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Capital Management Techniques in Developing Countries

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Abstract

The paper presents five case studies of the diverse Capital Management Techniques (CMTs) employed in developing countries during the 1990s (see Epstein, Grabel, Jomo KS [2003] for a more extensive version of this paper). There are eight principal findings that follow from our case studies.

First, CMTs can enhance overall financial and currency stability, buttress the autonomy of macro and micro-economic policy, and bias investment toward the long-term. Second, the efficacy of CMTs is highest in the presence of strong macroeconomic fundamentals, though management techniques can also improve fundamentals. Third, the nimble, dynamic application of CMTs is an important component of policy success. Fourth, controls over international capital flows and prudential domestic financial regulation often function as complementary policy tools, and these tools can be useful to policymakers over the long run. Fifth, state and administrative capacity play important roles in the success of CMTs. Sixth, the macroeconomic benefits of CMTs outweigh the often scant evidence of their microeconomic costs. Seventh, CMTs work best when they are coherent and consistent with a national development vision. And eight, there is no single type of CMT that works best for all developing countries. Indeed our cases demonstrate a rather large array of effective techniques.

I. Capital Management Techniques

We use the term capital management techniques (CMTs) to refer to two complementary (and often overlapping) types of financial policies: policies that govern international private capital flows, called capital controls, and those that enforce prudential management of domestic financial institutions. A strict bifurcation between capital controls and prudential regulations often cannot be maintained in practice (as Ocampo [2002] and Schneider [2001] observe). Policymakers frequently implement multi-faceted regimes of capital management as no single measure can achieve diverse objectives (as we will see in section II).

Moreover, the effectiveness of any single management technique magnifies the effectiveness of other techniques, and enhances the efficacy of the entire regime of capital management. For example, certain prudential financial regulations magnify the effectiveness of capital controls (and vice versa). In this case, the stabilizing aspect of prudential regulation reduces the need for the most stringent form of capital control. Thus, a program of complementary CMTs reduces the necessary severity of any one technique, and magnifies the effectiveness of the regime of financial control.

There are a number of characteristics of capital management techniques that are worth noting. CMTs can be static or dynamic. Static management techniques are those that authorities do not modify in response to changes in circumstances. Examples of static management techniques include restrictions on the convertibility of the currency or maintenance of minimum-stay requirements on foreign investment. By contrast, dynamic CMTs can be activated or adjusted as circumstances warrant. Several types of circumstances trigger implementation of management techniques or lead authorities to strengthen or adjust existing regulations: CMTs are typically activated in response to changes in the economic environment or to prevent identified vulnerabilities from culminating in a financial crisis or to reduce the severity of a crisis;¹ they are strengthened or modified as authorities attempt to close loopholes in existing measures.

Policymakers use CMTs to achieve some or all of the following four objectives—to promote financial stability; to encourage desirable investment and financing arrangements; to enhance policy autonomy; and to enhance democracy.² CMTs can promote financial stability through their ability to reduce currency, flight, fragility and/or contagion risks, thereby reducing the potential for financial crisis and attendant economic and social devastation. They can also influence the composition of the economy's aggregate investment portfolio, and can influence the financing arrangements that underpin these investments. Moreover, CMTs can promote desirable types of investment and financing strategies by rewarding investors and borrowers for engaging in them. Desirable types of investment are those that create employment, improve living standards, promote greater income equality, technology transfer, learning by doing and/or long-term growth; desirable types of financing are those that are long-term, stable and sustainable. Capital management can discourage less socially useful types of investment and financing strategies by increasing their cost or precluding them altogether.

CMTs can enhance policy autonomy in a number of ways: they can reduce the severity of currency risk, and can thereby allow authorities to protect a currency peg; they can create space for the government and/or the central bank to pursue growth-promoting and/or reflationary macroeconomic policies by neutralizing the threat of capital flight; by reducing the risk of

¹ Grabel [1999, 2003a] proposes “trip wires and speed bumps” as a framework for dynamic capital management.

² Discussion of objectives and costs draws on Chang and Grabel [forthcoming: ch.10] and Grabel [2003b]; discussion of the means by which CMTs attain their objectives draws on Grabel [2003a].

financial crisis in the first place, CMTs can reduce the likelihood that governments may be compelled to use contractionary macro- and micro-economic and social policy to attract foreign investment back to the country or as a precondition for IMF assistance; finally, CMTs can reduce the specter of foreign control or ownership of domestic resources.

It follows from the above that capital management can enhance democracy by reducing the potential for speculators and external actors to exercise undue influence over domestic decision making directly or indirectly (via the threat of capital flight). CMTs can reduce the veto power of the financial community and the IMF, and create space for the interests of other groups (such as advocates for the poor) to play a role in the design of policy. They can thus be said to enhance democracy because they create the opportunity for pluralism in policy design.

II. CASE STUDIES

A. Objectives and Case Selection

In this section of the paper we present five case studies that analyze the CMTs employed during the 1990s in Chile, Colombia, Malaysia, Singapore and Taiwan Province of China (POC).³ The presentation of the case studies is guided by five principal goals. First, to provide a detailed institutional guide to the CMTs pursued in diverse areas of the world from the 1990s to the present. Second, to examine the extent to which these management techniques achieved the objectives of their architects. Third, to elaborate the underlying structural factors that explain the success or failure of the techniques employed. Fourth, to examine the costs associated with these measures. And fifth, to draw general conclusions about the desirability and feasibility of replicating or adapting particular techniques to developing countries outside of our sample.

We have limited our examination to the 1990s because this period is distinguished by the *combination* of high levels of financial integration, a global norm of financial and economic liberalization, an increase in the power and autonomy of the global financial community, and by significant advances in telecommunications technology. It is commonly held that any one of these factors (let alone their combined presence) frustrates the possibility for successful capital management. We have selected these five cases because policymakers employed diverse CMTs (in line with levels of state capacity and sovereignty) with different objectives and disparate degrees of success. Table 1 presents a summary of the major CMTs and their objectives for each of our cases.

B. CMTs in Chile and Colombia⁴

In the aftermath of the Asian crisis, heterodox and even prominent mainstream economists [e.g., Eichengreen, 1999] focused a great deal of attention on the ‘Chilean model,’ a term that has been used to refer to a policy regime that Chilean and Colombian authorities began to implement in June 1991 and September 1993, respectively.

Context in Chile and Colombia

During the 1990s, policymakers in Chile and Colombia sought to improve investor confidence and to promote stable, sustainable economic and export growth. The CMTs of the 1990s were an integral component of the overall economic plan in both countries. CMTs in Chile and Colombia can perhaps be best understood in the context of the economic challenges that confronted the region’s economies during the 1970s and 1980s. These problems included

³ Epstein, Grabel and Jomo [2003] also include case studies of China and India, omitted here because of space constraints.

⁴ This case study draws heavily on Grabel [2003a]. Details and assessment of Chilean and Colombian CMTs are drawn from Agonsin [1998], Eichengreen [1999], French-Davis and Reisen [1998], LeFort and Budenvich [1997], Ocampo [2002] and Palma [2000].

high inflation, severe currency and banking instability, financial crises, high levels of external debt and capital flight, and low levels of investor confidence.

Chilean context

Chile experienced a “boom-bust cycle” in the two decades that preceded the CMTs of the 1990s. During the neo-liberal experiment of the 1970s, surges in foreign capital inflows led to a consumption boom and created significant pressure for currency appreciation. Experience with the “Dutch disease” in the 1970s reinforced policymaker’s commitment to preventing the fallout from surges in private capital inflows in the 1990s. The financial implosion, reduction in international capital flows, and the deep recession of the early to mid-1980s also played a powerful role in the design of CMTs in the 1990s. Thus, the experiences of the 1970s and 1980s created a consensus around the idea that it was necessary to insulate the economy from volatile international capital flows.

Preventing the Dutch disease was of paramount importance in the 1990s because of the government’s commitment to an export-led economic model. Chilean economic policy in the 1990s is difficult to characterize. In some senses, it was rather strongly neo-liberal. For instance, the country’s status as a pioneer in the area of pension fund privatization earned it much respect in the international investment community. The government also pursued a vigorous program of trade liberalization and privatization of state-owned enterprises. But at the same time, the government also provided education and income support to the poor and unemployed and maintained a stringent regime of CMTs. It should also be noted that the health of the country’s banking system improved significantly during the 1990s, thanks to a number of prudential banking and regulatory reforms.

Colombian context

As in Chile, the architects of Colombia’s CMTs in the 1990s were influenced by the economic problems of the previous two decades. The promotion of investor confidence was a far more daunting task in Colombia than in Chile because of the country’s political and civil uncertainties. Inflation was also a severe problem in Colombia in the 1970s and 1980s (and indeed, remained a problem during the 1990s as well). The 1990s was a time of far-reaching economic reform in Colombia. Authorities sought to attract international capital flows and promote trade and price stability through a number of structural reforms. These reforms included trade liberalization, increased exchange rate flexibility, tax reductions, labor market liberalization, partial privatization of social security and state-owned enterprises, and central bank independence. Most of the economic reforms in the 1990s were in the direction of neo-liberalism; however, the CMTs and the increases in public expenditure were important exceptions in this regard.

Objectives

Though there were national differences in policy design, Chilean and Colombian policies shared the same objectives. The policy regime sought to balance the challenges and opportunities of financial integration, lengthen the maturity structure and stabilize capital inflows, mitigate the effect of large volumes of inflows on the currency and exports, and protect the economy from the instability associated with speculative excess and the sudden withdrawal of external finance.

CMTs in Chile, 1991-9

Financial integration in Chile was regulated through a number of complementary, dynamic measures (the most important of which are described here). During the lifetime of the Chilean model, authorities widened and revalued the crawling exchange rate band that was

initially adopted in the early 1980s. The monetary effects of the rapid accumulation of international reserves were also largely sterilized.

Central to the success of the Chilean model was a multi-faceted program of inflows management. Foreign loans faced a tax of 1.2 per cent per year. FDI and PI faced a one-year residence requirement. And from May 1992 to October 1998, Chilean authorities imposed a non-interest bearing reserve requirement of 30 per cent on all types of external credits and all foreign financial investments in the country. Note that the level and scope of the reserve requirement ratio was, in fact, changed several times during the lifespan of this policy regime in response to changes in the economic environment and to identified channels of evasion. The required reserves were held at the Central Bank for one year, regardless of the maturity of the obligation.

The Central Bank eliminated the management of inflows (and other controls over international capital flows) in several steps beginning in September 1998. This decision was taken because the country confronted a radical reduction in inflows in the post-Asian/Russian/Brazilian crisis environment (rendering flight risk not immediately relevant). Chilean authorities determined that the attraction of international private capital flows was a regrettable necessity in light of declining copper prices and a rising current account deficit. Critics of the Chilean model heralded its demise as proof of its failure.

But others viewed the dismantling of the model as evidence of its success insofar as the economy had outgrown the need for protections. For example, Eichengreen [1999:53] notes that by the summer of 1998 it was no longer necessary to provide disincentives to foreign funding because the Chilean banking system was on such strong footing following a number of improvements in bank regulation.⁵ In our view, the decision to terminate inflow and other controls over international capital flows was imprudent given the substantial risks of a future surge in capital inflows to the country and the risk that the country could experience contagion from financial instability in Argentina, Brazil, Paraguay and Uruguay. It would have been far more desirable to maintain the controls at a low level while addressing the current account deficit and the need to attract inflows through other means. Indeed, flexible deployment of the inflows policy was a hallmark of the Chilean model (consistent with the dynamic approach to capital management in section I.A), and it is regrettable that authorities moved away from this strategy at the present juncture.

CMTs in Colombia, 1993-9

Colombia's inflows management policies relating to foreign borrowing were similar to (though blunter than) those in Chile. This difference is perhaps attributable to limitations on state capacity in Colombia. Beginning in September 1993, the Central Bank required that non-interest bearing reserves of 47 per cent be held for one year against foreign loans with maturities of eighteen months or less (this was extended to loans with a maturity of up to five years in August 1994). Foreign borrowing related to real estate was prohibited. Moreover, foreigners were simply precluded from purchasing debt instruments and corporate equity (there were no comparable restrictions on FDI). Colombian policy also sought to discourage the accretion of external obligations in the form of import payments by increasing the cost of import financing. Authorities experimented with a variety of measures to protect exports from currency appreciation induced by inflows. These measures ranged from a limited sterilization of inflows, to maintenance of a managed float, to a crawling peg. As in Chile, regulations on international capital flows were gradually eliminated following the reduction in flows after the Asian crisis.

Assessment

⁵ Nevertheless Eichengreen [1999] makes clear that authorities erred in terminating inflows management.

The array of CMTs that constitute the Chilean model represent a highly effective means for achieving the economic objectives identified by the architects of these policies. The CMTs achieved these objectives via their effect on currency, flight, fragility and contagion risks.

Chilean authorities managed currency risk via adjustments to its crawling peg, sterilization and inflows management. Taken together, these measures greatly reduced the likelihood that the currency would appreciate to such a degree as to jeopardize the current account, and the policies made it difficult for investor flight to induce a currency collapse. Indeed, the appreciation of the Chilean currency and the current account deficit (as a share of GDP) were smaller than in other Latin American countries that were also recipients of large capital inflows [Agosin, 1998]. Moreover, the currency never came under attack following the Mexican and Asian crises.

Colombian efforts to manage currency risk were less successful than those in Chile. This is the case for three reasons. There was a lack of consistency in the exchange rate regime in Colombia as a consequence of the frequent changes in the exchange rate strategy employed (managed float, crawling peg, etc.) Inflow sterilization was rather limited in scope when compared to sterilization in Chile. And inflation continued to be a problem in Colombia during the 1990s. Nonetheless, currency and inflows management offered some protection to exports in Colombia when the country was receiving relatively large capital inflows. The currency also held up fairly well following the Mexican crisis.

Chilean and Colombian policies reduced the likelihood of a sudden exit of foreign investors by discouraging those inflows that introduce the highest degree of flight risk. The reserve requirement tax in Chile was designed to discourage such flows by raising the cost of these investments. The Chilean minimum stay policy governing FDI reinforced the strategy of encouraging longer-term investments while also preventing short-term flows disguised as FDI. Colombian policy precluded the possibility of an exit of foreign investors from liquid investment by prohibiting their participation in debt and equity markets (while maintaining their access to FDI). The reduction in flight risk in both countries complemented efforts to reduce currency risk, particularly in Chile where policy effectively targeted currency risk.

Chilean and Colombian inflows management also mitigated fragility risk. The regime reduced the opportunity for maturity mismatch by demonstrating an effective bias against short-term, unstable capital inflows. In Chile, taxes on foreign borrowing were designed precisely to discourage the financing strategies that introduced so much fragility risk to Asian economies and Mexico. In Colombia, the rather large reserve requirement tax on foreign borrowing and the prohibition on foreign borrowing for real estate played this role as well.

Numerous empirical studies find that inflows management in Chile and Colombia played a constructive role in changing the composition and maturity structure (though not the volume) of net capital inflows, particularly after the controls were strengthened in 1994-5 [e.g., Ffrench-Davis and Reisen, 1998; LeFort and Budenvich, 1997; Ocampo and Tovar, 1998; Palma, 2000]. These studies also find that leakages from these regulations had no macroeconomic significance. Following implementation of these policies in both countries, the maturity structure of foreign debt lengthened and external financing in general moved from debt to FDI. Moreover, Chile received a larger supply of external finance (relative to GDP) than other countries in the region, and FDI became a much larger proportion of inflows than in many other developing economies. Colombia's prohibition on foreign equity and bond market participation dramatically reduced the relative importance of short-term, liquid forms of finance. More strikingly, FDI became a major source of finance in the country despite political turbulence and blunt financial controls.

The move toward FDI and away from short-term, highly liquid debt and PI flows is a clear achievement of the Chilean model. However, it is important to note that FDI is not without its problems. It can and has introduced sovereignty risk in some important cases (such as Chile's earlier experience with ITT) and can introduce other problems to developing countries [see Chang and Grabel, forthcoming: ch. 10; Singh, 2002].

The Chilean model also reduced the vulnerability to contagion by fostering macroeconomic stability. It is noteworthy that the transmission effects of the Asian crisis in Chile and Colombia were quite mild compared to those in other Latin countries (such as Brazil), let alone elsewhere. The decline in capital flows in Chile and Colombia following the Mexican and Asian crises was rather orderly, and did not trigger currency, asset and investment collapse. Contra the experience in East Asia, the decision to float the currency in Chile and Colombia (in the post-Asian crisis environment) did not induce instability.

Some analysts challenge the generally sanguine assessment of the Chilean model. Edwards [1999], for example, argues that the effectiveness of the model has been exaggerated. However, in a paper published a year later, De Gregorio, Edwards and Valdés [2000] conclude that Chilean controls affected the composition and maturity of inflows, though not their volume. The De Gregorio *et al.* [2000] result is confirmed for Chile in other studies that claim to demonstrate the failure of the model, even though their reported results show just the opposite [Ariyoshi *et al.*, 2000; Valdés-Prieto and Soto, 1998]. As Eichengreen aptly remarks, the controls affected only the composition and maturity and not the volume of inflows is "hardly a devastating critique" [1999:53], since this was precisely their purpose.

Supporting factors

CMTs in both Chile and Colombia were able to achieve the economic objectives of their architects for several reasons. The policies were well designed, consistent and reasonably transparent throughout their life. Policymakers in both countries were "nimble" in the sense that they dynamically modified CMTs as the economic environment changed⁶ and as loopholes in the policies were revealed (see Massad [1998:44] for discussion of the Chilean case).⁷ Both countries offered investors attractive opportunities and growing markets, such that investors were willing to commit funds despite the constraints imposed by the capital management regime.

Chile certainly had advantages over Colombia. The greater degree of state capacity in Chile may well explain why its policies (particularly in regards to exchange rate management) were more successful. Moreover, Chile's status as a large developing economy certainly rendered it more attractive to foreign investors, and may have granted the country a greater degree of policy autonomy than was available to Colombia. The general soundness of its banking system and macroeconomic policy, the maintenance of price stability and the high level of official reserves were important sources of investor confidence in Chile. Finally, international support for the neo-liberal aspects of Chile's economic reforms provided the government with the political space to experiment with CMTs.

Costs

At this point, compelling evidence on the costs of CMTs in Chile and Colombia is not available. Indeed, the two most comprehensive studies of this issue deal only with Chile (and in an unsatisfactory manner).

⁶ E.g., Chile's reserve requirement was adjusted several times because of changes in the volume of capital flows.

⁷ Ocampo [2002:7] points out that the frequency with which authorities changed the rules pertaining to exchange rates in Chile and reserve requirements in Colombia were not without cost, however.

Forbes [2002] is the most extensive study available on the micro-economic costs of Chilean CMTs. Using a variety of empirical tests (and sensitivity analysis thereof), Forbes shows that CMTs in Chile resulted in an increase in capital costs to small-sized enterprises.⁸ Forbes is careful to note that the results themselves must be treated cautiously because of limitations on data availability.

In a broad study of the macro-economic effects of the Chilean CMTs, Edwards [1999] notes in passing that CMTs increased capital costs for the SMEs that had difficulty evading controls on capital inflows. He reports that the cost of funds to smaller enterprises in Chile was more than 21% and 19% per year in dollar terms in 1996 and 1997, respectively. Edwards does not, however, place these data into the necessary comparative context, rendering them entirely unpersuasive as an indictment of the Chilean CMTs.

Both Forbes and Edwards conclude their studies with the argument that the cost to smaller firms of Chilean CMTs is far from a trivial matter because these enterprises play an important role in investment, growth, and employment creation in developing countries. Neither study provides empirical support for the argument that these firms do, in fact, play a significant role in macro-economic performance. And neither study provides unambiguous evidence that the macro-economic benefits of Chilean CMTs fail to outweigh even the modest evidence of their microeconomic costs (and much the same could be said of Colombian experience).

On the issue of costs versus benefits, it should be noted that Forbes [2002] remains agnostic on the relative importance of micro-economic costs versus macro-economic benefits. Edwards [1999], by contrast, is entirely clear on this matter. He argues that proponents of Chilean CMTs vastly overstate their macroeconomic benefits and fail to acknowledge their microeconomic costs. On this basis, he argues that the Chilean CMTs should not serve as a model for other developing countries. We find the empirical basis for this conclusion entirely unconvincing.

Other achievements

As discussed above, the CMTs associated with the Chilean model achieved the most important goals of its architects (though to a greater extent in Chile than in Colombia). Additionally, the CMTs in both countries can be credited with enhancing the sovereignty of macro- and micro-economic and social policy. The importance of this achievement warrants discussion.

The CMTs of the Chilean model afforded policymakers insulation from potential challenges to macro- and micro-economic and social policy sovereignty through the reduction in various types of risks (particularly, through reduction in flight and fragility risks). Both countries were able to maintain relatively autonomous, somewhat restrictive monetary policies because of the protections afforded by the CMTs [LeFort and Budenvich, 1997].⁹ Moreover, the protection from flight risk afforded by the CMTs made it possible for policymakers to implement some growth-oriented fiscal policies [LeFort and Budenvich, 1997]. Finally, as LeFort and Budenvich [1997] argue, the protections and advantages conferred on both countries by their

⁸ To date, Forbes' [2002] findings have not been challenged in the literature. This, however, is not surprising given that the draft paper only became available in November 2002.

⁹ Even Edwards [1999:77], a prominent critic of CMTs in Chile, shows that they increased the autonomy of monetary policy in the country. However, he argues the extent of increased autonomy was trivial insofar as the small benefit accruing from increased monetary policy autonomy was outweighed by the increase in capital costs that were associated with the CMTs.

CMTs were essential to the success of the entire regime of macro- and micro-economic policy.¹⁰ For instance, the attraction of certain types of international capital flows promoted economic growth in both countries, and the protection from currency appreciation (to a large extent in Chile, and to a modest extent in Colombia) contributed to success in current-account performance.

The insulation afforded to both countries by the CMTs also meant that monetary authorities were able to navigate the transition to a floating exchange rate far more smoothly. In many other countries (such as in East Asia), the transition to a floating rate involved significant currency depreciations and financial instability.

The CMTs employed in both countries also reduced the risk of financial crisis, and thereby buttressed the sovereignty of economic and social policies in both countries. CMTs reduced the potential for IMF involvement in both countries. Policymakers were therefore never pressed to change the direction of (macro- or micro-) economic or social policy to satisfy the demands of the IMF or to calm investors.

C. Taiwan Province of China (POC)

Context

The CMTs employed in Taiwan POC can only be understood in the context of a “developmentalist state” and an extended notion of national security that includes economic and financial stability.¹¹ That is, CMTs are an integral component of the macroeconomic and security objectives of Taiwan POC (see below for discussion of objectives). These economic and security objectives were and largely still are the guiding forces behind extensive regulation of domestic financial institutions and credit flows, monetary and exchange rate policy and controls over international capital flows. Taiwan POC built its industrial base on the basis of restrictive policies toward FDI in “strategic sectors” [for details, see Chang and Grabel, forthcoming]. CMTs played a critical role in promoting industrialization and export performance.

Objectives

Prior to the mid-1980s, Taiwan POC’s policymakers employed a multi-faceted set of CMTs in the service of three aims: to promote industrialization and export supremacy, economic growth, and economic stability. Since the goal of industrialization had been achieved by the mid-1980s, CMTs are directed towards growth and stability objectives. CMTs that restrict investment in unproductive assets are critical in this regard.

Extensive CMTs are still in use, though policymakers began to liberalize aspects of the financial sector and to loosen some controls over international capital flows in 1995 as part of the Asia Pacific Regional Operations Center Plan (APROC) and the goal of joining the WTO. The APROC aimed at making Taiwan POC a regional center for high value-added manufacturing, transportation, finance, telecommunications, and several other areas. However, as Chin and Nordhaug [2002:82] make clear, financial liberalization in Taiwan POC in the 1990s in no way weakened prudential financial regulation in the country.

CMTs in Taiwan POC

¹⁰ Though note that CMTs and macroeconomic policy did not succeed in promoting price stability in Colombia [LeFort and Budenvich, 1997].

¹¹ See Chin and Nordhaug [2002] on the extended notion of security in Taiwan POC and, more generally, for a rich discussion of the broader context of its economic and financial policies.

As discussed above, Taiwan POC maintains an extensive set of CMTs that are tied to economic and security objectives.¹²

Policymakers maintain rather tight reins on the domestic currency, the New Taiwan dollar (NT dollar), and on currency risk more generally. Most important among the CMTs that relate to currency risk is the lack of convertibility of the NT dollar. There are a number of other ways that the Central Bank of China (the CBC) manages the NT dollar. Prior to September 1994, foreign nationals (without residency visas) were prohibited from opening NT dollar accounts. But as of September 1994, the CBC has permitted non-resident foreign nationals and corporations to hold savings accounts denominated in NT dollars, although the use of these is limited to domestic spending or to the purchase of imports. These accounts may not be used to purchase foreign exchange or for securities trading. The CBC also adjusts the reserve ratios that must be held against foreign currency deposits in order to prevent inflows of foreign investment from leading to an appreciation of the NT dollar.

The domestic banking system is highly regulated by the state. Indeed, domestic banks in Taiwan POC were primarily owned by the state until the early 1990s. In 1995 71.9 per cent of Taiwan POC's total banking assets were housed in banks that were controlled fully or partly by the government; in the same year, 62.2 per cent of overall credit was provided by government-controlled credit and financial institutions [Chin and Nordhaug, 2002:81]. Authorities maintain restrictions on bank participation in speculative activities. Bank involvement in securities holdings is limited. In 1989, the Central Bank imposed a 20% ceiling on bank lending to the real estate sector for six years following problems associated with a real estate bubble in the 1980s [Chin and Nordhaug, 2002].

Authorities also regulate foreign borrowing. Foreign-owned companies must apply to the CBC and the Investment Commission of the Ministry of Economic Affairs to secure government approval for borrowing from abroad. Control over foreign borrowing aims to concentrate most private foreign borrowing from international banks in Taiwan POC's banks rather than in the hands of individuals. In fact, at the end of June 1997, 62% of all private foreign borrowing in the country went to its banks [Chin and Nordhaug, 2002:93].

Foreign investment in Taiwan POC remains tightly regulated. During the 1990s certain strategic sectors were off-limits to foreign investors. These restrictions have been loosened considerably beginning in March 1996. However, authorities retain the ability to manage foreign investment: at present what are termed "qualified foreign institutional investors" are subject to a ceiling on maximum investment; foreign individual investors are also subject to a ceiling on maximum investment and must receive approval from the CBC.

The stock market and PI are closely regulated as well. Chin and Nordhaug [2002:89] point out that Taiwan POC's stock bubble in the 1980s exposed some regulatory weaknesses, leading authorities to improve the quality of capital market regulation and to increase control over PI inflows. They also note that a number of events in the 1990s reinforced the CBC's regulatory caution toward the stock market and PI inflows. These events also encouraged the CBC to develop new strategies for discouraging speculation and channeling capital toward developmentally productive uses. The CBC's power to regulate the stock market and PI inflows increased following the country's stock market crash in 1990, and following its interventions to support the currency and the stock market in the aftermath of the cross-strait tensions and the ensuing missile crisis from August 1995-March 1996. The CBC also monitored evasion of its

¹² The description of CMTs draws heavily on Chin and Nordhaug [2002]. Details are also drawn from the EIU [2002] and the US Commercial Service [2002].

regulations and had the political will to enforce penalties when malfeasance was uncovered. For example, in 1995 the CBC closed Taiwan POC 's foreign exchange market for one year when it was discovered that a major share of the foreign inflows that it had approved for equity investment had been used to speculate against the currency [Chin and Nordhaug, 2002:88]. During the Asian financial crisis, Taiwan POC's authorities also took steps to prevent illegal trading of funds by financier George Soros (because these funds were blamed for causing the stock market to fall).

Taiwan POC 's stock market was not very "internationalized" during the 1990s as a direct result of its policies toward PI. In 1997, foreign investors held only 4 per cent of stocks on the domestic exchange [Chin and Nordhaug, 2002:94]. Moreover, authorities maintained firm entry and exit barriers and high withholding taxes on dividends (in 1996 the tax rate on dividends was 35%) [Chin and Nordhaug, 2002:87]. Today, buying stocks on margin and short-selling are still prohibited.

Assessment

It is clear that Taiwan POC 's CMTs have achieved the objectives of its architects. The regime of capital management clearly plays an essential role in Taiwan POC's industrialization, export performance, economic growth and economic and financial stability. The strategic stance toward FDI was critical to industrialization.

CMTs are central to Taiwan POC 's financial stability. The restrictions on currency convertibility mean that it is difficult for Taiwan POC to experience a currency collapse (and related currency-induced fragility risk). Investors have little reason to fear a collapse of currency values, and they behave accordingly (as was evident during the regional crisis of 1997-8). Thus, even a decline in asset values (e.g., stocks) is unlikely to translate into a currency crash.

Taiwan POC 's exposure to currency, fragility and flight risks is reduced by the restrictions on foreign investors' ability to use the currency for speculation. The regulation of the stock market (e.g., prohibitions on buying on margin and short-selling) and the cautious stance toward PI curtail the fragility and flight risks to which Taiwan POC is exposed. It is notable that regulatory authorities have responded to the evasion of financial controls and the appearance of regulatory gaps by dynamically refashioning their CMTs.

The regulations that govern banks and foreign lending support the objective of promoting financial and economic stability. Banks in Taiwan POC do not have a high exposure to securities and real estate transactions. As a consequence, banks do not hold a large portfolio of non-performing or under-collateralized loans. Curbs on foreign lending also reduce fragility in the economy and render the risk of lender flight not terribly important.

Taiwan POC 's resilience during the Asian financial crisis is no small part due to the economic and financial stability fostered by its CMTs. It was simply not vulnerable to the currency, flight, or fragility risks that proved so devastating to many countries in the region.

Supporting factors

The achievements of Taiwan POC 's CMTs were facilitated by a number of structural and geopolitical factors.¹³ Critical among these are the high degree of regulatory capacity and the independence of the CBC from political bodies. This independence allowed the CBC to exercise its authority to curb speculation, close loopholes in policy, and to resist international and external pressures to liberalize the financial system imprudently. The policy independence of the CBC stemmed from its Presidential backing and the government's historic commitment to

¹³ This discussion draws heavily on Chin and Nordhaug [2002]. See this work for an in-depth historical examination of relevant structural considerations.

financial stability. National security concerns and geopolitical uncertainties reinforced the commitment to financial stability, as stability is seen as essential to the task of withstanding diplomatic, military, and/or economic shocks. The reaction of the CBC to several events in the 1990s “served as an unplanned rehearsal for the subsequent 1997-98 regional financial crisis” [Chin and Nordhaug, 2002:91].

As part of its national development vision, the Taiwan POC channeled rents to promote exports and upgrade industry. These efforts were accompanied by strict performance criteria and disciplinary measures. In this context, stringent and dynamic CMTs were essential to the promotion of productive investment and industrial dynamism.

Costs

There is scant evidence available on the costs of Taiwan POC’s CMTs. A report by the for International Economics [1998], for instance, reports that CMTs in Taiwan POC have created a concentration of credit in large firms and an illiquid financial system, have provided incentives for a rather large informal financial sector to flourish, and have reinforced conservatism on the part of its banks. Chin and Nordhaug [2002:83] report that this conservatism leads banks to favor short-term lending backed by tangible collateral, such as real estate. This study also reports that banks are limited in their ability to engage in project, company and credit assessments, and do not have reliable accounting and auditing systems.

Clearly, the evidence on costs reviewed here is limited and anecdotal. Even if one were to accept this evidence fully, these costs in no way outweigh the macroeconomic benefits afforded to Taiwan POC by its CMTs.

Other achievements

CMTs afforded Taiwan POC insulation from the Asian financial crisis. This insulation from crisis, coupled with China’s vast resources, meant that Taiwan POC did not confront challenges to the sovereignty of macro- and microeconomic and social policy associated with IMF involvement or with the need to regain investor confidence.

D. Singapore¹⁴

Singapore is widely believed to have a completely free and open capital account, a "fact" that is often cited as an essential component of Singapore's outward-oriented economic policy and its rapid post-war economic growth.¹⁵ It is true that Singapore eliminated its exchange controls in 1978, and since that time, both residents and non-residents have been free to engage in a broad range of international financial market activities. However, it less well known that the “Monetary Authority of Singapore (MAS) has a long-standing policy of not encouraging the internationalization of the Singapore Dollar (S\$)” [MAS, 2002:1]. The S\$ "non-internationalization policy" limits the borrowing of S\$ by residents and non-residents for "currency speculation" [MAS, 2002: 13. fn 9]. This policy is clearly a type of CMT, and evidently has been successful in the sense of contributing to Singapore’s macroeconomic and industrial policy and economic stability.

Context

By virtually any measure, Singapore's economy has been a major success story of post-war economic development. To just cite one statistic, the per capita income in Singapore has more than quadrupled in less than twenty years, growing from US\$5,200 in 1981 to US\$23,000 in 1999. Moreover, Singapore’s economy has been relatively stable for the last twenty years,

¹⁴ This section draws heavily on MAS [2001; 2002], Errico and Musalem [1999], IMF [1999, 2001], McCauley [2001] and Ishi et. al., [2001].

¹⁵ See IMF [1999; 2001] for useful surveys of the Singapore economy during this period.

notably escaping the worst ravages of the Asian financial crisis of the late 1990's. [See MAS, 2001]. The government of Singapore has used a creative mix of macroeconomic tools and other government policies to achieve these outcomes. Macroeconomic policy has been rather conservative in a number of ways. The government has sought to maintain fiscal surpluses and low rates of inflation and has sought to attract large amounts of foreign direct investment. Few would deny the success of these policies. To take just one example, between 1981 and 1999, Singapore attracted FDI in an amount of over 9% of its GDP, far higher than any of its neighbors [MAS, 2001, p. 11].

At the same time, the government of Singapore has projected an image of greater adherence to economic orthodoxy than is actually the case. For example, Singapore has pursued a very successful industrial policy, huge infrastructure investments and large investment in public housing for its population, all of which have contributed to a rapid growth of living standards. Most important for our purposes, the government has pursued a managed exchange rate policy designed to stabilize the exchange rate and maintain the competitiveness of Singapore's industry. It turns out that Singapore's CMTs have played an important, but little understood role, in many of these successful policies.¹⁶

Objectives

According to the MAS, the aim of the policy of non-internationalization of the S\$ "is to prevent the exchange rate from being de-stabilized and to ensure the effective conduct of our monetary policy" (ibid.) The policy is also designed to help Singapore maintain the "soft peg" that has been crucial for its export-led strategy of development. Singapore's successful maintenance of its soft peg defies the conventional wisdom that soft-pegs are not viable [Eichengreen, 1999].

CMTs in Singapore

Singapore progressively dismantled exchange controls in the 1970's until virtually all restrictions were removed in 1978. In 1981, the MAS moved to an exchange rate-centered monetary policy. As the MAS put it: "the absence of exchange or capital controls, coupled with the small size and openness of our economy, made the conduct of monetary policy that much more difficult when Singapore shifted to an exchange rate-centered monetary policy in 1981". [MAS, 2002, p. 2].

To support this policy, the MAS instituted an explicit policy of discouraging the internationalization of the S\$ by discouraging "the use of the S\$ outside Singapore for activities unrelated to its real economy". In 1983, when the policy was first codified, financial institutions located in Singapore were forbidden to lend S\$ to any residents or non-residents that planned to take the S\$ outside of the country. Moreover, there were restrictions on equities and foreign bond listings by foreign companies in S\$ to limit the development of an internationally connected domestic capital markets denominated in S\$'s. After nine years, in 1992, the policy was loosened somewhat, when it was amended to allow the extension of S\$ credit facilities of any amount to non-residents provided that the S\$ funds were used for real activities in Singapore. [MAS, 2002:

¹⁶ Since 1981, monetary policy in Singapore has been centered on exchange rate management. First, the exchange rate is managed against a basket of currencies of Singapore's major trading partners. The composition of the basket is revised periodically to take account of Singapore's trade patterns. Second, the MAS operates a managed float. The trade-weighted exchange rate is allowed to fluctuate within an undisclosed policy band. If the exchange rate moves outside the band, the MAS will step in, buying or selling foreign exchange to steer the exchange rate back within the band. In conducting this policy, the MAS has generally given up control over domestic interest rates in order to maintain its exchange rate within its target band. McCauley [2001] argues that the main target of this policy is inflation.

4]. Under that amendment, non-residents can only borrow S\$ to finance their activities outside Singapore provided the S\$ proceeds are swapped into foreign currency. [MAS, 2001:13, fn. 9]. In addition, some restrictions were placed on inter-bank S\$ derivatives, such as FX, currency and interest rate swaps and options, which could facilitate the leveraging or hedging of S\$ positions. [MAS, 2002: p. 2]. As the SMA puts it, "These restrictions made it harder for potential speculators to short the S\$ and signaled unambiguously our disapproval of such speculation". [ibid.]

In response to pressures from the domestic and foreign financial sectors for more liberalization, the MAS has reviewed the non-internationalization policy four times since 1998, and has liberalized it to some extent during these years. In August 1998, the MAS issued a new directive, MAS 757, reaffirming the basic thrust of the non-internationalization policy, but establishing clearer and more explicit provisions than previously. These more explicit regulations reduced the need for banks to consult MAS, and then, to some extent, reduced the ability of MAS to implement "moral suasion" and "supervision". Moreover, some activities, specifically in relation to the arrangement of S\$ equities listings and bond issues of foreign companies were relaxed to foster the development of the capital market in Singapore [MAS, 2002, p. 4].

In late 1999, there was further liberalization of S\$ interest rate derivatives. Moreover, foreign companies were allowed to list S\$ equity, provided the proceeds are converted into foreign currency before being used outside Singapore. And in late 2000, key changes were made to MAS 757 to allow banks to lend S\$ to non-residents for investment purposes in Singapore. These changes to MAS 757 were intended to allow non-residents to obtain S\$ funding for investment in S\$ equities, bonds and real estate and broaden the investor base for S\$ assets, and to extend S\$ credit facilities to non-residents to fund offshore activities, as long as the S\$ proceeds were first swapped into foreign currency before being used outside Singapore. Finally, in March of 2002, the policy was further liberalized, exempting individuals and non-financial entities from the S\$ lending restrictions, "recognizing...that such entities were not usually the prime drivers of destabilizing currency speculation" [MAS, 2002. p. 5]. Moreover, the amendments significantly loosened up restrictions on non-resident financial entities, to: transact freely in asset swaps, cross currency swaps and cross-currency *repos*; and end any amount of S\$-denominated securities in exchange for both S\$ or foreign currency-denominated collateral. Previously, lending of S\$ securities exceeding \$5 million had to be fully collateralized by S\$ collateral; transact freely in S\$ FX options with non-resident entities. Previously, such transactions had been allowed only if they were supported by underlying economic and financial activities in Singapore [MAS, 2002].

Thus, following the revisions of March 2002, only two core requirements of the policy remain. First, financial institutions may not extend S\$ credit facilities in excess of S\$ 5 million to non-resident financial entities, where "they have reason to believe that the proceeds may be used for speculation against the S\$. This continues to be necessary to prevent offshore speculators from accessing the liquidity in Singapore's onshore FX swaps and money markets. [MAS, 2002: 5]. Second, for a S\$ loan to a non-resident financial entity exceeding S\$ 5 million, or for a S\$ equity or bond issue by a non-resident entity, that is used to fund overseas activities, the S\$ proceeds must be swapped or converted into foreign currency before use outside Singapore.

Assessment

Observers attribute at least part of the success of Singapore's macroeconomic policy to the significant CMTs that have hindered speculation against the S\$ and allowed authorities to pursue a managed exchange rate. The MAS itself finds its CMTs extremely useful. A recent

report states that: "The S\$ has served Singapore well. The strength and stability of the S\$ have instilled confidence and kept inflation low. These have in turn provided the foundation for sustained economic growth as well as continued strengthening of the S\$." [ibid]

According to the MAS, interest rates in S\$ instruments have generally been lower than corresponding US dollar rates. This has helped to keep the cost of capital low in Singapore. Moreover, as a result, domestic banks and corporations did not suffer from the currency and maturity mismatches that existed in other emerging-market economies. [MAS, 2001:13]. Part of the reason that it was able to keep lower interest rates was an expectation of exchange rate appreciation. It is important to note that Singapore avoided the familiar problems associated with expectations of appreciation: namely massive capital inflows, overvaluation, and then crash [see e.g. Taylor, 2002]. It seems likely that Singapore's CMTs, which discouraged speculation against the currency, helped the country avoid that all too familiar malady. It also helped to support Singapore's export-led model by keeping the exchange rate from becoming excessively overvalued.

Supporting factors

The success of this policy is partly due to the ability of the MAS to use "moral suasion" to discourage banks and other financial institutions from using the S\$ for purposes of speculating against (or in favor) of the local currency. Close, ongoing interaction between the MAS and international and domestic financial institutions has allowed the MAS to shape and monitor implementation of what appear to be deliberately vague formal regulations. Moral suasion allows the MAS to make sure that loans are "tied to economic activities in Singapore." Singapore's "strong fundamentals" are often cited as the key to its policy success. These include low inflation, fiscal surpluses, stable unit labor costs and current account surpluses -- factors that are undoubtedly important.¹⁷ But often ignored is the role of CMTs in enhancing these fundamentals. In short, Singapore's experience demonstrates that there is two-way causation between CMTs and fundamentals.

Costs

There has been no systematic analysis of the costs of Singapore's CMTs; hence only qualitative guesses exist. Some have argued that the restrictions have hindered the development of Singapore's capital markets, especially the bond markets, and may have also reduced the inflow of foreign investment, though there is little hard evidence to support these assertions [MAS, 2001]. Another possible cost is that the government of Singapore forgoes the opportunity to earn seignorage from the international use of the S\$; but there have been no quantitative estimates of these costs to date.

Other achievements

Singapore has been able to maintain a high level of foreign direct investment and political stability. Singapore's CMTs have contributed to this success by allowing the MAS to maintain a stable exchange rate and avoid the financial crises that have generated so much instability elsewhere in the region.

E. Malaysia¹⁸

Context

In the first two-thirds of the 1990s, Malaysia experienced rapid economic growth due to growth in spending on infrastructure, FDI and exports. During this period, the Malaysian capital

¹⁷ IMF [2001] emphasizes the role of fundamentals and discounts the importance of capital management.

¹⁸ This section draws mainly on Jomo [2001]; BNM, various years; Kaplan and Rodrik [2002]; Rajaraman [2001]; Mahathir [2001].

account was so liberalized that there was an offshore market in ringgit, perhaps the only case of an offshore market in an emerging-market currency [Rajaraman, 2001] Rapid economic growth in Malaysia came to a halt with the Asian financial crisis of 1997. The Malaysian government bucked trends in the region and, rather than implement an IMF stabilization program, implemented capital controls and adopted an expansionary monetary policy 14 months after September 1998. Malaysia's introduction of capital controls was widely seen as a major departure from its long reputation for a liberal capital account.

Objectives

The goals of the 1998 controls were to facilitate expansionary macroeconomic policy while defending the exchange rate, reduce capital flight, preserve foreign exchange reserves and avoid an IMF stabilization program [Kaplan and Rodrik, 2002].

CMTs in Malaysia in September 1998

The policy package is generally recognized as comprehensive and well designed to limit foreign exchange outflows and ringgit speculation by non-residents as well as residents, while not adversely affecting foreign direct investors. The offshore ringgit market had facilitated exchange rate turbulence in 1997-98. Thus, the measures were designed to eliminate this source of disturbance.

The measures introduced on 1 September 1998 were designed to achieve the following objectives [Rajaraman, 2001; BNM; Mahathir; Jomo 2001]:

- *eliminate the offshore ringgit market*, by prohibiting the transfer of funds into the country from externally held ringgit accounts except for investment in Malaysia (excluding credit to residents), or for purchase of goods in Malaysia.
- *eliminate access by non-residents to domestic ringgit sources* by prohibiting ringgit credit facilities to them. All trade transactions now had to be settled in foreign currencies, and only authorized depository institutions were allowed to handle transactions in ringgit financial assets.
- *shut down the offshore market in Malaysian shares* conducted through the Central Limit Order Book (CLOB) in Singapore.
- *obstruct speculative outward capital flows* by requiring prior approval for Malaysian residents to invest abroad in any form, and limiting exports of foreign currency by residents for other than valid current account purposes.
- *protect the ringgit's value and raise foreign exchange reserves* by requiring repatriation of export proceeds within six months from the time of export.
- *further insulate monetary policy from the foreign exchange market* by imposing a 12-month ban on the outflow of external portfolio capital (only on the principal; interest and dividend payments could be freely repatriated).

The September 1998 measures imposed a 12-month waiting period for repatriation of investment proceeds from the liquidation of external portfolio investments. To pre-empt a large-scale outflow at the end of the 12 month period in September 1999 and to try to attract new portfolio investments from abroad, a system of graduated exit levies was introduced from 15 February 1999, with different rules for capital already in the country and for capital brought in after that date. For capital already in the country, there was an exit tax inversely proportional to the duration of stay within the earlier stipulated period of 12 months. Capital that had entered the country before 15 February 1998 was free to leave without paying any exit tax. For new capital yet to come in, the levy would only be imposed on profits, defined to exclude dividends and

interest, also graduated by length of stay. In effect, profits were being defined by the new rules as realized capital gains.

Credit facilities for share as well as property purchases were actually increased as part of the package. The government has even encouraged its employees to take second mortgages for additional property purchases at its heavily discounted interest rate. The exchange controls, still in place, limit access to ringgit for non-residents, preventing the re-emergence of an offshore ringgit market. Free movement from ringgit to dollars for residents is possible, but dollars must be held in foreign exchange accounts in Malaysia, e.g. at the officially approved foreign currency offshore banking center on Labuan.

Assessment

Did Malaysia's September 1998 selective capital control measures succeed? They clearly succeeded in meeting some of the government's objectives. The offshore ringgit market was eliminated by the September 1998 measures. By late 1999, international rating agencies had begun restoring Malaysia's credit rating, e.g., the Malaysian market was re-inserted on the Morgan Stanley Capital International Indices in May 2000.

But, did these controls succeed in the sense of allowing more rapid recovery of the Malaysian economy? The merits and demerits of the Malaysian government's regime of capital controls to deal with the regional currency and financial crises will continue to be debated for a long time to come. Proponents claim that the economic and stock market decline came to a stop soon after the controls were implemented [Kaplan and Rodrik, 2002; Jomo, ed. 2001; Palma, 2000; Dornbusch, 2002]. On the other hand, opponents argue that such reversals have been more pronounced in the rest of the region. Kaplan and Rodrik present strong evidence that the controls did have a significant positive effect on the ability of Malaysia to weather the 1997 crisis and reflate its economy. While this debate is likely to go on for some time, our reading of the evidence suggests that Kaplan and Rodrik are correct: controls segmented financial markets and provided breathing room for domestic monetary and financial policies; and they allowed for a speedier recovery than would have been possible via the orthodox IMF route.

Supporting factors

In the other cases we discuss above, prior experience with CMTs have been important to the success of capital management in the 1990s. However, the case of Malaysia seems quite different: the country had a highly liberalized capital account prior to the 1990s. Nonetheless, the government was able to implement numerous CMTs, all under rather difficult circumstances. This suggests that a history of capital management is not a necessary pre-requisite for policy success.

Costs

It is difficult to identify any significant costs associated with the short-lived 1994 controls. The most important cost of the 1998 controls was the political favoritism associated with their implementation. It is difficult, however, to estimate the economic costs of political favoritism [Jomo, 2001; Kaplan and Rodrik, 2002; Johnson and Mitton 2002]. Moreover, these costs (if quantified) must be weighed against the significant evidence of the macroeconomic benefits of the 1998 controls.

Other achievements

The Malaysian experience enriches debate on the policy options available to developing countries. It demonstrates that it is possible for outflow controls to achieve their objectives.

III. LESSONS AND OPPORTUNITIES FOR CAPITAL MANAGEMENT IN DEVELOPING COUNTRIES

What policy lessons can be derived from these case studies? Before turning to *positive lessons*, we consider four commonly held mistaken claims about CMTs.

The first common view of capital management is that it can only work in the "short run" but not the "long-run." However, with the exception of Malaysia all of our cases show that management can achieve important objectives over a significant number of years. Singapore, for example, employed CMTs for more than a decade in the service of important policy objectives.

A second common view is that for capital management to work for a long period of time, measures have to be consistently strengthened. In fact, the reality is much more complex than this. As the cases of Malaysia and Chile show, at times of stress, it may be necessary to strengthen controls to address leakages that are exploited by the private sector. However, as these same cases demonstrate, controls can be loosened when a crisis subsides or when the international environment changes, and then reinstated or strengthened as necessary. More generally, looking at a broad cross-section of country experiences, one finds that dynamic capital management evolves endogenously according to the economic environment and the evolution of government goals.

We see that in Chile, for example, CMTs were adjusted several times (and ultimately abandoned) during the 1990's in response to changes in the economic environment. During its 2003 bilateral trade negotiations with the USA, Chilean policymakers sought and won the right to reinstate these controls during financial crises. In Malaysia, capital management was strengthened to address evasion during the Asian financial crisis, and then were eventually loosened. In Singapore, the government strengthens enforcement and moral suasion during times of stress, and then steps away from this strategy when the situation changes.

Third, recently many have suggested that controls on capital inflows work, but those on outflows do not. However, our cases reveal that this not always true. For example, Chile and Colombia maintained controls on inflows, while Malaysia maintained controls on outflows. In addition, Singapore and Taiwan POC maintain controls on the ability of residents and non-residents to use domestic currency offshore for purposes of speculating against the home currency. This is a control on outflows that has successfully insulated these countries from crises and has helped governments to manage their exchange rates.

Fourth, a common view is that CMTs impose significant costs by leading to higher costs of capital, especially for small firms. As we have seen, in some cases there may be some merit to these arguments. But much more evidence needs to be presented before this is established as a widespread cost.¹⁹

The positive lessons are as follows. First and most generally, we find that CMTs can contribute to currency and financial stability, macro and micro-economic policy autonomy, stable long-term investment and sound current account performance. CMTs also impart some costs. Specifically, there is evidence that in some countries the cost of capital to small firms is increased, and capital management can create space for corruption.

Second, successful implementation of controls over a significant period of time depends on the presence of a sound policy environment and strong fundamentals. These include a relatively low debt ratio, moderate rates of inflation, sustainable current account and fiscal balances, consistent exchange rate policies, a public sector that functions well enough to be able

¹⁹ In any case, this observation says nothing about the balance of costs and benefits. As economists are fond of pointing out, there are always trade-offs. Our cases demonstrate that CMTs can have important macroeconomic or prudential benefits. Of course, these benefits must be weighed against the micro costs. But as James Tobin was fond of remarking, "It takes a lot of Harberger Triangles to fill an Okun Gap".

to implement coherent policies (i.e., *administrative capacity*), and governments that are sufficiently independent of narrow political interests so that they can maintain some degree of control over the financial sector (i.e., *state capacity*).

Third, our cases show that causation works both ways: from good fundamentals to successful CMTs, and from successful CMTs to good fundamentals. Good fundamentals are important to the long-run success of CMTs because they reduce the stress on these controls, and thereby enhance their chance of success. On the other hand, these techniques also improve fundamentals. Thus, there is a synergy between CMTs and fundamentals.

Fourth, the dynamic aspects of CMTs are perhaps their most important feature. Policymakers need to retain the ability to implement a variety of management techniques and alter them as circumstances warrant. Nimble and flexible capital management is very desirable. Chile and Taiwan POC's experience with these techniques is a good example of this type of flexibility. Countries with successful experiences with controls must maintain the option to continue using them as circumstances warrant.

Fifth, CMTs work best when they are coherent and consistent with the overall aims of the economic policy regime, or better yet, when they are an integral part of a national economic vision. To be clear, this vision does not have to be one of widespread state control over economic activity. Singapore is a good example of an economy that is highly liberalized in some ways, but one where CMTs are an integral part of an overall vision of economic policy and development.²⁰

Sixth, prudential regulations are often an important complement to capital controls, traditionally defined, and vice versa. In Singapore, for example, government moral suasion aimed at discouraging banks from lending to firms or individuals intending to speculate against the currency is an example of an effective prudential regulation. In Chile, taxes on short-term inflows that prevent maturity mismatches is an example of a capital control that also serves as a prudential regulation. Our case studies present many such examples.

Seventh, there is not one type of CMT that works best for all countries: in other words, there is no one "best practice" when it comes to CMTs. We have found a variety of strategies that work in countries with very different levels of state and administrative capacities, with financial systems that differ according to their depth and degree of liberalization, with different mixes of dynamic and static controls, and different combinations of prudential financial regulations and capital controls.

Many countries that have had extensive controls in the past are now liberalizing them. Do our case studies offer any insight as to whether countries that employ extensive CMTs should begin to abandon them? Our research suggests, that in many cases, it is not in the interests of developing countries to seek full capital account liberalization. The lesson of dynamic capital management is that countries need to have the flexibility to both *tighten* and *loosen* controls.

However, if countries completely liberalize their capital accounts, they might find it very difficult to re-establish any degree of control when the situation warrants or even demands it. This is because market actors might see the attempt to re-establish capital management as *abandonment* of a liberalized capital account, and then might react rather radically to this perceived change. By contrast, if investors understand that a country is maintaining a system of dynamic capital management they will expect management to tighten and loosen over time. It is therefore less likely that investors will over-react if management techniques are tightened.

²⁰ See Nembhard, 1992, for an excellent discussion of these issues.

In sum, we have shown that the CMTs employed in five developing countries during the 1990's have achieved many important objectives. The achievements of these CMTs therefore warrant close examination by policymakers in developing countries

Table 1

Summary: Types and Objectives of CMTs Employed During the 1990's*

Country	Types of CMTs	Objectives of CMTs
Chile	<p>Inflows FDI and PI: One year Residence Requirement 30% URR Tax on foreign loans: 1.2% per year</p> <p>Outflows: No significant restrictions</p> <p>Domestic financial Regulations: strong regulatory measures</p>	<p>-Lengthen maturity structures and stabilize inflows</p> <p>-help manage exchange rates to maintain export competitiveness</p> <p>-protect economy from financial instability</p>
Colombia	Similar to Chile	Similar to Chile
Taiwan POC	<p>Inflows <i>non-residents</i> -bank accounts can only be used for domestic spending, not financial speculation -foreign participation in stock market regulated -FDI tightly regulated</p> <p><i>residents</i> regulation of foreign borrowing</p> <p>Outflows Exchange controls</p> <p>Domestic Financial Regulations -restrictions on lending for real estate and other speculative purposes</p>	<p>-Promote industrialization</p> <p>-Help manage exchange for export competitiveness</p> <p>-Maintain financial stability and insulate from foreign financial crises</p>
Singapore	<p>"Non-Internationalization" of Singapore \$ inflows</p> <p>outflows <i>non-residents</i> -financial institutions can't extend S\$ credit to non-residents if they are likely to use for speculation</p> <p>-non-residents: if they borrow for use abroad, must swap first into foreign currency</p> <p>Domestic Financial Regulations -restrictions on creation of swaps, and other derivatives that could be used for speculation against S\$</p>	<p>-to prevent speculation against Singapore \$</p> <p>-to support "soft peg" of S\$</p> <p>-to help maintain export competitiveness</p> <p>-to help insulate Singapore from foreign financial crises</p>
Malaysia (1998)	<p>Inflows -restrictions on foreign borrowing</p> <p>Outflows non-residents</p>	<p>-to maintain political and economic sovereignty</p> <p>- kill the offshore ringgit market</p>

	<p>-12 month repatriation waiting period -graduated exit levies inversely proportional to length of stay</p> <p><i>residents</i> exchange controls</p> <p>domestic financial regulations <i>non-residents</i> -restrict access to ringgit <i>residents</i> encourage to borrow domestically and invest</p>	<p>-shut down offshore share market</p> <p>-to help reflate the economy</p> <p>-to help create financial stability and insulate the economy from contagion</p>
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Table 2

Summary: Assessment of the CMTs Employed During the 1990s*

Country	Achievements	Supporting Factors	Costs
Chile	-altered composition and maturity of inflows -currency stability -reduced vulnerability to contagion	-well-designed policies and sound fundamentals -neoliberal economic policy in many domains -offered foreign investors good returns -state and administrative capacity -dynamic capital management	-limited evidence of higher capital costs for SMEs
Colombia	-similar to Chile, but less successful in several respects	-less state and administrative capacity than in Chile meant that blunter policies were employed -economic reforms in the direction of neoliberalism	No evidence available
Taiwan POC	-debt burdens and financial fragility are insignificant -competitive exchange rate and stable currency -insulated from financial crises -enhanced economic sovereignty	-high levels of state and administrative capacity --policy independence of the CBC -dynamic capital management	-limited evidence of concentration of lending to large firms, conservatism of banks, inadequate auditing and risk and project assessment capabilities -large informal financial sector -limited evidence of inadequate liquidity in financial system
Singapore	-insulated from disruptive speculation -protection of soft peg -financial stability	-strong state capacity and ability to use moral suasion -strong economic fundamentals	-possibly undermined financial sector development -loss of seignorage
Malaysia 1998	-facilitated macroeconomic reflation -helped to maintain	-public support for policies -strong state and	-possibly contributed to cronyism and

	domestic sovereignty	economic	administrative capacity -dynamic capital management	corruption
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