

Capital Controls in Developing Countries

I. Introduction

The explosion of international capital movements in the past decades and the implications this process carries with it are topics of concern to economists. Net private capital flows to developing countries tripled from an average of \$50 billion per year from 1987 to 1989 to an average of \$150 billion per year from 1995 to 1997, a remarkably brief period of time. The increasing scale of international financial transactions is also illustrated by the fact that the ratio of private capital flows to domestic investment in developing countries increased from 3% in 1990 to 20% in 1996.¹ Clearly capital flows to developing countries have increased in importance in recent years. These trends will likely further accelerate in the future, as the availability of information concerning investment opportunities in other countries increases, technological and financial instruments improve, enabling more sophisticated transactions to take place, and financial sector deregulation is accomplished in both developed and developing countries.

During this period of increasing international capital movements, debate has grown fiercer about the benefits and costs of “globalization,” and whether developing countries can achieve higher growth rates by removing protectionist obstacles to international trade, thus allowing markets to function where state control and regulation previously reigned supreme. Although the globalization of capital markets is somewhat more arcane and less frequently debated by non-economists than the globalization of trade, the subject is nonetheless of immense importance, as smooth functioning of financial markets is essential to economic stability and

¹ Eichengreen et. al, 1998.

long-term growth. Although most developed countries enjoy a relatively high degree of integration into the global capital market, the same is not true for developing countries.

For these developing countries, whether to continue to isolate themselves from the benefits (and risks) of integration into the global financial market is a particularly pertinent policy question. This question of whether countries should allow themselves to be fully integrated into the global capital market is known as capital account liberalization. If countries choose to liberalize, they make the choice to allow capital to flow into and out of their country without any restrictions or controls. Full capital account liberalization entails eliminating or reducing all controls and restrictions on resident and nonresident purchases of capital in all its forms: direct, portfolio equity investment, debt, and real estate investment. However, it is possible to restrict some forms of capital flows (generally short-term flows) while actively courting longer term flows (such as FDI).

Another reason why the debate over capital account liberalization is particularly important is that questions have arisen as to whether it is tied with the increasing frequency of financial crises following the breakdown of the Bretton Woods system. During the past 25 years the frequency of regional financial crises has increased, and regional financial crises have had stronger global repercussions (Obstfeld 1998). Between 1970 and 1998, the IMF has calculated that 143 banking or financial crises occurred in various nations.² This question has become more acute during the last decade, as the experience of Mexico and East Asia indicates. Mexico began liberalizing its capital account during the late 1980's, as part of a movement to allow economic activity to be more strongly guided by market forces. Although investors were initially optimistic about this and other aspects of Mexico's liberalization (particularly its involvement in NAFTA), in 1994 investors suddenly lost faith (due to fears of political instability and potential

² Hufbauer and Wada 1998.

devaluation), causing a huge depletion of Mexican reserves and eventual devaluation. This financial crisis eventually necessitated intervention by the IMF and the US Treasury department to grant a loan to Mexico in order to restore reserves (and more importantly, investor confidence) to adequate levels. In the industrializing countries of East Asia (Malaysia, Korea, Indonesia, and the Philippines), capital account liberalization was pursued during the late 1980's and early 1990's. During this process of liberalization, restrictions on the amount banks could borrow (in foreign currency) were lifted, and many Asian banks engaged in currency mismatch, borrowing in foreign currency and lending in domestic currency while failing to adequately hedge by neglecting to take into account the possibility that their currencies would be devalued. During the East Asian financial crises of 1997-98, investors first attacked the overvalued Thai baht, after which investor confidence eroded in other East Asian economies, leading to currency flight, devaluations, very sharp recessions, and eventual IMF rescue packages which attempted to ameliorate conditions. As domestic capital account liberalization was followed by two of the largest financial crises to have struck the world at the time they occurred, economists naturally raised the question (or claimed to have found an answer) as to whether this correlation was actually causation, and whether excessively rapid or improperly sequenced capital account liberalization in developing countries could properly be considered a cause of financial crises.³

As the global financial architecture has changed, economists thinking concerning the desirability of capital account liberalization or restrictions on capital flows have differed accordingly. Although various countries have liberalized their capital accounts during the past few decades, over a century ago the nations of the world actually enjoyed a remarkable degree of capital mobility. During the era of the classical gold standard, from 1871 up until the advent of

³ See, for example, Bhagwati 1998, Rodrik 1998, Martinez, Tornell and Westermann 2003, Radelet and Sachs 1998, Furman and Stiglitz 1998, and Stiglitz 2002.

WWI, most countries made their currencies freely convertible into gold. Capital was virtually completely free to flow across borders, and faith in the permanence of the gold standard and the priority countries attached to maintaining convertibility meant exchange rates for the most part stayed completely stable. The maintenance of exchange rate stability and free capital mobility entailed rejection of the third pillar of the so-called open economy trilemma, domestic monetary policy autonomy. As Barry Eichengreen has illustrated, this situation in which maintaining convertibility was a governments only concern, and the contractionary policies this would require were considered of no consequence was only possible during a period prior to the introduction of mass-based labor parties with representatives in the parliamentary systems.⁴ During World War I industrial countries took themselves off the gold standard and imposed capital controls in order to allow themselves the freedom to run highly inflationary policies. Although many countries returned to the gold standard during the late 20's, during the Great Depression countries once again eliminated convertibility and imposed capital controls. These conditions in a deflationary environment often led to competitive depreciations in order to increase one's exports to foreigners. These "beggar-thy-neighbor" policies were rational from the perspective of individual countries, yet self-defeating when imposed by all countries simultaneously. The designers of the Bretton Woods system aimed to eliminate the likelihood of repeating such a dismal performance. John Maynard Keynes (on the British side) and Harry Dexter White (the chief American representative) aimed at restoring international prosperity through a system to be overseen by the International Monetary Fund, whereby countries would fix their exchange rates to the dollar and international trade would be encouraged by requiring convertibility for all current account transactions (international trade in goods and services) and requiring IMF approval for a country to devalue (in order to eliminate any chance beggar-thy-

⁴ See Eichengreen 1998.

neighbor policies would be repeated). However, Keynes was particularly fearful of allowing capital account transactions to occur unfettered, and specified in the IMF's Articles of Agreement that contracts which violated other country's capital controls would be unenforceable in all situations.⁵ Keynes saw capital movements as becoming too easily subject to speculative pressures unrelated to economic fundamentals, and thus undesirable. During the Bretton Woods period, countries were thus able to have exchange rate stability and monetary policy autonomy (since maintaining full employment during the post-war period was a major objective), while they were forced to give up the benefits of international capital mobility. However, as countries enacted policies which achieved current account convertibility (particularly after 1958), capital controls became more difficult to enforce, as citizens could choose to over-invoice imports or under-invoice exports, thus securing sources of scarce foreign exchange. Following the demise of the Bretton Woods system from 1971-1973 and the transition to freely (or at least managed) floating exchange rates, countries faced a new choice on whether they should liberalize their capital accounts. Generally industrialized countries tended to liberalize first, although industrialized countries in the European Monetary system did not begin liberalization until the 1990. Many developing countries today still have not fully liberalized their capital accounts. Signaling the effect the changing international financial architecture has had on practical policy decisions, the IMF, in contrast to its original support for capital account restrictions, considered amending its Articles of Agreement to make capital account convertibility an objective for all countries.⁶

In this essay, I will examine the theoretical benefits and risks of achieving full international capital mobility. After these issues have been examined I will discuss the differing

⁵ See Eichengreen 1998 and Cooper 1999 for more details.

⁶ This amendment was proposed in 1997. However, afterwards the Asian crisis led to a degree of cautiousness concerning capital account liberalization led to an erosion of support for this measure.

views economists have concerning the desirability of capital account liberalization, as well as the differing positions concerning how the relationship between capital account liberalization and macroeconomic indicators (primarily inflation, income levels, and growth) holds in practice. This will be followed by an empirical analysis of two countries which imposed controls on capital flows during the 1990's: Chile and Malaysia. Chile's experience with controls on capital inflows from 1991-1998 will be considered, followed by an analysis of Malaysia's imposition of controls on capital outflows (its unorthodox response to the East Asian financial crisis). In examining these two cases I will consider what policy lessons they hold for liberalization of the capital account in other developing countries. Both theoretically and empirically, the benefits of global capital market integration can be substantial for certain countries. However, the potential risks of imprudent liberalization are also extremely significant. How to reap the gains from the global capital market while concomitantly minimizing the risks associated with liberalization, as well as answering what lessons developing countries can take from the experiences other countries have gone through with financial crisis and liberalization will be the primary task of this essay.

II. Theoretical Benefits of Capital Mobility

There are many strong theoretical benefits accompanying the liberalization of the capital account. Most generally, these benefits are all based on the benefits of markets. These can include the benefits of additional markets (the market for inter-temporal trade, for example), the efficiencies resulting from allowing worldwide, rather than national markets to function (in this case the efficiencies of the global allocation of capital). Free capital mobility can also allow for the strengthening of markets (in the domestic financial sector for developing countries), and produce benefits resulting from the disciplining effect markets (in this case financial and exchange rate markets) can have on governments. The benefits competition and markets can bring to developing countries can be substantial and welfare-enhancing, as the following principles indicate.

1. Inter-temporal Trade

The classic case for liberalization of the capital account is that it allows for the full benefits of inter-temporal trade to be realized. Under the traditional models of inter-temporal trade, we examine two countries with different levels of present income and different levels of future income, which is contingent on technological sophistication and relative endowments. In autarky these countries are forced to use all of their income today for investment today or consumption today. In autarky, even if a country had less profitable investment opportunities than a neighboring country and its citizens were willing to sacrifice consumption today in order to invest in the neighboring country rather than the home country in order to receive higher levels on income in the future, no trade is able to be made. However, inter-temporal trade enables countries to trade consumption levels across different time periods. A country which has relatively profitable investment opportunities (relatively higher levels of income tomorrow

compared to income today), or which has citizens whose preferences are biased towards future, rather than present consumption (perhaps because of initially low levels of income), is able to trade across time with another country with different characteristics and attract funds for investment in its projects. Capital flows from the country with few profitable domestic investment opportunities into the country with many profitable investment opportunities, and the two countries agree on a mutually beneficial interest rate and time frame for repayment. After repayment, both countries have experienced welfare gains, as the utility gain for country A from consumption in time period 2 outweighs its loss in period 1. Similarly, country's B gain in utility from additional consumption in period 1 outweighs its lost consumption possibilities in period 2.

Without the benefits of trade across time, which entails capital flows, as countries trade present consumption in return for claims on the assets of foreigners, the amount of investment a country can make faces significant constraints – mainly by its initial endowment level of income. However, with inter-temporal trade a country's levels of savings and investment become decoupled, as it is able to finance domestic opportunities with capital obtained from abroad, or conversely is enabled to invest its saved capital in enterprises located abroad. Indeed, countries with highly profitable investment opportunities yet insufficient levels of domestic savings have reaped gains from precisely this dynamic. Norway, for example, was able to borrow up to 14% of its GDP throughout the late 1970's in order to finance the successful development of the North Sea Oil Reserves.⁷ Singapore, on the other hand, ran average current account deficits of 12.1% of its GDP from 1970-1982, and about half of this imported capital was in the form of foreign direct investment. During this period Singapore enjoyed an average of 8.6% rates of GDP growth per year (Reisen 1998).

⁷ Obstfeld 1998.

The model of inter-temporal trade illustrates another mechanism whereby countries reach additional gains from capital mobility. Ignoring long-term investment potential and focusing solely on short-term fluctuations in output (business cycles), another significant potential welfare gain becomes apparent. If a country suffers a temporary reduction in output level, under autarky it must reduce consumption, investment, or government spending. However, since the output shock is temporary, and since the future potential of that country's income remains unchanged, it is able to borrow from abroad while its income is temporarily low in order to limit the reduction in consumption it would otherwise suffer. In this manner, capital mobility theoretically allows countries to smooth their consumption patterns over time. Thus, capital mobility allows countries increased freedom to determine their optimal levels of both consumption and investment.

2. Higher rates of investment return (and growth)

The simple model of investor portfolio diversification easily extends to asset trade across countries, in which investors are able to achieve higher rates of return, through diversification in two channels: diversification by holding different currencies, and diversification that comes by spreading investment risk across firms in different countries.⁸ Investors are able to benefit from currency risk by diversifying their risk free currency holdings across countries, so that if their home currency depreciates they can benefit from the relative appreciation of foreign currencies. Probably a larger benefit is the gains to be made through diversification of risky assets across countries. If countries have low yield relatively risk-free assets and relatively high yield risky

⁸ The following section draws heavily on Levy and Savant, 1983, and Krugman and Obstfeld, 2003.

assets, then as liberalization occurs increasing investment returns can occur. If risky asset returns are imperfectly correlated across countries, then as capital markets are opened investors will increase their total holdings of risky assets as they diversify these risks across countries. Thus one would expect greater investment in risky projects after liberalization, which can bring growth benefits as risky investment opportunities are the most potentially highly profitable. As Obstfeld (1994) describes, this portfolio shift from low-return to riskier high-return investment can increase growth in developing countries whose firms would otherwise be unable to attract sufficient investment funds.

3. Efficient Worldwide allocation of capital

Another benefit of capital mobility results from gains in welfare from the world's perspective, and not necessarily welfare gains from each individual country in the world. Just as when countries impose barriers to trade, inefficiencies result as countries engage in production decisions for which their endowment and technological sophistication are relatively less well suited than other countries; capital controls similarly result in inefficiencies. From the world's perspective, investments should be made (capital should be allocated) in the activities in which it will yield the highest expected rate of return, irrespective of the country in which the most productive enterprises are located. Furthermore, this allocation can theoretically benefit citizens of all countries, even those who lack highly productive investment opportunities, as individuals are able to diversify their portfolios as outlined above, and invest their wealth where it will be most productive. Individuals in countries with productive investment opportunities also benefit from the increased sources of funding that capital mobility brings to enterprises in their country.

Thus, removal of capital controls is desirable in this respect as it theoretically allows for the most efficient allocation of the world's scarce capital.

4. Disciplining effect on governments

Chronically low (or even negative) rates of output growth have frequently been attributed, at least partially, to reckless and short-sighted government policies in the developing world. When governments restrict capital flows and practice seigniorage, paying for excessive government spending through high levels of inflation, this process can generate severely negative real interest rates, reducing incentives for domestic investment and thus retarding growth. This process of “financial repression” has been blamed as one of the causes of underdevelopment in many low income countries.⁹ If governments liberalize their capital account, being subject to the discipline imposed by international investors can prove welfare enhancing as it may provide the discipline necessary to force governments to follow sustainable and sound macroeconomic policies. Policymakers may be forced to maintain small budget deficits, keep inflation under control, or regulate banks to ensure they are not engaging in imprudent policies. These policies may be done in order to satisfy international investors so as to avert the possibility of a financial crisis. However, they may have positive economic effects, thus capital mobility may be desirable. Despite this theoretical benefit, it should be noted that even advocates of increased capital mobility have noted that the discipline imposed by investors chronically suffers from the shortcoming that too little discipline often occurs before a crisis, whereas too much discipline occurs after the crisis hits.¹⁰

⁹ For a discussion, see Easterly, 2001.

¹⁰ Obstfeld (1998), and Fisher (1998) both acknowledge this point.

A similar argument arises from the market discipline that capital mobility can impose on corporate entities in developing countries. When stock prices in a country are determined to a greater extent by country specific developments rather than by information specific to firms, less market discipline exists. Recent studies have revealed that countries with greater capital account openness tend to have stock prices which are determined to a relatively greater extent by firm or industry specific occurrences rather than country-wide developments.¹¹ Thus, capital mobility can impose a greater degree of market discipline on firms in developing countries.

5. Foreign expertise in the financial sector

Another advantage of international capital mobility is the benefits foreign competition in the financial sector can bring to developing countries. When countries isolate themselves from global capital markets and the government only allows domestically owned financial institutions to operate, the allocation of credit can be far from optimal. Since the government also determines which domestic financial institutions to license, loans can go to those with political connections, not those whose prospects for repayment are highest. This can also pose a moral hazard problem as politically connected banks can make bad decisions knowing that they will be bailed out. Thus capital is poorly allocated in developing countries: banks allocate capital to their friends, and stock and bond markets are underdeveloped. Hufbauer and Wada (1999) cite estimates claiming that liberalization of the capital account could increase GDP growth of 1.3-1.6% per year as banks would be forced to compete with more mature foreign financial institutions. This competition would force banks to allocate capital more efficiently.

6. Lower the costs of borrowing

¹¹ Forbes (2004) gives a discussion of the evidence.

Another theoretical gain from the free flow of capital across borders, which is particularly pertinent for developing countries, is the lower costs of borrowing it allows firms in these countries to benefit from. According to typical measurements of factor endowments, developing countries generally are relatively labor abundant and capital scarce compared to developed countries. Accordingly, the price of labor (wages) will presumably be relatively lower in the developing country, while the price of capital (interest rate) will be relatively higher in the developing country. High interest rates can impose significant limitations on profitable projects undertaken in developing countries, as the threshold on the expected return of a project would have to be commensurately high.

However, as a country liberalizes its capital account, capital will flow freely across its borders. Since there cannot be differing rates of return to capital in different countries without an arbitrage opportunity, the price of capital will converge in all countries. Thus, the high interest rates in the developing country will tend to fall to the world level. (Granted, they will generally remain somewhat higher than the world interest rates because of risk premium associated with uncertainty over repayment). As interest rates fall in developing countries, this can ease the financing constraints faced by firms in these countries. Indeed, critics of the Chilean capital controls have pointed to the absence of this very effect due to Chile's restriction of capital mobility as one of the major costs of the Chilean capital controls.¹²

III. Theoretical Risks Associated With Capital Mobility

Although the benefits from allowing free capital mobility can be large, there are also significant risks associated with capital account liberalization. Most of these arguments are

¹² Forbes, Kristin , (2003). "One Cost of the Chilean Capital Controls: Increased Financial Constraints for Smaller Trader Firms," NBER Working Paper #9777.

premised on the assumption that incomplete information is an intrinsic aspect of financial markets. Thus, markets cannot be assumed to lead to an efficient allocation of resources. Similarly, since financial markets may reflect incomplete (and possibly dubious information or investor psychology), they are prone to “manias and panics,” in other words, crises, and thus are not necessarily efficient. Thus capital account liberalization is not necessarily desirable, as it can expose a country to a significant risk of crisis, a cost which must be weighed against the potentially doubtful effects of the more efficient allocation of resources it will bring.

1. Adverse Selection

A primary risk stemming from asymmetric information which warns us that capital markets may not be allocationally efficient is the problem of adverse selection. Banks in developing countries may face informational problems – they may be unable to determine fully the creditworthiness of firms which apply to them for loans (possibly because poor quality firms are able to disguise the fact they are of inferior quality). Since banks will then lend at a rate corresponding to the average quality of firms, since they cannot distinguish between high and low quality firms, inefficient investment will occur. Since low quality firms will face cheaper borrowing costs than what they would face in a fair market with no informational asymmetries, they will be the firms which will be most likely to borrow. Conversely, high quality firms (which the bank is nonetheless unable to ascertain is high-quality) will face borrowing costs which exceed a market price with perfect information, thus they will be least likely to borrow. This dynamic may create fragility in the banking system as good investment projects are not undertaken and a high percentage of borrowers eventually default on loans. Allowing capital account liberalization can increase the amount of foreign funds flowing to banks which then engage in these inefficient investment projects.

2. Moral Hazard

Moral hazard is another problem stemming from asymmetric information. With regards to the issue of capital mobility, individuals and firms in both the creditor country and the debtor country can face incentives constituting moral hazard. On the creditor side, if financial institutions in the lending countries believe that they will be bailed out in the event of a financial crisis, then they may lend excessively to firms in developing countries, compared to how much they would lend if they were forced to incur the full cost of bad loans themselves. Because the IMF bails out countries in financial distress, some have argued that this only encourages excessive lending. If firms in developing countries are able to repay the loans, then the creditor financial institutions are satisfied. However, if the debtor firms default yet the IMF loans them the money for repayment, then creditor financial institutions may not be any worse off. How to smooth financial disruptions for countries in crisis without encouraging agents to make excessively risky investments has thus been a dilemma for policymakers.

Another problem of moral hazard is that faced by banks in developing countries. Deposit insurance is often seen as necessary to maintain confidence in the solvency of banks and thus promote an orderly functioning of the financial system. However, deposit insurance must come with a price of regulation and supervision— otherwise financial institutions will have an incentive to invest in excessively risky projects, knowing that if the projects fail they are protected by limited liabilities or bail-outs. These guarantees can either be explicit, in the case of deposit insurance, or implicit, as with institutions which are politically connected or “too big too fail.” Thus, premature liberalization can encourage developing country’s financial institutions to borrow abroad and lend domestically to risky firms. When these projects fail, the banking system can face enormous pressure.

3. Open Economy Policy Trilemma

The existence of the so-called policy trilemma for open economies also illustrates another potential cost of international capital inflows. This policy trilemma states that open economies must sacrifice one of the following three potentially desirable objectives: monetary policy autonomy, exchange rate stability, and access to flows of international capital. For example, if a country's authorities want to have a fixed exchange rate and allow for freedom of international capital flows, then they lose all independence to engage in monetary policy adjustments, for their interest rates are set by the world interest rates and their inflation rate – if their interest rates were lower than the world level there would be an arbitrage opportunity and capital would flee the country immediately, leading to an end to the fixed exchange rate. Similarly, if a country wants to enjoy monetary policy autonomy and a stable exchange rate then it must not allow for international capital mobility. It must cut off the mechanism by which an end to the exchange rate would be brought about by segmenting the domestic from the international financial market through the use of capital controls or restrictions, which allows domestic interest rates to drop below world interest rates with concomitant maintenance of the exchange rate.

This trilemma can pose a tough choice for developing countries. Exchange rate stability is generally a higher priority for developing countries. Developing countries often derive a large percentage of their income from exports of raw materials. Because the prices of these commodities are notoriously volatile, exposing the country's exporters to another source of volatility in the form of exchange rate fluctuations can severely impair the health of export dependent industries. Allowing for fixed exchange rate can significantly reduce the risk of abrupt terms of trade shocks in developing countries. If a developing country chooses to allow

for international capital mobility, it must either choose to sacrifice exchange rate stability, which poses high risks for its exporters, or it must sacrifice monetary policy autonomy, which may be desirable for purposes of stabilization or inflation targeting.

4. Herding Behavior and Self-Fulfilling Crises

Another argument against completely free flow of international capital is that financial markets may not be efficient or rational. Because it may not be optimal for some investors to be informed, dramatic changes in a country's exchange rate may result from changes in investor sentiment unrelated to a country's fundamentals. If a country liberalizes its capital account, it decreases its insulation from such effects, increasing its vulnerability to negative economic shocks if investors do panic sufficiently for a self-fulfilling currency crisis to occur. According to the theory of herding behavior exhibited by investors, there are two types of investors: those who base their investment decisions on a country (or firm's) fundamentals, and those who base their decisions on where other investors choose to invest.

Calvo and Mendoza (1997) develop a model in which global capital market integration actually leads to an increase in herd like behavior by investors, as the benefits from acting in synchronization with the herd can increase from the individual investor's standpoint when informational asymmetries are present. If there are fixed costs which must be incurred when gathering and processing information about country specific risk information, then as the number of countries in which one can invest grows, the incentive to verify rumors one hears about a given country decline. This is because the costs of verifying the rumor are large compared with the benefits, which are due to the fact that the likely return on investment in that given country is not likely to be markedly greater than the returns if the investment is spread evenly across the

number of remaining countries. Thus, as the number of remaining countries increases (as more and more countries are integrated into the global capital market), investors have a stronger incentive to quickly dump all investments made in a given country at the first sign of negative rumors about that country's economic prospects.

Another mechanism for increased herding behavior results from the fact that investors often face reputation costs when the mean return on their portfolio is less than the mean return on the market portfolio. In this situation, marginal reputation costs often exceed marginal reputational benefits. Thus, managers have an incentive to imitate the market portfolio closely, because if there is a rumor about a country which proves to be false, the benefit they receive from not listening to the rumor is less than the cost they incur if they do not listen to a rumor which later proves to be true.

Another manifestation of herd behavior can be seen in the behavior of lenders to firms in developing countries. Corporations in the developing world frequently borrow from foreign financial institutions, as they are often able to borrow at cheaper rates. When this process works smoothly then it provides benefits for both sides of the transaction. However, many economists have questioned whether this process is always likely to work smoothly, and what the costs are when it fails. If there is an irrational panic about the return on investments in a given country or region, and investors suddenly become cautious about lending any additional funds to firms in that country, a liquidity crisis can occur. Firms in the country will be unable to secure additional sources of funding, which may impose harsh difficulties on their operations in the short run, though in the long run they are fully solvent. However, because of investor's difficulties in distinguishing between crises of liquidity and crises of solvency, all lenders may refuse to lend or roll over their previous loans. Although a firm may be fully solvent, lenders may rationally

refuse to make new loans to the borrower because they anticipate other lenders will be reluctant to do so, thus there is a coordination problem. Because the lender is unable to receive funds, he is forced to default on previous debts, thereby justifying the creditor's original (and unnecessary) refusal to lend.¹³

Liberalization of the capital account can potentially make a country more vulnerable to another type of self-fulfilling crises in the currency market. This risk is essentially the counterpart to the potential “disciplining” benefit that liberalization can provide. A country can maintain a fixed exchange rate and be following completely sustainable policies (low budget deficits, low inflation, adequate currency reserves, etc.), yet still be subject to a speculative attack. Investors are aware that in order to defend a currency peg, the central bank must raise interest rates when reserves are lost. However, some investors may be large enough to have the power to precipitate a loss of reserves sufficiently large enough to require interest rate increases which are incompatible with domestic priorities (limiting the extent of unemployment). In this situation it may be in their interest to attack the currency peg, because they know that the government will not tolerate a certain level of unemployment in order to defend the peg, and will thus be forced to devalue, leading to large gains for speculators. This explanation is not, moreover, a theoretical obscurity, as it is often invoked as the best explanation of the European Monetary System Crisis of 1992, and has additionally been used to explain certain elements of the East Asian Crisis.

5. “Second-Best Arguments” Favoring Restrictions on Capital Mobility

¹³ For the possible role this dynamic may have played in the East Asian crisis, see Radelet and Sachs (1998), and Furman and Stiglitz (1998).

Another theoretical argument against free capital mobility grants that a world free of barriers to capital mobility is desirable theoretically. However, since there are numerous other distortions in the world economy (particularly trade distortions, but also distortions resulting from differing institutional and political environments in various countries), restricting capital mobility may be a “second best” solution for numerous countries in practice. For example, foreign investment may occur in a country’s import competing sector, if that sector is protected by trade barriers.¹⁴ Similarly, if a labor abundant country protects its capital intensive industries (as is common throughout the developing world), then capital will flow to this sector despite the fact the allocation is not efficient, since the country does not enjoy a comparative advantage in this sector. Additionally, since marginal tax rates on capital vary widely across different countries, and the capital is defined differently for purposes of taxation in different locations, it is theoretically possible that capital will flow to industries in countries in which capital is relatively lightly taxed, even if these industries have lower expected rates of return than industries in other countries, when the degree of capital taxation is controlled for.¹⁵

¹⁴ Eichengreen, 2003.

¹⁵ Cooper, 1999 discusses these previous two examples.

IV. Current Views Concerning Capital Account Liberalization

As with most policy issues, economists appear to be sharply divided about whether capital account liberalization is desirable for developing countries. One of the reasons for the divergence of opinion is that in conducting empirical studies, different economists and political scientists have come up with completely opposite results when trying to determine the effect of capital account liberalization on macroeconomic indicators – particularly growth, investment, and inflation rates. Although this division of opinion exists, following the East Asian crisis many economists became more wary of earlier pronouncements concerning the benefits of international capital mobility. This has led to a limited degree of consensus among many economists on basic issues surrounding the capital account liberalization controversy. However, although a limited theoretical consensus has emerged, there are still substantial differences of opinion regarding how high of a priority it should be for developing countries, how rapidly capital account liberalization should be pursued, and naturally substantial disagreement still exists regarding even rather general matters relating to the implementation of liberalized regimes in developing countries.

The empirical literature regarding the effect of capital account liberalization on growth is relatively young, as obtaining data on such matters has not become possible until recently, following the collapse of the Bretton Woods regime. In trying to examine the effect of capital account liberalization on growth, economists have discouragingly been completely unable to reach any sort of similarity of results.

The political scientist Dennis Quinn undertook a multivariate regression analysis, and created an index showing the change in capital account liberalization over time in 64 countries.¹⁶ He reported a statistically significant relationship between capital account liberalization and

¹⁶ Quinn, 1997.

growth. However, similar studies have come up with other conclusions. For example, Rodrik (1998) found that while controlling for a variety of factor commonly assumed to affect economic performance, there is no evidence that countries with more liberalized capital account regimes have experienced higher levels of growth or investment, or have had lower levels of inflation than countries with more restrictive regimes.¹⁷ A more recent study found that despite the fact that financial liberalization is associated with higher risks of financial crises; financial liberalization is associated with higher rates of GDP growth.¹⁸ This study found in all the regressions it ran that financial liberalization was significant at the 5% error level in explaining growth. One problem arising with tests such as these, regardless of the results, is that they often require a general measure of capital account openness which limits the applicability of their results to practical policy questions. A country's capital account can be relatively open to attracting long term investment (particularly Foreign Direct Investment), yet can be closed to short term flows. Therefore, studies such as these which fail to differentiate between liberalization of long and short term flows have little relevance in addressing the hypothesis which many have endorsed, that the benefits of capital account openness are largely due to the benefits FDI brings, and that the risks associated with capital account liberalization are associated with short-term, speculative flows, which have presumably small economic benefits.

Quinn's and Rodrik's failure to achieve uniform results on this question are symptomatic of other studies examining the effect of capital account liberalization on growth. A recent survey of the 14 most recent studies of capital account liberalization on growth has found that 3 of the studies find positive results, 4 find no effect, and 7 find mixed results (Prasad et al 2003).

Eichengreen and Leblang (2002) have sought to discover the reason for differing empirical

¹⁷ Rodrik controls for initial per capita GDP, initial secondary-school enrollment rate, quality of government institutions, and also includes regional dummy variables in his regressions.

¹⁸ Martinez, Tornell, and Westermann 2003.

results regarding the effects of capital account liberalization.¹⁹ The authors hypothesized that previous studies came up with markedly different results because they failed to separate the effect liberalization can have on growth into two channels, namely the effect it can have on crises and the effect it has on growth independent of crises. Comparing data for two panel data sets, one historical data set spanning 117 years, and one set limited to the years 1975-1995, the authors came up with very similar results for the effect of capital controls on growth. They concluded that during periods of financial instability and crises, countries with capital controls tend to grow much more quickly than countries without controls. However, during periods in which the international financial system is functioning rather smoothly, capital controls either tend to have a slightly positive, no effect, or a significant negative effect on growth, depending on which historical periods are under consideration.²⁰

Hopefully further studies and refinement of the models used to test the relationship between capital account convertibility will be able to establish more uniform results concerning the empirical regularities of capital account liberalization. However, as the authors of the previous study concluded: “If there is one lesson from the recent cross-country empirical literature on capital account liberalization and growth, it is that such estimates are sensitive to sample and specification; they are a weak reed on which to hang policy advice.” Fortunately however, during the late 1990’s, a reasonable degree of consensus emerged regarding theoretical facets of capital account liberalization. This consensus generally is composed of the following principles. Firstly, that capital account liberalization is desirable, at least in the long run, because it will allow for the theoretical benefits previously outlined to be achieved: a more efficient

¹⁹ Eichengreen and Leblang 2002.

²⁰ During the Bretton Woods era countries with controls tend to grow faster than countries without them. After 1973, however, there is no effect of capital controls on growth. However, if pre World War I data is excluded, and domestic, not international financial crises are considered, then the coefficient on the capital control variable become negative and significant at the 95% confidence level.

allocation of capital, a reduction of the financing constraints faced by firms in developing countries, foreign competition in the financial sector, and greater levels of foreign direct investment and concomitant foreign expertise, technological sophistication, and managerial capital which such investment is likely to bring. Financial liberalization can also be desirable to the extent that it limits a government's ability to engage in financial repression by running excessively high inflation in order to finance spending, which punishes savings when real interest rates are sufficiently low and retards the development of the domestic financial sector.

However, the Mexican and East Asian crises caused a greater acknowledgement of the risks of premature liberalization, so the consensus can be said to consist of numerous elements which respond to this point. The common view is that although liberalization is desirable, developing countries must be certain to have strong institutions before they engage in the process of liberalization. Most importantly, developing countries should institute prudential supervision of banks to ensure they do not engage in excessive currency mismatch by borrowing short in foreign currency and lending long in domestic currency without hedging their risk to an appropriate degree. Banks should also be regulated and encouraged to put aside sufficient reserves in the event of devaluation or increase in interest rates. Moreover, although lender of last resort facilities are necessary for a smooth functioning of the financial system, they must be designed to avoid moral hazard problems – banks and other financial institutions must be forced to incur some of the costs of their bad loans and decisions, otherwise they will be encouraged to invest excessively in risky projects. Countries should have high standards in their accounting and auditing practices, and both the government's own financial positions and corporate disclosure must be made in a timely manner, so that investors can make proper valuation of likely returns. In general, they should make sure they have a strong financial sector which will

be able to cope with foreign competition and will not engage in projects risky enough which threaten the country's financial stability. In general, governments should work to limit corruption and cronyism – otherwise connected lending can threaten the viability of seemingly strong institutions. Governments should also ensure sound macroeconomic principles are followed, by limiting the magnitude of budget deficits, controlling inflation, and maintaining strong contract enforceability and property rights.

Although this consensus is far from unanimous, it is held by most economists, though the importance which they attach to various elements of it naturally varies. In the following sections we will see how the experience of Malaysia and Chile fits in with the consensus view of the desirability of capital account liberalization. An attempt will be made to see how the experiences of these countries tend to reinforce or diminish the priority one should attach to certain aspects of consensus policies, and whether they suggest any key elements of policy are perhaps missing from the commonly held beliefs.

V. Empirics

A. Chile

Chile's experience with controls on capital inflows from 1991 to 1997 is one of the most frequently discussed examples of resistance to the tendency of developing country liberalization. However, there is much disagreement over how effective the Chilean capital controls really were, whether they insulated Chile from the effects of contagion, and whether they significantly affected the composition of capital inflows to Chile. Furthermore, even if Chile's experience with capital controls was more or less positive, it does not necessarily follow that other developing countries could impose similar controls which would be expected to be successful.

Chile first liberalized its capital account in 1979, while it had an unsustainable exchange rate and when it had a weak and uncompetitive domestic financial sector. This premature liberalization had negative repercussions when the Latin American debt crisis began in 1982. This poor experience with liberalization led to cautiousness about liberalization of the capital account in Chile. Thus, in 1991 Chilean officials decided to impose an "encaje" or (URR, meaning Unremunerated Reserve Requirement), forcing investors purchasing debt and equity in Chile to maintain a non-interest bearing deposit equal to the value of 20% of their investment at the Chilean central bank for one year. The purposes of the inflow restriction were multifold: primary goals were to prevent speculation and thus encourage stability and reduce the likelihood of suffering from dramatic swings in investor confidence which could cause a financial crisis. Additionally, autonomy for domestic monetary policy was sought, and the restrictions forced banks who borrowed to keep a portion of their liabilities at the Central Bank, thus reducing the potential for liquidity crises.

During the period Chile imposed the encaje, it enjoyed a remarkable period of economic growth and stability: average GDP growth was 8.1% per year, inflation fell from 27.8% in 1990 to 6% in 1997, and the current account deficit averaged only 3% of GDP.²¹ In addition, Chile failed to suffer from the effects of contagion which the financial crises of the late 1990's (particularly the Asian and Russian crises) brought to many emerging markets, and Chile avoided the shift (prominent in many developing countries in the 1990's) to taking on larger proportions of short-term debt. Many observers have interpreted Chile's solid performance during the period of the controls as evidence that the controls had the desired affect.

However, correlation between capital controls and strong economic performance are certainly not proof that the controls had any positive economic effect. In interpreting the effects of the controls, different studies have reached different conclusions. Even critics of the controls have generally acknowledged that the controls shifted the composition of capital inflows in favor of long term rather than short-term flows. This is generally interpreted as evidence that the controls have been effective as insulating Chile from financial crises, as a chief cause of the Asian Financial crisis was the fact that Asian firms and banks accumulated large short-term liabilities denominated in foreign currency, which they were unable to pay when their home currencies depreciated. For example, during the years 1990-1995, the capital inflow/GDP ratio was much lower in Chile compared to countries with more liberalized regimes. During this time the ratio was around 6% in Chile, while in was around 10% in Thailand and Malaysia (Massad 1999). The table below lists data on the composition of capital flows into Chile before and during the period in which the encaje was in place. The results appear striking: the composition of capital inflows shifted decidedly towards longer term flows, a trend which most observers view as desirable for developing countries.

²¹ Massad 1998.

Gross Capital Inflows (US \$Millions)

Year	Short Term Flows	% of Total	Long Term Flows	% of Total	Total
1988	916,564	96.3	34,838	3.7	951,402
1989	1,452,595	95	77,122	5	1,519,717
1990	1,683,149	90.3	181,419	9.7	1,864,568
1991	521,198	72.7	196,115	27.3	717,313
1992	225,198	28.9	554,072	71.1	779,269
1993	159,462	23.6	515,147	76.4	674,609
1994	161,575	16.5	819,699	83.5	981,274
1995	69,675	6.2	1,051,829	93.8	1,121,504
1996	67,254	3.2	2,042,456	96.8	2,109,710
1997	81,131	2.8	2,805,882	97.2	2,887,013

Source: Edwards (1999b)

However, this interpretation may not be so straightforward. As Edwards (1999) has argued, in assessing a country's vulnerability to financial crisis, the residual maturity of the stock of liabilities that are owned by foreigners that come due within a year is a more important measure than how long the debt was originally contracted for. The reasoning is as follows. If a country acquires \$15 billion worth of debt which is contracted for a period of a year and a half, then this debt is considered long-term because the contracted period is over a year. If this was the only debt acquired by the country, its share of short-term capital inflows would be 0%. However, if \$5 billion of the debt is due to be repaid at the end of three 6-month periods, then the country's "residual maturity" is $66\frac{2}{3}\%$, meaning that $\frac{2}{3}$ of the country's total stock of debt is due within a year. This latter number, the residual maturity, can be more indicative of a country's vulnerability to financial crisis than the simple contractual maturity figure. Below are statistics regarding the residual maturity of debt for Chile and other countries either in Latin America or affected by the East Asian crisis. As indicated, the shift in residual maturity was not nearly as pronounced as the shift in composition towards short-term inflows following the imposition of the controls.

Residual Maturity - Total Bank Loans Due within a year/ Total Bank Loans

	Mid-1996	End-1996	Mid 1997	End-1997	Mid-1998	
Argentina	53.4	56.3	54.2	57.7	57.4	
Brazil	57.7	63	62.6	64.3	62.6	
Chile	57.7	51.2	43.3	50.4	45.9	
Columbia	45.9	39.3	39.4	40	39.6	
Mexico	47.8	44.7	45.5	43.7	44.9	
Peru	78.3	79.2	67	69.3	75.7	
Indonesia	60	61.7	59	60.6	55	
Korea	70.8	67.5	68	62.8	45.8	
Malaysia	49.7	50.3	56.4	52.7	48.6	
Taiwan	86.4	84.4	87.3	81.6	80.1	
Thailand	68.9	65.2	65.7	65.8	59.3	

Source: Edwards (1999b)

From this data, it does not appear that Chile's had significantly lower levels of debt than countries which did succumb to financial crisis (for example Malaysia). Edwards argues that the controls alone were not enough to insulate Chile from the contagion effects of large financial crises, such as the Asian crisis. Although Chile was noticeably immune from the Tequila effect accompanying the Mexican peso crisis of 1994 which affected many other Latin American countries, it is possible that Chile's controls were not enough to insulate it from the effect of larger crises. For example, when the Asian and then Russian crisis hit Chile's inter-bank real interest rate rose from 6.5% to 8.5%, the Chilean peso appreciated by about 10%, and the Central Bank was forced to sell almost \$2 billion of its currency reserves (Massad 1999).

While this speculation supports the idea that the Chilean controls were not enough to fully insulate Chile from financial crises in other markets, the fact remains that the speculation against the Chilean peso was smaller than the attacks on other emerging market currencies during 1997-98. However, this may not solely be due to the effects of capital controls. Chile's low structural current-account deficit, its relatively strong financial system compared with those in other emerging markets, and sound macroeconomic indicators may have also played a large role (Massad 1999).

Observers have generally acknowledged that the controls did allow Chilean authorities greater autonomy in monetary policy, as interest rate differentials existed between Chile and the world market. However, even proponents of the controls generally allow that this ability was much stronger in the short-run, as in the long-run individuals were able to circumvent the controls if the interest rate differential was too wide, which is one of the reasons why the Chilean government had to strengthen the controls over the years, and also extend the types of capital covered by the controls, and close legal loopholes so that investors could not disguise what were actually short-term flows as FDI related investment. Simone and Sorsa (1999) report various estimates of how much the encaje enabled the interest rate differential to be. One estimate is that the 30% URR enabled an interest rate differential of 2.3% for 3 month interest rates and 1.25% for one year interest rates. Other estimates have been smaller, however, including one estimate that the encaje allowing for only a .30% interest rate differential after a year. Most studies have generally found the interest rate autonomy gained by the controls dies quickly after about 6 months, though the interest rate differential appears to persist for a slightly longer period of time after the controls were strengthened, supporting the notion that at least a certain degree of monetary policy autonomy was gained through the introduction of the controls.

Simone and Sorsa (1999) have challenged the methodology and conclusions of many of the studies on the effects of the Chilean controls. They conclude that it is much too early to conclude that the Chilean controls constitute a desirable policy choice other countries should wish to emulate. Their conclusion is based on a number of faults they consistently find in other studies of the Chilean controls, which causes them to question the robustness of estimates on the effect of the controls on interest rate differentials and the changing composition of capital flows. One major criticism that they make is that virtually all of the studies examining this issue fail to

control for the effect the liberalization of capital outflows during this time has on the quantity of capital inflows. This effect could be either positive or negative, depending on whether reduced investment uncertainty and lower domestic asset prices outweigh the effect of domestic residents acquiring foreign assets. In addition, other studies may fail to control for the effect of sterilization operations by monetary authorities on domestic real IR. Since countries with central banks who sterilize generally have interest rates which adjust more slowly than countries who do not sterilize, failing to control for this can bias the results towards finding the Chilean controls were effective. There are also factors which are virtually impossible to quantify and/or control for, such as changes in foreigners willingness to lend following Chile's economic reforms. Thus, we should not place too much faith in any specific estimate of the effects capital controls had in Chile.

Simone and Sorsa also stress the avoidance of the controls and the consequent need to constantly strengthen the controls, as portfolio flows and ADR (American Depository Receipts) were initially excluded from the scope of the controls but were subsequently added in 1995 as short-term flows were being channeled through these circuits. Also, trade credits and portfolio flows were initially exempt from the tax but subsequently covered in an attempt to prevent avoidance. It is also possible that after the portfolio flows became subject to the tax that FDI became a major conduit for portfolio flows. The controls could also be circumvented by over-invoicing exports or under-invoicing imports, but there is obviously no data on the extent of this activity. However, because of this incentive it is possible that the transparency of Chile's macroeconomic indicators was reduced after the imposition of the controls, and current account deficits and short-term debt burden may be understated. The fact that statistics on Chile's short term debt levels vary to an extraordinary extent depending on whether one uses data from the

Chilean Central Bank, the Bank for International Settlements, or the World Bank tends to support the position that there was significant avoidance of the controls, and concomitant understatement of the countries debt burden. Thus, conclusions that the controls caused dramatic shifts towards long term debt may be premature if the statistics on which they are based are wildly inaccurate due to the incentive to disguise flows.

Additionally, Chile's relative success with capital controls does not necessarily imply that other developing countries should follow the same route. Chile displays excellence in quality of governance and a lack of corruption relative to other developing countries. When controls were tried during the debt crisis (in Chile and in other Latin American countries) corruption was widespread, capital flight did not stop, financial reforms were not undertaken, and the controls did virtually nothing to help improve economic conditions, as noted by Edwards (1999).

B. Malaysia

Malaysia imposed capital controls out of similar avowed goals – to increase domestic stability, though under wildly different circumstances. Rather than being a planned element of reform, the Malaysian controls were imposed due to a completely unforeseen circumstance – the East Asian financial crisis. In this section I will first situate the Malaysian government’s decision to impose controls within the context of the East Asian Financial crisis. This will be followed by a brief survey of the controversy concerning how successful the Malaysian controls were. Then empirical evidence will be presented, which generally provides support for the position that the Malaysian controls were helpful. Finally, a brief discussion of the long-term effects of the controls on Foreign Direct Investment in Malaysia will be offered.

The East Asian Financial crisis began in July 1997 when the Thai baht was devalued after speculation against it had occurred, due to overvaluation and the sudden realization that Thai asset and property prices were also grossly overvalued. Years of large capital inflows into Thailand had led to excessive credit creation which had fed the asset bubble. Excessive government guarantees to domestic banks and corporations led these institutions to undertake “Panglossian investment” projects which were not fundamentally sound (Kenen 2001). Another major problem in Thailand and other East Asian countries was currency mismatch. As financial liberalization removed constraints on banks ability to borrow abroad, they often borrowed large amounts short-term and in foreign currency (partially due to the implicit guarantee the mirage of semi-fixed exchange rates provided them), which exposed them to enormous risks in the event of home currency devaluation or default by firms indebted to them (Furman and Stiglitz 1998). Due to an investor’s self-fulfilling panic or the sudden realization that other East Asian countries exhibited underlying economic weaknesses similar to Thailand’s, such as corruption, cronyism,

exchange rate overvaluation, and alarming percentages of nonperforming loans in the banking sector, (or possibly because of both of these factors), following the Thai devaluation, speculation against the Indonesian, Malaysian, and South Korean currencies occurred. As the East Asian countries faced speculation and losses of reserves, they were forced to either devalue, which was unattractive as they were heavily export dependent, or raise interest rates, which would induce a harsher recession. Thailand at first attempted to impose capital controls but then cancelled its attempt and went to the IMF for loans in July of 1997, which it hoped would give the market confidence it could defend its currency. Other East Asian countries were forced to either float or abandon support for their currencies. Economic distress, which showed little signs of abating, forced Indonesia and Korea to go to the IMF in October and November of 1997, respectively (Dornbusch 2002). These countries obtained large rescue packages of loans (often tens of billions of dollars were committed to these countries) conditional on structural reforms and temporary interest rate hikes and fiscal austerity by limiting budget deficits. The rescue packages were intended to allow for repayment of debts and exchange rate stabilization. This large commitment of funds, policies of monetary and fiscal austerity, and structural reforms such as financial sector restructuring, improved financial supervision, trade reform, and privatization, were intended to restore market confidence in these economies, thus allowing for a return to stability. However, these rescue packages largely failed in their goal of inspire market confidence. Radelet and Sachs (1999) observe that going to the IMF may inspire confidence to the same degree that seeing an ambulance arrive at a sick person's door may inspire confidence that they will now obtain better treatment and thus get well. As confidence failed to increase, speculation continued against the afflicted Asian currencies, these countries were forced to

increase interest rates further, which worsened bankruptcy problems and increased the depth of the recession.

In contrast to the other East Asian countries which went to the IMF, in 1998 Malaysia imposed capital controls, fixed its exchange rate, and decreased its interest rates. It followed other unorthodox policies by shutting down offshore ringgit trading and forcing the repatriation of foreign ringgit. Limiting offshore ringgit trading was essential, because speculators were attracting ringgit abroad by offering interest rates which were double or triple the interest rate levels in Malaysia. These speculators then short-sold the ringgit, counting on its collapse. These high interest rates were leading to capital flight and lowering Malaysian investment rates, a trend which the Malaysian authorities needed to counteract if economic recovery was to be achieved.

The analysis of whether Malaysia achieved success in imposing controls on capital outflows seems to be marked as much by political as economic analysis. This is partially due to the fact that the Malaysian Prime Minister Mahathir blamed the Asian crisis on foreign speculators and the international financial architecture, and subsequently claimed he was vindicated when capital controls solved Malaysia's problems without reliance on the IMF. Thus many arguments supporting Malaysia's use of controls seem to be attacks on the IMF rather than empirical evidence supporting Malaysia's use of controls.

This is not to say that strong academic work has not been done which has concluded Malaysia's capital controls were successful. Kaplan and Rodrik (2001) argue that "compared to IMF programs, Malaysia experienced faster economic recovery, smaller declines in employment and real wages, and more rapid turnaround in the stock market." They base their conclusion on a time-shifted differences-in-differences model. Often the Malaysian controls are considered ineffective because Malaysia ended up recovering at approximately the same time as

Thailand and Korea recovered, neither of whom used controls. Kaplan and Rodrik argue, however, that at the time the controls were imposed the crisis was easing in Korea, Thailand, and Indonesia while actually worsening in Malaysia, as speculation against the ringgit was continuing and showed no signs of diminishing in the foreseeable future. They argue that for a standard differences-in-differences model to be appropriate, one must assume that Malaysia would have experienced the same recovery as Thailand and Korea after 1998 had it not imposed the controls. Since they see Malaysia's economic prospects as worsening at the time the controls were imposed, and Korea and Thailand as having already gone through months of IMF treatment, they see this assumption as inaccurate. They argue that instead one should assume that Malaysia would have been forced to go to the IMF had it not imposed the controls, and that one should assume Malaysia would have fared similarly to Indonesia and Korea after they obtained IMF support.

Thus they use a time-shifted differences-in-differences approach, basing the comparison of Malaysia's and the other countries economic indicators at different times periods: for Malaysia they begin after the controls were imposed in September 1998 while they begin their comparison with how the other countries performed following the agreement concerning their IMF programs. They acknowledge that one circumstance would bias the results of their comparison in favor of finding the Malaysian capital controls more effective than they actually were, namely if the external environment improved after Malaysian imposed the controls, causing economic circumstances to improve for all countries after the controls were imposed. They attempt to control for this factor by including US interest rates, inflation rates, and economic activity, as well as measures of net financial flows to East Asia in their regressions, so that benefits resulting from improvements in the external environment are not falsely attributed

to the Malaysian controls. They also point out that since Malaysia cut itself off from international financial markets, even if the external environment did improve this does not necessarily mean it would have benefited Malaysia. If their assumptions underlying their model are deemed appropriate, the results they obtain are striking: compared to Korea (the best performing of the countries which went to the IMF), Malaysia experienced a 5.2% smaller reduction in industrial output growth, a 19.1% larger improvement in manufacturing employment, a 10.8% smaller drop in real wages, a 22.3% smaller drop in the stock market, as well as a 3.9% larger reduction in interest rates.

Dornbusch (2002) comes to the conclusion that economically the controls had no discernable effect on Malaysia's recovery, and that they should not therefore be advised on economic grounds. He bases this on the fact that at the time the controls were imposed interest rates were already decreasing in Malaysia and the other East Asian economies, and the Fed soon cut US interest rates, thus promoting a more stable external environment. In examining the data, Dornbusch argues that exchange rate appreciation in Malaysia, stock market recovery, and recovery of industrial production, a reduction in short-term interest rates as well as offshore interest rates (indicating that speculation against the ringgit was diminishing) occurred just prior to the imposition of the controls, indicating that the Malaysian economy was already improving before the controls were imposed. Because Malaysia imposed controls after the crisis was over, he argued, faster recovery after the imposition of the controls cannot constitute evidence of their success.

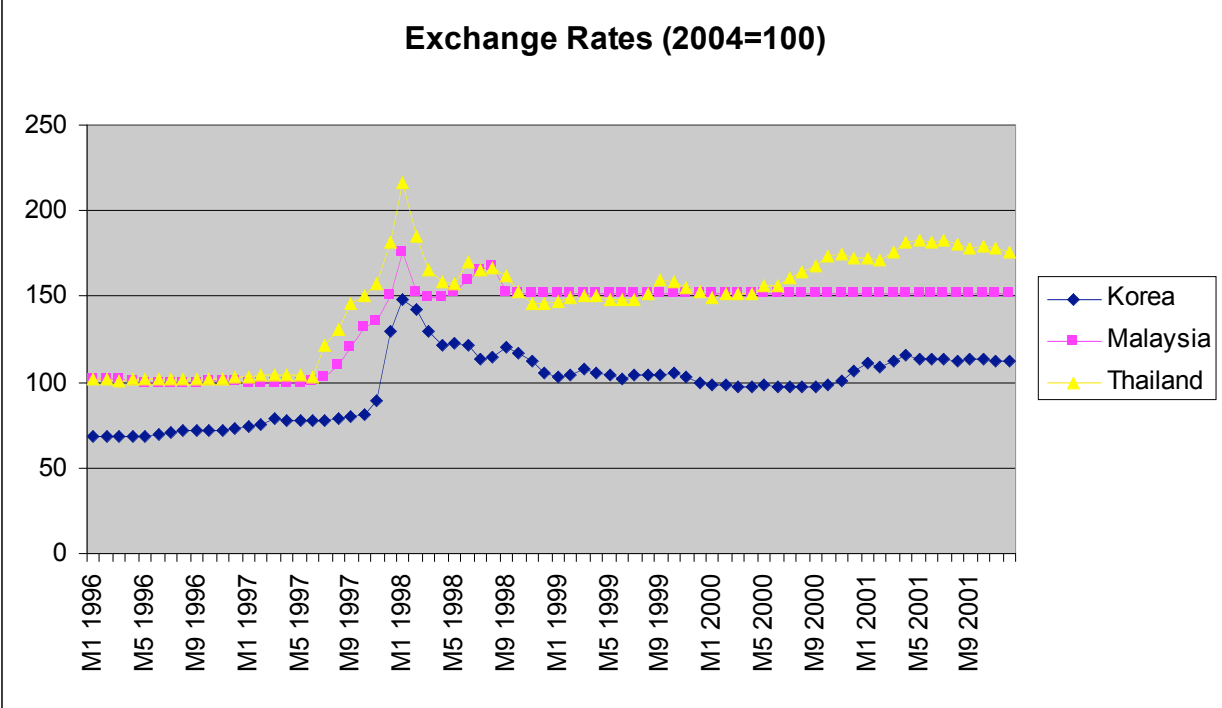
Dornbusch also acknowledges that Malaysia may have had deeper economic weaknesses than its Asian neighbors, thus it is possible that the controls helped a Malaysian economy recovery at the same speed as Thailand and Korea, yet without the controls Malaysia would have

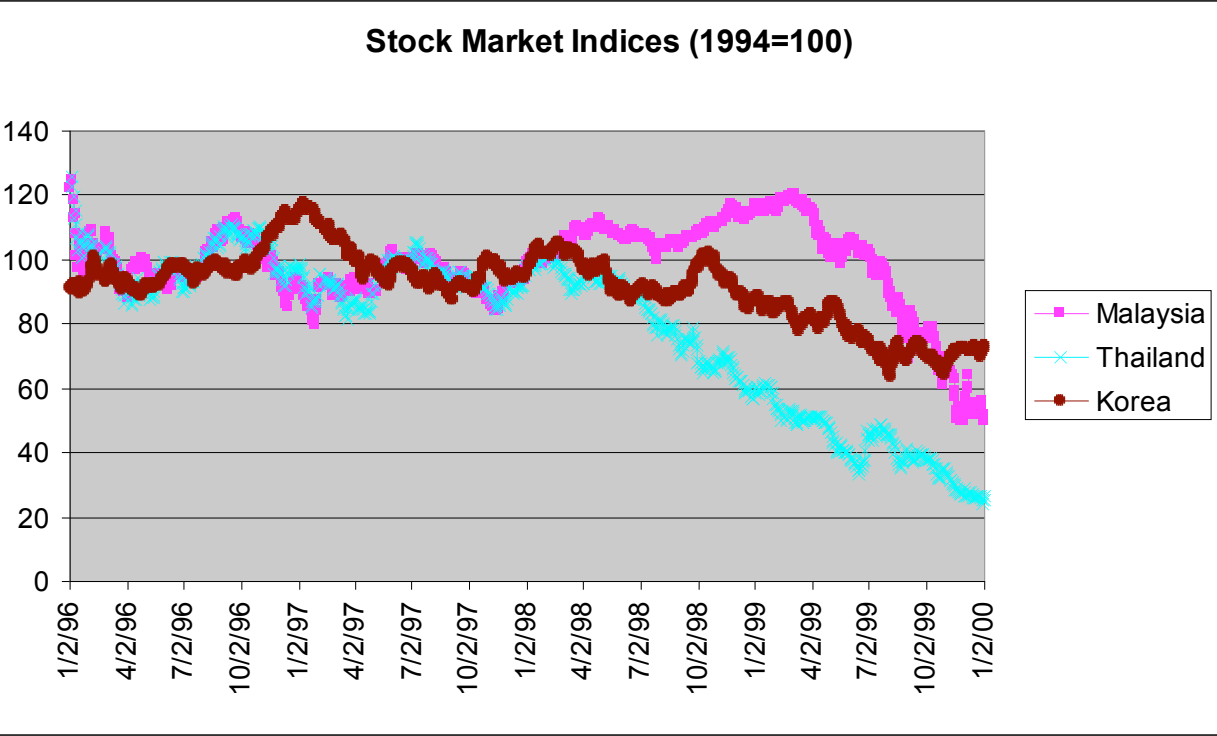
done far worse. However, in examining the data Dornbusch finds little support for such a hypothesis. He argues that indicators such as nonperforming loans as a share of total loans, the debt to equity ratio of corporate sector, public sector debt/GDP ratio, bank strength rating, and short-term external debt/reserves ratio indicate that Malaysia was not more vulnerable to financial pressures than the other Asian countries, and that Malaysia would not have fared worse than Korea or Indonesia had it not imposed the controls. Dornbusch argues that although the controls may have had no effect one way or another economically, they may have been effective politically in allowing Mahathir to consolidate his grip on power by removing the IMF friendly president Anwar and thus stopping a political stability problem before it grew too severe.

Other observers argue that even if Malaysia's experience was successful, it does not follow that the same decisions should be followed by other developing countries. Edwards (1999a, 1999b) notes that during the Latin American debt crisis of the 1980's capital controls were not successful in preventing capital flight and necessary and desirable financial sector reforms were delayed.

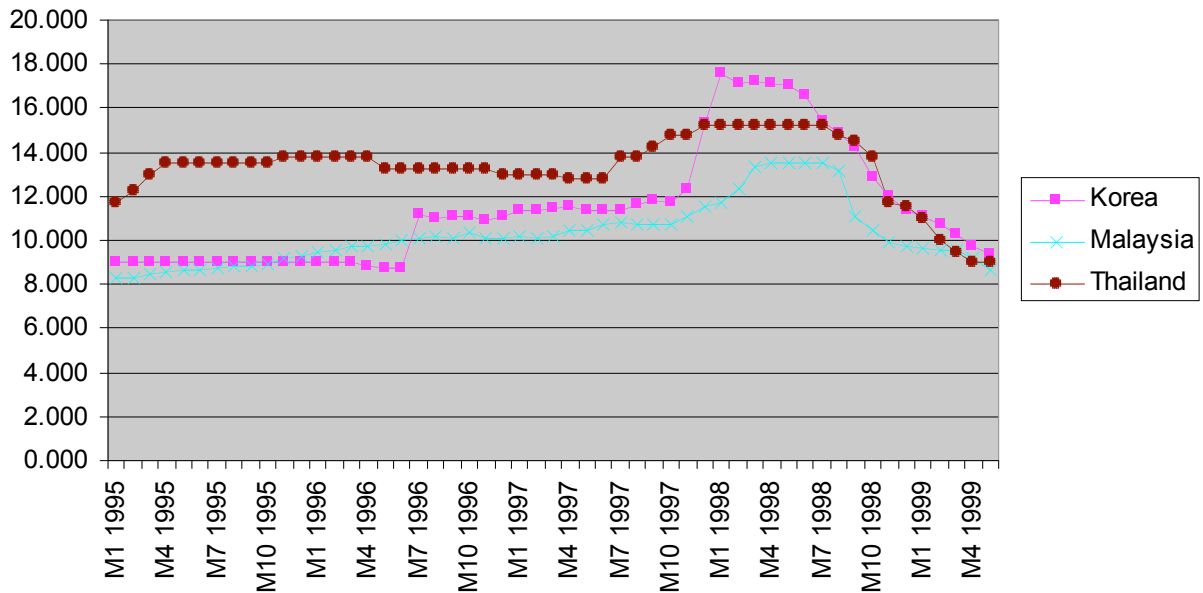
In examining whether the Malaysian capital controls were effective, it seems a crucial question which still cannot be unambiguously answered is whether the Malaysian economy was improving prior to the imposition of the capital controls. If Malaysia was already beginning to recover from the crises at the time the controls were imposed, then it would be difficult to describe the controls as successful, because they may have been imposed after they were no longer needed. To determine whether Malaysia was hurt by the crises later than other East Asian countries, we compare various economic indicators in Malaysia, Korea, and Thailand (we generally avoid comparison with Indonesia as domestic political turmoil in Indonesia could potentially bias the results in Malaysia's favor). Accordingly, domestic interest rates, foreign

exchange reserves, exchange rates, and stock market indices will be compared across the crisis countries. Additionally, Malaysian offshore interest rate data will be analyzed to determine whether speculative pressure against the ringgit was strong at the time the controls were imposed.

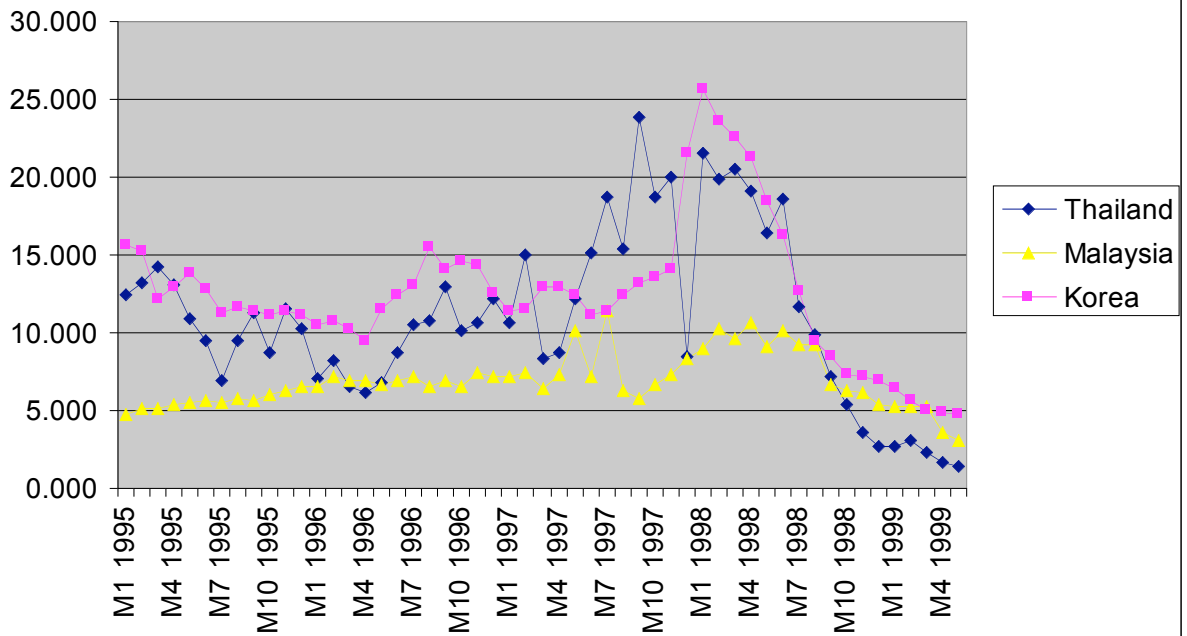


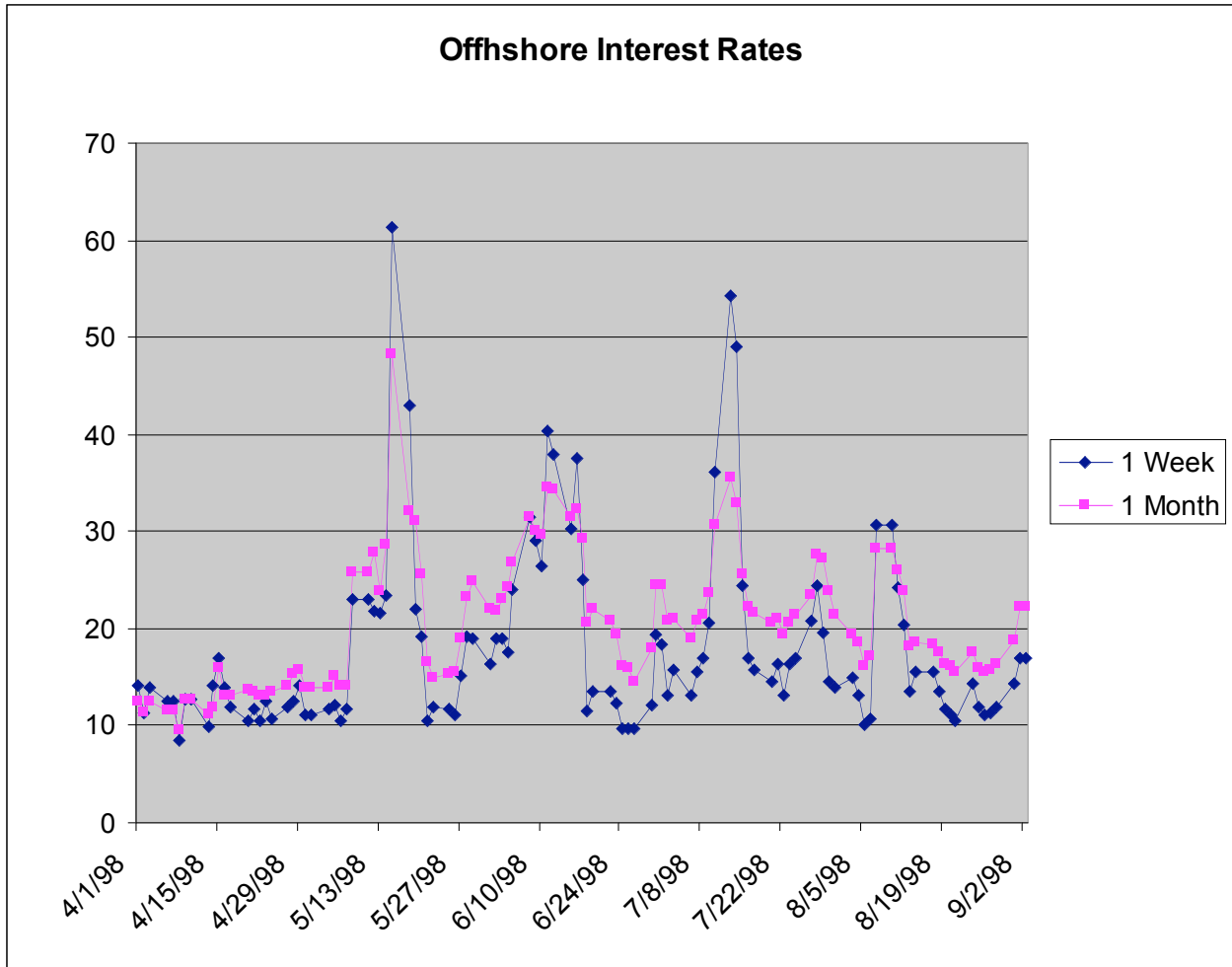


Lending Rates



Money Market Rates





Source: IMF International Financial Statistics; Global Financial Data; and Datastream

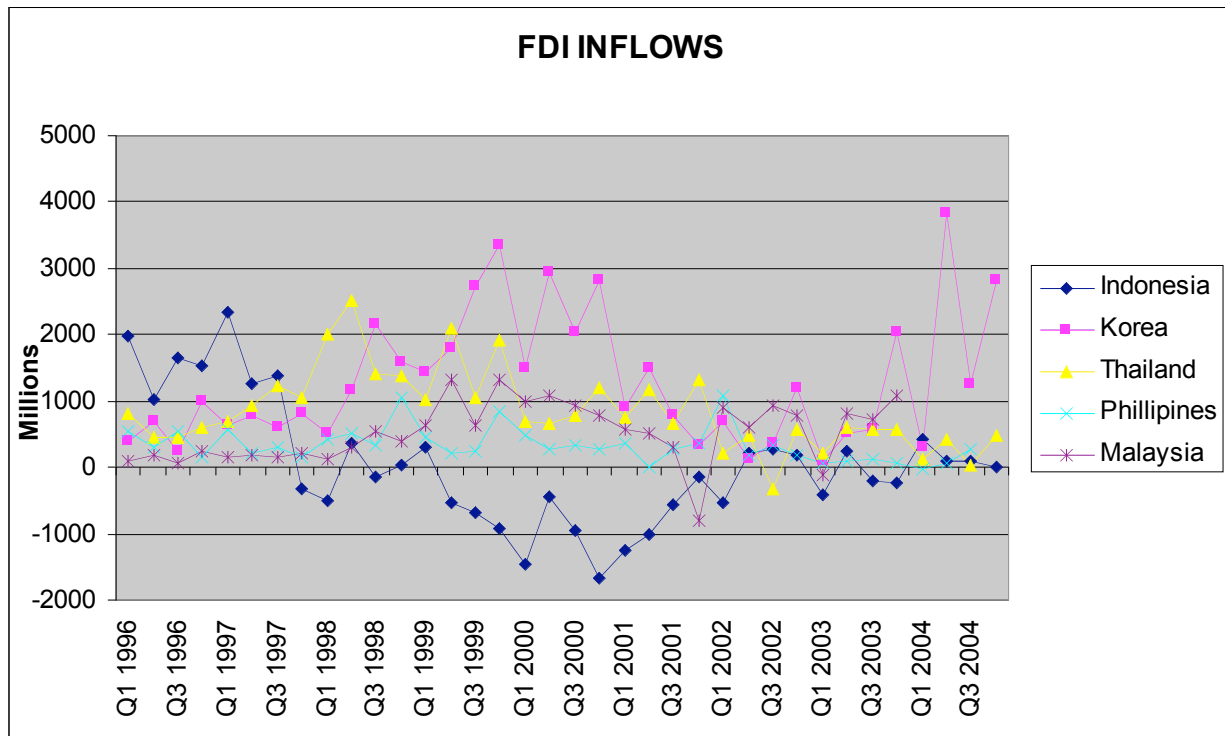
As the exchange rate data indicates, it does not appear that pressure on the ringgit was significantly less than pressure on the Korean won or Thai baht throughout the course of the crisis. However, a clear appreciation in the value of the ringgit is present before the controls were imposed. The stock market data are perhaps more interesting. It appears that the three stock market indices move relatively closely together up until the point in which Malaysia imposed the capital controls. After Malaysia imposed the controls, its stock market did far better than the Korean and Thai markets. After the controls were lifted in 1999, however, Malaysia suffered a rapid decline. These facts are at least broadly consistent with the hypothesis that the Malaysian capital controls had the unwanted effect of shielding Malaysian companies from

market discipline, and that during the period the controls were imposed the stock prices of Malaysian firms had less informational content than the stock prices of firms in other countries in the region.²² It is also possible, that Malaysian stock prices were less artificially inflated at the time the crisis hit than Korean or Thai stock prices.

The onshore interest rate data indicates that Malaysia did undergo less pain as a result of increased interest rates during the crisis. This must be at least partially attributed to the lack of imposition of IMF austerity conditions, though it is also consistent with the hypothesis that the crisis was less severe in Malaysia. The data also clearly reveals that interest rates were declining in Malaysia before the controls were imposed. Dornbusch (2002) and others have therefore argued that the controls cannot be considered a success, because conditions in Malaysia were stabilizing prior to the imposition of the controls, and soon afterwards the Fed would again cut interest rates (in response to the LTCM crisis), thus creating a more auspicious environment. However, this story may not be so simple. As revealed by the offshore interest rate data, offshore interest rates were still significantly above Malaysian onshore rates. Although speculative pressure had generally receded from its previous peaks, prior to the imposition of the controls offshore interest rates were exhibiting a clearly upward trend. Even if domestic interest rates were declining, as long as a significant onshore-offshore interest rate differential persisted, it is not clear that policymakers would have been able to lower interest rates to desirable levels given the constraints imposed by speculators. It is not obvious that speculation against the ringgit was about to stop, and that capital flight and resultant underinvestment would have diminished.

²² See Forbes (2004). Johnson and Mitton (2002) argue that the capital controls shielded Malaysian companies with political connections from Mahathir more so than firms without such connections. I will not pursue this matter further, as the focus of this paper is in the macroeconomic effects of capital controls.

Another question which must be answered concerning the benefits and costs of the Malaysian capital controls are their impact on Foreign Direct Investment. The controls intentionally made FDI exempt from their provisions. However, when they were imposed numerous analysts expressed the concern that the controls would cause a loss of market confidence, and that FDI, a widely recognized integral component of Malaysia's economic development, would shy away from Malaysia in the future.



Source: IMF International Financial Statistics

As the above figure indicates, it does not appear that FDI has been scared away from Malaysia because of its imposition of capital controls. Although data for 2003 is not available for Malaysia, as of the 4th quarter of 2002 Malaysia was second only to Korea in net FDI flows. Certainly the claim that Malaysia would be cut off from international capital markets for its transgression does not appear to have been warranted.

In summary, the Malaysian controls were probably helpful in giving Malaysia the breathing room needed to undertake financial sector reforms and reflate the economy. Even if they were imposed after the Malaysian economy had turned the corner (even though it was definitely not obvious at the time that this was so, nor is it entirely unambiguous in retrospect), they allowed the Malaysian authorities confidence to undertake strong reform measures (such as recapitalization of banks, corporate and financial restructuring, and regulatory reform) which were necessary for recovery and future growth. Although they were historically distinctive as vigorous reforms were pursued during the control period, rather than being delayed because of a false sense of security, they illustrate that controls on capital outflows, when undertaken under extreme circumstances, can be successful. Malaysia's quick recovery and subsequent growth indicate that they clearly were not the catastrophe that was once predicted.

GDP Growth Rates

Year	1997	1998	1999	2000	2001	2002	2003	2004
Indonesia	4.5	-13.1	0.8	4.9	3.8	4.4	4.9	5.1
Korea	4.7	-6.9	9.5	8.5	3.8	7	3.1	4.6
Malaysia	7.3	-7.4	6.1	8.9	0.3	4.1	5.3	7.1
Philippines	5.2	0.6	3.4	4.4	1.8	4.3	4.7	6.1
Thailand	-1.4	-10.5	4.4	4.8	2.2	5.3	6.9	6.1

Unemployment Rates

Year	1997	1998	1999	2000	2001	2002	2003	2004
Korea	2.592	6.842	6.275	4.100	3.775	3.108	3.400	3.492
Malaysia	2.500	3.225	3.450	3.100	3.675	3.475	3.600	3.550
Philippines	8.700	10.100	9.800	11.200	11.100	11.400	11.400	11.800
Thailand	0.090	3.400	3.000	2.400	3.317	2.442	2.192	2.087

Changes in Consumer Prices

Year	1997	1998	1999	2000	2001	2002	2003	2004
Indonesia	10.31%	77.63%	1.92%	9.35%	12.55%	10.03%	5.06%	6.44%
Korea	6.57%	3.97%	1.36%	2.78%	3.16%	3.74%	3.42%	3.04%
Malaysia	2.86%	5.29%	2.47%	1.20%	1.19%	1.67%	1.16%	2.10%
Philippines	7.25%	10.33%	4.30%	6.55%	4.12%	2.62%	2.97%	7.95%
Thailand	7.62%	4.32%	0.70%	1.32%	0.77%	1.55%	1.81%	2.91%

Source: IMF World Economic Outlook April 2005; IMF International Financial Statistics; and Global Financial Data

VI. Conclusion

The theoretical arguments for full integration into the global capital market appear to be strong: financial integration allows countries to smooth consumption over time, can allow firms in developing countries to attract funds for investment as interest rates fall and overseas investors diversify their assets, and can have a disciplining effect on governments. Additionally, capital account liberalization can bring foreign expertise and management into the financial sector. Allowing market forces to allocate capital is probably generally less risky than assigning governments the same task. However, evidence from recent financial crises gives ample support to the notion that there are imperfections intrinsic to financial markets resulting from informational asymmetries. Thus, financial markets do not always function smoothly or rationally, and premature capital account liberalization can expose a country to enormous risks in the form of financial crisis.

Because of ambiguous theoretical evidence on the benefits and risks of capital account liberalization, policy choices for developing countries should be based on empirical evidence. Despite strong theoretical arguments for efficiency and resulting growth gains from allowing markets to operate, the fact remains that “there is no strong, robust and uniform support for the theoretical argument that financial globalization per se delivers a higher rate of economic growth” (Prasad et. al 2003). Furthermore, the benefits from consumption smoothing during recessions are at least partially offset by the wide fluctuations in consumption capital account liberalization may *cause*, in the form of financial crises which depress growth.

The prerequisites for liberalization of the capital account without exposure to significant risks are quite high: strong prudential regulatory environments, absence of corruption and cronyism, contract enforceability, clear legal bankruptcy laws and strong corporate governance.

Additionally, strong auditing, accounting, and corporate disclosure standards are necessary, as is a well-designed lender of last resort facility and strong macroeconomic fundamentals. However, even meeting these requirements may not be enough. Meeting current capital adequacy standards may not guarantee systemic banking stability, as determining realistic values of banks' total outstanding loans may be difficult. Furthermore, as more sophisticated financial instruments develop banks may be able to use elaborate financial engineering techniques to disguise currency mismatch from regulators.²³ Another potential problem is that there is no satisfactory way to prevent corporate currency mismatch, which could potentially lead to financial crises even if banking regulation was satisfactory.

Meeting all of these requirements is a tall order for developing countries: indeed, many developing countries are far from perfect in at least some of these regards. Thus, capital account liberalization should not be pushed too strongly or quickly on developing countries: the benefits of liberalizing sooner (which have yet to be empirically demonstrated) do not seem to outweigh the risks associated with liberalizing prematurely. This is not to say that countries should not aim for eventually integrating themselves into the global capital market, but that the time when this is appropriate may be far in the future for many developing countries.

Chile's experience with capital inflow restrictions gives lessons for developing countries. Although one country's experience with capital controls does not necessarily generalize, particularly given Chile's excellent quality of governance, capital controls were arguably able to insulate Chile from global financial instability. Although the extent to which the controls were able to segment Chile's interest rate from world levels remains open to debate, Chile was able to increase interest rates and lower inflation without significantly appreciating its currency. Moreover, now Chile's capital account is more open than at any other time in Chile's history.

²³ For more on these issues, see Caprio and Honohan (1999).

Other countries wishing to cool overheated economies without inducing an appreciated currency (which may lead to current account problems) should at least consider the possibility of Chilean-type inflow controls.

The lessons from Malaysia's experience with capital controls are more ambiguous. Although Malaysia probably did benefit from its use of controls during Asian crisis, the idea that a country may want to impose such controls would only encourage investors to "jump ship" at the first sign of trouble in a given country or region. Thus, while Malaysian type controls on outflows may be desirable for countries suffering from financial crises, governments have the difficult task of maintaining investor confidence that they would never pursue such measures. Malaysia's success with capital controls offers another lesson: for controls to be successful financial sector reforms must be made while the controls are in place. Malaysia took advantage of its "breathing room" offered by controls to improve prudential supervision and recapitalization of banks, rather than falling asleep behind the false sense of security capital controls may provide, a la Latin America governments during the 1982 debt crisis. Instituting strong reform measures to fix financial problems are necessary if controls are to be a success; controls without reform will not give a country "breathing room" forever.

In conclusion, as economists we should be humble about the fact that financial crises are poorly understood. Every time a reasonably satisfactory model in explaining financial crises is proposed, a new generation of crises comes along which catches virtually all observers off guard. Although the long term benefits from capital account liberalization are likely great, liberalization should be pursued slowly. The necessary reforms countries need to make before liberalization can be successfully accomplished will likely do countries good irrespective of the benefits liberalization itself will bring.

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