EFFECTIVENESS OF CAPITAL CONTROLS IN PREVENTION OF FINANCIAL CRISIS: A CASE STUDY OF CHILE

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ABSTRACT

The paper tries to highlight the issue of capital controls at the juncture when the most developing countries are trying to transform the structure of the their financial sectors and the nature and operations of financial firms in a manner that makes the financial system resemble that in developed countries like UK, USA, etc. The paper tries to show that in the era of market based system how the absence of any market-based measures to control the free movement of foreign capital might result in the financial crises which have been evident in Mexico, Brazil and Southeast Asia. The study tries to define the capital controls and illustrate the varieties of capital controls. In the study Chile has been taken up to show that how the presence of capital controls has affected the macroeconomic variables in a way that the confidence of the investors in the economy has never shattered and thereby the country has escaped any kind of financial crisis, which could have been possible in the absence of capital controls.

INTRODUCTION

After the Second World War, the Bretton Woods accord was devised based on the thesis that free international mobility of capital is incompatible with the preservation of free trade and full employment. Accordingly, exchange rates were pegged and capital controls were considered necessary to combat currency speculation of a kind that was a threat to exchange rate stability. But in the 1970s the regime of pegged exchange rates was displaced by a regime of floating exchange rates, which was followed by a gradual dismantling of capital controls in a large number of developed and developing economies. In time, the floating of exchange rates and the lifting of capital controls were considered essential steps in the establishment of an efficient international financial system.

Internationally we have seen many developing countries adhering to such an orthodox position on capital mobility. But their policies towards the capital account have not been similar. Based on the definition of capital account liberalisation, put forward by the IMF, we can classify them broadly into three categories. The first category consists of those countries, which have liberalised their capital account fully. This category includes most of the Latin American countries except Chile and Columbia. This category also includes most of the Southeast Asian countries except

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Malaysia, which imposed capital controls whenever it sensed the threat of financial instability. The second category includes those countries that have abolished exchange controls (where residents or non-residents can ask for any amount of foreign exchange at the market exchange rate) but maintained few restrictions meant to affect certain types of capital flow. This category includes Chile, Columbia, Taiwan, Malaysia and India (though India still has stricter restriction on the capital account). The third category includes those countries that have not adopted liberalisation of either the current or the capital account. These countries are still operating under the exchange control regime. In this category we can mention China, Vietnam, and Cuba.

Given such varying policies towards the capital account in these three categories of countries we clearly have three varying experiences. Countries in the first category, with full liberalisation of the capital and current account, have suffered recurrent of financial crises. The fall of the Mexican peso in 1994, South East Asian Financial crisis of 1997-98 and recent crises reported in Argentina, Brazil and Turnkey are the examples of it. The experiences of countries in the second category show that while they have fully liberalised their exchange controls, they still maintain some restrictions on capital account transactions that discourage short-term capital inflows. Though these countries have been characterised by rising economic inequality and other sorts of economic problems, but they have not experienced a sudden outflow of foreign capital that results in a sharp depreciation of exchange rate and a domestic financial collapse. Countries in the third category have maintained restrictions on exchange as well as capital account transactions, in opposition to the policy framework implicit in the 'structural adjustment and macroeconomic stabilization package' recommended by the IMF and the WB. These countries have hardly suffered any devastating financial crisis.

Now given the varying experiences of the countries in these three categories, the question arises as to whether it is the degree of control on capital movements that determines the degree of vulnerability of the country's currency and the financial system. This theme has become a matter of debate amongst economists especially after the Chilean experience with capital controls in the last decade and the Malaysian experience with it in the wake of the Southeast Asian crisis. The popularity of capital controls could be understood from a survey conducted by Finance Asia (April 2000) on the imposition of capital controls in Malaysia, which found that 62 percent of analysts agreed that controls were a good idea. In fact, Chile's capital controls became the first real instance where some segments of the mainstream and some important figures from within the 'Washington consensus' have conceded that finance is one area where the normal market interaction of 'maximizing' economic agents may not lead to an 'equilibrium' - either global or local (Gabriel Palma, 2000).

This study considers the case of Chile to understand how the use of capital controls has maintained the stability in the Chilean economy. This study looks into the case of Chile while keeping in mind the experiences of Mexican economy which went through the devastating financial crisis in 1994. It should be taken into account that while implementing 'Washington consensus' Mexico was least bothered about the possibility of crisis due to unregulated movement of foreign capital in its country. Interestingly, both countries had emerged

from a similar debt crisis in 1982. The first section deals briefly with definition and types of capital controls. The second section focuses on the macroeconomic variables of Chile and it tries to associate their movement with the presence of capital controls.

I

Capital Controls: Definition

The history of debate on capital controls goes back to the Keynesian era, when Keynes emphasised the role of capital controls from the point of view of providing governments with an area of flexibility within which they could pursue their own monetary and fiscal policies according to their internal needs. The work of Nurkse, a contemporary of Keynes, on capital controls is well known. More recently, the debate on capital controls was revived by the work of Tobin wherein he proposed a small tax on foreign exchange transactions (intended to slow down flows of 'hot money' without interfering significantly with currency transactions related to trade and productive investments). Some of the issues related to this so-called 'Tobin Tax' were later taken up by influential figures like Stiglitz and Krugman, which led to an intense discussion on the capital controls.

The IMF prescribes the implementation of capital account convertibility to smoothen capital mobility from capital surplus to capital scarce countries. Capital account convertibility refers, strictly speaking, to purchases of assets abroad by a country's residents, or sale of assets owned by non-residents and the subsequent repatriation of their capital.[1] However, Richard Cooper (1999) points out that despite the focus on foreign exchange transactions, which is an appropriate one for the IMF, the possibility of maintaining restrictions of various kinds on capital transactions other than restrictions on the purchase or sale of foreign exchange remains open. He says that capital account convertibility excludes exchange controls. But it does not exclude (although the IMF does disapprove of them) multiple exchange rates, resulting from policies that implicitly amount to charging different prices for foreign exchange. Nor does it exclude certain actions, in the form of capital restrictions, designed to influence the magnitude and nature of capital transactions that have been adopted by certain countries in recent years. Capital controls refer to the subclass of these actions that involve quantitative restrictions, which foreclose unlimited transactions, often achieved by imposing a price penalty as has been in the case of Chile and Columbia.

The Objectives of Capital Controls

Many arguments have been advanced to justify capital controls. One argument says that capital controls improve economic welfare by compensating for financial market imperfections, including those resulting from informational asymmetries. Proposals to address these imperfections range from improved disclosure and stronger prudential standards to the imposition of controls on international capital flows. Policy implementation arguments hold that capital controls may help reconcile conflicting policy objectives when the exchange rate is fixed or managed. These arguments variously emphasis their ability to preserve monetary policy autonomy, often necessary for directing monetary policy towards furthering domestic objectives and reducing pressures on the exchange rate. An additional, related motivation for capital

1. For detail see Richard N. Cooper (1999); 'Should capital controls be banished', Brooking Papers on Economic Activity, 1.

controls has been the desire to ensure monetary and financial stability in the face of persistent capital flows. As we have seen from the recent experiences of financial crises in emerging economies, capital account liberalisation inevitability leads to financial vulnerability. Given this tendency, an objective of capital controls is to preserve balance of payments stability and enable the government to pursue its chosen developmental policies. In fact, the strongest defence for capital controls has been the need to pre-empt financial crises or currency crises.

Types of capital controls

Controls on cross-border capital flows encompass a wide range of diversified, and often country-specific, measures. These restrictions on and impediments to capital movements have in general taken two broad forms: (1) "administrative" or direct controls and (b) "market based" or indirect controls. In many cases, capital controls to deal with episodes of heavy capital flows have been applied in tandem with other policy measures, rather than in isolation (IMF, 2000).

Administrative or direct controls usually involve either outright prohibitions on, or an approved procedure for, cross-border capital transactions. Market-based or indirect controls on the other hand, attempt to discourage particular capital movements by making them more costly. Such controls may take various forms, including explicit or implicit taxation of cross-border financial flows (e.g. the Tobin tax, unremunerated reserve requirements), dual or multiple exchange rate systems, and other predominantly price-based measures. Depending on their specific type, market-based controls may affect only the price or both the price and volume of a given transaction. Here we will deal with a few of the principal market-based measures and discuss their theoretical approach to the need for and manner of containing short-term inflows.

(I) *Tobin tax:* One of the most important price-based capital controls measures is the Tobin tax, which was proposed by renowned economist Tobin in 1974. We know that every nation levies taxes, usually at substantial rates. If the marginal tax rates were everywhere the same on capital, foreign or domestic, that would not compromise the desirability of capital liberalization on allocational grounds. But marginal tax rates on capital income are not everywhere the same, and capital income is defined differently for tax purposes in different countries. In fact, free capital mobility is most often an invitation to escape the jurisdiction of domestic tax authorities by lodging capital in countries where taxes are lower or effectively nonexistent, and where the tax authorities in any case are unlikely to report the income back to the owner's home tax authorities.[2] Cooper (1999) points out that since all rich countries allow significant freedom of capital movement, much of the tax evading exportation of capital takes place from the rich countries.

These sorts of capital flows seek to exploit lucrative, short-term investment opportunities and once they sense any danger they flow out to some other destination. In the recent period we have seen a substantial growth in such short-term flows. Given the experience, Eichengreen and Wyplosz (1996) and

2. ibid. pp.106.

Frankel (1996) have pointed out that most foreign exchange transactions have little to do with economic fundamentals, and only destabilise the system and contribute to social harm. Given the nature of such capital flows and their harmful effects they also pledge support for the Tobin tax. There are mainly three rationales for such a tax:

(a) This tax would be essentially a small transactions tax that would penalize short-term round-trip movements of speculative capital thus helping to "put grains of sand in the wheels of international finance".[3] In this way the Tobin tax would reduce the profitability of short-term speculation and allow exchange rates to better reflect long term factors in the real economy, rather than short term speculative flows.

(b) It will give greater autonomy to the government to pursue its own economic policies, by being shielded from financial market discipline on domestic fiscal and monetary policy.

(c) It is a revenue-raising tool, which can be used for developmental purposes.

What interests us principally is the first of these reasons. From the point of view of dampening the destabilizing effect of short-term flows, the mechanism through which the Tobin tax works is as follows.

Since the spot market price of any liquid asset in a well organised, orderly free market can change overtime, savers who are storing claims on resources must contemplate the possibility of an appreciation or depreciation in the asset's market price at any future date affecting the market value of their portfolios. This potential gain or loss is obtained by subtracting today's spot price p_t from that expected to prevail at a future date (p_{t+1}). When (p_{t+1}- p_t) >0 a capital gains is expected from holding the assets till (t+1), if (p_{t+1}- p_t)<0 a capital loss will be expected.

Let q and c be the future expected income to be received from holding a financial security and its carrying cost respectively. Then neglecting capital gains or loss the return on holding assets will be (q-c). If we take transactions cost (T) into account then the return will be (q-c)-T. If transaction costs are negligible, while the spot price is expected to change from moment to moment, then no rational person would worry about the long run earning (q-c) of any investment portfolio. Every expected small change in the next moment's spot market price will provide sufficient capital gains or losses to induce significant changes in one's portfolio holding. It therefore follows that given an unchanging expectation of the future earning stream and potential gains or losses, when the magnitude of transaction costs increase, then, the minimum time interval until one can expect a positive return from holding an asset increases. There is, however, always some possible larger absolute value of capital gain that permits the holders to sell the asset earlier than the minimum period and still obtain a positive return.

Eichengreen, Tobin, and Wyplosz (1995) advance the idea that the proposed small grains of sand result in larger negative rates the shorter the time interval of a speculative round trip, thereby increasing the disincentive the shorter the interval. For example they note that a 0.5 percent Tobin tax translates into an annual rate of 4 percent on a three months' round trip and even more for a shorter trip. By evoking

3.Eichengreen and Wyplosz (1996)

such annual rates of return, the argument is built that a small Tobin tax will be large deterrent for daily or monthly speculative flows.

(II) *Unremunerated Reserve requirement (URR)*: Indirect taxation of cross-border flows, in the form of non-interest-bearing compulsory reserve/deposit requirements (called unremunerated reserves requirement (URR)) has been one of the most frequently used market-based controls. Under such schemes, banks and non-banks dealing on their own account are required to deposit at zero interest with the central bank an amount of domestic or foreign currency equivalent to a proportion of the inflows or net positions in foreign currency. It can be used for affecting the inflow as well as the outflow of capital. URR may seek to limit capital outflows by making them more sensitive to the domestic rates. Because the stability of domestic interest rate is maintained by the imposition of the URR. And inflows could be affected by reducing their effective return. It encourages a particular type of capital inflows, which is in interest of the nation. The mechanism through which it works is as follows:

$$URR = [\tau / (1 - \tau)] (h/k) i^*$$

This is the simple equation that reflects the cost of the URR. Here τ is the fraction of the capital inflow to be deposited with the central bank; h is the required holding period; k is the average maturity of the foreign investment for which the URR is calculated; and i^* is the equivalent foreign interest cost for the k months. This formula shows that as the k increases and other variables remain unchanged then the cost of the URR decreases reflecting the possibility of making long-term investments more attractive. Here h affects the profitability of funds by increasing or decreasing in value. In this equation ô and h are controlled by the central bank. This is the method that has been adopted in Chile and Columbia to limit short-term capital flows.

II

The Performance of the Chilean Economy in the Presence of Capital Controls

The creditable economic performance of Chile in the late 1980s and 1990s, when several other developing countries across the world were facing financial volatility resulting in the deterioration of other real economic variables, has often been attributed to the adoption of successful market oriented policies. Especially during the 1990s, Chile was able to break free from two of the most long-standing handicaps it had suffered from. One was a highly volatile pattern of economic growth and the other was a long history of inflation. It was in this decade that it recorded its highest average growth rate and combined with least volatility. Between 1990 and 1998, the real GDP of Chile grew at an average rate of 7.23 percent a year with minimum standard deviation. Inflation in Chile was brought down gradually from 20-30 percent in the early 1980s to less than 9 percent by the end of 1994.

The task of fighting inflation got complicated later due to certain macroeconomic problems, but consumer price inflation declined to 6.6 percent at the end of 1996 and 5.1 percent at the end of 1998, which was in line with the authorities' targets. The unemployment rate remained below 6.5 percent throughout the 1990s. The exchange rate also remained manageable during the period taken up for this study.

This above - mentioned economic performance has been achieved under the

supervision of international financial institutions whose policies are based on orthodox economic theory. Other emerging economies viz. the Southeast Asian and few Latin American countries (Mexico and Brazil) also have run their economies along the same neoclassical lines were faced with crises. However, it should be clarified that the South East Asian economies were characterised by interventionist regimes for much of their post-War history. But after the mid-80s they moved in the direction of a market-oriented regime and opened the capital account fully in accordance with the IMF's prescriptions. This contrasting performance of Chile and the rest of the countries has been a subject of numerous studies (Bosworth, Dornbush, and Laban 1994, Gallego, Hernandez, and Hebbel 1999, Gabriel Palma 2000, Agosin, and Davis 2000), most of them trying to visualise the reasons for such performance of Chile even though it has been a champion of market oriented economic policies.

From the earlier section we know that in the case of Chile it is capital controls which possibly account for its differential performance as compared with other countries. It is not the case that other economies viz. India, China, Columbia, etc did not have capital controls, but the case of Chile in the 1990s has turned out to be the most ideologically influential one within the mainstream. This is probably the result of the fact that Chile was the first country that implemented capital account regulations after having fully liberalised its economy i.e., with its neo-liberal commitment intact. In fact, in the case of Chile some segments of the mainstream, and some important figures within the Washington Consensus, have conceded that in at least one important sphere of LDCs' economic life the normal market interactions of intelligent, rational, self-interested, and maximizing economic agents may not lead to an equilibrium, neither global nor even local (Palma, 2000).

The evolution of the financial structure in Chile after the financial crises of 1982

The financial crises which swept across many Latin American countries had affected badly to the Chilean economy also. Immediately after the crisis the government's goal was to restore the economy to normalcy and then take initiatives to put it on the path to sustainable economic prosperity. Export growth was promoted by the real depreciation that began in 1982. The debt burden was reduced by agreements struck on the postponement of payments and debt rescues. After 1985, the terms of trade improved and the international interest rate dropped. More importantly, in December 1989, a new democratically elected government came into power after seventeen years of Pinochet's military rule. The government took several initiatives regarding the economy's financial structure that were based on past experiences with uncontrolled liberalisation of the economy. One of the major developments seen in post-crisis Chile was capital control.

After the favourable internal and external developments, the government introduced a comprehensive adjustment program in mid-1980s. The purpose of the program was to avoid a prolonged credit and consumption boom, to mitigate sharp appreciation and misalignment of exchange rates, to prevent excessive current account deficits, and to contain domestic and external debt. The policies adopted under this program specially vis-à-vis the financial sector were as follows.

(a) The government undertook comprehensive banking sector reform. It intro-

duced a banking regulatory and supervisory scheme through the enactment of a new banking law in 1986. Under the law, strict guidelines on banks' exposure and activities with on-site inspections were adopted. The new banking law was amended and in 1993 a securities law was introduced with the purpose of increasing transparency in capital markets and regulating conflicts of interest. In 1997, a new law was introduced to widen banks' activities and to set rules for the internationalisation of the banking system. These legal developments helped to foster sound development of the banking sector and to increase credit from the banking to the private sector. Perry and Leipziger (1999) point out that tight prudential supervision and regulation of financial institutions contributed to the deepening of the capital market and enabled the country to borrow at rate closer to those of developed countries.

(b) Starting in the mid-80s the central bank adopted an approach of targeting the real interest rate to contain inflation. The peso-denominated short-term interest rate was maintained above the international interest rate. In 1990, the government undertook the so-called 'over-adjustment' policy by raising the indexed interest rate from 8 to 16 percent (Yoshitomi and Shirai, 2000). Colvo and Mendoza (1998) find that in the mid-80s the central bank aimed at influencing the short-term interest rate so as to realise desired targets of monetary aggregates. In the early 1990s, the central bank switched to a system of direct sales of 90-days bills that constituted liabilities of the central bank. In May of 1995 the central bank decided to change its monetary policy instrument, dropping the 90-days instrument rate in favour of a shorter-term rate (the inter-bank one-day rate). The goal was to give the market a more important role in determining medium- and long-term interest rates. Thus the central bank auctions out its 90-day instruments so that the market determines the interest rates thereof. In 1996, the central bank switched from an interest rate targeting approach to an inflation targeting approach by influencing an overnight indexed inter-bank interest rate to conform to the preannounced annual inflation target.

(c) A very important policy adopted by the central bank towards the financial sector was the introduction of a new crawling band exchange rate regime (maintaining the peso within a band) in 1985. The main purpose of the policy was to maintain the international competitiveness of the Chilean exports. The use of the exchange rate as an anchor in an effort to bring down inflation was abandoned in 1996 because it was hampering the competitiveness of exports. After the Mexican crisis and the Asian crisis, the peso was allowed to fall with very limited intervention and monetary tightening. The change in the policy aimed at avoiding any implicit exchange rate insurance to dampen speculative pressures arising from interest rate differentials (Eyzaguirre and Lefort, 1999). Chile finally adopted a floating regime in 1999.

The emergence of the Chilean economy from the debt-crisis gave rise to confidence among foreign investors that the Chilean peso will appreciate. The measures specially taken to regulate the financial sector, the guarantee given by the government to the

banks' borrowing and the conducive liberal environment provided to the key market players, reflected the favourable conditions for foreign investors. Chile faced massive capital inflows from the late 1980s, as did most of the other Latin American countries. This gave rise to a classical monetary policy dilemma, with a smaller number of independent instruments than policy goals. The conflict resulted from assigning monetary policy a domestic inflation target while assigning exchange rate policy an external account target. When capital flows are largely deregulated, monetary and exchange rate policy cannot, of course, be set independently[4].

The initial policy response was sterilized foreign exchange intervention and tightening of fiscal policy. While the sterilization of most of the intervention helped to prevent a monetary expansion, this policy imposed sizeable costs on the central bank, reflecting the differential between the interest cost of sterilization and the return on foreign assets. According to a study by the IMF (2000) it was roughly 1 percent of GDP annually during the 1990s. Finally the authorities favoured the introduction of controls on capital inflows to offset the appreciation of the currency while keeping the interest rate differential required for reducing the excess of desired expenditure over output. However, the controls on capital outflows were introduced later during the 90s. Thus, Chilean controls on the capital flows had the objectives of reducing the potential effects of such flows on macroeconomic stability, of increasing the effectiveness of monetary policy, and of imposing prudential regulations on institutional investors. As a result the rationale of imposition of capital controls is to be found in the following three reasons most often provided for imposing them:

1) In a world of fast market adjustment and high substitutability between domestic and foreign currency denominated assets (after the emergence of better communications networks) the efficacy of monetary policy is reduced to a great extent. Capital controls help to preserve and to an extent expand the autonomy of monetary policy.

2) Given the distortion to competitive equilibrium resulting from asymmetric information, implicit government guarantees of banks' external liabilities and distortions in the real sector, which were all factors underlying the 1982s crisis, capital flows can be harmful for the efficient functioning of the economy. Controlling them would increase the uninterrupted functioning of the economy.

3) Finally, given that a sequence of multiple equilibria are possible, capital controls could help in keeping the economy in a good one or in moving to a relatively better one.

In fact, in Chile, imposition of capital controls in the 1990s was unrelated to the central issue in the ongoing debate of whether capital controls would allow countries to forestall crisis. In early 1990s, the main concern of the policy makers was to (a) maintain monetary policy independence; (b) prevent excessive appreciation of the exchange rate; and (c) moderate the build up of speculative short-term liabilities. During this period monetary policy became the main tool for stabilization. Such controls on capital flows were needed

4 IMF, occasional paper on capital controls (2000), pp 46.

to prevent interest arbitrage with capital mobility and limited exchange rate flexibility. The controls on short-term flows were expected to prevent potentially large adjustment costs to the real economy from real exchange rate volatility associated with sudden reversals of capital flows.

To achieve the above objectives, Chile used three main instruments to regulate the capital flows.

*(1) **Unremunerated Reserve Requirement (URR)*** — A mandatory, non-remunerated deposit of a specified proportion of any form of debt or speculative investment was to be made for a given period. This initiative was expected to

- Reduce the differential between external and domestic short-term rates, thereby diminishing arbitrage inflows and giving greater independency to monetary policy.
- impose a cost of entry and thus reduce short term speculative capital inflows.

Those investors not depositing the URR had to pay an up-front fee calculated on the basis of the URR.

*(2) **Minimum Term Before Repatriation*** — To discourage the entry of speculative capital and restrict the liquidity of foreign institutional investors, foreign direct and portfolio investment - except primary and secondary ADRs - must be made for a minimum term of one year. For Foreign Capital Investment Funds (FCIFs), a five-year term is required because, though FCIF shares are financial investments, they are not subject to the URR. It is thus essential to prevent them from profiting from high short-term interest rates. Finally, bonds issued by local companies in international markets must have an average minimum maturity of four years to encourage long term financing.

*(3) **Minimum Risk Classification*** — This restriction set a minimum risk classification for companies that issue bonds and ADRs on the international market. To issue a bond or ADRs a Chilean company had to have a risk classification of no lower than BBB (the investment grade rating) given by the national risk classification commission. This restriction was intended to reduce the risk that a Chilean company issuing bonds in the international market will fail to fulfil its commitments and will adversely affect the perceived creditworthiness of the country.

The specific form in which these initiatives, especially the URR, were implemented in practice changed over time. On June 15, 1991, a 20 percent URR was introduced for new foreign borrowings and this was applied to banks and nonbanks except direct trade credit, with the restriction that shipment must occur within 6 months. Later, on June 27, 1991, the rule that the URR can be substituted with an upfront fee, equal to the financial cost of the URR (using LIBOR for the calculation), was introduced. The URR was extended to all credits whose disbursement occurred abroad, those that would be used abroad and those credits that were linked to FDI projects. This was an attempt to close loopholes. In May 1992, the URR was increased to 30 percent, except for direct borrowing by firms, which remained at 20 percent. And the holding period of the URR was set at one year for all flows. This led to a proportionately higher cost for banks than for non-bank borrowers.

In August 1992, the URR was set uniformly at 30 percent. The upfront fee was also increased to LIBOR+4%. In 1994, payment of the upfront fee in dollars was made mandatory. In 1995, secondary ADRs and other inward financial- non-FDI and non-primary ADRs became subject to the URR[5]. In 1996, the government introduced the rule that foreign credits could not be rolled over more than once within a year. But after 1997, the central bank started exempting funds from the URR and in June1998 URR was reduced to 10 percent, except for credit lines and foreign currency denominated deposits. More importantly in September 1998 the URR was reduced to 0 percent.

Besides restrictions on capital inflows, there were restrictions imposed on capital outflows as well. The restrictions on capital outflows were gradually reduced over the 1990s. Outward foreign direct investment (FDI) was liberalised at an early stage in 1991-92, which was accompanied by a gradual liberalisation of bank lending abroad. In 1991 banks were allowed to invest up to 40 percent of the funds denominated in foreign exchange collected as term deposits. By 1995 export receipts exempted from surrender requirements were increased from 50 percent to 100 percent. Finally, the minimum holding period of capital was reduced from three to one year in 1995, which in 1999 was the main remaining control on capital outflows. But still the maintenance of minimum holding requirements and some limits on banks' and institutional investors' ability to invest in foreign securities was justified for prudential reasons.

The Effectiveness of Capital Controls

The effectiveness of the capital control measures discussed above, especially their role in ensuring financial stability in Chile, has been a matter of debate among economists. However, few have altogether rejected their role in promoting stability and preventing a currency crisis. As we have seen earlier, the principal macroeconomic indicators of financial stability are the exchange rate, the interest rate, the volume of capital (especially short-term capital) flows, the amount of external debt, and the distribution of domestic credit. In the case of Chile, movements in these variables need to be considered in the context of last decade or the period since capital controls were introduced, to understand their effectiveness in containing financial fragility at a time when all over the world many countries suffered from this problem.[6]

1. The effect of capital controls on the composition of net capital inflows

Since the most important aspect of currency crisis has been the amount and composition of capital inflows, it is necessary to see whether capital controls have brought about favourable changes in the structure of capital inflows. Le Fort and Sanhueza (1997) argue that the URR has been effective in the sense that at least for some time after the change in the regulation was introduced, total capital inflows fell and there was no clear upward trend in it during the sample period 1990-96. They accept

5 Since primary ADRs were considered capital additions, they were never subject to the URR.

6 Following the financial crisis of 1982-83, the Chilean authorities embarked on an ambitious programme to upgrade framework for the financial system. In 1986, the General Banking Law and the organic law of superintendency of banks and financial institutions were revised to strengthen prudential regulations, minimise the need for state intervention in the financial system (Bernard Laurence, 2000).

that the change in the composition of capital inflows in favour of relatively more FDI and more medium and long-term debts was one of the outcomes of the URR.

Eyazagguirre and Schmidt, Hebbel (1997) estimate the ratio of short term to medium and long term stock of liabilities as a function of the domestic real interest rate and the tax. They undertake an econometric exercise and conclude that the URR was effective in influencing the composition of capital inflows in Chile, but only in short run.

Masaru Yoshitomi and Sayuri Shirai (2000) conclude that despite the problems that remain with respect to measurement of capital inflows, the weakness in econometric tools, and a range of misspecification problems, it is fair to say that Chilean capital controls did not alter the total capital inflow but helped to alter its composition. However they accept that these effects were temporary and thus the controls should not be regarded as long-term policy instruments. Capital controls can only provide the breathing space needed to mitigate double mismatches arising from excessive dependence on short term borrowing until prudential supervision and regulations are adequately implemented as well as the risk management capacities of banks are sufficiently strengthened.[7] Eichengreen (1999a) also shares this view. Crown and D Gregario (1998) constructed a subjective index of the effectiveness of capital controls and proved that capital controls did discourage short-term capital inflows.

Given such findings regarding the effectiveness of capital controls on capital inflows, it is difficult to arrive at any strong conclusions on the issue. Yet, based on data available for the last decade (from 1990-99) we can provide some justification for such controls. Figure No. 1 shows that even though there has been substantial growth in the volume of international short-term finance, the share of portfolio investments in total net capital inflows has been insignificant in Chile.

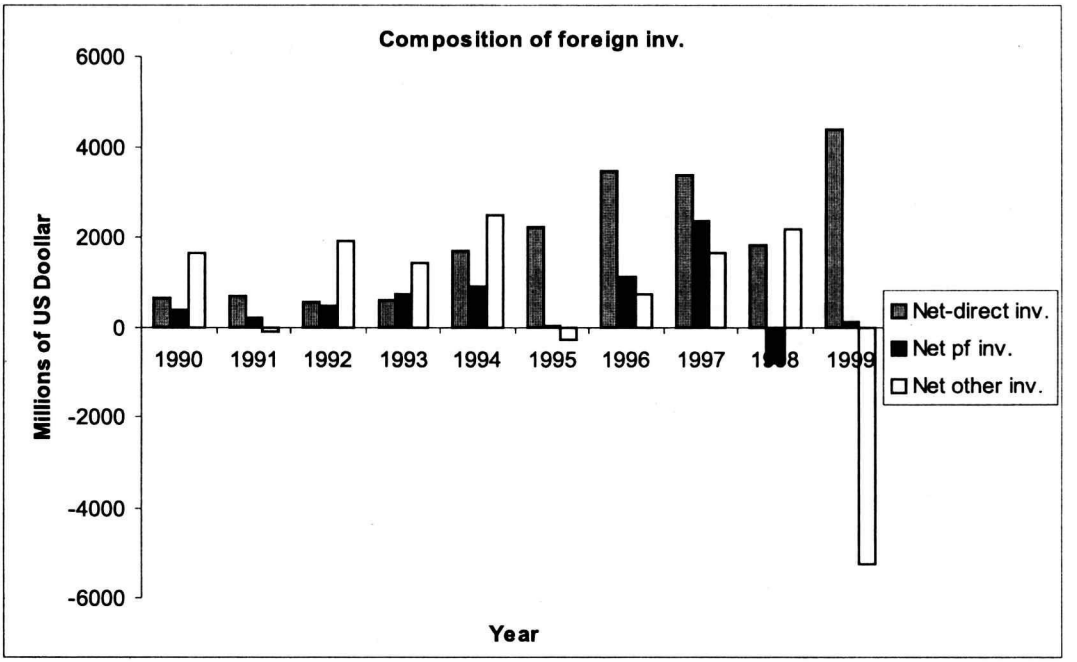
The figure 1 also shows that such short-term flows have been quite unstable. The share of such flows in total net capital inflows was reported to be 17.94 percent in 1994. But after the Mexican crisis in December that share fell drastically to 1.7 percent. It shows how sensitive the short-term capital could be to the instability outside and the inside of the economy. It then surged to 32 percent of total net capital inflows, but in 1998 the share turned negative due to the impact of the Southeast Asian currency crisis. Thus, both in absolute terms as well as relative to total net capital inflows portfolio investments in Chile have been quite unstable. The most important fact to be noted that it has never dominated net FDI flows unlike in the case of Mexico. Manual R. Agosin and Ricardo Ffrench – Davis(2000) note that during 1998-99, the contagion effect of the Asian currency crisis converted the larger inflows of finance capital that had taken place in 1996-97 into outflows. One fact to be noted in this regard is that portfolio investments had taken two forms: first, investment through mutual funds set up in the major international markets; and second, the issuance of American Depositary receipts (ADRs) by a handful of large Chilean corporations[8].

Another perspective on the impact of capital controls on the flow of short-term funds can be obtained from an analysis of the timing

7 For more detail about double mismatch see Yoshitomi and Shirai (2000), pp. 35

8 The ADRs is a mechanism by which foreign corporations can issue new shares on the US stock market.

Figure 1



of measures that strengthened capital controls and the subsequent short- and medium-term trend in net portfolio investments. When the 20 percent URR was introduced for new foreign borrowings in June 1991, only $189 million was received in the form of net portfolio investments, which was less than the amount for previous year. But later on such investments rose to $908 million by 1994. In 1995, the Chilean authorities tried to strengthen the URR and that year too portfolio investments were reported to be only $34 million. But this figure rose sharply in the subsequent period till the outbreak of the Southeast Asian and Brazilian crises. This indicates that if capital controls in Chile have had any effect, it was only in the very short run. Gabriel Palma (2000) points out that the effort at strengthening capital controls only lasted one year. In his words: "of course, we will never know what levels these inflows would have reached had it not been for these controls, but the evidence seems to indicate that private inflows did bounce back after having been affected briefly by the imposition of controls. So, in terms of volume, then, these controls seem to have had the effect of 'speed bumps' rather than speed restrictions".

The figure No. 1 indicates that the share of net "other investments" has been quite substantial in total net capital inflows, though that share has been quite volatile in nature. Starting from 61.79 percent of total net foreign capital inflows, the share of net "other investments" turned negative in 1991, surged to 49 per cent in 1994, and turned negative again in 1995. This trend in net other investments suggests that the introduction and periodic strengthening of the URR did discourage certain inflows even if for short periods.

The most important and positive impact of capital controls is reflected in the increasing trend of FDI throughout the 90s. As Le Fort and Sanhueza (1997) and Gabriel Palma (2000) have pointed out, capital controls have changed the composition of capital inflows in favour of FDI – a fact reflected by movements in the composition of capital inflows and the consistent surge in FDI in absolute terms throughout the 1990s, excepting for 1992 and 1998.

2. The effect of capital controls on external debt

The figure No. 2 shows the trend of external debt. The share of long-term external debt to total external debt has registered a slow and consistent decline since 1991, excepting for 1996 and 1998. It fell from 82.41 per cent in 1991 to 68.44 percent in1997, and then increased to 78.64 percent. The share of short-term debt, therefore, consistently increased from 12.25 percent in 1991 to 31.55 percent in 1997. Despite this trend decline, the absolute levels suggest that short-term flows had not come to dominate the debt profile of the Chilean economy.

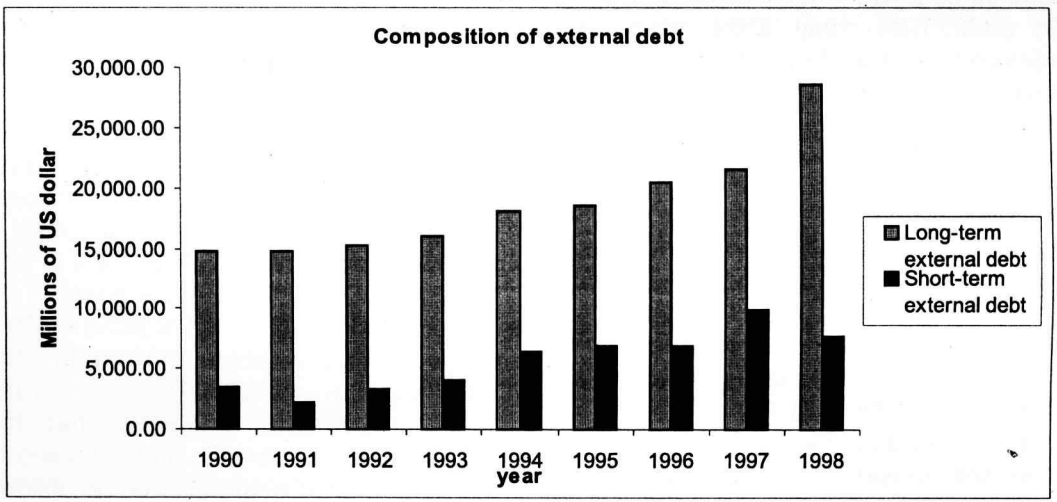
As Palma (2000) points out, the share of short-term loans in Chile had increased, but not as much as in Brazil and Thailand, which suffered from a crisis in the late 1990s. This could be result of the regulation of the capital account.

3. The effect of capital controls on interest rate

Short-term foreign capital flows depend upon the domestic as well as foreign rate of interest. In an inegalitarian world where assets of different countries are imperfect substitutes for each other, there would be some difference in the domestic and foreign interest rates, which would affect capital flows. We should not forget that the Mexican crisis of 1994 was triggered by developments both outside and inside the country. One such development was the rise in the interest rate in the US during 1994, which caused finance capital to flow out.

Experience suggests that it is the central bank which determines the domestic rate of

Figure 2



Note: this Figure does not include IMF credit

interest. Therefore, the effectiveness of capital controls could also be judged by the manoeuvrability they afford the central bank to pursue an autonomous monetary policy and realise an "appropriate" interest rate. Given this, our study must also examine the behaviour of the interest rate in the Chilean economy after the introduction of capital controls.

To attract foreign capital into developing countries the domestic interest rate should be adequate enough to compensate for risk (through a premium) and the expected depreciation of domestic currency. This could be expressed as follows:

$R \geq R^* + (E^{\circ} - E)/E + \sigma$

Where R = domestic rate of interest rate

R^*= foreign rate of interest rate

$(E^{\circ}-E)/E$= expected rate of depreciation of exchange rate

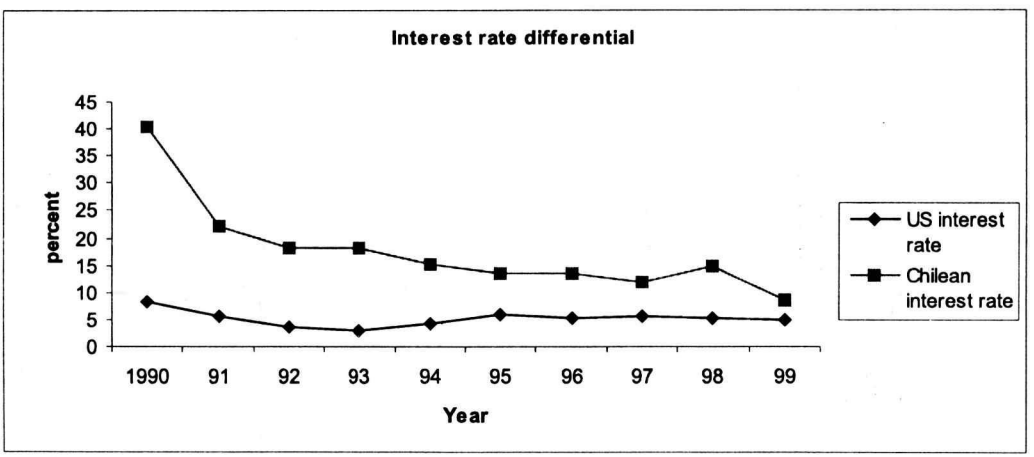
σ = risk premium

The available literature on the effect of capital controls on the rate of interest offers a range of similar findings. Yoshutomi and Shirai (2000) found that the controls affected the domestic interest rate but the magnitude of the effect was small. Based on the inflation-indexed interest rate (as most financial transaction used these rates in Chile), Soto (1997) and Edwards (1999a) found that capital controls had a positive but small short-term effect on the indexed interest rate.

Figure No. 3 provides trend of the Chilean domestic interest rate and the US interest rate (short-term), which shows that before and at the time of imposition of capital controls, the domestic interest rate was significantly higher than that of US. This was because of the high risk premium that had to be reflected in the domestic rate, as the Chilean economy had just come out of a financial crisis and various financial fundamentals were weak.

Starting from there the interest rate gradually went down from 40.27 percent per annum in 1990 to 8.55 percent per annum in 1999. This could have happened because of improved financial supervision and regulation in the financial sector, which discouraged speculative lending and thereby made the financial sector stronger and

Figure 3



improved the confidence of foreign investors. Capital controls may have played a complementary role here, by giving the monetary authority the space to exercise its policy options independently, keeping the national interest in mind.

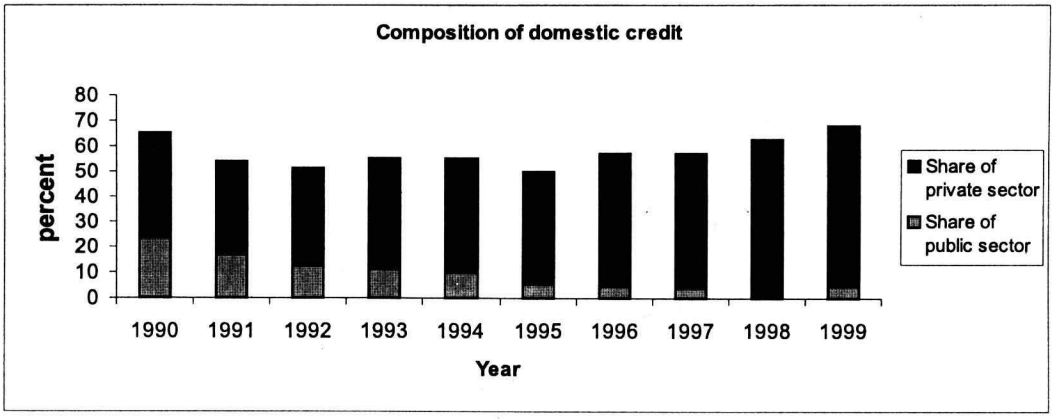
If we take account of the argument of Paul Krugman and Maurice Obstfield (1994) that the risk premium tends to be positively correlated to the stock of domestic government debt less the domestic assets of the central bank, then the decline in the domestic interest rate in Chile cannot be the result of a decline in domestic government debt, because the decline in interest rate is substantial when compared with the decline in domestic government debt. This is clear from the figure No 4.

During early 1990s there were other factors that gave the central bank some manoeuvrability to regulate the economy, independently. These were expectations regarding appreciation of the real exchange rate, improvement in the terms of trade and Chile's relatively developed domestic stock market (Agosin, et. al. 2000). These macroeconomic features could have also complemented the role of capital controls in ensuring stability and providing the central bank the sovereign space to set the rate of interest rate. Gabriel Palma (2000) argues: " of course, from 1991 onwards there were more things happening in the Chilean economy than capital controls, not least the return to democracy, the change in economic team (away from the 'Chicago boys'), tighter and more effective regulation and supervision of the domestic financial system, and the large post-Pinochet degree of consensus behind the economic model... But the weight of the evidence seems to support the hypothesis that capital account regulation can rightfully claim to have played at least a part in the more macro-stable post-1991 story".

4. The effect of capital controls on the exchange rate

Given the vital role played by the exchange rate in the determination of financial stability it is mandatory to analyse the behaviour of exchange rate to check whether capital controls played an effective role or not. The available literature does not yield a clear result in this regard. Dooley (1996) and Quirk and Evans (1995) note that in general studies on the effectiveness of controls have suffered from the lack of a widely accepted definition of effectiveness.

Figure 4



The exchange rate policies pursued by government, described earlier in this chapter, were influenced by the prevailing macroeconomic conditions in the economy. Though it tried to manage capital inflows using capital controls but it could not ensure the expected result. The immediate reasons motivating the Chilean central bank to impose capital controls in 1991 in the first place were the continuous pressure on the peso to revalue beyond the permitted 'band', and the ever-growing level of reserves (see the figure no.3.6 and 3.7). The following table no. 1 providing information about exchange rate and foreign exchange reserve data shows that the real effective exchange rate declined from 100 in 1990 to 73 in 1997, with some increase in the last two periods, possibly caused by the outbreak of the Southeast Asian crisis. It was only during 1998-99 that the stock of foreign exchange reserves also showed a declining trend.

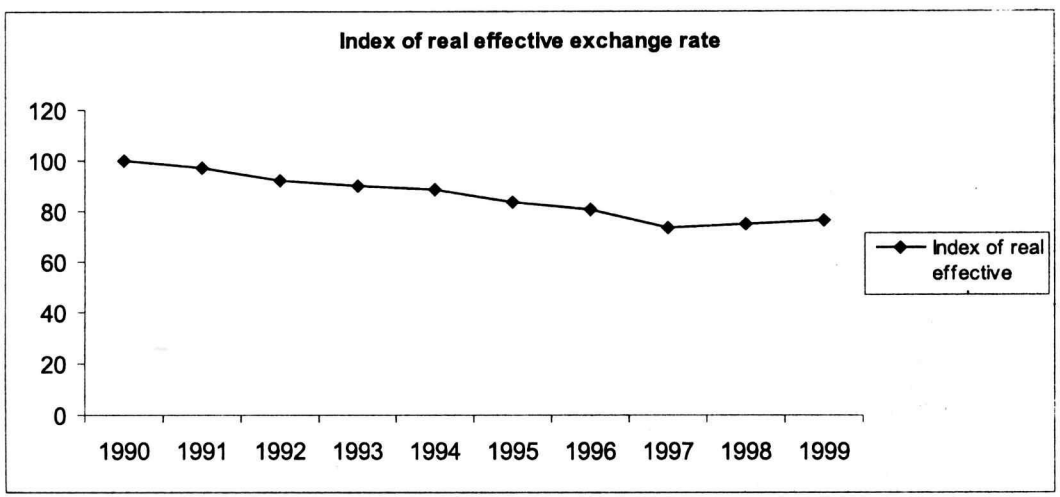
The initial trend in the exchange rate could have been caused by the overwhelming expectation of currency appreciation, after the Tequila shock appeared to have been left behind. Further, the interest rate differential between peso and dollar denominated assets was such that it gave foreign portfolio and other short term investors a very profitable one way bet, in spite of the toll they had to pay in the form of the reserve requirements for entering the domestic market. But Agosin, et al. (2000) and Edwards (1998) accept that the intensification of the price restriction on inflows could have softened the trend towards exchange rate appreciation.

Table No. 1

Year	*Real effective Exchange rate**	*peso/$*	*Foreign exchange reserves (millions of $)*
1990	100	336.9	6067.5
1991	97.2	374.9	7040.5
1992	92	382.9	9167
1993	90.3	431	9637
1994	88.5	404.1	13086.9
1995	83.7	407.1	14136.7
1996	73.9	439.8	16991.4
1998	75.1	473.8	15049.4
1999	76.2	530.1	13977.5

Index 1990=100
Source: IMF, IFS
**Real effective exchange rate: IDB estimates based on the IMF, IFS.*

Figure 5



5. The effect of capital controls on some other important economic variables

The effect of capital controls on capital outflows also needs to be analysed to assess its role in ensuring the stability of the Chilean economy. Given the gradual deregulation of restrictions on capital outflows, their volumes increased, especially in the form of FDI (Table no. 7). Capital outflow in the form of "other investments" and portfolio investment has never been significant except for 1997 and 1998. In those years, the outflow of such short-term capital could have been caused by the contagion effect of the Southeast Asian and Brazilian crises. This shows that capital controls have not played any significant role directly in the determination of capital outflow, rather it is a group of other macroeconomic variables like the exchange rate, interest rate, and economic environment outside and inside the country, which must have influenced the behaviour of capital outflows.

Capital controls impacted on the stock and real estate markets as well. Chile was experiencing an asset bubble in its stock market in early 1991. In the four quarters preceding the first imposition of controls the quarterly stock market index had jumped by as much as 3.3 times; seven quarters after the introduction of these controls, the index was still stuck at the same level. Then again the increase in the level of net private inflows during 1994 caused this index to jump, this time by 2.3 times (following 8 quarters). The strengthening of controls in 1995 had an impact on this new bubble, bringing the index down considerably; and when it started surging up once again in 1997, with new inflows, the 1997 Southeast Asian crisis put a stop to that (Gabriel 2000). This shows that capital account regulation affected the real estate index also. When they were put to work in 1991, they pre-empted an immediate appreciation of the index and the subsequent strengthening of capital controls in 1995 led to remarkable decline in the real estate index.

Figure 6

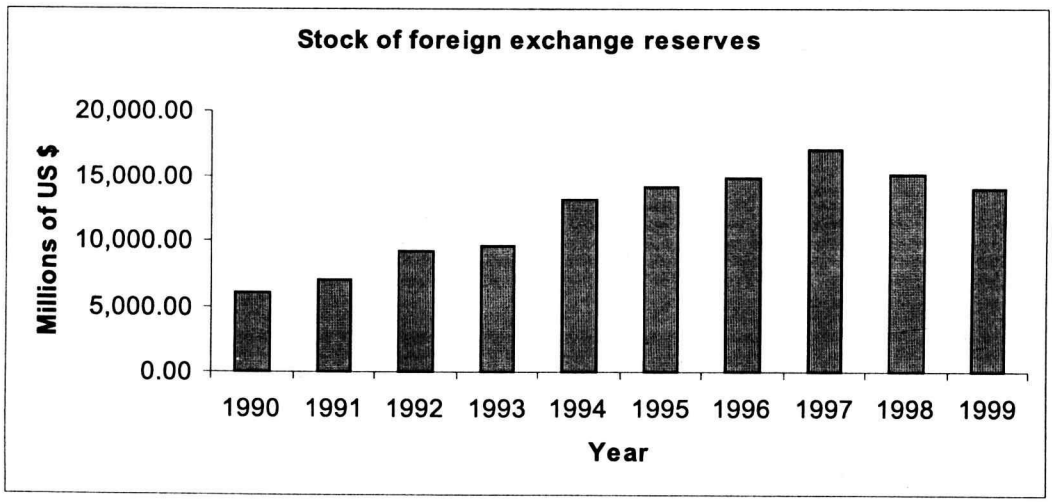
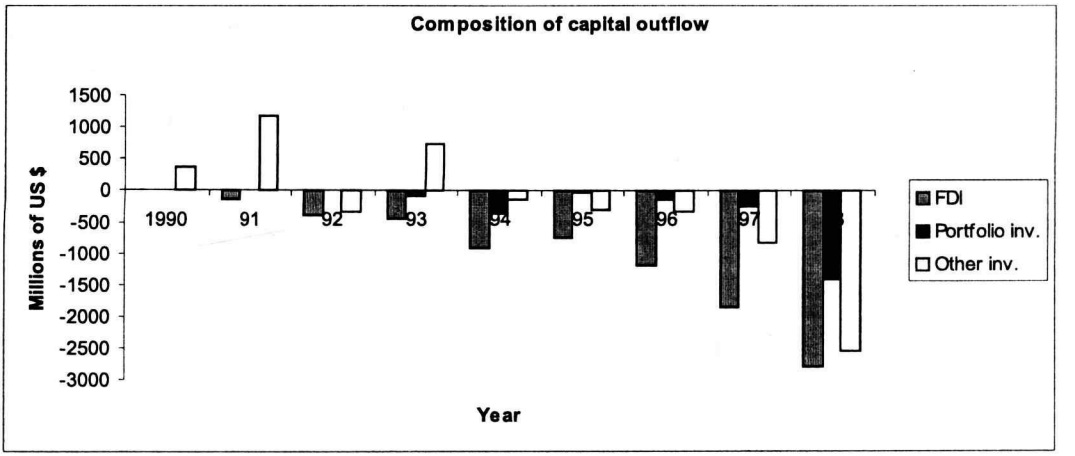


Figure 7



Problems with measuring the effectiveness of capital controls

Few people have raised some problems associated with the effectiveness of capital controls. Some of these are delineated below:

a) One problem was the coverage of capital controls based on the URR. The coverage of the URR was partial, which may have undermined its effectiveness by allowing substitution possibilities with uncovered flows. Among uncovered flows were trade credits and other non-debt creating capital flows. Partial coverage was partly due to the difficulty of directly controlling informal flows as only formal market transactions are notified to the monetary authorities. Nadal-De Simon and Pritta Sorsa (1999) argue that the tightening of capital controls could in fact have reduced their effectiveness. In support of their argument they provide data from the central bank, which show that initially (in 1992) the URR covered about half of total gross capital inflows, but in subsequent year its coverage declined to 24 percent. This suggests that while the URR may initially have been effective in reducing capital inflows, participants may have found ways to circumvent the restrictions overtime. Laban- Larraine (1998) mention over-invoicing of exports and under-invoicing of imports as possible forms of avoidance of URR.

b) Some researchers have expressed scepticism about the data on net and short term capital inflows into Chile, given the large discrepancy between statistics published by the Chilean authorities and the Bank of International Settlement (BIS). This casts additional doubt on the robustness of the conclusions regarding the effectiveness of the URR in lengthening the maturity of Chile's external debt.

CONCLUSION

This study has tried to explore the effectiveness of capital controls in the prevention of financial crisis. It has been argued that capital controls are thus identified based on the IMF's definition of capital account convertibility. Various economists have advocated the case for or against market-based as well as

administrative measures to discourage short-term capital flows. The debate around the former has been especially intense since it indirectly works to discourage short-term flows, and is therefore compatible with the concept of liberalisation. The case for discouraging short-term capital flows in particular has many advocates, since it is such flows that create balance of payments difficulties, weaken currencies and render economies vulnerable. This is especially true in the case of developing countries because of their weak domestic financial structure, limited foreign exchange reserves, and negligible hold on IMF decision making.

The economic difficulties confronting developing countries opting for varying degrees of openness of their current and capital accounts, and their subsequent subordination to IMF and World Bank policies indicate that the resort to current and/or capital account convertibility only serves the agenda of international finance capital. It is for this reason that capital controls can be seen as decisive tools for maintaining economic stability, especially for those who have been caught in the cobweb of the IMF's and the World Bank's orthodox economics.

This study examines the arguments in favour of capital controls on the basis of experiences of Chile. Chile has attracted a higher proportion of FDI as compared with short-term investments in its total net capital inflow. This was not the result of historical accident, but the consequence of the capital control which was prevailing in Chile. The imposition of the capital controls in Chile played an important role in the maintenance of financial stability in its economy. It put in place the URR scheme, which was a form of capital control that discouraged short-term inflows of foreign capital by making it more costly as compared with long-term capital. And the absence of the same or similar policies in the case of Mexico rendered short term capital flows more lucrative and resulted in speculative pressure of a high degree where short-term finance was almost 67 percent of the total net capital inflow just before the crisis broke out.

One could argue that the capital controls prevailed in the Chilean economy did have certain impact on the composition of inflow of foreign capital but it can not be the sole measure to have vibrant economy. It needs to be accompanied by other measures which will make the developing countries stronger and safe in the era of global finance. These measures include:

(I) A provision to provide contingency financing to countries experiencing payments difficulties linked to the capital account, which should be in addition to the traditional current account financing provided by the IMF. The provision should be available to countries once there is some apprehension of any kind of financial vulnerability so as to prevent speculation surround the exchange rate.

(II) IMF surveillance over the policies of creditors as well debtors in the interest of debtor countries, given the global ramification of major financial crises. The IMF should also pay greater attention to monitoring unsustainable exchange rate and payments developments.

(III) A unilateral debt stand still accompanied by foreign exchange restrictions, as per the prescription of the UNCTAD, and initiation of negotiations for an orderly debt work out. For this there should be a panel to take up such cases and take action in this regard.

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