Averting crisis? Assessing measures to manage financial integration in emerging economies

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Abstract: The Asian crisis provides heterodox economists with the opportunity to investigate counterfactually whether the financial policies they have proposed would have averted the crisis. The paper argues that neoliberal financial integration introduces distinct risks to emerging economies—currency, flight, fragility, contagion, and sovereignty risks. The paper presents the financial policies endorsed by the heterodoxy—transactions taxes, trip wires-speed bumps, convertibility restrictions, the Chilean model, and a publicly managed mutual fund. The paper considers whether these policies mitigate risks, and whether they could have prevented the Asian crisis (and the transmission thereof). The paper concludes with policies to avert future crises.

1. Introduction

The Asian financial crisis sparked furious attack on the neoliberal model of financial integration by heterodox economists. In response to the crisis and the ensuing criticisms, neoclassical economists have taken great pains to demonstrate that the crisis resulted from cronyism, corruption and ill-conceived state intervention, rather than from any fundamental imperfections in the neoliberal model.

Heterodox economists, on the other hand, find in the crisis all too predictable evidence of the bankruptcy of this model, and the theory that defends it. From their perspective, the neoclassical invocation of cronyism and corruption reflects a desperate (but hardly unprecedented) retreat to ad hocery. Indeed, the recurrent financial crises in emerging economies over the past twenty years have provided neoclassical economists with ample opportunity to perfect what I have identified elsewhere as the "exceptionalism" thesis (Grabel, 1999). Wherever and whenever a crisis occurs, this strategy commends the identification of exceptional factors unrelated to neoliberalism. And when evidence damaging to this claim is particularly compelling, the recommended strategy is to simply argue it all the louder.

Assessing the Mexican crisis of 1994, the exceptionalism thesis seemed plausible to many economists. With so many countries flourishing under neoliberal reforms, it was relatively easy for neoliberal advocates to dismiss the Mexican crisis as anomalous. But appearances were misleading. The crisis reflected fundamental contradictions in neoliberal financial policy well understood by heterodox economics, particularly post-Keynesian theory (Grabel, 1996). In the current context, the exceptionalism thesis is wearing thin.

Embarrassing though it may be, the Asian crisis originated in and spread across those emerging economies that had most fully embraced the neoliberal financial agenda, while sparing

those countries that had retained strong state direction of financial institutions and flows. In the Asian crisis, critics of neoliberalism have strong prima facie evidence that their concerns are indeed warranted.

I do not intend to demonstrate that neoliberalism induces crisis. The Asian crisis unleashed a flood of heterodox work that substantiates this claim (Chang, 1998; Crotty and Dymski, 1998; Crotty and Epstein, 1999; Grabel, 1999; Palma, 1998; Taylor, 1998; Wade, 1998). Instead, I will proceed *as if* the heterodox case has been established. I do this for two reasons. First, this is my own view, as my own work attests. Second, I want to clear the brush, so to speak, so as to move the conversation among heterodox economists to a new arena—an arena we have been somewhat reluctant to visit.

To date, most heterodox work on finance has concentrated on establishing the inherent weaknesses of neoliberalism. Typically, this work concludes with a set of policy alternatives that, it is claimed, would prevent financial crisis. In much of this work, the latter takes the form of hand-waving.[1] In this regard my own work is no exception. Insulated from the responsibility of policymaking, we have found it convenient to parade a panoply of policy alternatives and to treat them implicitly as both necessary and sufficient to achieve financial stability.

It is time to challenge this presumption. The Asian crisis provides a basis, speculative but useful, to "test" these alternatives. *I am suggesting that we might usefully inquire as to whether the Asian crisis might have been prevented entirely or ameliorated substantially had heterodox financial policies been in place in the period immediately preceding the crisis.* This paper will undertake such a counterfactual examination. Having presented and discussed the chief financial policies that have attracted attention among heterodox economists, I will attempt to ascertain the likely effects of each independently, and the effects of the full package of such policies, taken

together. I will draw a distinction between those policies that might have prevented initial crisis emergence, and those that might have prevented the cross-border transmission of crisis once it had developed elsewhere. I hope to demonstrate where the heterodox policy arsenal is strongest, and where it is in further need of elaboration.

2. The risks of neoliberal financial integration

The first step in assessing policy in this area is to analyze why emerging economies that adopt neoliberal financial integration are prone to financial crises. I will examine five distinct, interrelated risks introduced by neoliberal finance. These are *currency, flight, fragility, contagion, and sovereignty risk*. These risks—and the factors that aggravate them--are summarized in Table 1.

<TABLE 1 HERE>

This discussion will lay the groundwork for the counterfactual assessment of heterodox financial policies that follows.

2.1 Currency risk

Currency risk refers to the possibility that a country's currency may experience a precipitous decline in value. This risk is an attribute of any type of exchange rate regime, provided the government maintains full currency convertibility. That floating exchange rates introduce currency risk is rather obvious. But as Friedman emphasized in 1953, and as events in Asia have underscored, pegging a currency does not eliminate currency risk.

Emerging economies confront the greatest currency risk for two reasons. First, governments in emerging economies are unlikely to hold sufficient reserves to protect the value of their currency should they confront a generalized investor exit. An initial exit from the

currency is therefore likely to trigger a panic that deepens investors' concerns about reserve adequacy. An exception would be those cases where an emerging economy maintains a currency board.[2] Second, emerging economy governments are rarely able to orchestrate multilateral currency rescues.

2.2 Flight risk

Flight risk refers to the likelihood that holders of liquid financial assets will sell their holdings en masse in the face of perceived difficulty. Flight creates a self-fulfilling prophecy that deflates asset and loan collateral values, induces bank distress and elevates ambient economic risk. Flight risk can interact with currency risk to render the economy vulnerable to financial crisis.

Emerging economies face acute flight risk because of the likelihood of investor herding. In this context investors face greater political and economic risks and are less confident about the integrity of the information they receive. Moreover, since investors often fail to differentiate among emerging economies, these countries are more vulnerable to generalized investor exits. Flight risk is most severe when governments fail to restrict the inflow of liquid, short-term capital flows that are subject to rapid reversal.

2.3 Fragility risk

Fragility risk refers to the vulnerability of an economy's private and public borrowers to internal or external shocks that jeopardize their ability to meet current obligations. Fragility risk arises in a number of ways. First, borrowers might finance long-term obligations with short-term credit, causing "maturity mismatch" (or what Minsky called "Ponzi financing"). This leaves borrowers vulnerable to changes in the supply of credit, and thereby exacerbates the ambient risk level in

the economy. Second, borrowers might contract debts that are repayable in foreign currency, causing "locational mismatch". This leaves borrowers vulnerable to currency depreciation/devaluation that may frustrate debt repayment. Third, agents might finance private investment with capital that is highly subject to flight risk. This dependence renders collateral values more volatile, and thereby reduces the creditworthiness of borrowers just when they are most in need of funds.

Fragility risk is, to some extent, unavoidable. But the degree to which the decisions of economic actors can induce fragility risk depends very much on whether the institutional and regulatory climate allows the adoption of risky strategies. If regulatory bodies do not seek to coordinate the volume, allocation, and/or prudence of lending and investing decisions, then there will exist no mechanisms to dampen maturity or locational mismatches, or the impulse to overborrow, overlend or overinvest. Financial integration magnifies the possibilities for over-exuberance (and introduces currency-induced fragility) by providing domestic agents with access to external sources of finance.

2.4 Contagion risk

Contagion risk refers to the threat that a country will fall victim to financial and macroeconomic instability that originates elsewhere. While financial openness is the carrier of contagion risk, its severity depends on the extent of currency, flight and fragility risk that characterize the economy. Countries can reduce their contagion risk by managing their degree of financial openness and by reducing their vulnerability to currency, flight and fragility risks.

2.5 Sovereignty risk

Sovereignty risk refers to the danger that a government will face constraints on its ability to pursue independent economic and social policies once it confronts a financial crisis. The constraint on policy autonomy can be introduced for numerous reasons.

First, governments may be forced to pursue contractionary economic policies during financial crises in order to slow investor flight. Moreover, following a crisis, a particularly contractionary policy regime may be necessary to induce investors to return to the country. While investors are not dictating policy per se, governments may find their ability to pursue expansionary policies severely constrained when they are seeking to reverse investor flight. Second and more directly, emerging economies face constraints on their sovereignty when they receive external assistance. Assistance comes at the price of having critical domestic policy decisions vetted by the external actors that provide support.

Although sovereignty risk stems from the structural position of emerging economies in the world economy, this does not imply that this risk is unmanageable. The adoption of measures to constrain currency, flight, fragility, and contagion risk all render the possibility of financial crisis less likely (or reduce its severity should it occur), and thereby buttress policy sovereignty.

2.6 Risk interactions: the architecture of neoliberal financial crisis
These distinct risks are deeply interrelated. The realization of currency risk can induce investor flight, and inaugurate a vicious cycle of further currency decline, flight and increased fragility. Should these circumstances develop into a full-fledged crisis, policy sovereignty is compromised. In this context, other countries may face contagion. The severity of the contagion risk depends in turn on the degree of financial openness, the degree to which investors can and do herd out of emerging economies, and the extent to which countries have measures in place

that constrain currency, flight, and contagion risks.

These risk interactions capture well the dynamics of the Asian and Mexican crises (Grabel, 1996, 1999). In the Asian case, the realization of currency risk triggered the initial collapse in Thailand that ultimately spread as far as Russia and Brazil. I am not, however, proposing a strict temporal model of risk interaction. The Asian crisis could easily have originated elsewhere and as a consequence of flight or fragility rather than currency risk. Analytically, the key point is that the construction of neoliberal financial systems in emerging economies introduces the constellation of risks presented here. The precise triggering mechanism is ultimately unimportant and usually unpredictable. Similarly, the exceptional features of a particular country do not themselves induce a vulnerability to crisis. Vulnerability is created instead by the specific and interacting risks of the neoliberal financial model.

3. Heterodox financial policies: a counterfactual assessment

The question before us now is whether heterodox financial policy proposals are sufficient to prevent and/or mitigate the risks of neoliberal finance. Do we have good reason to believe that these measures would have averted the Asian crisis?

This section will examine the five principal measures that have recently garnered widespread attention among heterodox economists. These are: trip wires and speed bumps; transactions taxes; the "Chilean model"; currency convertibility restrictions; and the creation of a publicly managed closed-end mutual fund for emerging economies.[3] These measures diverge from one another in two respects: they differ according to their tangency with market principles and their degree of permanence (i.e., whether they are to be in place prior to signs of distress, or are they activated as needed).

I will describe each measure and then investigate whether and to what degree it reduces each of the risks discussed above. This will enable me to assess whether the measure has the capacity to prevent the initial outbreak of crisis, mitigate the severity of crisis when it occurs, and prevent its spread beyond its initial site. Where appropriate, I will highlight desirable modifications to the policies considered. The conclusions of this policy analysis are summarized in table 2.

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Finally, I draw the discussion of this section together by offering a counterfactual scenario: *had a comprehensive and consistent set of these measures been in place throughout the region over the past decade, would the Asian crisis have occurred?* Let us see.

The reader should note that the counterfactual questions posed do not lend themselves to traditional econometric testing, and hence no such attempts will be made here. The policy analysis presented is intended to stimulate research by and dialogue among heterodox economists.

3.1 "Trip wires" and "speed bumps"

Trip wires are simple measures that warn policymakers and investors that a country is approaching high levels of currency risk, investor and lender flight risk, and fragility risk (see Grabel, 1999). When a trip wire indicates that a country is approaching trouble, policymakers could then immediately take steps to prevent crisis by activating what we might think of as "speed bumps." Speed bumps would target the type of risk that is emerging with a graduated series of mitigation measures.

Speed bumps can take many forms. Examples include measures that require borrowers to

unwind positions involving locational or maturity mismatches, curb the pace of imports or foreign borrowing, limit the fluctuation or convertibility of the currency, or slow the exit and particularly the entry of portfolio investment. I emphasize the importance of speed bumps governing *inflows* rather than outflows because measures that merely target outflows are more apt to trigger and exacerbate panic than to prevent it.

Emerging economies at the lowest, medium and highest levels of development might require distinct trip wire thresholds. Trip wires must be appropriately sensitive to subtle changes in the risk environment, and adjustable. Sensitive trip wires would allow policymakers to activate graduated speed bumps at the earliest sign of heightened risk, well before conditions for investor panic had materialized (*cf.* Neftci, 1998; Taylor, 1998).

Let us consider some possible trip wires. Two indicators of currency risk are the ratio of official reserves to total short-term external obligations (the sum of accumulated foreign portfolio investment and short-term hard-currency denominated foreign borrowing); and the ratio of official reserves to the current account deficit. Locational mismatch (that induces fragility risk) could be evidenced the ratio of foreign-currency denominated debt (with short-term obligations receiving a greater weight in the calculation) to domestic-currency denominated debt. A proxy for maturity mismatch could be given by the ratio of short-term debt (with foreign-currency denominated obligations receiving a greater weight in the calculation) to long-term debt. If this ratio and gross capital formation were both rising over time, that would indicate the emergence of maturity mismatch. An indicator of lender flight risk is the ratio of official reserves to private and public foreign-currency denominated debt (with short-term obligations receiving a greater weight in the calculation). The vulnerability to portfolio investment flight risk could be measured by the ratio of total accumulated foreign portfolio investment to gross equity market

capitalization or gross domestic capital formation. If this ratio approached a pre-determined threshold, new capital inflows would have to "wait at the gate" until domestic capital formation or gross equity market capitalization increased sufficiently. Thus, speed bumps would slow unsustainable financing patterns until a larger proportion of any increase in investment could be financed domestically. Recent experience suggests that the slower short-term growth these speed bumps *might* induce may be a worthwhile price to pay to avoid the instability created by a sudden exit of external finance.

This proposal for trip wires-speed bumps differs sharply from the projects to develop an "early warning system" to predict crises by monitoring an array of crisis indicators (Goldstein, Kaminsky, Reinhart, 2000). In keeping with neoclassical thought, the early warning system is predicated on the view that crisis results particularly from imperfect information. It therefore proposes increased surveillance to ensure that investors have full information.

In contrast, the trip wire-speed bump approach presumes with Keynes that better information is insufficient to prevent crisis. Given fundamental uncertainty and endogenous expectations, the same information might very well yield increasing investor confidence one day and a full-blown panic the next. From this perspective, warnings of potential danger must be *coupled with restrictions on investor behavior*—otherwise, the warnings are apt to induce the very crisis that they are designed to prevent.

3.1.1 Effect on risks. Trip wires could indicate to policymakers and investors whether a country approached high levels of currency, fragility, and flight risk. The speed bump mechanism provides policymakers with a means to manage measurable risks, and in doing so, reduces the possibility that policy sovereignty will be constrained by the imperatives of a financial crisis. Those countries that have trip wires and speed bumps in place are also less vulnerable to

contagion effects from crises that originate elsewhere. Hence, the combined effect of trip wires and speed bumps is to reduce the likelihood that currency, flight, fragility, or contagion risk sparks full-blown economic crisis.

It is certainly possible that activation of trip wires in one country could aggravate contagion risk in those countries that investors have reason to perceive as being vulnerable to similar difficulties. This risk could be mitigated through the use of "contagion" trip wires. These would be activated (in "country B") whenever speed bumps are implemented in a country that investors have reason to view similarly ("country A"). In such circumstances, country B would then implement appropriate speed bumps.

One important caveat bears mention. The risks introduced by off-balance sheet activities, such as derivatives, can not be revealed by trip wires (and hence can not be curbed by speed bumps) insofar as data on these activities is largely unavailable. If policymakers compelled actors to make these activities transparent, then trip wires and speed bumps for them could be designed. In the absence of the will to enforce transparency, policymakers would be well advised to forbid domestic actors from engaging in off-balance sheet activities.

3.1.2 The Asian crisis. The trip wire-speed bump approach could have prevented the initial outbreak of crisis in Asia by curbing precisely those activities that rendered many countries in the region so vulnerable to crisis. Had trip wires been in place in all of the countries involved in the crisis, policymakers would have recognized early in the day that their economies were beginning to confront unnecessary fragility, flight and currency risks. The activation of speed bumps might then have slowed speculative activity in the region by forcing agents to curtail new foreign borrowing, unwind positions that involved maturity and locational mismatches, and slow inflows of portfolio investment.[4] Moreover, even if trip wires and speed bumps had not

prevented the crisis from emerging, these measures would have reduced the severity of the crisis precisely by constraining those activities that gave rise to the crisis.

There is suggestive evidence that derivative instruments were more important in the flow of short-term funds to Asia than previously thought (Kregel, 1998). If this is, in fact, the case (and if other off-balance sheet activities were prevalent in Asia, per Neftci, 1998), then the trip wires-speed bumps proposed here might not have prevented the crisis because the risks of these activities would not have been curtailed. The only way to target the risks of off-balance sheet activities is to restrict them altogether or to mandate their transparency and subject them to trip wires-speed bumps.

3.2 Transaction taxes on purchases of securities and foreign exchange

Recently there has been a surge of interest among heterodox economists in the use of transactions taxes to reduce the potential for financial crisis by curbing speculation, asset price misalignment and financial volatility. Keynes (1936) made the case for a securities transactions tax. A number of heterodox economists have renewed the case for this tax, now known as the Keynes tax (Baker *et al*., 1995; Crotty and Epstein, 1996; Spahn, 1995, fn3).

Tobin's (1974) well-known extension of the Keynes tax to foreign exchange markets has received a great deal of support of late (Arestis and Sawyer, 1999; Felix, 1999; Haq *et al*., 1996; Wade, 1998). The Tobin tax, as it is known, is a modest *ad valorem* tax on all spot transactions in foreign exchange. Tobin (1996) amended his original proposal to encompass forward and swap transactions as well. Empirical studies of the Tobin tax estimate that the ideal tax rate would be quite low, ranging from .1% to .25% (Felix and Sau, 1996). Kaul and Langmore (1996) suggest that the proceeds could be collected by a centralized authority charged with extending concessionary development loans.

3.2.1 Effect on risks. A Keynes or a Tobin tax would at best modestly reduce some of the risks that render regimes of neoliberal finance vulnerable to crisis. These taxes are not an effective means to reduce the fragility risk that stems from widespread participation in speculative activities and the currency and/or repayment risks inherent in Ponzi-financing strategies. First, the taxes are not designed to dampen speculation in all of the sectors that are prone to bubbles. For example, speculation in real estate and construction contributed significantly to fragility risk in Asia. Second, even in those sectors that do fall under the authority of Keynes and Tobin taxes, the presence of a tax is unlikely to reduce speculation dramatically (Akyuz and Cornford, 1995, p. 188).[5] This is because the ideal tax rate is rather low relative to the expected profits associated with speculation. Hence, a low Keynes or Tobin tax would not be sufficient to undermine the attractiveness of activities and financing strategies that aggravate fragility risk, particularly in the context of rising expectations.

For the reasons advanced above, Keynes and Tobin taxes are also not the best means for curbing the financing and investment strategies that introduce flight and currency risks. The presence of a relatively small tax on securities or currency sales would be unlikely to discourage investor exit if investors have reason to fear massive capital losses due to declining securities prices and/or a significant currency depreciation (Crotty and Epstein, 1996). Thus, Keynes and Tobin taxes would neither prevent the accretion of activities that create currency and flight risk, nor would they prevent the kind of herding behavior that exacerbates these risks in the context of investor flight. Moreover, transaction taxes are not designed to preclude contagion risk in any way. Furthermore, they do not have the capacity to mitigate sovereignty risk insofar as they do not contribute significantly to a reduction in fragility, flight, currency or contagion risks.

It should be acknowledged that Keynes and Tobin taxes could reasonably be expected to

reduce some "day trading" in securities and currency markets, respectively. This is because the annualized cost of even a very small tax may be prohibitive in the case of habitually active traders, especially during tranquil times when expected returns on these trades are modest. In this case, transactions taxes could reduce the fragility risk introduced by short-term trading (and resultant asset price distortions) in securities and currency markets. Flight and currency risks would accordingly be reduced to the extent that churning by some investors is discouraged.

There are two compatible means for enhancing the ability of Keynes and Tobin taxes to reduce fragility, flight and currency risks. Joint implementation of these taxes would enhance their potential to reduce risk. A Keynes tax can reinforce the stabilizing effect of a Tobin tax by increasing the cost of investor flight, as Crotty and Epstein (1996) have observed. Investor flight might be discouraged by double taxation.

A variable Keynes-Tobin tax would further enhance the potential of these measures to reduce fragility, flight and currency risks.[6] During tranquil times, low transaction taxes might be maintained. High transaction taxes (and an additional exit tax) would be imposed on investors whenever trip wires indicated that the economy was vulnerable to a crisis. With knowledge of this variable tax structure, investors might be less likely ex-ante to engage in activities that aggravate currency, flight and fragility risks. In any case, the activation of a prohibitively high tax (as a speed bump) might discourage some investors from liquidating their portfolios.

3.2.2 The Asian crisis. Given the limited ability of traditional Keynes and Tobin taxes to reduce the risks under consideration, it is clear that they would not have prevented the initial outbreak of crisis in Asia, and would not have mitigated its severity or transmission.[7] A dual Keynes-Tobin tax would have a greater effect on risk reduction, and hence on crisis prevention and mitigation (though not on transmission). A speed bump in the form of a vulnerability-activated substantial

tax might well have prevented the Asian crisis altogether or mitigated its severity had it occurred.

3.3 The "Chilean model" of exchange rate and capital inflows management

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 refers to a policy regime that Chilean and Colombian authorities began to implement in June 1991 and September 1993, respectively. The backdrop for this policy regime was an ambitious program of neoliberal reform. 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 exchange rate and exports, and protect the economy from the instability associated with speculative excess and the sudden withdrawal of external finance.[8]

3.3.1 Chile, 1991-98. Financial integration in Chile was regulated through a number of complementary measures. From June 1991 through early 2000, authorities maintained an exchange rate band that was gradually widened and was modestly revalued several times. The monetary effects of the rapid accumulation of international reserves were also largely sterilized. The only policy that governed capital outflows by Chilean investors was a provision that pension funds could invest a maximum of 12% of their assets abroad.

Central to the success of the Chilean model was a multi-faceted program of inflows management. First, foreign loans faced a tax of 1.2% per year. Second, FDI faced a one-year residence requirement. Third, from May 1992 to October 1998, Chilean authorities imposed a non-interest bearing reserve requirement of 30% on all types of external credits and all foreign financial investments in the country. 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 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 foreign capital 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, p. 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.[9] In my view, the decision to terminate inflows management was imprudent given the substantial risks of unregulated short-term inflows and the risk that Chile could be destabilized by emergent crises in Argentina and Brazil. 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 trip wires-speed bumps), and it is regrettable that authorities abandoned this course.

3.3.2 Colombia, 1993-98. Colombia's inflows management policies relating to foreign borrowing were similar to (though blunter than) those in Chile.[10] Beginning in September 1993, the Central Bank required that non-interest bearing reserves of 47% 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 (e.g., limited sterilization of inflows) to protect exports from currency appreciation induced by inflows.

3.3.3 A digression on Malaysia, 1994. In the context of astounding increases in capital inflows, Malaysian authorities implemented stringent, temporary inflow controls in early 1994 (Ariyoshi *et al*., 2000; Palma, 2000). Reaction to these measures was rapid and dramatic, so much so that authorities dismantled them in under a year. During the period that the controls were in place, the volume of net private capital inflows and short-term inflows was reduced severely (falling by 18 and 13 percentage points of GDP, respectively), the composition of these flows was altered significantly, and the inflation of stock and real estate prices was curtailed (Palma, 2000). The immediate, powerful reaction to these temporary controls underscores the potential of speed bumps to target incipient difficulties. Malaysian experience suggests that it is preferable to implement graduated speed bumps (to avoid investor over-reaction) and to use the "breathing room" obtained by the activation of speed bumps to introduce lasting reform.

3.3.4 Effect on risks. The Chilean model represents a highly effective means for managing all of the risks under consideration.

Chilean authorities managed currency risk via a crawling peg complemented by 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 (Agonsin, 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 because of a lack of consistency in the exchange rate regime, the limited scope of inflow sterilization, and the resilience of inflation in the country. Nonetheless, exchange rate and inflows management offered some protection to exports when the country was receiving relatively large capital inflows, and the currency 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.

It is noteworthy that inflows management in Chile and Colombia targeted only the flight risk of foreign investment. This is no small matter since the sudden exit of domestic investors can be destabilizing and can cause asset price declines. But it is likely that the constraints of the Chilean model make domestic investment "stickier" by reducing the risk of crisis. Nevertheless, it would be advisable for policymakers considering this model to develop mechanisms to stabilize domestic investment and bias it towards long-term activities.

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 (Ffrench-Davis and Reisen, 1998; LeFort and Budenvich, 1997; Palma, 2000).[11] 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.[12] 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 emerging economies. Colombia's prohibition on foreign equity and bond market participation dramatically reduced the relative importance of short-term, liquid forms of investment finance. More strikingly, FDI became a major source of finance in the country despite its political problems and its blunt financial controls.

Some analysts challenge the sanguine assessment of the Chilean model. Edwards (1999) 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, that the controls affected only the composition and maturity and not the volume of inflows is "hardly a devastating critique" (1999, p. 53), since

this was precisely their purpose.

Based on the empirical evidence, we conclude that Chilean and Colombian policies reduced (to varying degrees) the likelihood of financial crisis by containing currency, fragility and foreign investor flight risk. Policymakers were accordingly insulated from potential challenges to policy sovereignty via reduction in the risk of crisis. Furthermore, policymakers were able to implement growth-oriented policies because the risk of foreign investor flight was curtailed (LeFort and Budenvich, 1997). The Chilean model also reduced the vulnerability to contagion by fostering macroeconomic stability.

3.3.5 The Asian crisis. As the above makes clear, the Chilean model inhibited the currency, flight and fragility risk that created a vulnerability to crisis in many countries in SE Asia. If a version of the Chilean model had been in place in SE Asia, it is quite likely that the crisis would never have occurred, or at least, that its consequences would not have been as severe. This is because the protections afforded could have reduced the risks of a currency collapse and discouraged unsustainable patterns of financing and foreign investment.

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 (e.g., 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 Asia, the decision to float the currency in Chile and Colombia did not induce instability.

3.4 Restrictions on currency convertibility

A convertible currency is a currency that holders may freely exchange for any other currency regardless of the purpose of conversion or the identity of the holder. In practice this means that the central bank pledges to buy or sell unlimited amounts of the domestic currency.

A government can maintain currency convertibility for current account transactions but impose controls on capital account transactions. Moreover, a government can manage convertibility by requiring that investors apply for a foreign exchange license that entitles them to exchange currency for a particular reason. The latter approach allows the government to influence the pace of currency exchanges and distinguish among transactions based on the degree of currency risk associated with the transaction. The government can also suspend foreign exchange licensing (or convertibility, generally) as a type of speed bump. The government can also control non-resident access to the domestic currency by restricting domestic bank lending to non-residents and/or by preventing non-residents from maintaining bank accounts in the country.

Today over 150 countries maintain fully convertible currencies. Emerging economies have been pressed to adopt full convertibility much earlier in their development than did Western Europe and Japan. Had the Asian crisis not intervened, the IMF was poised to modify its Articles of Agreement to make the maintenance of full convertibility and an open capital account preconditions for membership. Recently, IMF and US officials have begun to raise this issue anew.

3.4.1 Effect on risks. Maintenance of unrestricted currency convertibility in emerging economies is highly problematic from the perspective of financial stability. Investors cannot move their money freely between countries unless they can easily convert capital from one currency into another. But the practice of currency conversion and the exit from assets denominated in the

domestic currency places currencies under pressure to depreciate. For this reason, unrestricted convertibility introduces currency, flight, and currency-induced fragility risks.

Currencies that are not convertible can not be placed under pressure to depreciate because there are substantial obstacles to investors' acquiring them in the first place. Moreover, to the extent that investors are able to acquire the currency (or assets denominated in it), their ability to liquidate these holdings is ultimately restricted. Thus, the likelihood of a currency collapse is trivial because the currency cannot be attacked. The greater are the restrictions on convertibility, the smaller is the scope for currency risk.

Restricting currency convertibility can curtail flight risk. Restricting convertibility can effectively discourage foreign investors from even buying the kinds of domestic assets that are most prone to flight risk because these holdings cannot be readily converted to their own national currency. To the extent that these restrictions do not discourage foreign investors from purchasing assets subject to flight risk, they nevertheless undermine their ability to liquidate these investments and take their proceeds out of the country. Convertibility restrictions also reduce the ability of domestic investors to engage in flight.

Convertibility restrictions also reduce currency-induced fragility risk. This measure decreases the possibility that currency depreciation will lead to an unexpected increase in debt-service costs. Of course, restricting convertibility does not reduce the fragility risk induced by the adoption of risky financing strategies, such as those involving maturity mismatch.

By reducing the overall risk of financial crisis, currency convertibility restrictions can reduce sovereignty risk. This measure protects policy autonomy by slowing the rate of depletion of foreign exchange reserves, thereby giving the government time to implement changes in economic policy without being forced to do so by pressures against the currency (Eichengreen *et*

al., 1995). Finally, convertibility restrictions can reduce a country's vulnerability to contagion by rendering the economy overall less vulnerable to financial crisis. Insofar as investors know that the economy is less vulnerable to crisis, they are less likely to engage in actions that induce contagion via a "guilt by association" effect.

There are, of course, costs associated with maintaining convertibility restrictions. For example, such policies may give rise to black markets, corruption, and/or trade misinvoicing. These costs may be contained if convertibility restrictions are strengthened or activated only when trip wires reveal a vulnerability to crisis. Speedbumps notwithstanding, the potential costs of convertibility restrictions must be weighed against the actual, significant costs of crisis. Critics may also counter that convertibility restrictions reduce growth by raising capital costs. But the effects on capital costs and growth in any one country depends very much on whether other economies maintain such restrictions, and whether the hurdle rate is reduced by the reduction in the vulnerability to crisis (see section IV).

3.4.2 The Asian crisis. Maintaining restrictions on currency convertibility could have prevented or at least mitigated the severity of the Asian crisis. Restricting convertibility reduces all of the risks that played important roles in the crisis. Aggressive management of convertibility can play an important role in reducing the likelihood of financial crisis in one country, and in reducing the vulnerability to cross-border transmission. It bears emphasis that the Asian crisis emerged in and spread precisely to those countries that failed to restrict convertibility.

By contrast, countries that did not maintain convertible currencies such as China[13], India and Taiwan were largely unaffected by the crisis insofar as it was impossible for them to experience a currency collapse (and related currency-induced fragility risk) and the risk of investor flight was minimal. Investors had little reason to fear a collapse of currency and/or asset

values in these countries, and they therefore behaved accordingly. These experiences suggest that had a greater number of countries taken steps to reduce currency and flight risks (by restricting convertibility or via other means), there may not have been so many ready sites for contagion.

Restrictions on currency convertibility alone did not inoculate China, India and Taiwan from the Asian crisis. The restrictions did, however, curtail the risks (and investor perceptions thereof) to which these economies were exposed. It is noteworthy that a recent study of capital account regimes by IMF staff concludes that despite the efficiency costs and some evasion of Chinese and Indian capital account restrictions, these restrictions are among the factors that can be credited with the performance of these economies during the Asian crisis (Ariyoshi *et al*., 2000, pp. 16-7, pp. 31-4).

3.5 A publicly managed closed-end mutual fund for emerging economies
D'Arista (1999) develops a proposal to provide large, stable pools of foreign portfolio capital to emerging economies via the creation of a publicly managed international closed-end mutual fund for emerging market securities. This fund would issue its own liabilities to private investors and buy stocks and bonds of private enterprises and public agencies in a wide spectrum of emerging economies. In consultation with host governments, the fund would focus on the long-run economic performance of enterprises and countries rather than short-term financial returns.

To balance the goals of market stability and dynamism, the fund would need to possess a large capital cushion. Between ten and twenty percent of the value of shares sold to investors would be used to purchase and hold government securities of major industrial countries in amounts roughly proportional to the closed-end fund shares owned by residents of those countries. These holdings would provide investors with a partial guaranteed return, denominated

in their own currencies. The government securities would also explicitly guarantee the value of the fund's capital, thereby moderating investors' concerns about potential capital losses.

3.5.1 Effect on risks. As with the restrictions on investor exit associated with the Chilean model, the closed-end fund seeks to stabilize foreign capital inflows to emerging economies. By stabilizing these inflows and hence reducing their flight risk, the fund could provide a "center of gravity" to emerging stock markets. By reducing the flight risk of foreign capital inflows, the fund would thereby also reduce the currency and fragility risk associated with a sudden exit of foreign portfolio investors. And to the extent that flight, currency and fragility risks are constrained, contagion and sovereignty risks would be reduced as well.

In theory, D'Arista's fund proposal would reduce the flight risk of foreign investment via two channels (though she does not specify the second channel). First, the proposal obviously would "fix" that capital made available through the fund. Second, and equally important, it should render other portfolio investment "stickier" because it reduces the level of (flight, etc.) risk to which the economy is exposed. This "multiplier effect" is potentially more valuable than the immediate effect, given that the funds created are not likely to be very large. But the riskier is the economy, the bigger the first effect must be in order to have the multiplier effect. This raises the broader issue of what fund size is sufficient to provide a center of gravity to stock markets in emerging economies. Here a problem emerges: in order to serve as a center of gravity, the size of the fund relative to total stock market capitalization must be greatest in precisely those economies that are deemed riskiest. These are precisely the economies where the rate of return must be greatest to induce investor participation—and where, as a consequence, the cost of maintaining the fund will be highest.

The extent to which this proposal diminishes the risk of flight depends on the absolute

and relative size of the fund. If the fund is employed as the sole device for stabilizing investment finance and reducing risks, then the fund must be very large in absolute and relative terms. And the relative and absolute size of the fund depends, in turn, on the incentives to participate in it. Until these issues are resolved, the fund proposal represents a useful complement to other efforts to stabilize capital flows. If employed alongside other stabilizing measures, the concerns about fund size would be ameliorated.

3.5.2 The Asian crisis. As the analysis above makes clear, the independent operation of D'Arista's closed-end fund could not have prevented the Asian crisis, reduced its severity, or prevented its transmission across borders. The fund would have needed to be extraordinarily large in order to stabilize markets and reduce investors' perceptions of the risks in countries that were party to the crisis. However, had a fund of a non-trivial size been in place in conjunction with other measures to reduce risks, the fund's multiplier effects could have helped to stabilize markets and reduce risks. And the greater the fund size, the less severe would other measures need to be.

4. Averting the next crisis?

Based on the counterfactual policy analysis undertaken above, we are now in a position to look retrospectively and prospectively at policy options. We can ask what policies might have prevented the Asian crisis? And what could be done to prevent a repeat of recent history in emerging economies? Our findings suggest the following policy lessons.

Lesson #1: The Asian crisis was preventable. Table 3 summarizes the range of measures that policymakers could have employed to ensure that the economies involved in the crisis maintained access to private capital flows while reducing their vulnerability to particular risks.

<TABLE 3 HERE>

Lesson #2: The mantra "there is no alternative" to neoliberal finance and the risks thereof is simply wrong. This research suggests that it is the task of policymakers in emerging economies to select from among those tools that represent the most appropriate, desirable and feasible means to reduce the specific risks deemed most dangerous to their economy (see table 3). For example, graduated, distress-activated measures are generally preferable to blunt instruments. But the ability to utilize flexible measures assumes a certain level of state capacity and informational adequacy. Where these conditions are not met, policymakers may determine that blunt policy instruments are the only ones feasible. This means, then, that there is neither a single policy inoculant nor a single policy package that should be applied uniformly.

Lesson #3: A program of crisis prevention in emerging economies necessitates the implementation of a comprehensive and consistent set of complementary policies. This means that policymakers must pay attention to "policy complements" because the independent implementation of certain risk-minimizing measures will have undesirable and even perverse effects. For example, as recent experience in Asia demonstrates, efforts to manage currency risk must be complemented by inflows management. Additionally, efforts to reduce flight risk by restricting only gross capital outflows are likely to trigger an investor panic if these policies are not accompanied by measures to manage gross inflows. Indeed, if inflows are well managed so that flight risk is reduced, there may be little need to manage outflows. Moreover, reliance on policy complements reduces the necessary severity of any single policy, and can magnify the effectiveness of the entire policy regime.

Lesson #4: We simply do not know whether implementation of the measures presented in table 3 in one or a few emerging economies will increase or decrease the hurdle rate necessary

to attract private capital flows. The hurdle rate necessary to attract foreign investment may increase if investors demand a premium in order to commit funds to an economy in which liquidity or exit options are compromised. But it is just as plausible to assume that the hurdle rate in such economies may be reduced by a policy regime that gives investors less reason to fear that capital losses will be incurred or growth will be sacrificed because of financial crisis. That foreign investors found Chile and SE Asian economies attractive when they had controls in place gives some credence to the latter view (as does investors' continued fascination with China).

Corollary to lesson #4: The hurdle rate for emerging economies as a whole would be lower in a world in which all or most emerging economies chose from among the policy options discussed here. It is of course true that emerging economies always face a higher hurdle rate than do wealthier economies because of investor concerns about informational adequacy and inflation and political risks. And, as discussed above, it is possible *(though not given)* that individual economies may face higher hurdle rates by implementing the policies in table 3. But since there is no absolute hurdle rate for emerging economies (insofar as hurdle rates are always derived from a relative comparison of investment options), it is quite reasonable to conclude that emerging economies as a whole would find it easier and less costly to attract private capital flows if they reduced their vulnerability to crisis through collective implementation of the policies examined here.

Lesson # 5: It is far from certain that efforts to reduce the risks of financial crisis will be frustrated by corruption, waste and evasion and will purchase stability at the cost of growth. Contra the claims of the new-political economy, corruption, waste and evasion occur under both liberal and illiberal regimes. The policies in table 3 may well introduce *new* forms of corruption and waste. But it is by no means certain that the *volume* of these activities will be greater under

an illiberal regime. The frequently invoked problem of policy evasion, too, is a red herring. Some actors will evade policy under any regime. Evasion, however, does not imply policy failure. The experiences of India, China, Chile and Columbia, for example, suggest that financial controls have been highly effective despite some evasion. It is nevertheless imperative that the particular controls adopted be consistent with national conditions, including state capacity (per lesson #2).

On the matter of economic growth, a tradeoff between stability and growth has not been established, though critics of financial controls often implicitly assume that is has. Certainly the experiences of Chile and China (and South Korea during the *dirigiste* era) cast strong doubt on the growth-stability tradeoff. More generally, if foreign investors value stability and predictability (especially in the post-Asian crisis environment), countries with well functioning financial controls might have a comparative advantage in attracting capital inflows. Finally, it is important always to weight the actual costs of instability and crisis against the potential costs of slower, sustainable growth.[14]

It is both fatalistic and incorrect to say that nothing can be done to prevent the next round of financial crisis in emerging economies. The obstacles that block efforts to mitigate the risks of neoliberal finance are therefore not technical—they are ideological and political. The task before policymakers in these countries is to determine the risks to which their economies are most vulnerable and then implement appropriate policy regimes that minimize these risks. And the task before heterodox economists is to push forward in the design of policy regimes that can avert crisis and thereby create space for the implementation of programs that promote equity, stability and growth. It is my hope that this paper contributes to such efforts.

Notes

[1] There are a few notable exceptions, e.g., D'Arista (1999).

[2] See Grabel (2000) on currency boards.

[3] See Crotty and Epstein (1996) for an exhaustive discussion of controls. See also Eatwell and Taylor (1998) on the World Financial Authority.

[4] It is ironic that in the case of the Asian countries involved in the crisis, there was in fact no objective need for the capital inflows that created a vulnerability to crisis (because most of the countries involved maintained extraordinarily high levels of private savings).

[5] But see Felix (1999, p. 10) for an alternative view.

[6] I thank James Crotty for raising this point. Spahn (1995) also proposes a two-tiered tax.

[7] This contrasts with Wade who writes that the tax "might have slowed the build up to the crisis" (1998, p. 1545).

[8] As of this writing, the Chilean model has been dismantled. But it deserves careful examination in view of recent enthusiasm for it and its record.

[9] Nevertheless Eichengreen (1999) makes clear that authorities erred in terminating inflows management.

[10] It seems reasonable that the bluntness of Colombian policy stemmed from limitations on state capacity.

[11] These studies also find that leakages from these regulations had no macroeconomic significance.

[12] FDI is not unproblematic, however. It can and has introduced sovereignty risk (Grabel, 1996).

[13] The Chinese currency is not convertible for capital account transactions.

[14] See Goldstein *et al*. (2000, ch. 7) on the costs of crises.

Table 1. *The risks of neoliberal financial integration*

Type of risk	Definition	Aggravated by
Currency	Risk that a country's currency may collapse following investors' decisions to sell their holdings	▪ Reserve inadequacy ▪ Inability to organize multilateral rescues ▪ Currency convertibility ▪ Investor herding ▪ Emerging economy status
Flight	Risk that holders of liquid financial assets will seek to sell their holdings, thereby causing significant declines in asset/collateral values and increasing economy's ambient risk	▪ Investor herding ▪ Emerging economy status ▪ Currency convertibility ▪ Absence of mechanisms to manage capital flows
Fragility	Risk that the economy's private and public borrowers are vulnerable to internal or external shocks that jeopardize their ability to meet current obligations	▪ Locational and maturity mismatch ▪ Volatility of collateral values ▪ Financial openness ▪ Absence/inadequacy of measures to manage investment, lending, and borrowing decisions
Contagion	Risk that a country will fall victim to financial and macroeconomic instability that originates elsewhere	▪ Financial openness ▪ Extent of currency, flight and fragility risk
Sovereignty	Risk that a government will face constraints on its ability to pursue independent economic/social policies once it confronts a financial crisis	▪ Emerging economy status ▪ Absence/inadequacy of measures to constrain currency, flight, fragility, and contagion risk

Table 2. *Analysis of heterodox financial policies: Effect on risks and crisis prevention*

Policy	Target risk	Could policy prevent outbreak of crisis?	Could policy mitigate the severity of crisis?	Could policy prevent transmission of crisis?
Trip wires & speed bumps	Currency, flight, fragility (except that related to off-balance sheet activities), and sovereignty risk	Yes (Provided that off-balance sheet activities are not significant, or are apparent to/ restricted by regulators)	Yes	Yes
Transactions taxes: ◆ Keynes	Minimal to no effect on fragility, currency and flight risk	No	No	No
◆ Tobin	As above	No	No	No
◆ Dual	Moderate effect on fragility, currency and flight risk	Possibly	Possibly	No
◆ Variable	Magnified effect on fragility, currency and flight risk	Probably	Probably	No
The "Chilean model" as in ◆ *Chile* ◆ *Colombia*	*Chile*: currency, (foreign investor) flight, fragility, sovereignty, contagion risk *Colombia*: minimal reduction in currency risk, other risks same as Chile	Yes (pertains to both countries)	Yes (both countries)	Yes (both countries)
Restrictions on currency convertibility	Currency, flight, currency-induced fragility, contagion, and sovereignty risk	Yes	Yes	Yes
Publicly managed closed-end mutual fund for emerging economies	*Minimal reduction in the flight, currency, fragility, contagion and sovereignty risks induced by exit of foreign portfolio investment*	No	No	No

Table 3. *Policy menu: Options for reducing the risks of neoliberal financial integration*

Type of risk	Policies that can reduce this type of risk
Currency	Trip wires & speed bumps; dual and especially variable transaction taxes; Chilean model; convertibility restrictions; publicly managed closed-end mutual fund.
Flight	Same as for currency risk, except note that Chilean model reduces only the risk of foreign investor flight
Fragility	Trip wires & speed bumps (affect only transparent activities); dual and especially variable transaction taxes; Chilean model; convertibility restrictions (affect only currency-induced fragility); publicly managed closed-end fund.
Contagion	Trip wires & speed bumps; Chilean model; convertibility restrictions; publicly managed closed-end fund.
Sovereignty	Same as for contagion risk

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