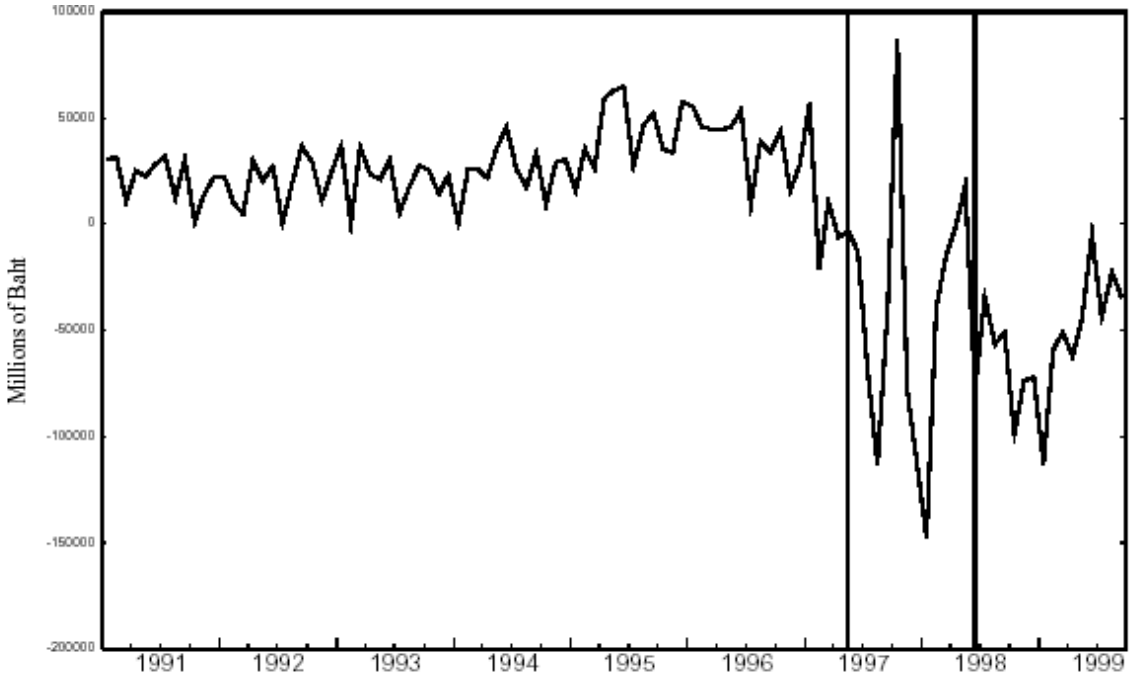
d. Exchange Rates



Source: Hali J. Edison and Carmen M. Reinhart, March 2000, p. 33

The figures reveal some values of key economic variables. Accordingly, industrial output decreased, interest rates raised, foreign exchange reserves declined and a remarkable loss in the value of the exchange rate was observed during the implementation of controls. However, it is also observable that the exchange rates that turned out to be more stable after the IMF program had already begun to recover. Whether this fact can be associated with the capital controls prior to IMF program poses additional difficulty to isolate the effectiveness of controls from other stabilization programs.

Figure 21. Capital Flows in Thailand



Source: Hali J. Edison and Carmen M. Reinhart, March 2000, p.34

As for private capital flows to Thailand, it is seen that the prevention of capital outflows was not realized by the use of capital controls. Moreover, outflows accelerated with the capital controls. Capital transfer hit the highest point during this period. On the other hand, according to the Figure 21 and Table 18, net private flows that had just begun to increase during control period, declined in subsequent year.

Table 18. Some Economic Indicators in Thailand

	1990	1991	1992	1993	1994	1995	1996	1997	1998
Current account balance[a]	-8.3	-7.5	-5.5	-5.0	-5.4	-7.9	-7.9	-1.9	12.4
Financial account balance[a]	6.7	7.3	6.0	5.3	5.6	9.1	8.1	3.1	-13.1
Net private capital flows[a]	12.8	10.7	8.7	8.3	8.6	12.9	5.7	-7.6	-16.9
Direct investment[a]	1.9	1.7	1.5	1.3	1.0	1.3	1.4	2.5	6.3
Net portfolio flows[a]	2.3	0.3	0.0	4.2	1.6	1.2	1.8	2.2	3.0
General government balance[a]	4.7	4.8	2.8	2.2	1.9	3.0	2.5	-0.8	-2.6
Real GDP[b]	11.6	8.1	8.2	8.5	8.6	8.8	5.5	-1.3	-9.4
Real effective exchange rate[b,c]	-2.9	-0.6	1.8	1.8	-2.6	3.0	5.4	-33.0	23.8
Interest rate differential[d]	4.8	5.5	3.4	3.5	3.0	5.1	3.9	9.1	7.7

[a] In percent of GDP
[b] Annual percentage change
[c] Increase means an appreciation
[d] In percent

Source: Akira Ariyoshi et. al., May 2000, p. 118

The Table 18 demonstrates some economic indicators in Thailand. After the surge in private capital flows in 1995, the net flows decreased in 1996 owing to some restrictions in order to manage large capital inflows. However, it turned out to be negative in 1997, reflecting large outflows. The table shows that the portfolio flows did not change significantly while the real GDP declined to negative levels, beginning from 1997. The real exchange rates were overvalued in 1995 and 1996 whereas with the large reversals in capital flows and the pressure in reserves, it began to depreciate in 1997. On the other hand, a substantial appreciation was seen in 1998 partly because of the increase in portfolio flows. After the dismantling of capital controls, the tight monetary policies implemented as a response to capital outflows and to the crisis under the guidance of the IMF, caused higher interest rate differentials in 1997, which continued in 1998.

The relative ineffectiveness of capital controls in Thailand may partly be linked to the difference in the timing of the capital controls. Thailand introduced capital controls in the midst of the crisis while they were imposed after the crisis in Malaysia. Besides the timing of the crisis, the different types of controls may also have to do with the different outcomes.[44] Another factor that impedes the success of the controls is the policies that intended to make Bangkok one of the offshore banking centers in the world, encouraging short-term capital inflows to Thailand.[45] The fact that the experiences of Malaysia and Thailand with the capital controls differ greatly may be partly reflecting the importance of economic conditions prior to the control period in attaining the intended targets.

3.2.4 Colombia

As a developing country, Colombia also undertook capital account liberalization policies in 1990s. In the context of liberalization policies and structural reforms, much improvement in financial and public sector was maintained. The improvement resulted in the surge in capital inflows in the beginning of the 1990s. At the same time, even though some quantitative restrictions on capital mobility had been eliminated, it allowed capital controls in the form of reserve requirement to be imposed in September 1993.

The driving factor forcing the country to resort capital controls was similar to difficulties experienced by other developing countries facing with large capital inflows. Colombian economy had been suffering from boom-bust financial cycle triggered by increased government expenditures during the 1990s. The expansion of credit led the private debts to increase significantly, most of which were financed

[44] Hali J. Edison and Carmen M. Reinhart, "Capital Controls During Financial Crises: The Case of Malaysia and Thailand", **Board of Governors of the Federal Reserve System International Finance Discussion Papers**, No. 662, March 2000, (Online) http://www.federalreserve.gov/pubs/ifdp/2000/662/ifdp662.pdf, 21th February 2005.
[45] John Williamson, Stephany Griffith-Jones and Ricardo Gottschalk, "Should Capital Controls Have a Place in the Future International Monetary System?", May 2, 2003, (Online) http://www.ids.ac.uk/ids/global/pdfs/Madrid3.pdf, 19th February 2005.

through foreign capital. The quality of bank loans worsened and asset prices increased due to expansionary pressures. As the budget deficits rose, the public sector tended to rely on external borrowing much more heavily. Over time, current account deficits increased and capital outflows began to occur during this period. [46]

Primary response to the distortions arisen from capital surges was to engage in sterilization policy via OMOs. However, by the nature of the sterilized intervention the policy proved unsuccessful in curbing the capital inflows due to further increase in interest rates. Contrarily, capital inflows continued. The period ended with devaluation of the peso in 1991.[47] Upon these conditions, the Colombian authorities resorted controls on inflows in order to correct the distortions caused by large inflows and to insulate the country from external shocks.

As an application of capital controls in the form of reserve requirements, the first attempt of the Colombian authorities was to impose deposit requirement of 47 % for all capital inflows with the maturity of less than 18 months for a holding period of 12 months. In March 1994, controls were tightened covering all inflows less than 36 months. At the same time, investors were allowed to choose the holding period of deposits. Reserve requirements were 93 % for 12 months, 64 % for 18 months and 50 % for 24 months deposit. In August 1994, all capital inflows under 5 years were made subject to deposit requirement. This application lasted until March 1996 when for foreign loans less than 3 years rate of 50 % for a holding period of 18 months was imposed. The last time that controls were tightened was in 1997 in which all inflows less than 5 years were subject to 50 % requirement for a holding period of 18 months. Due to the international financial crises, controls were relaxed in September 1998. By the date, deposit requirements and the holding period were reduced to 10 %

[46] Antonio C. David, "Do Controls on Capital Inflows Insulate Domestic Variables against External Shocks?", 27/08/2003, (Online) http://smealsearch2.psu.edu/cache/papers/Business/382/http:zSzzSzwww.econ.cam.ac.ukzSzcjeconfzSzdelegateszSzdavid.pdf/do-controls-on-capital.pdf/, 01th March 2005.
[47] Ariyoshi et. al., **op. cit.,** p.49.

from 25 % and to 6 months from 12 months respectively. Eventually, they were reduced to zero in June 2000.[48]

Table 19. Selected Indicators of External Vulnerability in Colombia

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Short-term Debt/ Total Debt	8.4	10.2	16.5	18.8	20.5	22.1	20.4	18.1	18.7	11.5
Current Account/ GDP	1.3	5.6	1.8	-3.7	-4.5	-5.0	-4.9	-5.5	-5.3	-0.2
Real Exchange Rate	132.5	128.7	118.3	112.1	100.0	98.6	92.3	82.8	86.9	96.8

a real exchange rate index, 1986= 100

Source: Antonio C. David, 27/08/2003, p. 12

The table reveals the fact that the country had been suffering from increased short-term borrowing and current account deficits besides the real exchange rate appreciation until 1993 when the capital controls were implemented. Looking at the values of these indicators after 1993, it can be seen that the rise in short-term debt and current account deficit and the appreciation of real exchange rate continued.

On the other hand, by comparing the reactions of interest rates in Colombia and Argentina to the external shocks caused by the Mexican and East Asian crises, David shows that interest rates did not increase suddenly in Colombia in the face of Mexican crisis relative to Argentina, which did not adopt controls on capital inflows. Yet, this increase was seen much more than Argentinean rates following the Asian crisis. Therefore, he concludes that reserve requirements succeeded in insulating the country from external shocks caused by Mexican crisis, however, did not work in the Asian crisis. Similar interpretation is made for Chilean case by using the VAR methodology and global Emerging Markets Bond Index (EMBI), examining the transmission of international shocks to macroeconomic variables in some Latin

[48] David, **loc. cit.**

American countries. He differentiates between effects of global financial shocks and shocks that depend upon country risk premium reflecting the expectations of foreign investors. According to this study, he holds that the effect of country specific risk premium on interest rates in Chile is much more than shocks in emerging markets. Similarly, of Colombian domestic variables only domestic deposit rates were affected by global financial shocks.[49]

Reinhart and Smith have also argued the effects of capital controls in Colombia. They claim that the URR did not lead a change in net capital inflows, which were about 5.0 percent of GDP, similar to the values prior to the imposition of controls. He, however, points out that a significant shift in the composition of capital inflows was attained so that short-term capital inflows declined relative to the longer-term ones. [50] Just as, the share of medium and long-term debt in total external debt stock increased from 40 percent in 1993 to 70 percent in 1996.[51]

3.2.5 Brazil

Brazil was another country that had been suffering from high inflation rates at the beginning of the 1990s. The authorities, initially, tried to reduce this rate by resorting to common policies including monetary contraction, increases in tax rates, price and wage controls and blocking bank deposits. Meanwhile, the financing requirement for public deficits was rising, which was accompanied by high interest rate differentials. Under a tightly managed exchange rate regime, this environment with high interest rate differentials fueled both by unsuccessful policies used for reducing inflation and high public sector deficits, led the capital flows to increase.[52]

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[49] **Ibid.**
[50] Carmen M. Reinhart and R. Todd Smith, "Temporary Capital Controls", August 1997, (Online) http://www.puaf.umd.edu/faculty/papers/reinhart/tempfin.pdf#search='â€œTemporary%20Capital%20Controlsâ€□', 17th December 2005.
[51] Ariyoshi et. al., **loc. cit.**
[52] **Ibid.** p.45.

The country preferred to implement capital controls in the midst of the 1993. The primary target of controls was to reduce short-term capital inflows and their undesirable effects on the economy. In this context, a substantial interest rate differential and lower domestic currency appreciation were intended. Just as the case in Chile, the higher interest rate policy was relied on to reduce inflation rate through contraction of domestic demand. Further, changing the composition of capital inflows, controls were expected to enhance the sustainable economic growth.

In line with these targets, both quantitative and market-based restrictions on capital flows were introduced. Regarding the banking sector, foreign currency-denominated liabilities were reduced while assets denominated in foreign currency were increased. The minimum average amortization term for loans was increased from 30 to 36 months. The time for reimbursement for income tax on remittances abroad was raised from 60 to 96 months. In addition, investment in some assets was prohibited and the entrance tax on some portfolio inflows was also increased in order to change the composition. In 1995, the capital controls were strengthened through shortening the maturities and raising the tax rate on short-term flows.[53]

The Table 20 demonstrates some economic indicators in Brazil before, during and after the application of capital controls. The controls were successful in reducing private capital flows in 1993 and 1994. However, flows began to increase in 1995 and did not fall below the volume before the implementation of controls. Portfolio investments in Brazil followed almost the same path.

[53] **Ibid.**

Table 20. Selected Economic Indicators in Brazil

	1990	1991	1992	1993	1994	1995	1996	1997	1998
Current account balance[a]	-0.6	-0.3	1.0	-0.1	-0.2	-2.6	-3.0	-4.1	-4.3
Financial account balance[a]	0.6	0.1	-0.7	0.1	-0.2	2.5	3.3	3.7	4.8
Net private capital flows[a]	1.3	0.6	2.3	1.2	0.8	4.6	4.5	2.5	3.0
Direct investment[a]	0.2	0.2	0.3	0.1	0.3	0.8	1.4	2.3	3.7
Net portfolio flows[a]	0.0	0.9	2.0	1.2	6.9	1.7	2.5	1.8	2.2
General government balance[a]	1.6	1.5	-2.2	0.3	-3.3	-7.0	-5.9	-6.2	-8.0
Real GDP[b]	-3.7	1.0	-0.5	4.9	5.9	4.2	2.8	3.7	-0.1
Real effective exchange rate[b, c]	-18.8	-8.0	8.1	12.6	33.5	-4.1	2.3	7.0	-9.8
Interest rate differential[d]	414.6	841.8	1,570.8	3,281.4	4,816.4	47.5	22.2	19.5	24.1

[a] In percent of GDP
[b] Annual percentage change
[c] Increase means an appreciation
[d] In percent

Source: Akira Ariyoshi et. al., May 2000, p. 107

When looking at the Table 20, it can be seen that the FDI flows rose following the capital controls, indicating that the quality of capital inflows raised. As well, the increase in GDP growth may partly be attributed to this surge in FDI flows. As for other objectives of capital controls in Brazil, the interest rate differentials were not achieved so much. Even though the success was attained in the first 2 years of capital controls, in following years differentials fell below the rates before controls.

3.2.6 Turkey

Turkey has embarked on series of liberalization policies since 1980s. The potential benefits and costs of these policies and capital account liberalization are also relevant for the Turkish case. Just as other developing countries, Turkey has faced with undesirable outcomes of capital surges coupled with the existing problems of public and financial sectors. The trouble arising from large capital inflows constituted one of the main driving factors of the crisis of 1994, 2000 and 2001. On the contrary to the other developing countries that had used an instrument of capital controls to manage capital flows and avoid the crisis, Turkey implemented stabilization programs backed by the IMF. The aim of adding this subsection to the study is to indicate the vulnerable position of the country depending upon the experiences with capital account openness and free capital movements followed by the severe financial crises.

3.2.6.1. Financial Repression Policies Prior to the 1980s

Financial repression policies had dominated the Turkish economy until the 1980s. These policies were applied through interest rate ceilings, leading the real interest rates to reach at negative levels. Besides, repression policies involved the credit rationing, which took the form of providing the selected sectors with cheaper credit, that is, selective credit policy, high tax burden on financial-based profits, increased intermediation costs, high reserve and liquidity requirements.

Accordingly, the economic policies prior to 1980s had been marked by the inward-oriented import-substitution development strategy. 5-year plans and annual programs, beginning from 1963, conducted this strategy. The period between 1960 and 1970 witnessed high growth rates for the Turkish economy. Growth was enhanced by the rise in investment, which had been hindered by insufficiency of domestic savings and of foreign exchange earnings before. In those years, investment

was financed through rise in domestic savings and worker remittances. On the other hand, the expansion of export sector and the efficient allocation of resources were neglected, raising critics on the inward-oriented strategy. Besides, the domestic saving ratio was not high enough to maintain the continuity of the system. Combined with the internal and external shocks such as increase in oil prices in 1973-74, the system proved unsustainable. After the mid-1970s, current account deficit, which was financed through foreign exchange reserves and short-term borrowing, began to rise due to the appreciation of Turkish Lira. This period was ended with the difficulty in paying the debts and the negative growth rates in 1979-80.[54]

The ultimate failure of inward-oriented development strategy arises from the insufficient rates of domestic savings, which is required for the continuity of the system. As well as most of the developing countries, Turkey was also deprived of adequate domestic saving. In addition, the financial system was not enough developed to finance this growth. As these economic policies went hand in hand with financial repression policies mentioned above, the development of domestic financial market was inhibited by the implementation of strict controls. It can be concluded that in this period, investment rates exceeded the domestic saving rate and the gap was financed partly through short-term borrowing and foreign exchange reserves. The increase in current account deficit due to the greater reliance on imports of raw materials and intermediate goods put the country into the strain position.

3.2.6.2. Financial Liberalization Policies in Turkey after 1980

The crisis experienced towards the end of the 1970s is the biggest crisis that has been seen since the establishment of the Republic until 2001 crisis. According to Barkey, this crisis, which was amplified by the effect of the external shock of increase in petroleum prices, was mainly the crisis arisen from inward-oriented import

[54] Ercan Uygur, "Financial Liberalization and Economic Performance in Turkey", **Central Bank of the Republic of Turkey**, Ankara, 1993, pp.5-7.

substitution policies and industry model based on protection of domestic market.[55] When coming to the 1980s, the Turkish economy was suffering from high inflation rates, negative growth rates, excessive current account deficits and instability in exchange rates. The year of 1980 is said to be the turning point of the evolution of the Turkish economy. Aiming at overcoming those problems, the stabilization program was adopted in 1980, relying on the interest and exchange rate policies. Afterwards, the structural adjustment program, intending to adjust the economy in accordance with the outward-oriented and market-based policies, was implemented. These can be accepted as integral parts of the overall liberalization process.

The main purposes of the program were to reduce inflation without affecting the output level and to stimulate the export sector by adjusting the exchange rates. Accordingly, financial liberalization was intended in the light of the implications of theories, supporting the view that positive interest rates help encourage domestic saving and promote investments as suggested by McKinnon-Shaw hypothesis. The next step was thought to be the external financial liberalization, which involves the elimination of restrictions on foreign capital movements and convertibility of the domestic currency.

Previously, attempts to financial deregulation manifested itself in interest rate policies. In July 1980, the legal ceilings on deposit and lending rates were removed. The banks were allowed to set the interest rate ceilings. Due to the tight monetary policy and excess demand for credits, the competition of small banks and other financial institutions rose so that they began to offer high interest rates on time deposits and certificates of deposits (CDs) that were added to the financial market as a new instrument.[56] In order to attract more funds, small commercial banks issued CDs and marketed them through curb market where the unlicensed money brokers, called as bankers, activated. These bankers were using the CDs issued by small banks as collateral for their transactions. CDs could only be bought back by the

[55] Henri J. Barkey, **The State and The Industrialization Crisis in Turkey**, Boulder Colo. : Westview Press, 1990, pp.24-25.
[56] Uygur, **op. cit.**, p.10.

issuers or the bankers as the secondary market for them was not available so that the interest payments to the holders were made through the new deposits in smaller banks*. Therefore, to attract more new deposit, which was crucial for the continuity of the operation, the interest rates were further increased.[57] This unsustainable process led to the collapse of the smaller banks in 1982. The collapse, called as also banker crisis, proved that the financial liberalization policies might cause adverse effects due to the lack of legal adjustments, institutional infrastructure and some prudential rules directed to the functioning of the financial markets. This reveals that the financial liberalization process in Turkey doomed to fail to meet the expected benefits since the monitoring and supervision mechanisms required for well-functioning of financial markets were not established.[58]

After the financial crash, the Central Bank allowed the larger commercial banks to determine the interest rates, which turned out to be negative due to the higher inflation rates than expected. Upon this, the Central Bank was made to regulate the rates in 1984. Realizing the ineffectiveness of this attempt to maintain positive interest rates, the determination of rates was left to the large commercial banks once again in 1987. The Central Bank imposed ceiling in 1988 and within the same year, interest rates were liberalized again and the positive interest rates had been maintained. After some other interventions by the Central Bank in 1988, they were freely set until the crisis of 1994.[59]

The financial liberalization policy did not follow a smooth path in Turkey between 1980 and 1994. Analyzing the behavior of liberalization policies in those years, it can be seen that the liberalization process did not consist of one integrated action. Rather, the struggle of the government and commercial banks over the determination of

*This situation is known as 'Ponzi scheme' in the literature, indicating that the interest payments on debts are made through new borrowings.

[57] Güven Sak, "Public Policies Towards Financial Liberalization: A General Framework and An Evaluation of the Turkish Experience in the 1980s, **Capital Market Board**, Publication No.22, Ankara, October 1995, pp.63-64.

[58] Kadir Eser, "Finansal Liberalizasyon Politikalarının Makroekonomik Performans üzerindeki Etkileri", **Hazine Dergisi**, Sayı:1, Ocak 1996, p. 30.

[59] Sak, **op. cit.,** p.66.

appropriate interest rates dominated the process.[60] The interventions by the Central Bank show that a moderate liberalization was aimed at the beginning of the process owing to the lack of supervision mechanism and sufficiently developed financial system.

The first result of the domestic financial liberalization policies manifested itself in interest rates as expected. The saving deposits interest rates, which were expressed in single digit numbers until 1978, rose by over 60 % in 1980 respective to rates in previous year. [61]

The shift in sources for financing public deficits is seen as an outstanding outcome of the financial liberalization policies in emerging markets. Accordingly, the nature of financing public deficits changed in Turkey from direct monetization to bond-issues to banking system.[62] Since the beginning of 1984, the public sector became the dominant supplier of securities. The ratio of direct security issues to GNP increased from 1.6 in 1979 to 4.0 in 1986. This increase was attributed to the rising share of Treasury bills and income sharing certificates by the public sector in the volume of financial asset issues so that net Treasury bills rose from 1.7 in 1979 to 10.6 in 1986 and the volume of income sharing certificates that were not issued until 1984, reached to 3.5 in 1986. On the other hand, the volume of private sector issues of bond and equity declined between 1979 and 1986. The fact that the large portion of the public securities was held by the banking sector and the fall in private security issues caused the residents to hold their assets largely in commercial banks, were reflected in the rise in time deposits from 9.7 in 1979 to 51.0 in 1986. In addition, forex deposits helped increase the amount of commercial bank deposits. Together with the rise in short-term indebtedness of the private sector, this contributed to the financial deepening.[63]

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[60] Uygur, **op. cit.,** p.11.
[61] State Planning Organization, Basic Economic Indicators, (Online) http://www.spo.gov.tr
[62] A. Erinç Yeldan, "Financial Liberalization and Fiscal Repression in Turkey: Policy Analysis in a CGE Model With Financial Markets", **Journal of Policy Modeling**, Vol.19, No.1, 1997, pp.79-117.
[63] Yılmaz Akyüz, "Financial System and Policies in Turkey in the 1980s", **The Political Economy of Turkey: Debt, Adjustment and Sustainability**, edited by T. Arıcanlı and D. Rodrik, Hong Kong, The Macmillan Press Co. , 1990, pp.7-12.

Despite the achievement of increase in financial deepening by liberalization policies, they did not cause the efficiency of saving and investment. With positive interest rates, the total deposits in banking system increased from 14.5 per cent of GNP in 1980 to 26.5 % in 1985.[64] It shows that the rise in savings was maintained by liberalization of interest rates as suggested by the McKinnon and Shaw. However, as implied by financial liberalization theories, the next channel through which higher savings increase investment level and lead to the economic growth, did not operate. Savings were not directed to the investments required for economic growth. The fact that the increased savings were used for financing public sector deficits was the main obstacle for channeling them into good use. Yeldan points out two other reasons. One of them is the greater currency substitution, including the dolarization danger. The other one is the distortions in the financial markets related to the short-term capital flows.[65]

Table 21. Turkey: Gross Fixed Investments/GNP (Percentage Share)

Years	**1970**	**1975**	**1980**	**1981**	**1982**	**1983**	**1984**	**1985**	**1986**
	21.8	22.6	21.8	19.8	19.2	20.1	19.3	20.1	22.8
Years	**1987**	**1988**	**1989**	**1990**	**1991**	**1992**	**1993**	**1994**	**1995**
	24.6	26.1	22.4	22.6	23.7	23.4	26.3	24.5	24.0
Years	**1996**	**1997**	**1998**	**1999**	**2000**	**2001**	**2002**	**2003**	
	25.1	26.3	24.3	22.1	22.8	19.0	17.4	17.6	

Source: SPO, Economic and Social Indicators

[64] CBRT, Electronic Data Delivery System, (Online) http.www.tcmb.org,
20th May 2005.
[65] Erinç Yeldan, **Küreselleşme Sürecinde Türkiye Ekonomisi**, İletişim Yayınları, 2003, İstanbul, pp.128-130.

The Table 21, demonstrating the ratio of gross fixed investments to GNP, reveals the fact that fixed investments did not increase significantly during implementation of liberalization policies. While fixed investments remained around the average amount in the 1980s and 1990s, it turned out to be difficult to maintain the same level in the 2000s, reducing to its lowest level in 2002. Financial liberalization policies in 1980s did not hold the McKinnon-Shaw theories in that even though positive interest rates stimulated savings, these were not channeled to the investments and reflected in the growth rates. When looking at growth rates between 1970 and 2004, it appears to be clear that the years in which liberalization process began to be experienced, did not witness to increases in growth rates of GNP.

The striking point in the following table is the change in growth rates from 1.6 in 1989 when the liberalization of capital account was realized, to 9.4 in 1990. This increase can be attributed to surge in capital inflows associated with the capital account convertibility. Since then, besides the other factors pertaining to economic and political structure, swings in growth rates may be related to behavior of free capital movements.

Table 22. Turkey: Growth Rates between 1970-2004

Years	Agriculture	Industry	Services	GNP
1970	2.8	1.3	4.3	4.4
1971	5.2	9.0	4.5	7.0
1972	1.1	10.4	10.3	9.2
1973	-7.8	11.9	6.4	4.9
1974	6.3	7.3	4.5	3.3
1975	3.1	9.1	8.5	6.1
1976	7.0	9.0	12.9	9.0
1977	-1.9	6.9	4.4	3.0
1978	2.8	3.4	0.1	1.2
1979	0.0	-4.4	0.8	-0.5
1980	1.1	-3.3	-3.7	-2.8
1981	-1.9	9.2	6.2	4.8
1982	3.1	4.9	3.2	3.1
1983	-0.9	6.3	7.0	4.2
1984	0.5	9.9	7.9	7.1
1985	-0.5	6.2	5.1	4.3
1986	4.6	11.1	6.0	6.8
1987	0.4	9.1	12.9	9.8
1988	7.8	1.8	0.5	1.5
1989	-7.6	4.6	0.9	1.6
1990	6.8	8.6	10.3	9.4
1991	-0.9	2.7	0.6	0.3
1992	4.3	5.9	6.5	6.4
1993	-1.3	8.2	10.7	8.1
1994	-0.7	-5.7	-6.6	-6.1
1995	2.0	12.2	6.3	8.0
1996	4.4	7.1	7.6	7.1
1997	-2.3	10.4	8.6	8.3
1998	8.4	2.0	2.4	3.9
1999	-5.0	-5.0	-4.5	-6.1
2000	3.9	6.0	8.9	6.3
2001	-6.5	-7.5	-7.7	-9.5
2002	7.1	9.4	7.2	7.8
2003	-2.5	7.8	5.2	5.9
2004	2.0	9.4	10.2	9.9

Source: SPO, Basic Economic Indicators

The domestic liberalization period was also underlined by some policies directed to external financial liberalization. One of the main targets of the stabilization program was to stimulate exports to reduce the current account deficits. By 1980 the domestic

currency, which kept overvalued until this date, had begun to be devalued in line with the target. The export sector expanded until 1987 in the context of the liberalization program so that revenues from exports rose by an annual rate of 10.8 % between 1983 and 1987.[66] After the adoption of flexible exchange rate regime in 1980, daily settlements of exchange rates by the Central Bank began to be implemented in 1981. The year of 1984 can be accepted as the beginning year of the liberalization of foreign exchange regime when holding of the foreign exchange by the residents was freed, the banks were allowed to accept foreign exchange deposits and undertake foreign transactions. Besides, the non-residents were allowed to invest in domestic assets.

Another development was seen in banking sector. The fact that the foreign banks were allowed to open branches in Turkey added to the rise in competition in this sector. The number of foreign banks in Turkey, which was only 3 in the early 1980s, amounted to 22 in the end of the 1990s. In addition, the interbank money market was established by the Central Bank in April 1986 and open market operations accelerated beginning from February 1987. Following the establishment of the Capital Market Board in 1981 with the aim of regulating and supervising the capital market, the Istanbul Stock Exchange (ISE) was reopened in 1986 and became an attractive centre for foreign investors.[67]

However, the most outstanding step towards the capital account liberalization was in 1989. With the declaration of the Decree number 32, the Turkish Lira became convertible. The foreign exchange and capital account transactions, hence, were fully liberalized. This enabled the foreign investors to invest in domestic market and repatriate of the Turkish Lira earnings easily and the holdings of the government securities by non-residents were allowed.[68] By this way, capital movements across countries have begun to be the case for the Turkish economy. At the heart of the

[66] Korkut Boratav, Erinç Yeldan, "Turkey, 1980-2000: Financial Liberalization, Macroeconomic (In)-Stability, and Patterns of Distribution", http://www.ceterisparibus.org, 28th March 2005.
[67] Uygur, **op. cit.**, p.12.
[68] Sak, **op. cit.**, p.67.

capital account liberalization, were lying the need for foreign capital to finance public sector borrowing requirement.

Implementing the financial liberalization policies and economic measures in the 1980s, Turkey attracted more foreign capital relative to the previous period. As can be seen in Table 23, following the external liberalization the attractive opportunities offered by ISE, higher returns on Treasury bills and overvalued exchange rates stimulated especially short-term investments, which were ceased in the crisis period in 1994.

Table 23. Capital Flows in Turkey during 1989-95

	1989	1990	1991	1992	1993	1994	1995
FDI	663	713	783	779	662	559	772
Portfolio Investments	1386	547	623	2411	3917	1158	237
Other Long-Term Investments	-685	-294	-783	-938	1370	-784	-79
Short-Term Investments	-584	3000	-3020	1396	3054	-5127	3713

Source: SPO, Basic Economic Indicators

3.2.6.3. The Economic Effects of the Capital Flows in Turkey

The most striking property of capital movements on economy is that developing countries, when their domestic savings are not sufficient, need foreign investments to cover a deficit in the balance of payments through foreign capital inflows. In other words, foreign capital is an effective factor for covering current account deficits caused by insufficient saving. Even though this framework leads us to FDI when we observe the situation in macroeconomic term, all international capital that enters the country cannot be evaluated as FDI.

The financial liberalization programs applied in Turkey, had such consequences as those programs increased the cost of capital by rising interest rates, but created a positive effect on maintaining credit.[69] On the other hand, it is obvious that our

[69] Korkut Boratav, "Finansal Krizlerde Sermaye Hareketleri, 2001, Finansal Krizi Üzerine", (Online) http://www.econturk.org/makaleler, 16th April 2005.

economy needs foreign resources all the time, especially in recent years, in order to realize development programs. In this sense, foreign direct investments have an important role in executed stabilization programs, since they contribute to create value added, employment and export opportunities.

In addition, foreign capital gains even more importance through privatization programs and realization of large scaled infrastructural investments in all countries as in Turkey, which have no sufficient savings and domestic capital financing power.

The benefits of foreign capital investments to an emerging economy are not limited to increase in the production and employment. In our time, many countries, which have competitive power in certain sectors, are the ones who utilized foreign capital efficiently in their development process. The foreign capital investments in our country bring such factors as technology transfer, management culture, productivity increase, quality standards, connection to international production and marketing networks and R&D workings together. Therefore, those help increase the standards in domestic market and give rise to the competition. By contributing to the improvement of sub-industries, foreign investments enable strong supplier chains to be built. Moreover, they have a contribution on export potential through providing increase in production of goods with high value added.

However, as a result of an empirical research, it is observed that financial liberalization policies executed in Turkey has weakened the relationship between financial sector and real sector.[70]

Arslanoğlu, in another working paper of him, pointed that foreign direct investments did not contribute to the economic growth in Turkey.[71] The common result; achieved in these workings, is that Turkey could not get the benefits, which she expected from international capital movements through financial liberalization. Furthermore, it is

[70] Erhan Arslanoğlu, "Spillover Effects of Foreign Direct Investment on the Turkish Manufacturing Industry", **Journal of International Development**, 2000, Vol. 12, pp. 1111-1130.
[71] Erhan Arslanoğlu, "The Structure and the Impact of Foreign Direct Investment in Turkey", **Marmara Üniversitesi I.I.B.F. Dergisi**, Cilt: 17, Sayı:1, pp.31-51.

seen that foreign direct investments did not contribute to the production efficiency that much.

In addition to these analyses, according to the results of Insel and Sungur's working aimed at indicating the effects of capital movements on macroeconomic indicators in 1989-1999 period, some implications of capital account liberalization may be presented.

- The most striking effect of capital movements on real sector is the increase in spending because of increasing credits given to the real sector. When the relationship between the demand and prices, stimulated by the liberalization of capital movements, the deficit in public sector, the rise in interest rates and the increase in the current account and exchange rates are analyzed, it is possible to understand exchange rates-interest rates-inflation relationship which is far away from realistic exchange rate policies and is aimed at public sector financing.

- The capital movements had different effects on economic indicators from period to period between 1989-1999 and this supports the idea that capital movements have no contribution to the economic stabilization as both a reason and result of different economic policies executed by governments.

- In this working paper, it is also obtained that there is no permanent relationship between capital movements and economic indicators in the long term. Through this determination, it is believed that the dynamic relationship between capital movements and economic indicators should be analyzed and the relationships, which are meaningful in the short-term unbalances, should be found. [72]

[72] Aysu İnsel, Nesrin Sungur, "Sermaye Akımlarının Temel Makroekonomik Göstergeler Üzerindeki Etkileri: Türkiye Örneği-1989:III-1999:IV", http://www.tek.org.tr/tartisma/pdf/serhar0303.pdf, 30th March 2005.

Consequently, it is not easy to observe the effects of capital movements on macroeconomic variables clearly. However, the importance of foreign capital is taken for granted in such countries as Turkey, which realizes rapid growth rates and has high stocks of debts. However, the negative results of short-term capital flows that leave out the country in economic crisis periods should not be disregarded.

In this respect, one of the striking consequences of capital account liberalization is the surge in short-term capital inflows to the economy, besides the FDI. This type of capital inflows, as discussed in first chapter, has different effects on the economy in that they are shaped by high volatility and accused of causing boom and bust cycle in the economy.

The attempts to capital account openness led to a change in growth paths of the 1980s and 1990s. The need for foreign capital was shaped by the degree of the current account deficits in 1980s so that the current account deficits caused by increasing growth rates, used to be financed by the capital inflows. On the other hand, the model of 1990s followed a different path. The inflows of international capital do not have to be determined by the needs of the countries anymore. On the contrary, foreign capital, flowing into the country so as to seek highest return, lead to increase in demand-pushed growth and leave the country with further current account deficits. In other words, growth was caused by export-led policies which was independent of the international capital flows in 1980s, whereas in 1990s growth has been characterized by the boom-bust cycles, relating to surge in capital inflows.[73] This striking change, related to international capital inflows, can be described by the help of the figures: In 1980s, a current account deficit of $1 had been financed by capital inflows of $1.5, generating a $1.25 increase in the external debt stock. On the other hand, a current account deficit of $1 required capital inflows of $3, generating a $2.6 increase in the external debt stock.[74]

[73] Boratav, Yeldan, **loc. cit**.
[74] Korkut Boratav, "Notes on Turkey and Europe: Contradictions of Opening-Up", April 2002, http://www.bilkent.edu.tr/~yeldanbs/Yazilar_Uye/Boratav_apr02, 14th April 2005.

Table 24. Turkey: PSBR / GNP (Percentage)

Years	1987	1988	1989	1990	1991	1992
PSBR/GNP	6.1	4.8	5.3	7.4	10.2	10.6
	1993	**1994**	**1995**	**1996**	**1997**	**1998**
	12.0	7.9	5.0	8.6	7.7	9.4
	1999	**2000**	**2001**	**2002**	**2003 (1)**	
	15.5	11.8	16.4	12.8	8.7	

(1) Estimate

Source: SPO, Economic and Social Indicators

Allowing for capital movements in and out of the country brought greater reliance on external financing and over borrowing syndrome. This was mainly triggered by the fall in public disposable income and rise in public sector borrowing requirement.[75] Looking at the Table 24, it is seen that especially crises periods were marked by high ratios of PSBR. The public disposable income, which amounted to 18.3 percent of GNP in 1988, declined to 13 percent in 1990, 9.6 in 1993 and 7 in 1999, reaching to its lowest value. Accordingly, the process was accompanied by the rising values of public saving-investment gap which was reduced to 1.6 percent of GNP in the end of the 1980s, but amounted to 10 percent in 1993 and over 10 times in 1999 than its value in 1988. [76] This feature of the Turkish economy led the inflows of foreign capital to be absorbed by the public sector so as to finance its growing requirements. Accordingly, new issues of public securities increased from 6.9 % in 1988 to 38.7 % in 1999.[77]

Since the growing public debt and the interest payments on this debt could only be financed by new borrowing as described in Ponzi scheme, the government became dependent on short-term financing resources. The high PSBR and reliance on domestic borrowing caused further increases in interest rates against the danger of capital flight and therefore, attracted more short-term capital in Turkey.

[75] Boratav, Yeldan, **loc. cit**.
[76] Yeldan, 2003, **op. cit.**, pp. 108-110.
[77] Boratav, Yeldan, **loc. cit.**

Table 25. Foreign Debt Indicators in Turkey (%)

	1983	1984	1985	1986	1987	1988
Total Debt / GNP	29.6	34.4	37.4	42.0	46.1	44.8
Short-term Debt / Total Debt	12.4	15.4	18.7	19.8	18.9	15.8
Short-term Debt / Medium and Long-term Debt	14.2	18.2	23.0	24.7	23.2	18.7
	1989	**1990**	**1991**	**1992**	**1993**	**1994**
Total Debt / GNP	34.4	32.2	33.2	34.6	37.0	49.6
Short-term Debt / Total Debt	13.8	19.4	18.1	22.8	27.5	17.2
Short-term Debt / Medium and Long-term Debt	16.0	24.0	22.0	29.5	38.0	20.8
	1995	**1996**	**1997**	**1998**	**1999**	**2000**
Total Debt / GNP	43.1	42.9	43.3	46.8	54.9	59.0
Short-term Debt / Total Debt	21.4	21.6	21.0	21.5	22.3	23.8
Short-term Debt / Medium and Long-term Debt	27.3	27.5	26.6	27.5	28.6	31.3
	2001	**2002**				
Total Debt / GNP	79.0	72.2				
Short-term Debt / Total Debt	14.3	11.6				
Short-term Debt / Medium and Long-term Debt	16.6	13.1				

Source: SPO, Economic and Social Indicators

The Table 25 demonstrates the foreign debt indicators for Turkey in the form of total debt/GNP, short-term debt/total debt and short-term debt/medium and long-term debt ratios. It reveals that the foreign debt had increasing levels during 1990s, of which the highest values were attained in 2000s. Besides, the ratio of short-term borrowing to GNP increased by 103 % since 1989. On the other hand, the access to foreign borrowing reached its limits after 1993, forcing the government to domestic borrowing. As a result, the banking sector began to play the role as an intermediary between international speculative funds and the public sector. The banks intended to use the short-term funds for public sector borrowing requirement, abandoning to

finance the real sector of the economy.[78] This enabled the banks to attain greater returns from the interest on the Treasury bills and government bonds.

Table 26. Outstanding Domestic Debt in Turkey (Billion T.L.)

1980	721	**1992**	194257
1981	991	**1993**	357267
1982	1362	**1994**	799329
1983	3194	**1995**	1361026
1984	4655	**1996**	3149004
1985	6993	**1997**	6283446
1986	10534	**1998**	11612906
1987	17238	**1999**	22920166
1988	28479	**2000**	36420620
1989	41954	**2001**	122157260
1990	57201	**2002**	149869691
1991	97668	**2003**	194386700

Source: SPO, Basic Economic Indicators

As can be seen in Table 26, the change in foreign debt was not as much as the change in domestic debt owing to the substitution of financing sources from external to domestic. The table shows this outstanding increase as domestic debt increased by 463 % from 1989 to 2003.

In other words, private banks accumulated the large share of external debt in order to provide finance for public sector. The private external debt had shown 3400% increase between 1989-2000. As a result, private banks tended to borrow from international markets at low interest rates and lend it to the government at very high rates.[79] The expected outcome of this scheme is enormous interest repayment on debt of the government, which has been made by curtailing the investment expenditures.

[78] Yeldan, 2003, **op. cit**., p.144.
[79] Fırat Demir, "A Failure Story: Politics and Financial Liberalization in Turkey, Revisiting the Revolving Door Hypothesis", **World Development**, Vol.32, No.5, May 2004, pp.10-12.

Table 27. Interest Payment (Billion T.L.)

1980	22	**1992**	34087
1981	41	**1993**	84825
1982	34	**1994**	229912
1983	116	**1995**	472804
1984	156	**1996**	1335516
1985	258	**1997**	1977164
1986	717	**1998**	5626676
1987	1675	**1999**	9898624
1988	2487	**2000**	18609423
1989	4805	**2001**	40484246
1990	10037	**2002**	43468540
1991	16914	**2003**	52635979

Source: SPO, Basic Economic Indicators

It can be easily captured that the government incurred excessive repayment burden, which could only be financed through short-term borrowing in international markets by domestic banks. The fact that the continuity of these funds depends upon higher interest rates offered by the government caused further increase in interest rates.

On the other hand, the excessive supply of foreign currency due to the surge in short-term capital inflows, led to overvalued T.L. Especially, the fact that pre-crisis periods are marked by overvalued domestic currency as shown in Table 28, might not be disregarded when diagnosing these periods.

Table 28. Real Exchange Rates in Turkey

1982	**1983**	**1984**	**1985**	**1986**	**1987**	**1988**	**1989**
95.8	89.6	82.8	83.2	78.6	77.2	77.7	81.8
1990	**1991**	**1992**	**1993**	**1994**	**1995**	**1996**	**1997**
94.5	91.4	87.4	86.6	66.7	75.9	74.4	74.0
1998	**1999**	**2000**	**2001**	**2002**	**2003**		
74.9	71.2	71.5	59.4	71.1	84.0		

(1982 Jan. = 100)
Source: SPO, Economic and Social Indicators

The vicious circle, relevant for the experiences of developing countries with the surge in capital movements began to be observed in Turkish case. The overvalued T.L., high public borrowing requirement and greater current account deficits evoked the foreign investors' concerns about the sustainability of the deficits. The threat of loss in return on their funds invested in domestic assets due to the depreciation of T.L, induced them to withdraw these funds from domestic market. The danger of capital flight was compensated by further increases in interest rates. Combined with the greater reliance on external borrowing for interest payments of debts, which caused the real sector activity to reduce due to the attractiveness of high interest rates on financial assets, the negative considerations of foreign investors on prospects of the Turkish economy pushed the country into crisis period in 1994. Driven by external factors, the 1994 crisis is generally accepted as the first financial crisis, having global features, in Turkey.

The growth performance of the economy until 1993 was based on unhealthy foundations since provided by short-term foreign resources. Coming to the beginning of the 1994, economic indicators, giving negative signals, had shown the limit of unsustainable growth. The ratio of PSBR to GNP reached at 12 %. The T.L. was overvalued and the current account deficit increased sharply. Foreign investors began

to expect a probable crisis and withdraw their funds. Following the decline of credit rating by the international credit institutions, the process of escape from domestic currency denominated assets accelerated and a high devaluation of T.L. was faced. The magnitude of the capital flight can also be captured in the foreign exchange reserves of the Central Bank in Table 29. Due to the devaluation, balance sheets of the banks with open positions deteriorated. Especially, the Central Bank incurred a great loss from increase in foreign exchange rates. The period was ended with the implementation of a stand-by arrangement with the IMF. The program was mainly intended to narrow the current account deficit and some structural reforms in fiscal policies and financial sector.

The Turkish economy encountered with another severe financial crisis in 2001. The developing countries, being dependent on large short-term capital inflows, witness boom periods followed immediately by downturns. Accordingly, after capital account liberalization in 1989, the boom periods, 1990, 1992-93, 1995-97 preceded the crisis or downturn periods such as 1991, 1994 and 1998-99, which can be observed in growth rates for these years and which occurred following large amount of capital flight.[80] The following table verifies boom and downturn periods, linking them with capital flight, current account deficit and change in foreign exchange reserves.

[80] Boratav, Yeldan, **loc. cit**.

Table 29. Capital Flows and Balance of Payments

	Net Capital Inflows	Net Capital Outflows	Current Account	Changes in Reserves (1)
1990-93	24536	-10333	-9782	-1489
1994	-6259	2409	2631	-547
1995-97	26173	-4832	-7454	-12866
1998	3677	-3453	1984	-217
1980-89	15529	-3471	-10408	-4560
1990-2000	74654	-23785	-23746	-21226

(1) Minus sign indicates increase

Source: IMF, Balance of Payments Statistics, cited in Akyüz and Boratav

Relatedly, the manifestation of main crisis indicators for 2001 dates back to 1998. When coming to 1999, the ratio of PSBR to GNP increased by 15.5, the outstanding domestic debt was almost 4 times of the 1997 values; interest payment on debt reached to 10 times of 97 values and the T.L began to be overvalued. Besides, the private banks with large open foreign exchange positions, tended to be very fragile. The Turkish authorities, realizing the undesirable course of the economy, embarked the stabilization program supported by IMF in the end of 1999. The program was introduced in 2000 as exchange rate based dis-inflation program.

It was intended to decrease inflation rate to single digit numbers by 2002 and it was the aim of the program to limit the increase in WPI and CPI respectively to 10 and 12 percent in 2001 and 5-7 percent in 2002. In addition, the program was expected to cause non-interest fiscal surpluses amounting to 3.7 percent of the GNP by the end of 2000. According to the program, a currency basket, including 1 USD and 0.77 Euro, was created and aimed at depreciating by 20 % by the end of 2000. The currency basket adjustments were planned to be held constant within each month. By this way,

monetary expansion would be completely left to market forces so as to eliminate the inflationary pressures. [81]

Since the net domestic assets were not allowed to change, monetary base, consisting of net domestic assets and net foreign assets, was to be only determined by the stock of net foreign assets.[82] In other words, monetary expansion was limited to increases in foreign exchange inflows in absence of sterilization activity by the Central Bank. By this way, fulfilling the liquidity needs of financial sector tended to be dependent upon the foreign capital inflows, requiring high domestic interest rates offered. The fact that these flows are, by nature, volatile and unsustainable led to a liquidity problem in banking system, which had already been vulnerable to interest rates and foreign exchange and suffering from large build-up of short positions in foreign currency. Coupled with the high currency substitution in banking system, it was difficult to control the domestic liquidity for the monetary authority.[83] The relative decline in interest rates in 1999 and 2000 can be accepted as an outcome of automatic monetary expansion due to the capital inflows, giving rise to increase in domestic demand and expansion of credit. The growth rate of 6.3 in 2000, after negative rate in previous year, can be expressed partly by this credit expansion related to short-term capital flows, encouraged by the IMF–based stabilization program and partly by boom in domestic demand due to the low interest rates and overvalued T.L.

On the other hand, some economic indicators were signaling. The ratio of short-term borrowings to foreign exchange reserves, the ratio of short-term borrowings to exports and the ratio of current account deficits to foreign exchange reserves were rising gradually, reaching to higher levels than those in the Asian countries in 1997.[84]

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[81] Erinç Yeldan, "On the IMF-Directed Dis-Inflation Program in Turkey: A Program for Stabilization and Austerity or a Recipe for Impoverishment and Financial Chaos?", September 2001, (Online) http://www.bilkent.edu.tr/%7Eyeldane/TurkCris2001.PDF, 05th April 2005.
[82] Ercan Uygur, "Krizden Krize Türkiye: 2000 Kasım ve 2001 Şubat Krizleri", 22 Mart 2001, (Online) http://www.tek.org.tr/tartisma/pdf/KRIZ-2000-20013.pdf, 05th April 2005.
[83] Ahmet Ertuğrul, Erinç Yeldan, "On the Structural Weaknesses of the Post-1999 Turkish Dis-Inflation Program", http://www.ceterisparibus.net, 06th April 2005.
[84] Uygur, 2001, **loc. cit.**

In addition, private banks' open foreign exchange positions were rising despite strict requirements by the Central Bank, introducing greater currency risk.

In this context, foreign investors were concerned about the credibility of the Turkish financial system, implementation of the program and political relations and began to withdraw their funds, leading to a sudden capital flight and more vulnerability in the economy with greater reliance on short-term capital inflows.

The speculative attack in November 2000 could be reversed by the help of IMF support and by increasing interest rates at very high levels, depleting the large portion of the foreign exchange reserves and using the IMF credit of 7.5 billion $. By this way, a currency crisis was prevented.[85] However, the Central Bank violated the IMF rule and engaged in open market operations to provide liquidity to the market. It could not be continued and the overnight interest rates climbed to 200 %. In the face of overvaluation of T.L, rising current account deficits and worsening of the balance sheets of banks, the Turkish economy suffered another financial crisis 3 months after November 2000 crisis, namely in February 2001.[86]

The stabilization program proved unsuccessful in putting the country into a smooth path. Akyüz and Boratav state that this outcome is not a new one as the developing countries, implementing an exchange-rate-based stabilization program, have witnessed crisis periods. Exchange rates have a role in the program as an anchor for inflation. The capital inflows are required for financing external deficits, which in turn necessitates high interest rates and overvalued domestic currency to provide higher returns to foreign investors. The unsustainable external and current account deficits cause the expectations of devaluation to rise and a rapid capital flight occurs. The great loss in the value of the domestic currency is eventually realized, leading to further increases in interest rates. [87]

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[85] **Ibid.**
[86] Yeldan, 2001, **loc. cit.**
[87] Yılmaz Akyüz, Korkut Boratav, "The Making of the Turkish Financial Crises", http://www.bilkent.edu.tr/~yeldanbs/Yazilar_Uye/AkyuzBoratav2002.doc, 16th March 2005.

Consequently, the Turkish economy was hit by these events as in developing countries. The statistical data pertaining to 1999, 2000 and 2001, shows this fact clearly. The inflation rate, falling to %33, rose sharply in 2001 and real exchange rate was significantly overvalued. In addition, interest rates began to rise in the face of withdrawal of funds after the relative decrease in 2000. As a matter of fact, the economy was left with the growth rate of -9.4 in 2001.[88]

The program was based on mismatch policies as regards to the current conditions of fiscal and financial stance. The target was to decrease the nominal and real interest rates for maintaining the fiscal balance. On the other hand, the viability of banking sector was relied on the returns on government bonds that yield record earnings and are associated with rapid inflation. Moreover, the program was praised over the other implementations in developing countries on the ground that the exit date of crawling peg was preannounced in Turkey. Just as, the inflation rate was falling but at a sluggish rate. The real appreciation of T.L was inevitable in the face of pegged exchange rates. Since inflation target of the program failed, market expectations reversed and T.L. encountered with an attack at the time of the preannounced exit date due to the abrupt capital reversal.[89]

The large amount of capital outflows is seen as the determining factor, putting the economy into fragile path and provoking the economic crisis. This role can be easily seen in Table 30. The capital outflows rose sharply between November 2000 and September 2001 by $ 12416 millions. Accordingly, foreign exchange reserves decreased to $ 16585 millions.

[88] SPO, Basic Economic Indicators.
[89] Akyüz, Boratav, **loc. cit.**

Table 30. Boom and Bust in Capital Flows in the Turkish Crisis (Millions of dollars)

	January-October 2000	November 2000-September 2001
Net Capital Inflows	15179	-12416
Net Capital Outflows	-2707	-1247
Total Net Capital Flows	12474	-13663
Changes in Reserves (1)	-2324	16585
Errors and Omissions	-2550	-3215
Current Account Balance	-7598	293

(1) Includes IMF credits and changes in official reserves. Minus sign indicates increase.

Source: CBRT cited in Akyüz and Boratav

The large capital outflows could not be avoided this time by increasing interest rates at record levels. The Central Bank had to choose either to defend the peg or to provide liquidity to the market. Eventually, it was forced to abandon to defend the peg and allowed the currency to float. A large devaluation occurred. However, great loss in reserves continued, adding to the existing turmoil in financial market. Since the government feared of total collapses in the economy, a new program, named as strengthened program, was launched under the guidance of IMF, which supported the program with the additional stand-by credit of $8 billion. The program also included structural changes in banking and public sector and identified some fiscal and monetary performance criteria. Monetary and fiscal targets were partly attained whereas growth target and stabilization could not be maintained throughout the year. The IMF package helped the stabilization of the currency market, but the impact of this stabilization weakened since difficulties of many debtors to pay their debts occurred owing to large bankruptcies and liquidity requirements had not been met by the capital inflows. Besides, rising external debt of the government was not due to finance the current account deficits but to finance capital outflows. Hence, increasing capital outflows and the IMF bailout package led the government to change part of its domestic debt into foreign debt.[90]

[90] **Ibid.**

On the other hand, since the severe crisis in 2001, the growth has not fallen to negative rates. Coupled with acceleration in privatization attempts, some structural changes in public and financial sector such as maintaining transparency and more supervision mechanism, and relatively moderate inflation and exchange rates, the positive capital inflows helped sustain the growth level. In other words, the stand-by agreement with the IMF has helped recover the confidence of the foreign investors since the 2001, restoring the growth path that is relied on foreign capital flows. In line with the improvements driven by structural changes, some economic indicators such as inflation and growth rates turn to be modest.

Table 31. Inflation: consumer and wholesale prices

	2004						2005					
	Jun	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May
Consumer prices	8.9	9.6	10.0	9.0	9.8	9.7	9.3	9.2	8.6	7.9	8.1	8.7
% change[a]	-0.1	0.2	0.6	0.9	2.2	1.5	0.45	0.5	0.0	0.2	0.7	0.9
Wholesale prices	10.5	9.4	10.5	12.5	15.4	14.4	13.8	10.7	10.5	11.3	10.1	5.5
%change[a]	-1.5	-1.5	0.8	1.8	3.2	0.7	0.1	-0.4	0.1	1.2	1.2	0.2

[a] monthly changes

Source: SIS

The inflation target seems to be met, beginning from 2003. Moreover, 2004 is the year in which CPI rates are below the lowest rate in 30 years. However, it is forecasted that the rate will rise in the rest of 2005 due to loss in the value of domestic currency.[91]

The domestic currency that was overvalued from mid-2002 to the beginning of 2004, is expected to loss its value in 2005 as the higher US interest rates, reversal of short-term portfolio investment and concerns of foreign investors about the current account

[91] The Economist Intelligence Unit, Country Report, Turkey at a Glance: 2005-06, UK., October 2004, (Online) www.store.eiu.com, 20th May 2005.

deficits of Turkey occur. It may also trigger exchange rate volatility. It is forecasted to amount approximately to 1,662.5 New T.L. in 2005 and 1,827.3 in 2006.[92]

This scene is also not free from vulnerability signals for the economy. Although the primary public surplus partly seems to be consistent with the targets set by the IMF, overall public debt burden remains high, involving the risk of a debt crisis.

Table 32. External Debt Stock (US$ m; end-period)

	1998[a]	1999[a]	2000[a]	2001[a]	2002[a]	2003[a]	2004[b]
	Year	Year	Year	Year	Year	Year	Year
Total outstanding debt	96,417	103,027	118,806	113,901	131,058	147,035	161,748
Short-term debt	20,774	22,921	28,301	16,403	16,424	23,013	31,910
Medium& long-term debt	75,643	80,106	90,505	97,498	114,634	124,022	129,838

Source: [a]The Economist Intelligence Unit, p.38, [b] SPO

As can be seen in Table, the outstanding external debt that was 113.9 $US million in 2001, crisis-year, reached to 161.8 in 2004. Further, the short-term external debt almost doubled as compared to 2001.

The ratio of debt-creating foreign capital in total capital is 82.3, almost twice as much as the other emerging economies. The ratio of external debt to GNP is about 53.7 when not accounted by cheaper $US. This also seems to be the record level among other emerging market economies.[93] The high volume of external debt casts on the fact that whether the growth rate of 2004 is due to the rising debt stock.

[92] **Ibid.**
[93] Korkut Boratav, 27.04.2005, Cumhuriyet.

Table 33. Current Account Balance

	1992	**1993**	**1994**	**1995**	**1996**	**1997**	**1998**
Current Account Balance	-974	-6433	2631	-2339	-2437	-2638	1984
	1999	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**[a]
	-1364	-9819	3390	-1522	-8037	-15543	-6317

[a] January-February

Source: SPO, Basic Economic Indicators

Combined with the high current account deficits, shown in Table, the vulnerability of the Turkish economy can be said to remain high. As the dependence on short-term volatile capital inflows rises, the economy becomes more vulnerable to any reversals of foreign capital due to any reason arising from either external or internal factors. Any downturn in world economy, uncertainties in politics or loss in confidence of foreign investors to the prospect of the economy may cause sudden reversals of capital, leaving the country with a severe crisis. Therefore, the economic policies should be directed towards the improvement of the economic fundamentals rather than cyclical movements of capital and the growth should be targeted mainly through the investment in real sector. If the permanent economic development is to be attained, the overall development strategy should be focused on the strengthening the financial and real sector and avoiding the dominance of financial sector over the real sector. The reconstruction of the real linkages between financial and real sector is crucial for the economy.

CONCLUSION

The individual countries have tended to become components of the global system especially for the last two decades. The increasing trend that proved a compulsory process, has involved all the nation-states willing to participate in this integrated system so as not to fall behind other countries. Thereby, countries have engaged in policies that are inciting for greater integration with the global market. Justified theoretically by financial liberalization hypotheses initially developed by McKinnon and Shaw, the attempts for domestic financial liberalization accelerated. In this respect, countries embarked on deregulation of financial markets and interest rates removing the ceilings. The domestic financial liberalization policies are followed by the capital account liberalization. These policies, in fact, are seen as complementary policies of the capital account liberalization. Only after is the domestic financial liberalization maintained, the global capital could generate gains from free flowing. Hence, the immediate next step of deregulation of financial markets is to be the capital account liberalization. The main result of the integration is to remove the restrictions on capital account and allow the capital to flow freely across borders. Accordingly, increasing number of countries have exposed their capital accounts to global markets.

Greater integration with global capital market and capital inflows are generally welcome in developing countries due to the potential benefits associated with them. Developing countries depriving of adequate saving rates for investment in projects vital for long-term development, have begun to compete for attracting international capital into their domestic economy. Greater opportunities for portfolio diversification, greater competition, increased financial intermediation and higher amounts of domestic saving and investment associated with capital account liberalization have benefited for both international investors and recipient countries.

On the other hand, capital account liberalization involves some potential risks and costs. Especially, short-term private capital inflows that are motivated by profit-

generating cyclical changes in domestic market rather than economic fundamentals, lead to unfavorable macroeconomic consequences, which have sometimes caused severe turmoil in emerging markets. Under the fixed exchange rates that the central bank has to defend the currency, expansionary effect of capital inflows on monetary base leads to overheating in domestic economy, increasing consumer expenditures and to larger current account deficits due to the appreciation of the domestic currency. The reversal of these funds, on the other hand, results in the collapse of economic activities and has been accused of recent crises in emerging markets.

It is more plausible to say that although the advantages and disadvantages of capital movements and broadly capital account liberalization move together in practice, developing countries, as opposed to developed ones, deprive of tools and systems vital for averting the potential detrimental effects. In the periods that disadvantages of capital inflows in developing countries overweigh due to both external and domestic factors, some policy responses can be developed to manage capital surges. Debates on how to avoid their effects on macroeconomic stability have been focused on the issues such as preventing overheating, limiting vulnerability to large reversal of capital flows and designing macroeconomic policy regarding the recipient country's economic objectives. In this respect, countries subject to large capital flows have developed some responses to deal with the side effects. Since more attention has been given to the destabilizing effects of capital flows and the complete liberalization of capital account after the financial crisis in Asia, the policy instruments for coping with them have also become one of the main concerns of policymakers.

The conventional tools used by developing countries, as discussed in chapter 2, are also associated with some pitfalls. One of the main tools of the Central Bank is to engage in sterilization of the monetary expansion through either open market operations or increased reserve requirements. By OMOs, the Central Bank sells government bonds in exchange of foreign currency. However, the sterilization leads to quasi-fiscal cost to the Central Bank, as the interest rate on government bonds it pays is larger than the rate it earns. The increased interest rates, in turn, encourage

further capital inflows, neutralizing the initial effect of the sterilization. Another way of sterilization, higher reserve requirements, may not also be effective since the foreign investors find ways of bringing the capital into the domestic economy via institutions other than domestic banks. The fiscal tightness, another tool for reducing vulnerability, is also seen as having limited effect in that the countries, which maintain fiscal balance by eliminating the fiscal deficits, turn out to be more attractive for international capital flows. The central bank may choose to allow the domestic currency to be appreciated as another way of managing capital inflows. Yet, this policy worsens the current account deficits. The countries sometimes resort to relaxation of restrictions on capital outflows as an alternative option for insulating the country from side effects of capital surges. Nevertheless, the removal of controls on capital outflows facilitates repatriation of funds, encouraging more foreign capital into the domestic economy.

The limited effectiveness of alternative policy tools for coping with the detrimental effects of capital flows constitutes the rationale for using capital controls in developing countries. The use of capital controls is justified as a second best policy tool. Likewise, any other quantitative and qualitative restrictions relevant for trade policy, restrictions on capital flows are seen as distortions required for correcting the ones from first best situations. Controls on outflows are used for coping with balance of payments problems whereas inflow controls are instruments for elimination of appreciation of domestic currency and current account deficits. The governments seeking to maintain long-term development resort to outflow controls in that the domestic saving should retain in domestic economy. Capital controls are also justified on the grounds of the prudential reasons. Capital account liberalization adds to the volatility in the banking sector of the emerging markets partly because of foreign exchange risk and liquidity problems triggered by sudden reversals.

In addition to these rationales for application of capital controls and perhaps as the most crucial one in practice, capital controls are applied to reconcile the policies directed to maintain internal and external stability simultaneously. The capital account liberalization limits the ability of the governments to pursue policies

appropriate for domestic requirements. The domestic variables such as exchange and interest rates cannot be independently set. The countries suffering from high inflation search for driving a wedge between domestic and world interest rates in order to reduce inflation through repressing domestic demand. In line with domestic needs, countries like Chile may find it appropriate to implement higher interest rates. Capital controls on inflows are resorted both to maintain high interest rates in an effort to reduce inflation and to avoid the adverse effects of capital inflows motivated by the increased interest rates. In contrast, the countries seeking to cut down fiscal costs, should adopt lower interest rates. In this case, controls on capital outflows help pursue this policy without the fear of capital flight induced by lower interest rates. Besides, the capital controls provide breath room to governments for establishing sound policies to stabilize the economy.

Capital controls may take various forms to the extent that their ultimate target is to insulate the country from drawbacks of the excessive capital inflows. The tightness and the type of the controls may vary over time even in the same country, as well. The most prominent instrument of capital controls is the Tobin tax, which is developed by Tobin in the 1970s. The tax is a uniform cross-border transactions tax, which is imposed on all types of spot transactions and purchases of financial instruments that require the use of the foreign exchange in order to discourage the short-term speculative capital inflows and maintain exchange rate stability. Besides, the tax has been thought to generate enormous revenue for social and economic development of the world. However, its effectiveness has been criticized in that foreign investors may have the opportunity to find ways for circumvention. They can engage in derivative transactions, which are not subject to the tax. Another difficulty arises from the enforceability of the tax. Since it should be imposed by all countries simultaneously in order to evade the capital from flowing from the country implementing it to the tax-free country, the global cooperation is required, which is difficult to establish. However, it should be kept in mind that the critics may reflect the lobby of potential losers from the tax and those who criticize the tax strongly may be the ones who get benefit from exchange rate volatility.

The other well-known market-based instrument of the capital controls is unremunerated reserve requirements, which has been used in many countries with capital controls. URR requires a certain amount of foreign exchange inflows into the country to be deposited with the central bank at zero interest rate. At the end of the investment, the Central Bank repays the deposit in the initial currency. This tax can also be regarded as a kind of international tax to some extent as it is possible to count its tax equivalent. In addition, exchange rate controls and dual exchange rates that include setting different exchange rate for current and capital accounts are mostly resorted forms of capital controls.

The evaluation of the effectiveness of capital controls are generally based on their effects on the volume and composition of capital flows, interest rate differentials via more monetary autonomy and on exchange rates.

It is more proper to evaluate the costs, benefits and effectiveness of capital controls regarding their practice in various countries. When the country experiences are examined, it can be figured out that the economies of the countries with controls had been hit by similar drawbacks before application of the controls and their targets are almost identical to some extent. Among them, Chile and Malaysia that were largely liberalized in 1990s are the most eminent cases illustrating the effectiveness of capital controls.

On the issue of effectiveness of controls on inflows, Chilean experience has provided a first-rate opinion. In the 1990s, the monetary policy that used to be directed toward domestic inflation targeting and the exchange rate policy that was used for reducing current account deficit and external imbalance, could not independently set under capital account liberalization. The authorities intended to pursue higher interest rate policy to take the domestic inflation under control. On the other hand, in pursuit of external balance, they aimed at keeping undervalued domestic currency. These two could not be maintained under free capital mobility since capital inflows that were stimulated by high interest rates distort external balance. Although the sterilization served to reduce monetary expansion, this policy led to large cost for the central

bank. Then, URR was introduced in 1991 in order to avoid short-term inflows. The requirement was imposed on all loans associated with abroad by both banks and real sector. It was extremely higher for short-term ones, leading to the discouragement of those flows.

Consequently, URR helped change the composition of capital inflows from short-term inflows to medium- and long-term ones as commonly acknowledged. However, the total amount of inflows was not much affected. The interest rate differential was increased in accordance with the target, providing limited but more monetary autonomy to authorities than before their implementation. The URR also helped reduce external vulnerability and avert the potential crisis, insulating the country from the effects of Mexican crisis. Nevertheless, some studies scrutinizing the effects of Chilean capital controls on the macroeconomic variables and volume of the inflows obtain conflicting results, in particular as far as the exchange rates are concerned. The change in composition of capital inflows was the most accepted impact of the controls. The studies also reveal that it is difficult to isolate the effectiveness of capital controls from the earlier attempts to maintain stability via some set of reforms. By these reform programs, financial sector was strengthened and the fiscal balance was improved before the application of capital controls. In this context, the URR can be accepted as an extension of these reforms. Besides, some defects arisen from implementation of URR reduced the effectiveness in Chile. However, regarding the targets of capital controls, it can be seen that they proved successful in the short run.

Malaysia is another country, perhaps the most prominent one in terms of the effects of its controls, that resorted to capital controls in the pursuit of the traditional macroeconomic objectives in the face of excessive fungible capital flows and their adverse effects. Malaysia imposed capital controls on both inflows and outflows in different periods. Initially, when faced with difficulty in the management of capital inflows, the authorities attempted to resort to some measures in order to overcome the monetary policy dilemma. Expanded interest rate differentials were required to curtail the inflation, which were also the motive for short-term capital inflows.

Thereby, the central bank engaged in sterilization that caused larger costs to the government and further capital inflows by increasing interest rates. Confronted by the continuity of capital inflows, controls on capital inflows were executed, involving some measures such as the prohibition of the transactions that include the sales of domestic assets less than one-year maturities by residents to nonresidents and restrictions on activities of commercial banks with nonresidents. The controls, combined with the other reform programs in financial and public sector, proved successful in achieving the macroeconomic objectives, decreasing the volume of the short-term inflows and changing their composition. Afterwards, the controls, which were thought as temporary measures, were removed.

The other period of capital controls was identified by controls on outflows in September 1998. Coupled with the effects of Asian crisis on domestic currencies of the region, the ringgit began to be speculated as the interest rate differential between offshore and onshore markets was widened, inducing outflows from the domestic economy to abroad. Increased capital outflows led to a rise in domestic interest rates, worsening the financial sector. Hence, the authorities intended to impose controls on outflows in order to stabilize the exchange rates, eliminating the ringgit speculation, to avert the rapid capital outflows by shutting up the offshore market and reducing the interest rates. The channels of implementing controls were closing the offshore market, forcing the residents that invested abroad to bring the capital into the country and prohibiting the repatriation of funds of non-residents for a12 month. Besides, the exchange rate was pegged at 1 USD = 3,8 MR. The domestic policies also turned out to be expansionary as to stimulate the economic activity. On February 1999, capital controls were revised and on September 1999 they were removed.

When Malaysia announced that it preferred to use capital controls in September 1998 as opposed to other crisis-hit Asian countries, academic and politic surroundings encountered it with anxiety in that these measures would put the country into more unfavorable position, isolating it from international capital market. Nevertheless, Malaysian capital controls proved successful in achieving targeted objective of reducing the ringgit speculation and capital outflows by closing the offshore market

and wide-range controls on outflows. The cuts in interest rates stimulated the domestic business. In addition, Malaysian economy, in a sense, may be seen as a proof of Keynesian view in that expansionary fiscal policy was prevalent during this period. It is reasonable to claim that the capital controls on both inflows and outflows in Malaysia were effective in the short run regarding the initial intentions of the authorities. The achievement was partly related to the fact that Malaysia was the country that had the strongest fundamentals among the other Asian crisis-countries. In fact, this point deserves more attention in that the vulnerability indicators and in particular the foreign exchange reserves prior to the crisis are essential for the realization of the targets.

Nevertheless, the Chilean and Malaysian experiences have shown that the effectiveness of capital controls still remains as a question for observers. The studies examining country experiences with capital controls have reached different conclusions with different perspectives. The reason may be partly different methods used in these studies and partly incredible statistical data from different sources. However, this fact casts additional doubt on credibility of the studies in that they may be reflecting the ideological and political approaches of the authors.

Even though the studies imply that it is not possible to make clear cut interpretation on the effectiveness of controls and the consensus on them has not been established, some inputs may be found to judge the Chile's and Malaysia's capital controls. When the definition and objectives of the capital controls are regarded as short-term, temporary second-best policy tools for correcting the existing distortions, it can be concluded that they proved effective in the short term in terms of achieving the domestic targets. As far as long run effects of the use of capital controls are concerned, it is unlikely to derive firm statements from the existing cases. As a matter of fact, the capital controls are not generally designed to affect the economic variables in the long run. It is difficult to argue the adverse effects of the controls in the long run since it has not been marked by evidence.

The Turkish case does not present an instance of the use of capital controls in response to the financial crises triggered by capital surges. Just as the other developing countries, examined in this study, Turkey launched a series of liberalization policies in 1980s, coupled with the capital account liberalization in 1989. The international capital flows picked up the pace. The large part of the inflows to Turkey has been in the form of a short-term nature motivated by cyclical changes. The capital inflows have increasing impact on domestic investments, consumption and growth process have been financed by these funds. Hence, the reliance on external borrowing has increased. As capital inflows are beyond the capacity of the economy to absorb, the real appreciation of T.L and large current account deficits follow the capital surges. Combined with the weaknesses in public and financial sector, the Turkish economy turned out to be vulnerable to reversal in the capital inflows, which eventually has come to an end with a crisis. Subsequently, the crises in 1994, 2000 and 2001 reflected the vulnerability of the country.

It is seen that these recent financial crises occurred in Turkey and other developing countries have had common features. The effects of the crises vary with differences in financial system, public sector and economic structure prevalent in these countries. Besides, it should be noted that the instruments used for managing the crisis differ from country to country.

As mentioned above and in chapter 3, such countries as Malaysia and Chile resorted to capital controls either for eliminating devastating effects during the crisis or for taking measures against volatility of capital flows before the crisis. Even though the effectiveness of capital controls has not been agreed on, it can be said that they proved effective in achieving national macroeconomic targets in the short run.
Turkey, on the other hand, has undertaken restrictions on capital movements neither during nor before the crises. Instead, in response to the crises she preferred to implement IMF-based stabilization programs, which are very arguable.

As for the evaluations about the use of capital controls in Turkey, previously the feasibility of capital controls during the crises can be examined. For this reason,

economic and political conditions in Turkey can be considered in line with other country experiences.

Regarding political side, it is seen that political structure of Turkey differs from many of those countries, which implement capital controls. In contrast to other countries that generally used to have single party governments, in Turkey there was a coalition government during those three financial crises. One of the main factors for a policy to be successful is to establish public consensus on it. Capital controls also include some policies, which embark burdens on the countries besides their potential benefits. Therefore, it is crucial to gain the support of the public. However, Turkey, with her relatively weak political institutions, could not provide those conditions forming a consensus.

Concerning the economic side of the use of capital controls in crises periods, we can make an evaluation regarding the countries that executed controls. Malaysia, the most important country in terms of achieving a success through capital control applications, presents a prominent example for other countries intending to realize those applications. The main factor lying behind the success of controls in Malaysia was high foreign exchange reserves held before the use of controls. This situation enabled Malaysia to afford imports required for sustaining economic growth during capital controls. It also prevented a possible foreign exchange bottleneck. In addition, it is observed that the external debt was relatively low and that vulnerability indicators were favorable. The other factor was the relationship between financial and public sectors, which does not allow for circumvention. In this sense, Malaysian economy constitutes an important example for the criteria of the effective use of capital controls.

Regarding this, it is not assured that every country intending to implement capital controls can get a success unless it has certain conditions as Malaysia had. Convenient political and economic situation is essential for implementing controls, which is not easily acquired by many developing countries. However, it does not show that those countries lacking of the conditions mentioned above should not

resort to capital controls. Rather, while evaluating the effectiveness of controls, policy makers should keep in mind the effects of these conditions on the success of controls.

Under the guidance of these comments, it is clear that in crises periods Turkish economy did not hold those conditions as held by Malaysia. As a matter of fact, one of the reasons that Thailand could not get the desired success from capital controls is the absence of these conditions.

Furthermore, while the use of capital controls maintains political autonomy, it also brings isolation from global economy. It may also damage the prestige of the country, which in turn causes foreign investors intending to engage in long-term investments to be discouraged.

Regarding the Turkish economy, which had close relationship with the IMF and other international financial institutions for the last 20 years and the reliance on them to roll over her external debt, capital controls would indicate more problematic period. As it is taken for granted, the credibility is very important for these institutions to maintain economic relationship. Accordingly, if Turkey had resorted to capital controls in such a situation, that would probably have damaged the relationship and also given bad signals about the credibility of other policies promised. Alternatively, assuming to either cease or reduce the relationship with the IMF to the minimum point and forecasting the possible results exceed the aim of this study.

In fact, this points a dilemma about the policy decision. While implementing liberalization policy gives rise to the vulnerability by exposing the country to external shocks, regarding the use of capital controls as a permanent long-term policy tool would imply misunderstanding of the aim of this instrument. The proper policy may be to resort to capital controls temporarily since their use gives policymakers time to engage in permanent reform programs and to shift the fundamentals in case self-fulfilling speculative attacks should be unlikely to occur. Furthermore, controls

should be accompanied by the policies aiming at maintaining a well-functioning market environment and adopting transparent, sound financial standards. It may be derived from the country experiences that so long as the fundamentals of the country are favorable enough to support the use of capital controls and the corruption and rent-seeking behavior by interest groups are not allowed, it is likely to get benefit from temporary, limited and strategic capital controls.

The Keynesian middle way conception may be accepted as hitting directly to this point. It is implied that neither unregulated capitalism and international monetary system nor entire protectionism is desirable. Instead, the synchronization of two extreme approaches should be maintained through some kinds of regulations and capital controls.

All these underlined points should be kept in mind while discussing the controls as instruments to prevent a crisis and to reduce the existing vulnerability before the crisis. Similarly, governments should review the crisis management tools generally suggested by the IMF by considering pros and cons of the reform programs. The evaluations should take into account the economic and social aspects of those programs. It should also be kept in mind that economic structures and institutions are the parts of overall social mechanism.

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APPENDIX

Box 1. Chile: Timetable and Motivations for Changes in Unremunerated Reserve Requirement

Measure	*Motivation*
June 17, 1991: A 20 percent URR is introduced. It is to be held for up to 90 days for 90-day credits; to the maturity of the credit for 90-day to one-year credit; for one year for credits of more than one year. URR is in same currency as the foreign borrowing, is not remunerated, and is applicable to all foreign loans to banks or others, except trade credits.	Increase flexibility of monetary policy; prevent appreciation of exchange rate; allow for high domestic interest rates; discourage short-term inflows; favor equity and long-term financing.
June 27, 1991: Borrowers allow to meet URR by entering a repurchase agreement in which the central banks sells the borrowers and repurchases immediately a note equivalent to 20 percent of loan (at LIBOR).	Repurchase agreement mechanism allows the tax to be paid up-front, which facilitates enforcement and monitoring.
July 1991. Reserve requirement extended to currency borrowing that is renewed.	Close a loophole.
January 1992: URR extended to foreign-currency deposits in banks.	Close a loophole.
May 1992: URR rate raised to 30 percent except for direct borrowing abroad by corporations. URR to be held for one year regardless of loan maturity.	Increase the cost of implied tax; unify duration to facilitate enforcement.
August 1992:URR raised to 30 percent for all transactions; deposit for one year regardless of loan maturity. Discount raised to LIBOR + 2.5 percent.	Close loophole and increase cost of implied tax.
October 1992: Discount raised to LIBOR + 4 percent.	Increase cost of the implied tax.
November 1994: Starting in January 1995, URR deposits in U.S. dollars only.	Prevent positions in domestic currency.
July 1995: Secondary American Depository Receipts become subject to URR.	Close a loophole.
December 1995: Now borrowing to prepay other loans is exempted.	New borrowing likely to lower the cost and increase maturity.
May 1996: Potentially speculative foreign direct investment become subject to URR.	Close a loophole.

December 1996: Small credits excluded (less than $200,000 or a accumulative $500,000 in 12 months).	Reduce administrative burden of enforcing the measure.
March 1997: Small credit exemption reduced. (less than $100,000 or a cumulative $100,000 in 12 months).	Close a loophole.
June 1998: URR reduced to 10 percent to reduce cost of external borrowing, except for short-term credit lines and foreign currency deposits.	Adjustment to international capital market environment.
September 1998: URR rate reduced to zero percent. Requirement for foreign investors to keep their money in the country for at least a tear maintained.	Adjustment to international capital market environment.

Source: IMF, Annual Report on Exchange Arrangements and Exchange Restrictions, cited in Laurens, **IMF Occasional Paper**, p.71

Box 2. Summary of Selective Quantitative Studies on the Effects of the URR on Capital Inflows

Author	Data	Capital Flow Measure Used	Domestic Interest Rate- Interest Rate Differential(1)	Magnitude of Net Capital Inflows (2)	Real Exchange Rate (3)	Composition of Capital Inflows (4)
1.Eyzaguirre& Schmidt-Hebbel	Monthly 1991/1-1996/6	a)Changes in central bank reserves less cumulated net foreign liabilities of the capital account b)Ratio of short-term to medium-and long-term gross foreign liabilities		Positive (Indirect)		Negative
2.Herrera& Valdes-Prieto	Monthly 1991/1-1996/8		Positive			
3.Valdes-Prieto& Soto(1997)	Quarterly 1987/4-1996/4	Net short-term credit inflows to the private sector plus errors and omissions				Negative3/
4.Soto (1997)	Monthly 1991/1-1996/6	a)Total net capital flows b)Ratio of short-term net debt to medium-and long-term net debt	Positive (In the medium term)	Positive (On impact) Negative (In the short term)	0 (Level) Negative (Volatility)	Negative (In the medium term)
5.Edwards (1998)	Quarterly 1981/1-1996/6	Changes in reserves of the central bank	Positive (In the short term)		0	
6.Laurens& Cardoso (1998)	Quarterly 1985/1-1994/4	Net private short-term and medium-and long-term capital inflows		Negative 3/ (In the short term)		Negative 3/ (In the short term) Positive3/ (In the medium term) Negative 4/ (In the medium term)

1/ This table reports only those results that the authors consider to be robust.
2/ The words "positive" and "negative" refer to the sign of the effect of the URR on the variable analyzed in the corresponding column.
3/ The variable used is short-term capital inflows.
4/The variable used is medium- and long-term capital inflows.

Source: Simone, Sorsa, April 1999, p.17.

Box 3.
Malaysian Controls on Capital and Exchange Controls
Sept. 1-2, 1998

(1.) Malaysia fixed the exchange rate at RM 3.80 per $US.
(2.) Prior approval was required for nonresidents to be able to buy or sell ringgit forward.
(3.) All sale of ringgit assets was required to be transacted through approved domestic intermediaries. This effectively shut down the operation of the offshore ringgit market.
(4.) Nonresidents were required to obtain BNM approval to convert ringgit held in external accounts into foreign currency, except for the purchase of ringgit assets in Malaysia or for the purposes of conversion and repatriation of sale proceeds of investment made by foreign direct investors.
(5.) Settlements of imports and exports became required to be settled in foreign currency. However, free exchange was maintained for all current account transactions in addition to supply of trade credit to non-resident exporters of Malaysian goods.
(6.) Credits to External Accounts were limited to sale of foreign currency, ringgit instruments, securities or other assets in Malaysia; salaries, wages, rentals commissions, interest, profits, or dividends.
(7.) Debits to External Accounts were restricted to settlement for purchase of ringgit assets and placement of deposits; payment of administrative and statutory expenses in Malaysia; payment of goods and services for use in Malaysia; and granting of loans and advances to staff in Malaysia.
(8.) Domestic nationals were forbidden to export more than RM 10,000 during any travels abroad. Foreign nationals were forbidden to export more than RM 1000 upon leaving Malaysia.
(9.) After September 1, 1998, nonresident sellers of Malaysian securities were required to hold on to their ringgit proceeds for at least 12 months before repatriation was to be allowed.
(10.) Ban on the provision of domestic credit to non-resident correspondent banks and stockbroking companies.

1999 Changes in Controls

(1.) As for February 15, 1999, the year-long moratorium on repatriation of investments was replaced with a graduated tax. All capital having entered Malaysia before February 15, 1999 were subject to the following levies on the capital being removed: (a.) 30% if repatriated within the first 7 months after entering Malaysia, (b.) 20% if repatriated between 7 and 9 months after entry, (c.) 10% if repatriated between 9 and 12 months of entering, and (d.) no levy if repatriated after one year of entry.
(2.) For funds entering Malaysia after February 15, 1999, capital was free to enter and leave without taxation; however, profits were taxed at the rate of 30% if repatriated within one of entry and 10% if repatriated after one year of entry.

Source: Kaplan, Rodrik, February 2001, p.36.