Center for Economic Policy Analysis

The Three Routes to Financial Crises: The Need for Capital Controls

Gabriel Palma (Cambridge University)

CEPA Working Paper Series III

International Capital Markets and the Future of Economic Policy
A Project Funded by the Ford Foundation

Working Paper No. 18

November 2000

Center for Economic Policy Analysis
New School for Social Research
80 Fifth Avenue, Fifth Floor, New York, NY 10011-8002
Tel. 212.229.5901 • Fax 212.229.5903
www.newschool.edu/cepa

THE THREE ROUTES TO FINANCIAL CRISES:

the need for capital controls

Gabriel Palma[1]

November 2000

Faculty of Economics and Politics,
University of Cambridge
Sidgwick Avenue,
Cambridge CB3 9DD,
United Kingdom

E-mail: gabriel.palma@econ.cam.ac.uk

---

[1] Faculty of Economics and Politics, University of Cambridge. An earlier version of this paper was presented at a workshop on 'The New World Financial Authority', organised by the Center for Economic Policy, The New School for Social Research, New York, July 6-7, 1999. I should like to thank the Center for their financial support, and the participants at the workshop, particularly John Eatwell, Jose Antonio Ocampo and Lance Taylor for their helpful comments. Participants at other conferences and seminars in Bangkok, Bilbao, Cape Town, Kuala Lumpur, London, Paris, Santa Cruz and Santiago, particularly Edna Armendáriz, Daniel Hahn, Arturo O'Connell, Jonathan Fox, Carlota Pérez, and Bob Sutcliffe also made useful suggestions. The usual caveats apply.

"We will never use capital controls:
we want to be a First World Nation".

F. H. Cardoso

"People usually prefer to fail through
conventional means rather than to
succeed through unconventional ones".

J. M. Keynes

1.- INTRODUCTION

Like California's 'Proposition 13' in 1978, Chile's imposition of capital controls in 1991 will probably one day be seen as an economic and political landmark.

It is not that other countries did not have capital controls before (like India or China), or since (like Malaysia and Colombia), but of all the countries applying capital controls in recent years, the case of Chile in the 1990s has turned out to be the most ideologically influential one within the 'mainstream'. This is probably the result of the fact that Chile was the first country that implemented capital account regulations **after** having fully liberalised its economy; i.e., with its neo-liberal credentials intact (as until then it had followed the whole spirit and the letter -- including the small print -- of the liberalisation and reform programmes). It also did so explicitly as a **temporary** measure (as opposed to what Keynes always recommended[2]), necessary to deal with (what was expected to be) a temporary phenomenon of 'excess' capital inflows. That is, Chile implemented capital controls in 1991 clearly not in any way as part of a fundamental questioning of the classical 'efficient-market' theory, but simply as a mechanism for tackling some short-term strains caused by what they believed to be an otherwise efficient international financial flow system.[3]

However, as soon as it became evident that these controls had been particularly effective in helping the Chilean economy to weather the so-called 'Tequila effect'

---

[2] Well, at least from his 'Economic Consequences of Peace' onwards.

[3] This would include Chile's capital controls within the family of policies that Paul Davidson has called 'liquidity plumbing solutions'; i.e., solutions designed simply to patch up short-run macroeconomic stresses (see, for example, 2000).

(following the 1994 Mexican crisis), they suddenly began to attract an enormous amount of attention -- and one that (oddly enough) has not been shared by other equally interesting experiments in inflow-controls, such as those of Colombia (1993) and Malaysia (1994).[4]

As is well known, after California's 'Proposition 13', the neo-liberal tide started gathering pace, soon becoming not just a tide but a tidal wave with Reagan's and Thatcher's Jihad against the public sector, government regulations, and the Keynesian welfare system in general.[5]

However, major financial crises in Mexico, East Asia and Brazil seem eventually to have had the effect of slowing down the seemingly unstoppable advance of this neo-liberal tidal wave. They certainly have not stopped it, let alone turned the tide back, but at least they have dented the fundamentalist way in which some in the markets-always-know-best brigade thought about certain crucial policy issues. Suddenly, views such as those expressed by Summers just a few years before felt as if they belonged to a different era:

> The ultimate social function [of financial markets are] spreading risks, guiding the investment of scarce capital, and processing and disseminating the information possessed by diverse traders […]. Prices will always reflect fundamental values […]. The logic of efficient markets is compelling (1989, p.16; quoted in Davidson, 2000, 1117).

In fact, Chile's capital controls became the first real issue in the last third of a century in which some segments of the 'mainstream', and some important figures in the 'Washington Consensus', have conceded (often reluctantly) that in at least one important sphere of LDCs' economic life the normal market interactions of intelligent, rational, self-interested, and 'maximising' economic agents may not lead to an 'equilibrium', neither a 'global' nor even a 'local' one.

Specifically, it is increasingly acknowledged that in the dynamic which lead to these

---

[4] For the experience of Colombia, see especially Ocampo and Tovar (1999), and Ocampo (2000); for that of Malaysia, Rodrik and Velasco (2000). For other experiences, such as India and China, see Joshi (2000), and Bhalla and Nachane (2001). For some of the growing literature on capital controls, see also Fisher et. al. (1998); Calvo and Reinhart (1999); and Eichegreen (2000).

[5] Other influential events at the time were the rejection of Stalinist-style planning, and the embracing of market economics, by the 1978 Congress of the Chinese Communist Party (under the leadership of Deng Xiaoping), the elimination of exchange controls in Britain in 1979, and the first major privatisation by the Thatcher government in 1981 (British

three major financial crises, these market interacting agents somehow lost their capacity to assess and price their risk properly, ending up accumulating far more risk than was privately (let alone socially) efficient.

Of course, these mainstream economists have not gone nearly as far as agreeing with Keynes' 'liquidity preference' theory -- that international financial markets can **never** be trusted to deliver liquidity in an **orderly** fashion, in either the short or the long term -- but they have made a significant departure from more extreme views of the classical efficient-market theory.

This does not mean that there are not still a large number of die-hard neo-liberals insisting that these financial crises were entirely and exclusively the result of 'exogenous' market interferences, which affected the (otherwise efficient) behaviour of these 'maximising' market interacting agents, and the (otherwise efficient) resource allocation mechanisms of financial markets. As is well known, the three main issues identified by this vast literature in their search for culprits that would explain why prices did not always reflect fundamental values are governments' deposit insurance, IMF-led rescue operations and the allocation of financial resources in many LDCs according to non-market criteria (i.e., two 'moral hazards' and a system of resource allocation characterised as 'crony capitalism').[6]

Although these issues are obviously part of the story, fortunately, most of the debate in the financial and development literatures has recently begun to put them into some perspective, moving away from the tiresome insistence on negative 'exogenous' interventions and into a more illuminating analysis of the dynamic that led to these financial crises. In this new journey, the necessity and effectiveness of some government intervention in financial markets, such as whether Chilean-style controls on inflows and Malaysian-style controls on outflows can be effective mechanisms for avoiding (or at least for mitigating) the effects of financial crisis, are attracting a good deal of attention.

One of the main issues discussed in this new literature regarding Chilean-style inflow-controls is whether they have been more effective in dealing with the **levels** or with the **composition** of capital inflows; regarding outflow-controls the new literature

---

Aerospace).

[6] See my chapter on Brazil in this volume for a more detailed discussion of these issues.

discusses in particular both their short-term effectiveness in stopping outflow-stampedes, and their long-term effects on growth and financial stability.

Of course, the need for capital controls is not a new issue in economic theory. For example, Keynes' work on the matter (and his insistence on integrating them in the Bretton Woods institutions) is well known, as is the work of those of his contemporaries who deal with these matters, such as that of Nurkse.

However, the more recent debate was sparked not by the issue of capital controls proper, but by a related controversy started by Tobin with regards to his proposal for a small tax on foreign exchange transactions (intended to slow down flows of 'hot-money' without interfering significantly with currency transactions related to trade and productive investment). Some of the issues related to this so-called 'Tobin tax' were later taken up by such influential figures as Stiglitz and Krugman, and eventually the debate moved on to the issue of capital controls proper.[7]

The aim of this paper is to study both the need for inflow-controls in developing economies that have liberalised their capital accounts at times of high, volatile and mostly unregulated international liquidity, and the effectiveness of these controls in the countries that have implemented them.

The first part of the paper will tackle the first issue, trying to show that no matter how hard financially-liberalised LDCs have tried in the last quarter of a century to deal with the problem of sudden and massive surges in capital inflows, they have ended up in a financial crisis. Among crisis-countries the paper will identify three different forms through which these LDCs have tried unsuccessfully to deal with the difficult problem of absorbing these sudden inflow-surges, and will conclude that each of them led to financial crises via a different route; these are best exemplified by the Mexican, the Korean and the Brazilian experiences. In order to do so, this first part will study the period between financial liberalisation and financial crisis in each of these three paradigmatic countries.

---

[7] See Tobin (2000); Stiglitz (1998 and 2000); and Krugman (2000). One use made of this tax that Tobin did not anticipate is to be found in Latin American countries in which income tax collection is very difficult; here a Tobin tax on domestic financial transaction was implemented not as a mechanism to limit financial market volatility by increasing financial transactions costs, but simply as an effective revenue mechanism.

These three routes (from now on called ‘route 1’ for Mexico, ‘route 2’ for Korea, and ‘route 3’ for Brazil) will contain the experiences of other countries that have also ended up in a financial crisis after the liberalisation of the capital account of their balance of payments led to a surge in inflows, as for example the Chilean case leading to its 1982 crisis (‘route 1’), and those of Malaysia and Thailand leading to their respective 1997 crises (a combination of ‘route 1’ and ‘route 2’).

The second part of this paper will study the possible effectiveness of capital controls. Special attention will be paid to the experiences of Chile and Malaysia.[8] In the case of Chile, this country first introduced (price-based) capital controls on inflows in 1991 and then strengthened these controls in 1995. These controls, however, were later progressively lifted as a result of the difficulties that this country was experiencing in obtaining the additional international finance needed to pay for its large current account deficit after the turmoil in international financial markets following first the `East Asian, then the Russian and finally the Brazilian crises. In the case of Malaysia, this country had a (often ignored) short but radical experience of inflow-controls in 1994, which (as opposed to the Chilean and Colombian cases) concentrated on quantitative restrictions on inflows. These controls were imposed at the beginning of 1994, but were then progressively lifted towards the end of that year because Malaysian policy makers began to worry that they were ‘overshooting’ the reduction in private inflows.

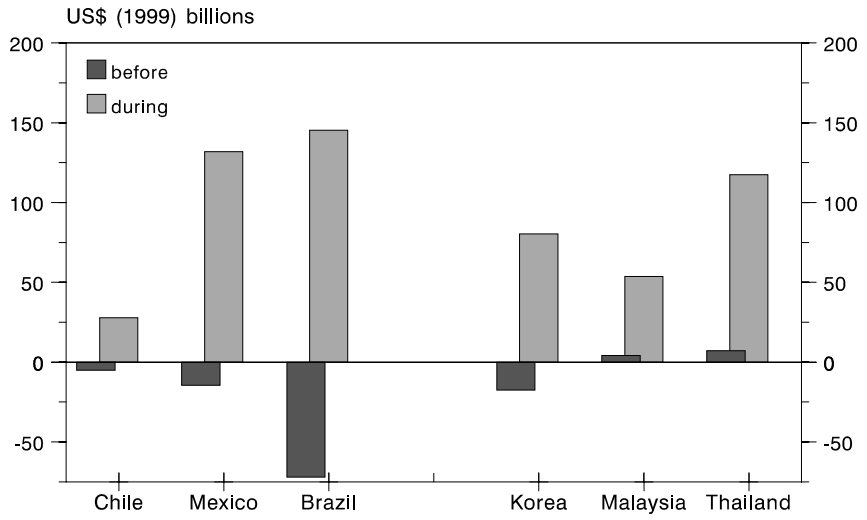
2.- THE THREE ROUTES TO FINANCIAL CRISES

Figure 1 shows the key issue at stake: the extraordinary surge in capital inflows following financial liberalisation in all crisis-countries

[8] For the Colombian experience, see footnote 4 above.

FIGURE 1

LATIN AMERICA and EAST ASIA: aggregate net capital flows before financial liberalisation and between financial liberalisation and financial crisis *



In each case the period 'during' covers the years between financial liberalisation and financial crisis -- Chile, 1975-82; Mexico, 1988-94; Brazil, 1992-98; and Korea, Malaysia and Thailand, 1988-96. 'Before' covers a period of similar length, but including the years before their respective financial liberalisations; in the case of East Asia, however, as the period 'before' would have included years preceding the 1982 debt crisis, I decided only to include years from 1983 onwards (i.e., 1983-87 versus 1988-96).

Source: IMF (2000b). Unless otherwise stated, this source, together with IMF (2000a and c), World Bank (2000a and b), ECLAC Statistical Division and ECLAC (2000) will be the sources for all graphs in this paper.

The turnaround is extraordinary: in the case of Brazil the difference between the two periods amounts to about US$ 220 billion, in Mexico US$ 150 billion, and in the three East Asian countries US$ 260 billion (all figures at constant 1999 values).

The principal component of these surges in capital inflows is clearly its private component. In Brazil, for example, this turnaround is close to US$ 190 billion, and in the three East Asian countries well over US$ 200.

These surges are even more impressive in relative terms; in Chile, for example, net capital inflows before the 1982 crisis achieved a level similar to total exports; in Malaysia, net private inflows reached a massive 25% of GDP; and in Korea inflows

went on to exceed an annual figure of US$ 1,200 per capita.

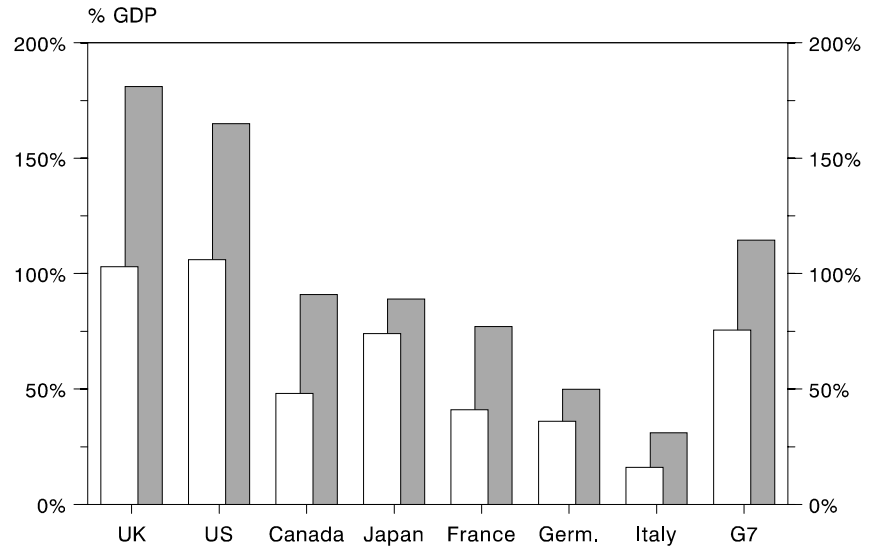
In fact, some of these countries even began to be important players in the newly developed derivatives markets; for example, according to the IMF, in the 'Asia Pacific' market, the 'notional principal amount outstanding' for selected derivative financial instruments grew from just under US$ 1 billion in 1986 to US$ 2.2 trillion in 1996 (equivalent to an average annual rate of growth of 38%), reaching a level equivalent to over three-quarters of that of Europe, and 45% of that of the US.

Key question: why did so much foreign capital fly into these countries?[9] Two-fold answer: [i] there was a lot of liquidity in international financial markets, and [ii] some LDCs produced (often artificially) strong magnetic attractions for this liquidity.

Figure 2 shows one aspect of factor [i], the extraordinary expansion in international liquidity during this period.

FIGURE 2

G7: assets of institutional investors (nonbank financial sector), 1988 and 1996 *



Looking at just this aspect of the growth of international financial markets, (according

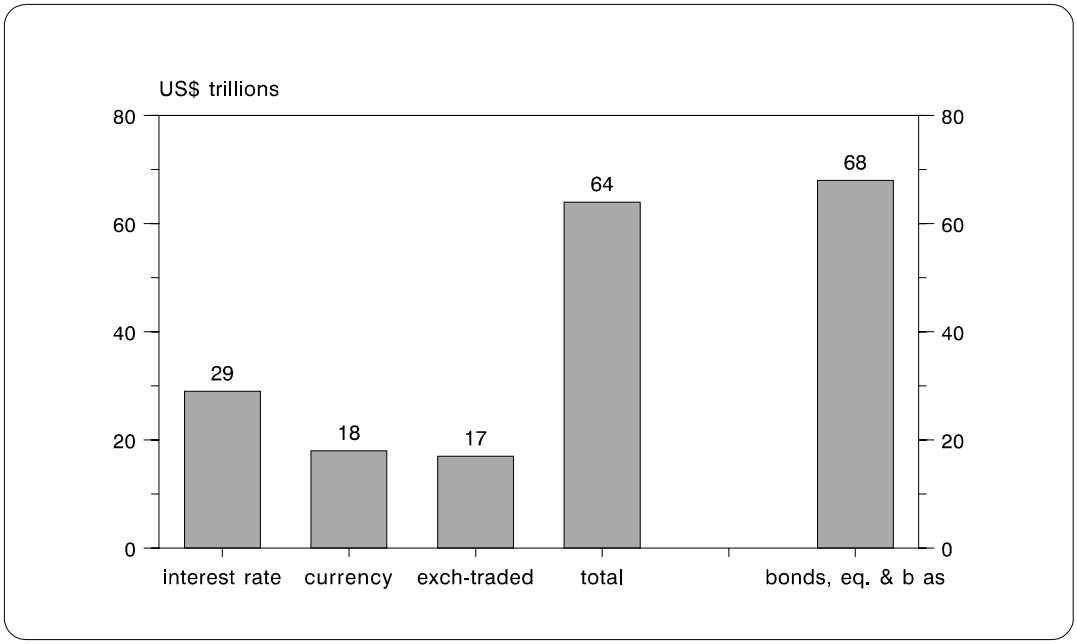
[9] Of course, one had to remember that it is not really all 'foreign'; in some cases domestic capital leaves only to return again as 'foreign', to enjoy benefits!

to IMF data) the increase in the value of assets of institutional investors between 1988 and 1996 is quite extraordinary, especially in the UK (where the growth in this period is equivalent to as much as 80 percentage points of GDP) and in the US (60 percentage points). The average increase for the G7 is equivalent to 40 percentage points of GDP. Needless to say, these are large numbers![10]

Figure 3 shows another part of answer [i]: the transformation of international financial markets and, in particular, the development of new financial instruments also contributed massively to this increase in international liquidity.

FIGURE 3

Derivatives Markets: notional values of outstanding "over-the-counter" interest rate, currency and exchange-traded derivative contracts, end-March 1995 *



Bonds, eq & b as = aggregate value of all bonds, equity and bank assets of the G 17 (G7 plus smaller European countries).

This figure shows that (again according to IMF data) the 'notional' value of outstanding 'over-the-counter' derivative contracts (interest rates, currency and exchange traded derivatives) reached US$ 64 trillion in 1995; this amount is similar to that of the aggregate value of all bonds, equity and bank assets of the G17 group

[10] A related problem is that the LDC-exposure of these institutional investors was proportionally so small, that often they (wrongly) believed that it did not pay to invest properly in information about these LDCs; so, normal problems of 'asymmetric' information were

of countries.

By now the legendary case of the LTCM exemplifies both the extraordinary recent changes in international financial markets, and the resulting added degree of financial vulnerability.[11]

However, massive international liquidity may be a necessary condition for increased inflows to LDCs, but is certainly is not a sufficient one. So, why some of it went to (a few) LDCs? 3 main reasons: [i] LDCs have usually played the role of 'market of last resort', in particular when an increase in international liquidity comes together with slow growth in OECD economies[12]; [ii] the high expectations placed on economic reforms in LDCs, partly resulting from the massive 'spin' put on them by their advocates, particularly those to be found circling around the 'Washington Consensus'; [iii] magnetic attractions (often artificially created), such as undervalued asset markets (in particular stocks and real estate), high interest rate spreads[13], and the expectation of real appreciation of exchange rates.[14]

As mentioned before, the key issue facing these LDCs was how to absorb the sudden surges in inflows -- in particular when they reached extreme levels such as being equal to the total value of exports (Chile), or to one-quarter of GNP (Malaysia). It is in the different forms in which these countries tried to deal with this specific problem of inflow-absorption that the 3 routes to financial crises began to emerge.

Figure 4 clearly shows a first movement in two opposite directions among these crisis-countries -- the first encompassing 'route 1' and ' route 2', and the second 'route 3'.

---

exacerbated.

[11] For the extraordinary case of the LTCM, described by the Washington Post as "the biggest financial misstep ever to hit Wall Street", or by the Financial Times as "the fund that thought it was too smart to fail", see especially Dunbar (2000). The Wall Street Journal, which sometime likes to play the role of the Pravda of the US financial markets, had more affectionate words to describe this institution; according to them, it was only "one of [Wall Street] most aggressive offspring".

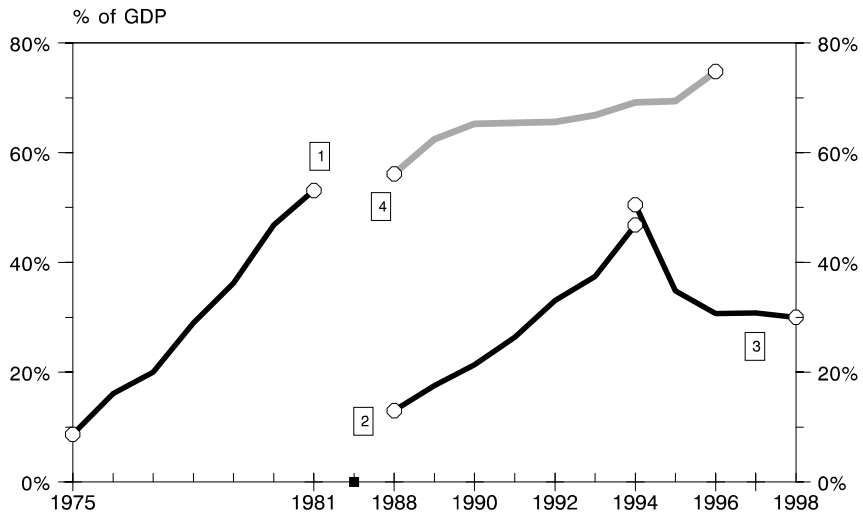
[12] See Palma (1998).

[13] For detailed data in this respect, see Palma (1999b).

[14] Brazil's Finance Minister, Pedro Malan, tells us with disarming candour how one of the aims of economic policy was precisely 'artificially' to create the need for foreign capital via the appreciation of the exchange rates: according to him "The logic of the exchange rate policy is to […] increase imports and the current account deficit and, therefore, make the country import capital again" (statement made on the 24th October, 1994, quote in Saad Filho, 2000, p. 15).

FIGURE 4

EAST ASIA and LATIN AMERICA: credit to private sector between the beginning of financial liberalization and respective financial crises *



[1] = Chile; [2] = Mexico; [3] = Brazil; and [4] = Korea.[15]

One response ('route 1' and 'route 2') was to ride out the surge in net private inflows by unloading them into the economy via credit expansion, the other ('route 3') was precisely the reverse, to try to stop the expansionary effect of these surges in inflows via placing and 'iron curtain' around them (mainly via increasing reserves, high degrees of sterilisation and high interest rates).

However, if the main similarity between the way that 'routes 1' and 'route 2' dealt with the surge in inflows is through credit expansion, their main difference (as will be discussed in more detail below) is in the use made of this credit expansion -- 'route 1' directs this additional credit mainly towards increased consumption and asset speculation, 'route 2' directs it mainly towards corporate investment.

[15] In order to cover all four major financial crises of the last 20 years, events leading to the Chilean 1982 financial crisis are also included in the graphs of this section, even though the Chilean case clearly belongs to (the Mexican-type) 'route 1'. Finally, the important cases of Malaysia and Thailand, as they are a combination of 'route 1' and 'route 2', will not be included in the graphs, but will be discussed throughout this section.

In other words, if the similarity between these two routes was credit expansion, the crucial difference was the 'magnetism' that attracted these inflows in the first place -- in one case, 'route 2', it is mainly a matter of an 'endogenous pull' for additional finance to sustain high levels of investment, in the other, it is rather an 'exogenous push' movement of foreign capital into these countries, which then has to 'create' a need for itself.[16]

From this point of view, 'route 1' countries could be viewed as a rather peculiar case of Say's Law, in which 'supply creates demand' through fuelling expectations and optimism regarding the future prospects of the economy. This circle, of course, reinforces itself, becoming (for a while) a self-fulfilling prophecy. Easy access to credit fuels expectations regarding the performance of the economy, performance that is improved by the additional expenditure brought about by the extra borrowing and availability of foreign exchange. That is, 'over-lending' and 'over-borrowing' are not only the result of a closely interrelated process, but one that has a clear direction of causality: the propensity to 'over-lend' is a crucial factor that leads to the propensity to 'over-borrow'. [17]

Finally, the cases of Malaysia and Thailand are characterised by having one foot in each of these two camps ('route 1' and 'route 2'). Their surges in inflows were so large, and the credit to the private sector increased (even for the high standards set by 'route 1' countries) by such an extraordinary amount -- in Malaysia, between financial liberalisation and financial crisis, credit to the private sector grew from 67% of GDP to 135%, and in Thailand from 64% to 142%! -- that they ended up following both routes simultaneously. First, they followed 'route 2' in the sense that they needed high levels of external finance for their ambitious private investment programmes -- Malaysia actually doubled its share of private investment in GDP, from 15.4% in 1988 to 30.5%, while Thailand brought its own to 34.1% of GDP. But second, (as opposed to Korea) because inflows surpassed even the financial requirements of these ambitious investment drives, there was enough credit to spare for them to follow at least **one element** of 'route 1' too -- this 'excess' credit fuelled a Latin American-style asset bubble in their stock markets and real estate.

---

[16] This, of course, is not a new phenomenon; the most insightful work on this matter is that of Kindleberger (see especially 1996).

[17] For a more detailed analysis of this issue, see Palma (1998).

In fact, what is extraordinary is that in these two countries massive credit expansion did not only not fuel an increase in the share of consumption in GDP, as it did in Latin America, but it was actually associated with a **drop** in this share; in Thailand, for example, during this period the share of consumption in GDP falls from 56.7% to 54.8%, and in Malaysia from 49.4% to 45.9% -- no sign of 'route 1' here...

One of the problems facing these countries is that they found themselves in rather uncharted territory. They had had few previous experiences of sudden surges in inflows, let alone of these levels and composition (see below). Historically, the norm for these LDCs was to have difficult access to international finance, and having to live with a constant foreign exchange constraint on growth and aggregate expenditure. But in this case, it did not rain but poured!

Furthermore, one of the (many) peculiar features of economic theory is that it has rarely been concerned with the effects of 'shocks', let alone this specific one. There are, of course, exceptions like Keynes' constant concern with the effects of autonomous changes in private investment and 'animal spirits'. Also, starting with Prebisch and Singer, Latin America's Structuralist School did some analysis of the effects on LDCs of sudden changes in the terms of trade of primary-commodity exporting countries. The 'Dutch Disease' literature also studied the related issue of the effects of sudden increases in the price of commodity exports, and 'long-wave' theorists (like Freeman and Pérez) have been concerned with the effects of sudden changes in the 'technological paradigm'. But these are the exceptions rather than the norm.

This bias in economic theory is certainly true in matters relating to the effects of shocks brought about by sudden surges in capital inflow. There are, of course, exceptions like (again) Keynes, Kindleberger and Minsky.[18] Among them, Kindleberger is the one that has been most concerned with this issue.

In sum, LDCs that had these surges in capital inflows were faced with two basic alternatives: one, following the beliefs of the classical efficient-market theory and the first law of Welfare Economics, they could allow markets to sort out the resulting problem by themselves[19]; the other, to try to contain the expansionary effect of

---

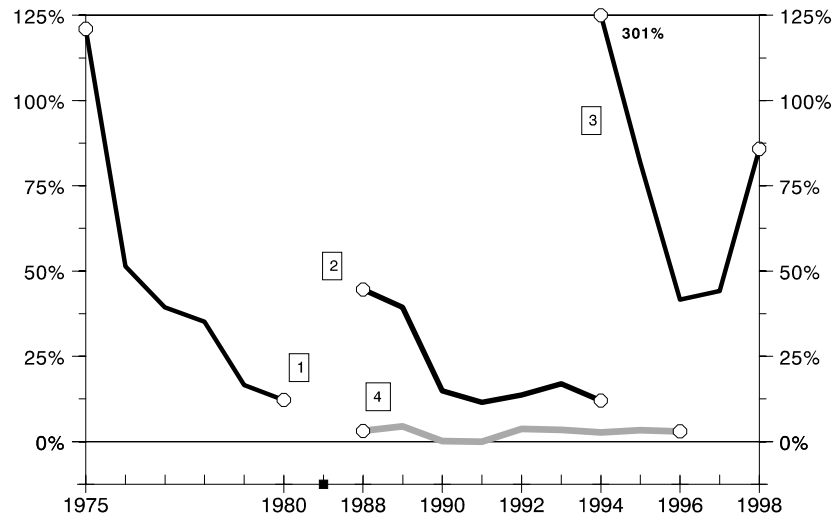
[18] Galbraith is also another exception; see, for example, (1994).

[19] This is sometimes called the "Lawson law', following the British Chancellor's famous

surges in capital inflows via placing and 'iron curtain' around them. Figure 5 shows the resulting different levels in interest rates.

FIGURE 5

LATIN AMERICA and EAST ASIA: domestic real lending rates between the beginning of financial liberalization and respective financial crisis *



[1] = Chile; [2] = Mexico; [3] = Brazil; and [4] = Korea.

In 'route 1' countries (Chile and Mexico), real interest rates start at a high level due their stabilisation policies, but as soon as these are successful in conquering inflation, they allow interest rates to fall to international levels (plus a relatively small spread). 'Route 2' countries, like Korea, are characterised by long-term policies of particularly low real interest rates, which continued during this period. However, in the case of Brazil, real interest rates not only start at a much higher level than other Latin American countries, but (for reasons discussed in detail in the chapter on Brazil in this volume) they are never allowed to fall anywhere near the values of 'route 1' countries (let alone 'route 2' countries).

The case of Brazil is very important from the point of view of a critique of mainstream 'moral-hazard-type' crisis-analysis. According to the McKinnon and Pill approach to

---

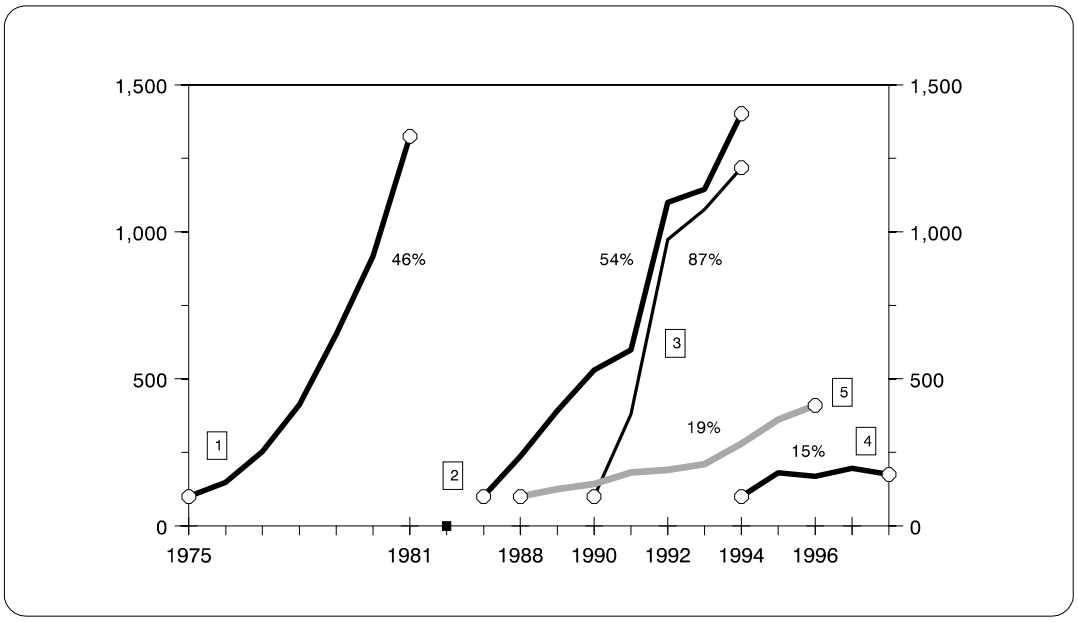
statement that when imbalances are the result of private transactions, no matter how large they are, governments should not intervene.

financial crisis, for example, the main cause of agents losing their capacity to assess and price their risk properly is that internal and external moral hazards lead to 'artificially' low interest rates; these, in turn, gave a false incentive to agents to accumulate excessive amounts of risk.[20] However, in Brazil high interest rates did not seem to have been able to avoid a financial crisis either.

Figure 6 shows a first crucial difference between 'routs 1' and 'route 2'; even though in both cases the credit to the private sector grew rapidly, the use made of this credit was rather different.

FIGURE 6

LATIN AMERICA and EAST ASIA: imports of consumer goods between the beginning of financial liberalization and respective financial crises *
(base year = 100 in each case, constant US$ values)



Percentages written in the graph are average **annual** rates of growth.
[1] = Chile; [2] = Mexico; [3] = Argentina; [4] = Brazil; and [5] = Korea.[21]

Source: United Nations (2000).

In 'route 1' countries the expansion of imports of consumer goods is truly extraordinary; this is not the case in 'route 2' countries, where the additional credit was directed towards investment. The corresponding figures for Malaysia and Thailand are also low (annual rates of growth of these imports are 16% and 19%,

[20] See McKinnon and Pill (1997); for a critique of this position see Palma (1999c).
[21] Argentina is included in this graph just to reinforce the point of the extraordinary increase in imports of consumer goods in non-Brazil Latin America, following their processes of trade

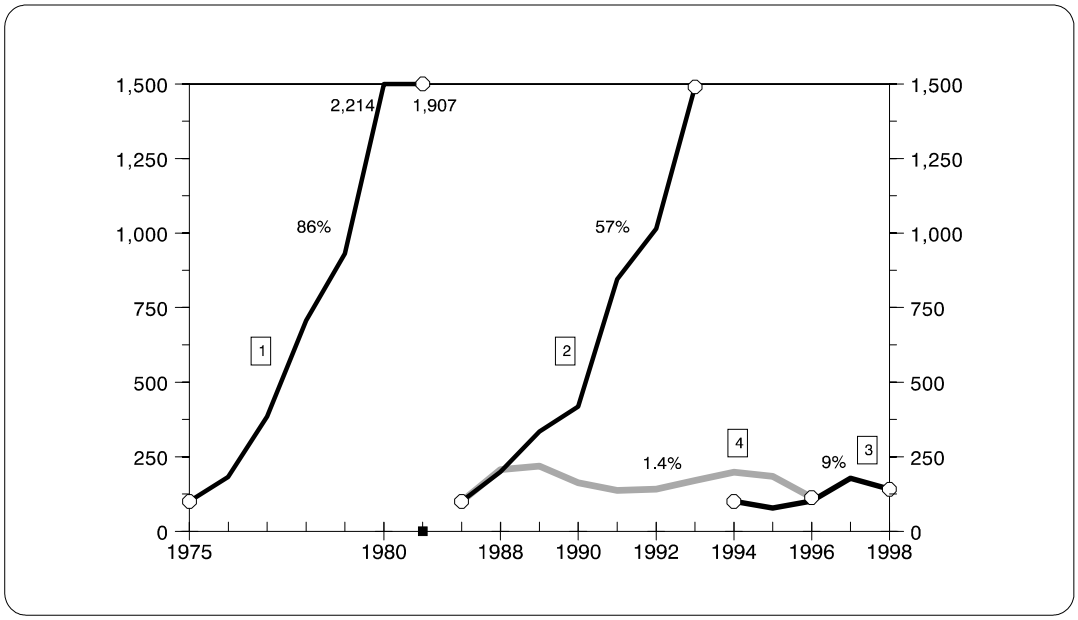
respectively), as these countries direct their additional credit towards investment (their leg in 'route 2') and asset bubbles (their other leg in 'route 1'), but not to consumption (a crucial characteristic of 'route 1').

In the case of Brazil, mainly as a result of their interest rate policy (in part implemented after the Mexican crisis **precisely** in order to avoid following 'route 1') and a more cautious policy of trade liberalisation, imports of consumer goods did not grow anywhere near as quickly as in Chile or Mexico. In this sense, they succeeded in this aim, but at a huge cost in other areas of the economy (see the chapter on Brazil in this volume).

Figure 7 shows one element of the other main characteristic of 'route 1', how the easy access to credit transformed itself into an asset bubble in the stock market, 'tulipomania'-style.

FIGURE 7

LATIN AMERICA and EAST ASIA: annual stock market indices between the beginning of financial liberalisation and respective financial crisis *
(US$ terms, base year = 100 in each case)



The percentages written in the graph are average **annual** rates of growth (the figure for Chile refers to 1975-1980).
[1] = Chile; [2] = Mexico; [3] = Brazil; and [4] = Korea.

---

and financial liberalisation.

Source: Datastream.

Again, the difference between countries in 'route 1' and the rest is extraordinary. While the Dow Jones and the (Datastream dollar-denominated) aggregate indices for the European and Asian markets grew by between 2 to 3-fold between 1975 and 1980, the stock market in Chile grew 22-fold in dollar terms.

Although the stock market in Chile in 1975 was still depress as a result of the turmoil during the Allende government, the 1973 coup, and the subsequent stabilisation programme, it is difficult to argue that a 22-fold jump in US dollar terms is simply prices reflecting changing fundamentals (no matter how much investors' expectations of future performance of the economy were excited by ongoing reforms). The massive crash of this index in the early 1980s confirms the fact that the foundations of the previous surge were rather hollow.

A similar argument can be advanced for Mexico; although economic reforms and NAFTA can, from the average investor's point of view, justify some life in the Mexican stock market, a 15-fold surge belongs to a different story -- one of a typical Kindlebergian 'mania'. Again, the subsequent panic and crash are part of the same story.[22]

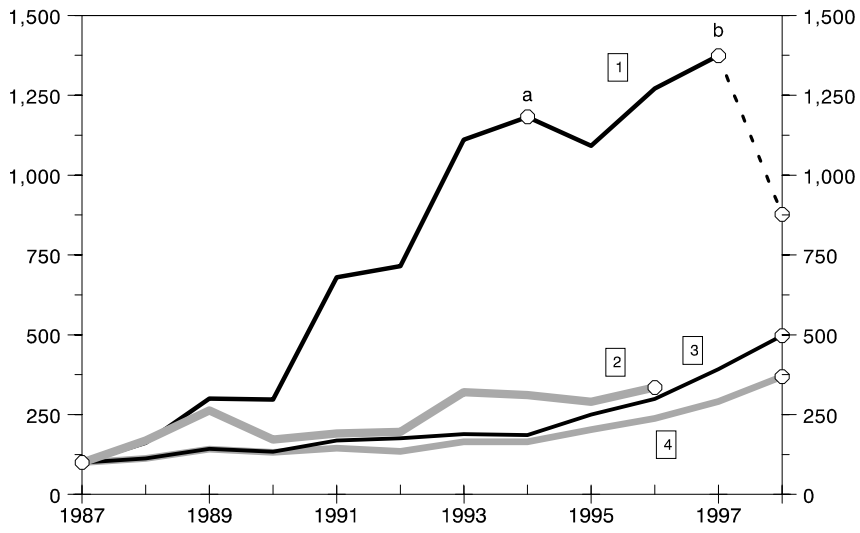
As mentioned above, Malaysia and Thailand did follow 'route 1' countries in this respect, but their stock markets' bubbles were small in comparison with those of Chile or Mexico even if one compares the change between the lowest quarterly point in these countries indices vis-à-vis the highest one -- in Malaysia the increase is **6-fold** (between the second quarter of 1988 and the fourth quarter of 1993), while in Thailand the corresponding jump is **5.4-fold** (between the first quarter of 1988 and fourth quarter of 1993).

Figure 8 shows the resulting regional differences in stock market behaviour.

[22] For a more detailed analysis of this phenomenon, see Palma (1995 and 1998).

FIGURE 8

LATIN AMERICA, EAST ASIA, USA and EUROPE: stock market indices, 1987-98 *
(US$ terms, 1987 = 100)



[1] = Latin America (a = Mexican crisis; b = East Asian crisis); [2] = Asian emerging markets; [3] = US (S&P); [4] = average of European markets.

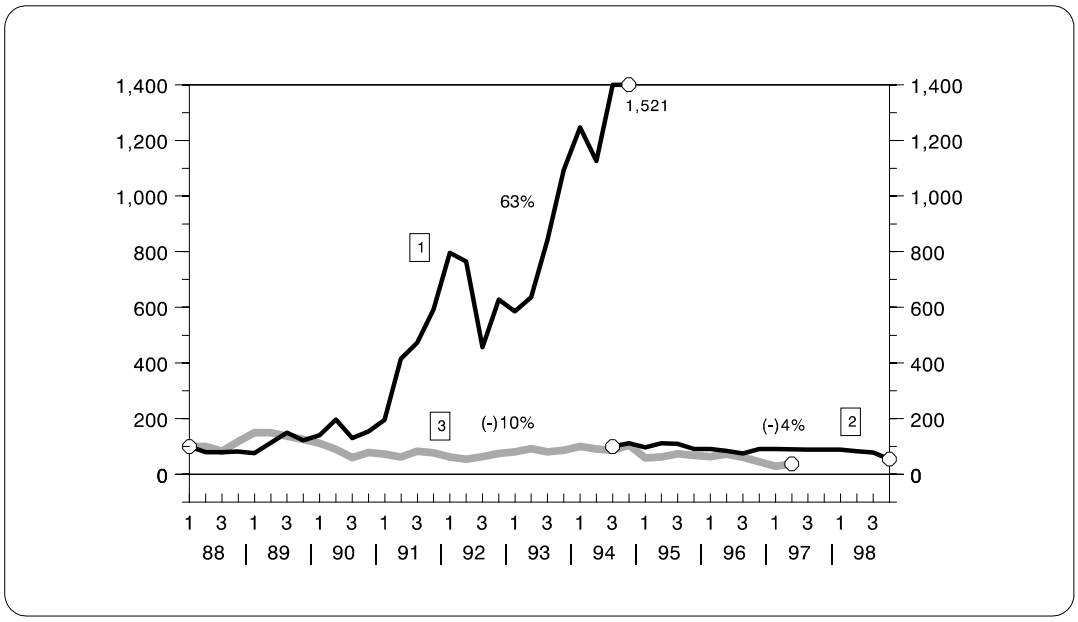
Source: IFC (1999).[23]

Figure 9 shows the other asset bubble of 'route 1' countries, that of real estate.

[23] See this source for countries included in each series.

FIGURE 9

LATIN AMERICA and EAST ASIA: real estate price indices between the beginning of financial liberalisation and respective financial crisis *
(local currencies, base year = 100 in each case)



The percentages written in the graph are average **annual** rates of growth (for Mexico between the last quarter of 1988 and the last of 1994, for Korea between mid-1988 and mid-1997, and for Brazil between mid-1994 and mid-1998 -- i.e., before the Russian crisis; this index falls even further in the last two quarters of 1998).

[1] = Mexico; [2] = Brazil; and [3] = Korea.

Source: Datastream. This source unfortunately does not provide information on Chile between 1975 and 1981.

The contrast could not be more pronounced. Another Kindlebergian 'mania' in Mexico and Chile[24], and an actual fall in the indices of Korea and Brazil.[25]

Also, again, Malaysia and Thailand are in this respect much closer to countries in 'route 1' than 'route 2'. In the case of Malaysia, the index between mid-1988 and mid-1997 grows (a Latin American) 12.3-fold (32% average annual rate of growth), while Thailand does so only 1.7-fold (6%) during this whole period. However, as

[24] Chilean Central Bank statistics (Chile, 1988), although using a different methodology, show an increase similar to that of Mexico; however, due to the difference in methodology used for calculating this index to that of Datastream, the Chilean data are not included in the graph.

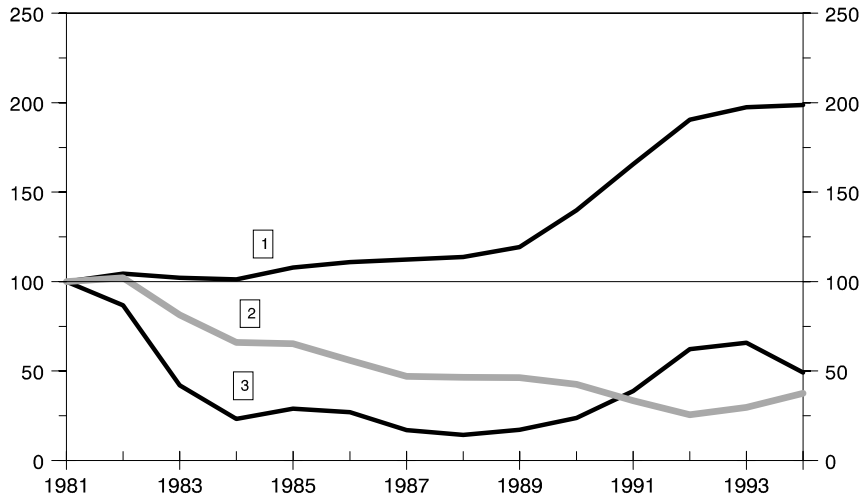
[25] The Brazilian average is a mixture of some increase in Rio de Janeiro, stagnation in Sao Paulo and a fall in Brasilia.

Figure 17 in the Brazil chapter of this volume shows, if one takes the highest and lowest points of the Thai index during these years (first quarter of 1988 and the third of 1994), the increase jumps to a more ‘route 1’-level of almost 8-fold.

It should come as no surprise, then, that countries on ‘route 1’ were characterised by a large increase in the share of private consumption in GDP and a falling one in savings. In Chile the former grows from 65% to 75% of GDP and Mexico’s from 66% to 78% in their respective periods; the latter in Chile had a dismal level of 1.7% of GDP the year before the 1982 crisis, and in Mexico the share of private savings in GDP falls from 20% in 1988 to just 10% the year before the 1994 crisis. In the meantime, the share of private investment in GDP in ‘route 1’ countries reaches a maximum of just 15% in their respective periods. Furthermore, as the real effective exchange rates were revalued by about half in both countries in their respective periods (see Figure 2 in the Brazil chapter), this, together with the other issues already discussed, not only rapidly increased their deficit in the current account (to a level equal to 96% of exports in Chile in 1981, and 41% in Mexico in 1994) and transformed the growth-path of these countries into the ‘postmodernist’ scenario in which ‘export-led’ growth is characterised by falling shares of exports in GDP (see Figure 3 in the Brazil chapter), but also, and very importantly, distorted the composition of what little investment there was towards its non-traded components.

FIGURE 10

MEXICO: investment in residential construction, infrastructure, and machinery and equipment, 1981-94 *
(constant 1980 prices, 1981 = 100)



[1] = investment in residential construction; [2] = in infrastructure and business construction; and [3] = in machinery and equipment.

Source: Hofman (2000).

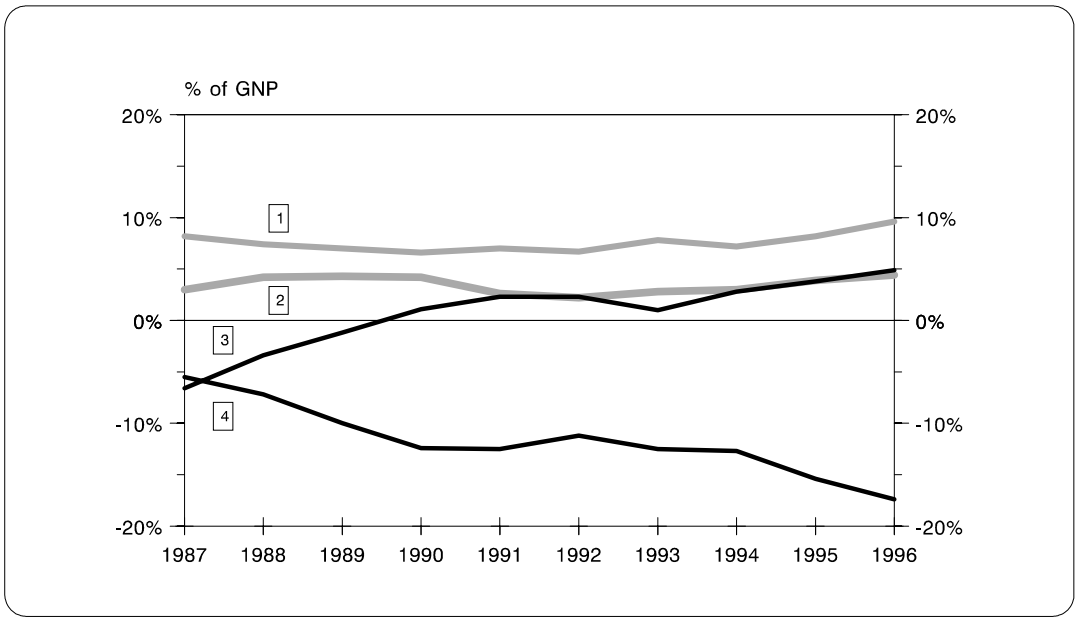
In this graph the starting point is 1981 because this year represents the peak of the previous (ISI) cycle.[26] While residential construction doubles in these 13 years, investment in machinery (despite its recovery in 1991-92) falls in all by half, and that in infrastructure and business construction falls by an even higher level. In other words, the distortion in relative prices (mainly brought about by the huge revaluation of the currency), the easy access to credit, and the asset bubble in real estate set in motion a 'Kusnetz cycle' of rather large relative dimensions.

This is a rather odd picture for countries that explicitly seek to transform their economies into export-led ones. For the reasons discussed above, these 'route 1' economies ended up switching the engine of growth away from their desired aim -- domestically financed private investment in tradable production -- towards private consumption, asset bubbles and externally financed private investment in non-tradable production (and services).

Figure 11, reinforces what has been said above regarding the key difference between 'route 1' and 'route 2' countries. The large capital inflows and massive expansion in private credit in 'route 2' is used mainly to finance the ambitious investment plans of the corporate sector.

FIGURE 11

SOUTH KOREA: sectoral surpluses of the corporate, household, public and foreign sectors, 1982-96 *
(current prices, % of GNP)



Sectoral surpluses are the respective differences between savings and investment.

[1] = household sector; [2] = government sector; [3] = capital account of the balance of payments; and [4] = corporate sector.

As discussed in detail in the Brazil chapter of this volume, and mainly due to declining profitability (a decline which had little to do with the Krugman-type of critique of the development path of these countries, and a lot to do with collapsing prices in the micro-electronic industry[27]), the corporate sector has to finance their continuous high levels of investment switching from their own profits to external finance.[28] This process absorbs all the increase in the surplus of the 'foreign sector'.

---

[26] According to this source, Chile presents a similar picture.

[27] The D-Ram price per megabyte fell from US$ 26 in 1995 to US$ 10 in 1996 and US$ 4 in 1997; see The Financial Times, May 8 1999.

[28] At the time of writing this paper, Daewoo was being crushed by the weight of its US$ 80

This is the key characteristic of the 'route 2'-style of foreign inflows-absorption, and what most distinguishes this style from that of 'route 1'.

Malaysia and Thailand, with some added peculiarities, basically share this characteristic with Korea. In the case of Malaysia, this country **doubles** its share of private investment in GDP during this period, from 15% in 1988 to 30.5% in 1995; and despite the fact that it also doubles its share of private savings in GDP to 20% (and in the process reduces its share of private consumption in GDP to 45.9%), it still has an increasing savings-investment gap to finance. Thailand, meanwhile, increases its share of private investment in GDP to an even higher level, 34%, while maintaining the share of private savings (at about 22%, while reducing that of private consumption marginally to 55%); so, again, another savings-investment gap to finance.

The case of Brazil is discussed in detail in the companion chapter in this volume; basically, and in an apparently odd development, little seems to have happened on all of these fronts. While the share of private investment in GDP was maintained at about 15% (despite massive inflows of foreign direct investment), that of consumption increased by little (from 62.7% in 1994 to 64.4% in 1998, a much lower level than 'route 1' countries), and private savings also fell by a smaller share than 'route 1' (from 18% to 14% between 1995 and 1998). The 'iron curtain' placed by the economic authorities around the surge in net private inflows -- precisely in order to avoid a repetition of a Mexican 'route 1'-style of inflow-absorption -- seems to have succeeded in this respect; however, as is argued in the Brazil chapter, it did so at a huge cost, which ended up being hardly different in magnitude (although very different in composition) from that of 'route 1' countries.

To end this section showing the characteristics of the three routes to financial crises, it is important to emphasise that they also have significant elements in common. Figure 1 already shows their similarities in terms of surges in net private inflows following their respective processes of financial liberalisation. Figures 12 to 16 now indicate that these countries also share common elements that added to their growing financial fragilities; i.e., no matter how different their processes of absorption of these surges in inflows are, they have to face at least three further similar problems. One is the constant changing composition of these large net private

---

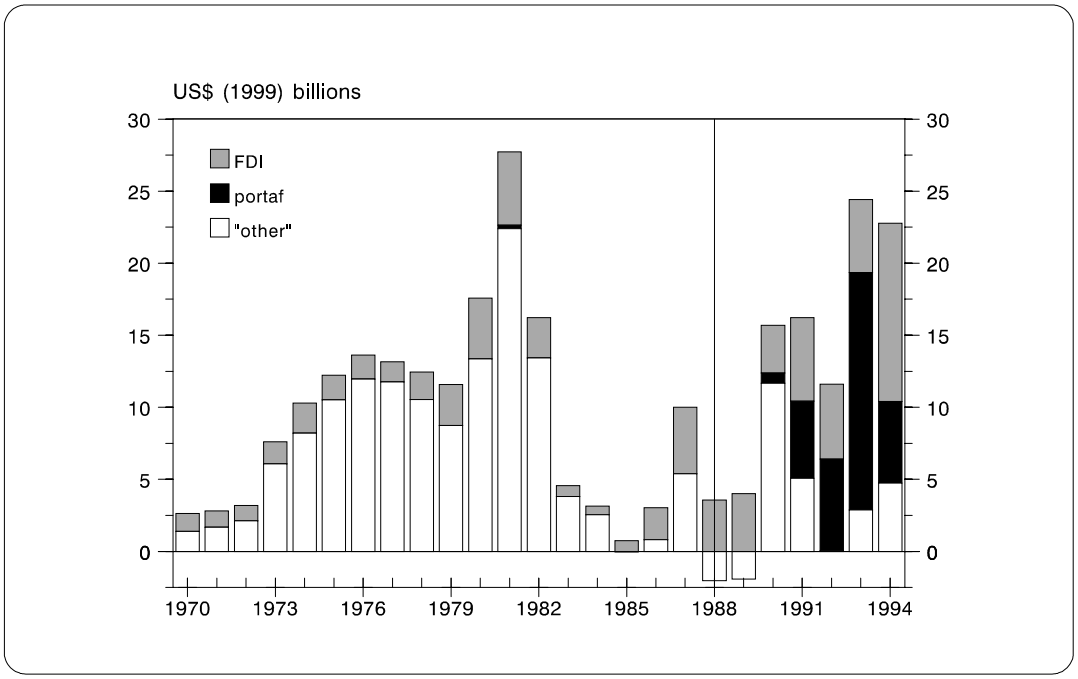
billion debt.

capital inflows; the next is the progressive shortening of their term structure; and the last is that in a financially liberalised economy there is also a constant danger of an attack from 'within'.

Figure 12 shows the first of these issues for the case of Mexico.

FIGURE 12

MEXICO: composition of net private capital inflows (WB), 1970-1994 *



FDI = foreign direct investment; portaf. = portfolio inflows; and "other" = other inflows.

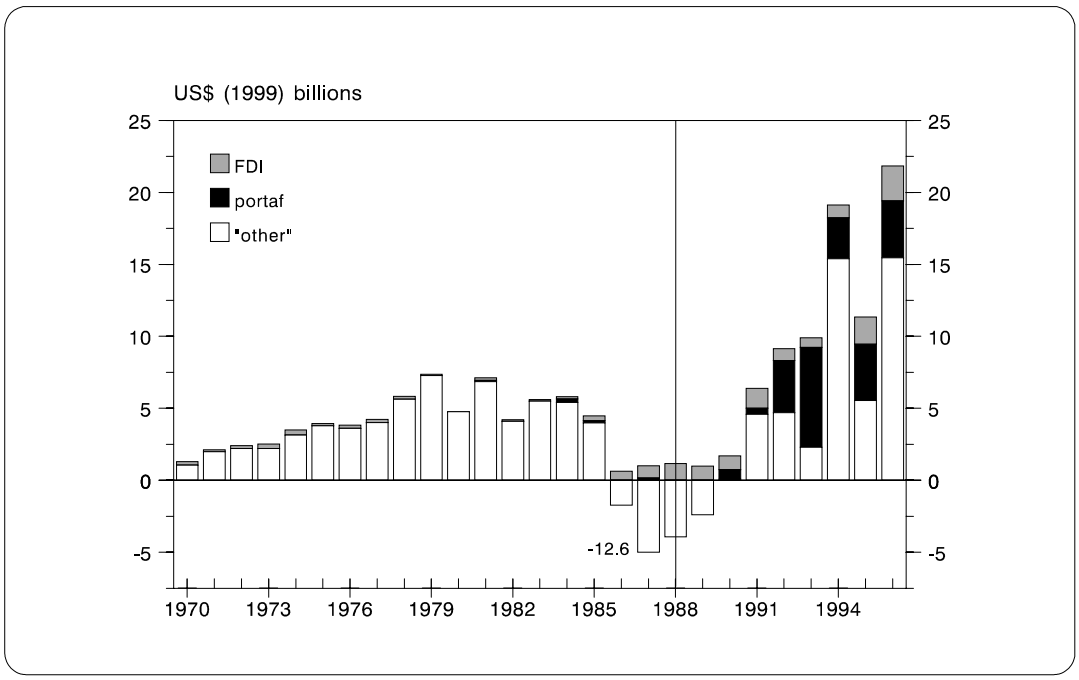
Source: World Bank (2000b); see this source for definition of components.

In the case of Mexico, as in Brazil (Figure 1 in the Brazil chapter) and Korea (Figure 13 below), only foreign direct investment grows in a relatively stable manner -- although even this more 'stable' component of net capital inflows more than doubles in one year in Mexico (from US$ 5 billion in 1993 to over US$ 12 billion in 1994; similar jumps are found in Brazil). However, net private portfolio inflows are all over the place, growing in Mexico from less than US$ 1 billion in 1990, to more than US$ 5 billion in 1991, to jump again from US$ 6 billion in 1992 to US$ 16.5 billion in 1993, then falling to less than US$ 6 billion in 1994 (all at 1999 values) -- i.e., it changes from less than 1% of net private inflows in 1990, to over one-third in 1991, and from about half in 1992 to over two-thirds in 1993, to fall to just one-quarter in 1994. The

share of “other” net capital inflows also changes rapidly. Figure 13 shows the picture for Korea.

FIGURE 13

KOREA: composition of net private capital inflows (WB), 1970-1997 *



Sources and definitions as in Figure 12.

There are at least four issues related to this changing composition. The first is that, although it is common to all countries, it has a larger magnitude in ‘route 1’ countries. This is probably related to the large and unstable asset bubbles in these countries. The second is that, although **volumes** of net capital inflows in the 1970s also changed rapidly, particularly in Mexico, the constantly changing **composition** of inflows is a phenomenon of the 1990s.

The third is a methodological issue that is important for the next section of this paper; if composition of net private inflows is changing continuously and to such a degree in countries that did not impose capital controls, is there any way of knowing with any certainty whether controls really did affect composition by themselves?[29]

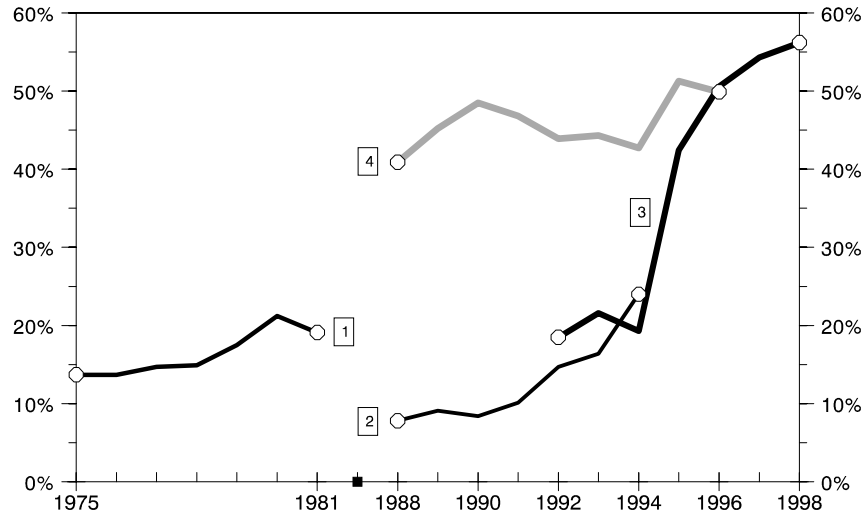
[29] In an econometric exercise (that we do not have space in this paper to report), I found that if Mexico had imposed capital controls at the same time as Chile did (1991), and these had had no effect at all on the actual composition of net capital inflows (i.e., net private inflows in Mexico would have been exactly the same), one could still ‘prove’ statistically that these (non-existent) controls did have a ‘significant’ effect on composition, as this composition changed

The fourth and most important issue, is that this changing composition made the already difficult matter of absorbing massive inflows even more complicated, and one that was bound to create even more financial fragility within these countries (fragility in a 'Minskian' sense -- i.e., that augments the weight of 'speculative' and 'Ponzi' finance).

Finally, the term structure of the net inflows of foreign capital is also changing during this period, but in a different form from the composition of inflows: the movement is in one direction (unless controls were imposed, as will be discuss below). Obviously, this adds further fragility to an already difficult situation.

FIGURE 14

LATIN AMERICA and EAST ASIA: ratio of short-term debt to total debt between the beginning of financial liberalization and respective financial crisis *



[1] = Chile; [2] = Mexico; [3] = Brazil; and [4] = Korea.

Source: IMF (2000c).

Comparing first 'route 1' and 'route 3' countries, there is a clear increase in the share of short-term debt as time goes by. Mexico starts in 1988 with a share of short-term

---

so much in its own right (so to speak).

debt in its total foreign debt of 8%, to end up with a 24% share in 1994, at the time of its financial crisis; then Brazil takes over with a relatively similar share as Mexico's in 1994 (20%), and ends up with one of 56% in 1998. IMF statistics (2000c) show a similar progressive increase in this share over time for most Latin American countries.

What is important to note here is that the major increase in Brazil's share of short-term debt happened in 1994-95, when this ratio more than doubled (from 20% to 42%); and this was a time when most of Brazil's fundamentals still were (deceptively) exemplary!

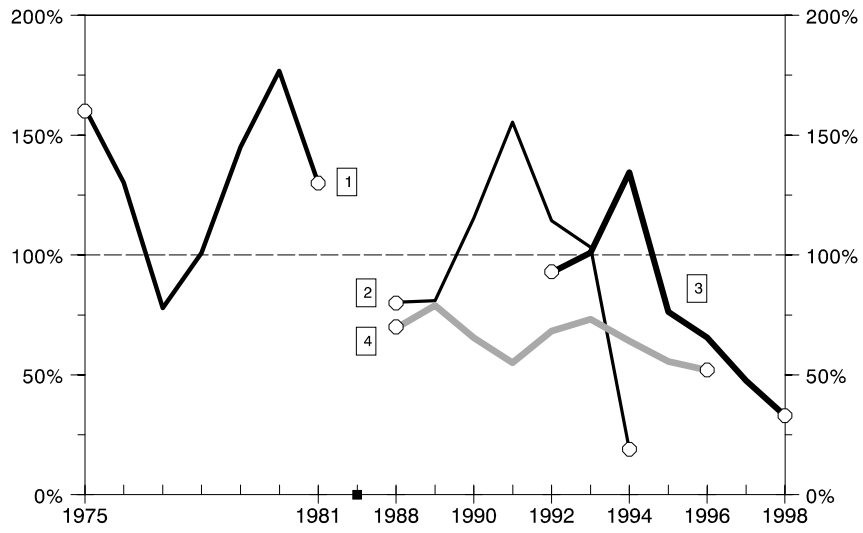
Turning now to 'route 2' countries, what is really extraordinary is that they had high shares of short-term debt much earlier than Latin America -- and when problems blew up in 1997, they paid a high price for this. Logic would suggest that this should have been the other way round, because in the late 1980s and early 1990s (according to any available risk assessment) the likelihood of a financial crisis was so much higher in Latin America than in East Asia. So, why did East Asian countries have such high share of short-term debt?[30] The answer is as obvious as it is extraordinary. East Asian countries, especially Korea, had implemented a system of financial regulation that gave a huge incentive to the corporate sector to borrow `short. Basically, there was a lot of red tape for any form of long-term borrowing and very little for short-term borrowing. That is, it was the Korean government that gave the incentive to Korean corporations to borrow short, as opposed to the international financial system imposing short-term debt on them! This is an amazing phenomenon that so far had not been properly picked up by those that make a hobby of criticising government regulation in East Asia!

Figure 15 shows on of the consequences of increasing short-term debt: the declining ratios of foreign exchange reserves to short-term debt.

[30] In 1991, for example, while 70% of BIS reporting banks' assets in Korea and Thailand were in short-term maturities, the corresponding figure for Mexico was less than 40%, for Argentina just over 40% and for Brazil 45%; see BIS (1999).

FIGURE 15

LATIN AMERICA and EAST ASIA: ratio of foreign exchange reserves to short-term debt between the beginning of financial liberalization and respective financial crisis *



[1] = Chile; [2] = Mexico; [3] = Brazil; and [4] = Korea.

First, in terms of 'route 2' countries, Korea's main weakness in 1997 -- that made it so vulnerable to events in Thailand and Malaysia; i.e., so vulnerable to what these days people like to call the 'contagion' effect -- was precisely its low ratio of reserves to short-term debt. Figure 15 indicates that Korea's reserves could cover only half its short-term liabilities; and what this Figure does not show is that, in fact, they were not enough even to cover foreign liabilities with 90 days maturity or less! Again, as in the case of a large 'voluntary' share of short-term debt in total foreign debt, Central Bank authorities in Korea seemed to have had a misguided sense of security, operating 'voluntarily' with low levels of reserves, which compounded the short-term debt problem: they paid dearly for this in 1997.[31]

This is obviously an issue that needs further investigation because the Korean authorities seemed to have had a sort of schizophrenia vis-à-vis economic planning

[31] See Palma (1998). Recent statements by new Central Bank authorities in Korea have shown that they certainly learnt this lesson: now the stated policy is to aim at a ratio of 2 between foreign exchange reserves and short-term debt (i.e., a ratio four times higher than that of 1997).

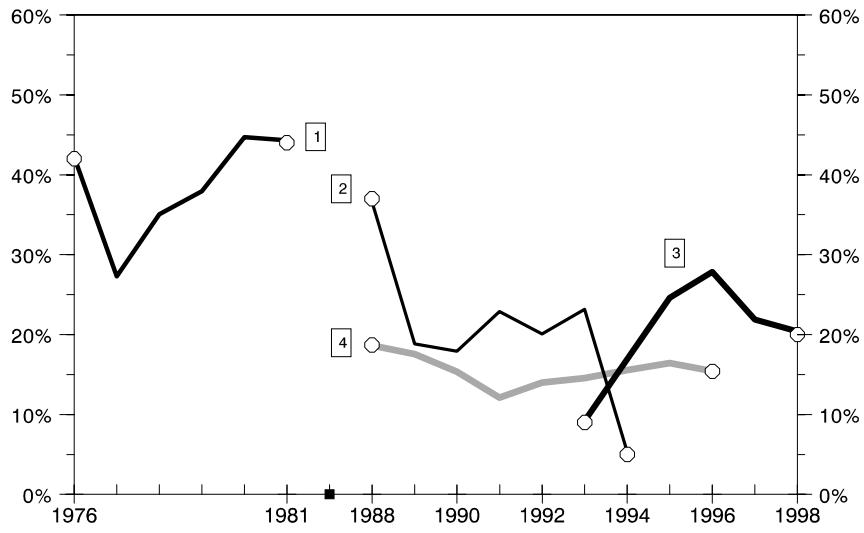
and regulation: in matters relating to the real economy and some aspects of domestic finance, they felt the need for strong and detailed intervention (particularly in the form of trade and industrial policies, and tight financial domestic regulation in areas relating to the household sector), but in areas relating to the capital account and monetary policy, they seemed only to have been interested in long-term capital movement, exchange rate stability and in keeping interest rates as low as it was feasible; this left unchecked what turned out to be two 'suicidal' tendencies in the economy: that of the corporate sector to accumulate truly extraordinary amounts of short-term debt, and that of the Central Bank to operate with low levels of reserves.

In terms of 'route 3' countries, Brazilian authorities had a mixed policy on these issues. First, as the Cardoso quotation at the beginning of this paper shows, they were against intervening in the capital account to reduce the share of short-term foreign debt (they were against instruments such as capital controls). However, they did make a serious and continuous attempt to increase the level of reserves; but, as Figure 15 shows, this seems to have given them a false sense of security because short-term debt grew even faster and, as the 'fundamentals' deteriorated rapidly, the economy was left extremely vulnerable to a sudden collapse of confidence and withdrawal of finance.

Finally, of course, in a financially liberalised economy, the 'attack' could also just as easily come from 'within'.

FIGURE 16

LATIN AMERICA and EAST ASIA: ratio of foreign exchange reserves to M2 between the beginning of financial liberalization and respective financial crisis *



[1] = Chile; [2] = Mexico; [3] = Brazil; and [4] = Korea.

In the 1990s, none of the three paradigmatic countries seemed to have had significant defences against internal attacks on their exchange rates.[32]

In sum, 'route 1' countries • after massive surges in capital inflows • followed a path to financial crisis led by an explosion of credit to the private sector • low levels of interest rates (after stabilisation) • and a rapid revaluation of their real exchange rates • all these produced consumption booms • assets bubbles in the stock exchange and in real estate • a reduced level of savings • a massive deterioration of current accounts • and distorted the already low levels of investment towards residential construction •• in the meantime the level of foreign debt grew out of control • while its term structure deteriorated. It did not take much for this route to encounter some problem with lead to a sudden collapse of confidence and withdrawal of finance, leading to major financial crises.

[32] In a separate paper I analyse some of the political consequences of this 'internal' vulnerability of liberalised economies, in particular vis-à-vis internal political distributional conflict; see Palma (1999a).

In turn, ‘route 2’ countries, particularly Korea • again after massive surges in capital inflows • followed a path to financial crisis also led by an explosion of credit to the private sector • and by particularly low levels of interest rates • but this credit instead of being used for consumption booms or asset bubbles • was used to sustain high levels of investment • in a situation of declining profitability • and rapid technological change • in a world (particularly that of electronics) where there were collapsing prices • but life only at the cutting-edge of technology • this ended up producing corporate debt/equity ratios that reached heights that even for this part of the world should have produced serious feelings of vertigo •• added to this there were incomprehensive policy incentives to the corporate and financial sector to borrow abroad short • and a Central Bank that seems to have enjoyed the thrill of living dangerously with low levels of reserves. Again -- and despite the extraordinary growth record of Korea, its remarkable degree of competitiveness, and having fundamentals that although not perfect were the envy of ‘route 1’ and ‘route 3’ countries (and most other LDCs) -- it did not take much for this route also to encounter problems that lead to a sudden collapse of confidence and withdrawal of finance, leading to major financial crises.

As far as Malaysia and Thailand are concerned, they followed a mix of ‘route 1’ and ‘route 2’. Again after massive surges in capital inflows • they followed a path to financial crisis also led by an (even higher) explosion of credit to the private sector • but without the revaluation of exchange rates, consumption booms, declining savings and distorted investment of ‘route 1’ • but with the asset bubbles of ‘route 1’ • and not only with most of the problems of ‘route 2’ as well • but also with the added problem that they were reaching a point in their process of development where not only was further upgrading of exports to higher value-added products becoming increasingly difficult (in particular to break away from a 'sub-contracting’ type of industrialisation), but also where China was becoming a formidable competitor in many of the markets that were crucial to these second-tier East Asian NICs. Again -- and also despite their strong growth record, their growing degree of competitiveness, and having fundamentals that although worse than those of Korea, were still better than those of ‘route 1’ and ‘route 3’ countries (and of many LDCs) -- it was not long before this ‘mixed’ route also encountered problems (in this case in the form of voracious fund managers, eager to profit from long-standing but only

abruptly acknowledged peccadilloes of these economies) that led to a sudden collapse of confidence and withdrawal of finance, leading to major financial crises.[33]

Finally, 'route 3'. As discussed in detail in the Brazil chapter of this volume, this third route to financial crisis also started with a massive surge in capital inflows • but the scene was soon dominated by high interest rates • initially necessary for price-stabilisation • but later becoming stubbornly permanent • to avoid another Mexico • and to respond to external shocks •• these high interest rates were successful in avoiding a repeat of 'route 1' • but soon created massive domestic financial fragility in the banking system • and in the public sector finance • leading to an increase in the stock of public debt via government rescue activities • and this public debt exploded due to these high interest rates • which became systematically higher than both the growth in public revenues and the returns on foreign exchange reserves •• in the meantime the real economy imploded because of those rates • which affected the growth of public revenues even further • but high interest rates became even more necessary as a (poor) substitute for missing public sector reforms and political stalemate • and to defend the 'peg' in order to avoid both further domestic banking crises due to high foreign-exchange banking liabilities • and a stampede by restless international fund managers • and the 'Ponzi' finance in the public sector ballooned out of control. Again, it did not take much for this route too to have a sudden collapse of confidence and withdrawal of finance, leading to a major financial crisis.

So, the moral of the story of the 'three routes' is that no matter how LDCs facing sudden and massive surges in capital inflows have handled their absorption, they have ended up in major financial crises. Of course, with hindsight one can always think of theoretical ways in which the worst excesses in each of these three routes could have been avoided, but the fact is that the economic (and political) dynamic created by these surges in capital inflows is one that has proved extraordinarily

---

[33] One common element to all these financial crises is the way in which international financial markets, Washington Institutions and the financial press have interpreted economic news from these LDCs; this interpretation has repeatedly gone through a three-stage cycle: in the first, good news is exaggerated and bad news is simply ignored (the 'turning a blind eye' stage); in the second stage, bad news cannot be ignored any longer but it is believed that there isn't anything that can't be handled (the 'omnipotent stage'); and in the third, there is a sudden turn towards panic, when bad news is not only properly acknowledged, but it is exaggerated, sometimes grossly, often by a seemingly insignificant event (the 'hysterical stage').

difficult to control.

3.- CAN CAPITAL CONTROLS HELP ? AND BY HOW MUCH ?

Keynes once wrote that economics would only be successful if economists had the same ability as dentists to address and solve practical problems. Well, here LDCs are faced with a practical economic problem if ever there was one: how to live with a liberalised capital account, in a world with an already high, rapidly expanding, ever more volatile, and practically unregulated, financial liquidity.

The previous section of this chapter was crucial for placing capital controls within the context of the extraordinary mess they were expected to deal with. No matter how optimistic one could be regarding their effectiveness, after section two one could hardly expect too much from them; at best one could expect capital controls to be just one component in a complex package for dealing with these issues.

This section will briefly study the inflow-controls experiences of Chile and Malaysia. Beginning with the case of Chile, price-based capital controls were established in 1991; capital inflows were subject to a flat rate foreign-currency deposit in the Central Bank, reaching a peak value of 30%. This was originally meant to last for only a three-month period, but was later extended to 12 months.[34] There was an alternative to this deposit, (also used in Colombia), which was to pay the Central Bank a sum equivalent to the opportunity cost of the deposit -- this made it into a 'Tobin-type' tax, as it was equivalent to a fixed cost for external borrowing. By Tobin tax standards, however, this tax was very high (about 3% for one-year loans during booms in the capital market) [35], and tended to fluctuate in response to changes in certain macroeconomic factors, such as international interest rates.[36] This tax was

---

[34] In the relatively similar case of Colombia (created in 1993), as Ocampo (2000) explains, this deposit requirement applied only to credits with maturities below a specified term (initially 18 months, but this was later lengthened to between three and five years); the amount to be deposited was inversely proportional to the term of the credit. Because of its greater complexity, this system was replaced by a simpler one in 1997 that was more similar to the Chilean scheme, the main difference being that the deposit (originally 30% for 18 months) is made in the local currency and is therefore not protected from devaluation. For reasons of space, and because the subject has been dealt with thoroughly by Ocampo, the Colombian case will not be discussed here.

[35] According to Ocampo, the level for Colombia was even higher -- average level of 13.6% for one-year loans and 6.4% for three-year loans (during 1994-1998).

[36] For the case of Colombia, domestic interest rate and devaluation expectations also played an important role.

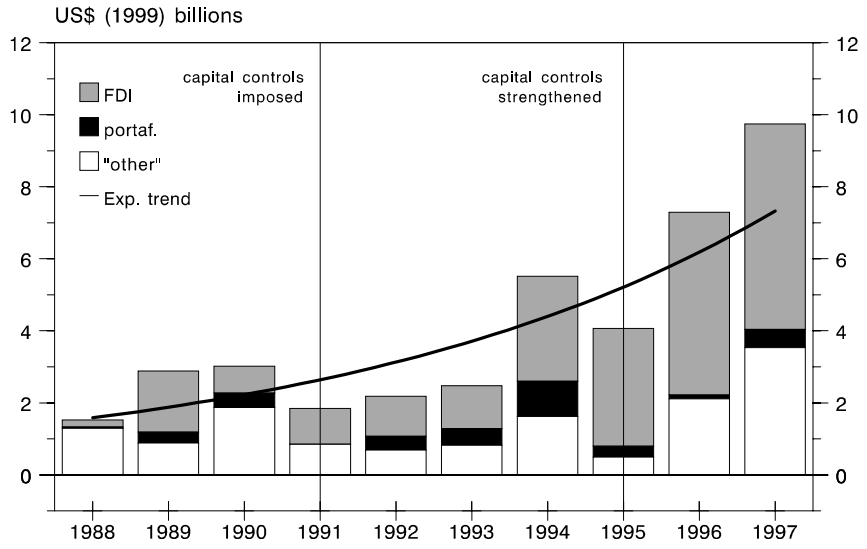
aimed at having a counter-cyclical role, which is why it has been raised during periods of rapid expansion, and lowered (even to a zero rate in both countries) when necessary (for example in the aftermath of recent financial crises).

Furthermore, controls on capital inflows have not been limited to reserve requirements; for example, until very recently all inflows (including direct investment and portfolio flows) were subject to a one-year minimum stay requirement. There were also numerous regulations regarding minimum sums and ratings for bond and ADR issues on the external market.[37]

Figure 17 shows the level and composition of net private capital inflows in Chile before, during and after capital controls.

FIGURE 17

CHILE: composition of net private capital inflows (WB), 1988-1997 *



Exp. trend = simple exponential trend.

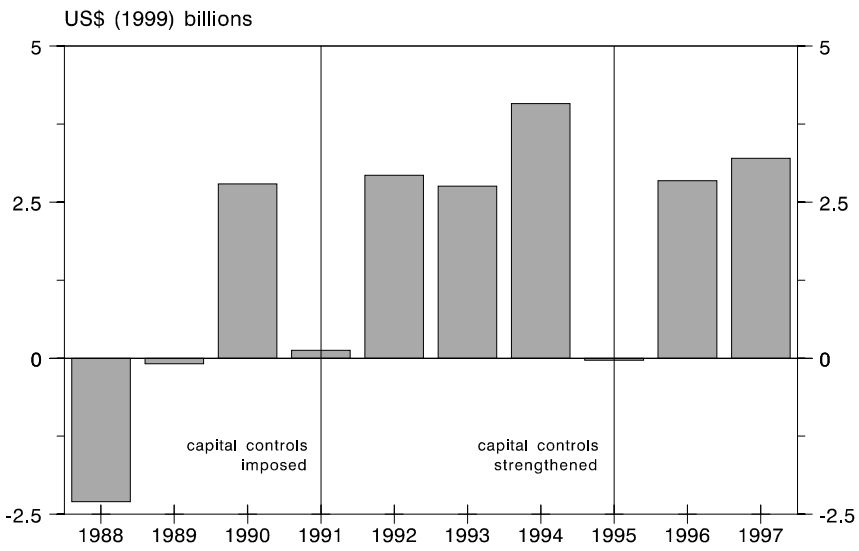
As Figure 12 for source and definitions of components of inflows.

[37] In Colombia, the Superintendence of Securities could also regulate the operations of portfolio investors in the country and bond or ADR issues made by Colombian firms on foreign markets. Although trade loans were exempt from reserve requirements, other types of regulation have been used to control this type of borrowing.

As is fairly evident from the graph, in terms of **levels**, capital controls in Chile seem to have had a significant but rather short-term effect. By 1994 the 1991 reduction seems to have evaporated, and the reduction brought about by the 1995 strengthening of controls seems only to have lasted for one year.[38] Of course, we will never know what levels these inflows would have reached had it not been for these controls, but the evidence seems to indicate that private inflows did bounce back after having been affected briefly by the imposition of controls. So, in terms of volume, then, these controls seem to have had the effect of 'speed bumps' rather than speed restrictions, although in terms of composition there is a clear increase in the share of foreign direct investment.[39] This phenomenon is even clearer in Figure 18.

FIGURE 18

CHILE: net equity securities and "other" investment (IMF), 1988-1997 *



Source: IMF (2000b). See this source for definitions.

In terms of volume, net equity securities and "other" investments, which up to 1995

[38] The empirical literature that tries to test whether controls in Chile were effective, and whether they had more effect on levels or on composition is extensive; see for example Valdés-Prieto and Soto (1998).

[39] But the increase in the share of FDI is also found in countries that did not impose controls, such as Brazil; see the relevant chapter in this volume.

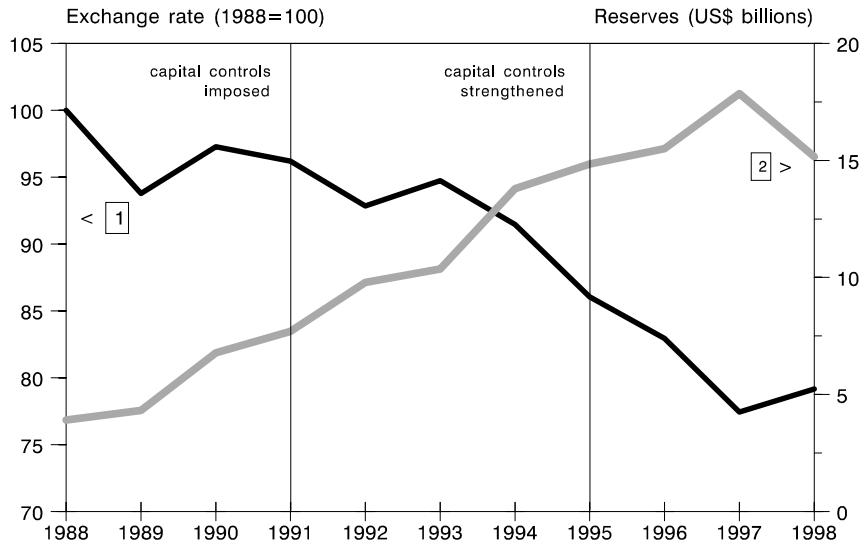
represented a major component of total net private inflows, reacted quite extraordinarily to the imposition and strengthening of controls; in fact, they actually vanished from the scene altogether. However, in both instances, these disappearing acts lasted for just one year!

So, the basic evidence on the effect of controls in Chile in terms of **volume** of inflows seems to tend towards significant but short-term effects. Of course, this phenomenon is not independent from the level that these price controls actually reached (which, as mentioned above, although high for a standard Tobin-tax level, were lower than those of Colombia, and, in practice, much milder than Malaysia's controls in 1994); unfortunately, there is no sufficient data from which to construct a proper measurement for the relevant elasticity.

Furthermore, these controls not only seem to have had little effect on levels, but were also fairly ineffective in tackling two crucial problems facing the Chilean economy at the time (see Figure 19).

FIGURE 19

CHILE: real effective exchange rate and foreign exchange reserves, 1988-98 *



[1] = real effective exchange rate; and [2] level of foreign exchange reserves.

One should not forget that the immediate reason for the Chilean Central Bank

imposing controls in 1991 in the first place was both the continuous pressure on the peso to revalue beyond the permitted 'band', and the ever growing levels of reserves. These phenomena not only forced the bank to implement increasingly costly amounts of sterilisation, but were also threatening to seriously imbalance an economy that was growing extremely quickly and in clear danger of overheating. However, as Figure 19 shows, controls were particularly ineffective in dealing with either problem; the level of reserves continued to increase and the revaluation of the peso in fact gathered pace.

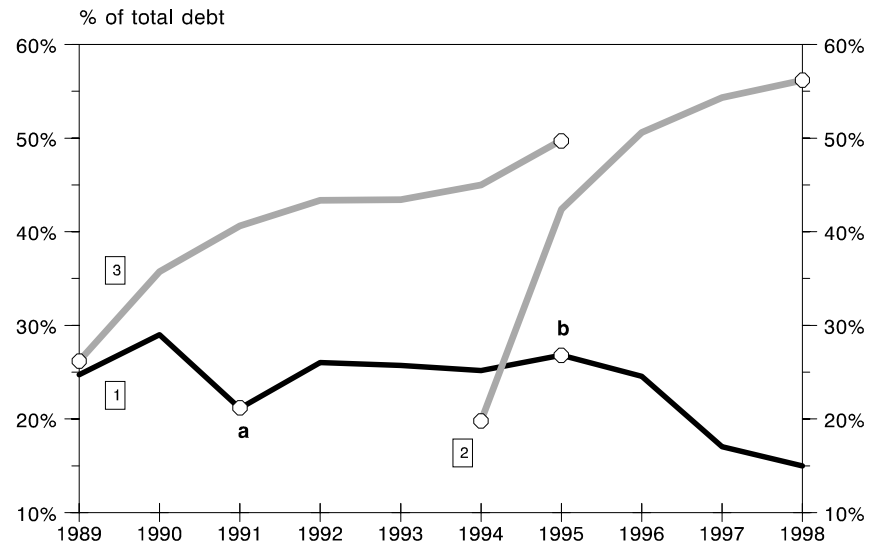
As it happened, the 1997 East Asian crisis 'succeeded' where capital controls failed, by quickly reversing both trends (see Figure 19). In this respect, one of the main stylised facts of the Chilean economy in the 1990s was the contrasting effect of the 1994 Mexican crisis and the 1997 East Asia crisis; and this contrast, of course, was not independent of these ineffective aspects of capital controls (at least at the levels that they were applied in Chile at the time) in dealing in particular with the problem of the continuous revaluation of the peso. As a result, while the 'Tequila effect' that swept Latin America in 1995 found the Chilean economy with a balanced current account (which, obviously, helped the Chilean economy enormously to weather this crisis), the 1997 East Asian crisis found the Chilean current account not only in the red, but already at a level equal to 20% of exports.[40]

Well, then, is there anything really positive that can be said for Chilean-style, and levels, of price-based capital account regulations? The answer is yes, and starts in Figure 20.

FIGURE 20

[40] And as this crisis affected Chilean exports badly both in volume and prices -- Chile had the highest share of exports going to these markets in Latin America, and prices of many commodities exported by Chile fell sharply after this crisis -- by 1998 Chile's current account deficit had increased further, to 25% of exports.

CHILE vs BRAZIL and THAILAND: short-term foreign debt, 1989-98 *



[1] = Chile; [2] = Brazil; and [3] = Thailand.

Source: IMF (2000c).

Figure 20 highlights one of the main econometric problems of studying whether controls were effective in Chile in terms of affecting the share of short-term debt in total foreign debt. The question is which one is the counterfactual? Is it a matter of controls been effective because they reduced this share vis-à-vis **its own trend**, or were they effective because they helped Chile not to follow the trend **of other LDCs** that did not impose controls (like Thailand or Brazil)? If, for example, Chile's share had increased, but not by as much as these other two countries, could this increase be taken as a sign of failure or of success of its capital account regulations?

As it happened, **vis-à-vis its own trend,** capital controls seem to have had little long-lasting effect in Chile until 1995, but a significant one after the strengthening of controls in that year.[41] However, if the comparison is made vis-à-vis the trend

[41] In fact, according to Chile's Central Bank balance of payments statistics, after 1995 this share fell even further than is indicated by the IMF source used in this graph -- from over 18% in 1994, to 16% in 1995, 12% in 1996, and less than 5% in 1997. According to IMF data, both in Colombia and Malaysia the share of short-term debt in the total also fell significantly; from 22% in 1995 to 13% in 1998, and from 25% in 1993 to 18% in 1994,

followed by countries that did not imposed controls, such as Thailand and Brazil, then controls in Chile seem to have had quite an extraordinary effect **from the very beginning** -- although they had a similar level than Thailand before the imposition of controls in Chile (in fact, in 1989 they had the same level, at about one-quarter of the total debt), by 1995 Thailand had a share twice as large as Chile's.

Furthermore, at the beginning of the *Plano Real* and full-blown financial liberalisation in Brazil in 1994, Chile actually had a share of short-term debt five percentage points higher than that of Brazil; however, by 1998, Brazil's share was nearly four times higher than Chile's. Moreover, by 1996, when the financial press only had praise for Brazil's economic reform programme (i.e., when it was still in the 'turning the blind eye' stage), Brazil's share of short-term debt had already more than doubled that of Chile (which had just strengthened its capital account regulations).

So, in terms of flows, Chilean-style (and levels of) capital account regulations seem to have had little long-lasting effect in controlling the **volume** of inflows, but probably some in helping to shift the composition of flows towards a larger share of foreign direct investment. However, in terms of stocks, they seem to have had a major influence in restraining the share of short-term debt in the total.

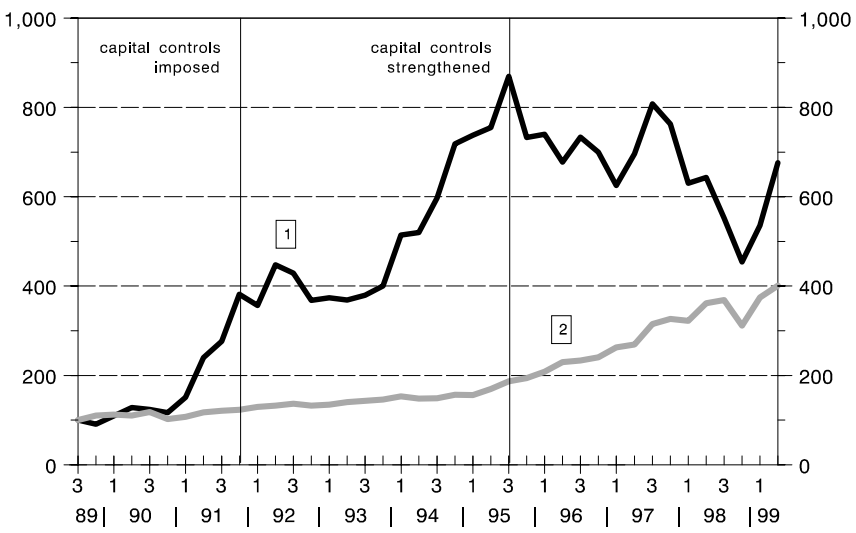
Added to this, and as opposed to what most of the relevant literature does, the effectiveness of capital controls should not only be tested vis-à-vis the changes in the external accounts of a country, either in their flows or stocks, but also regarding the effects on the macro-economy in general. Figure 21 looks at one of these important effects.

---

respectively.

FIGURE 21

CHILE: quarterly stock market index, 1989-99 *
(US$ terms, 3/ 89 = 100)



[1] = Chile's quarterly stock market index in US dollar terms; and [2] Dow Jones.

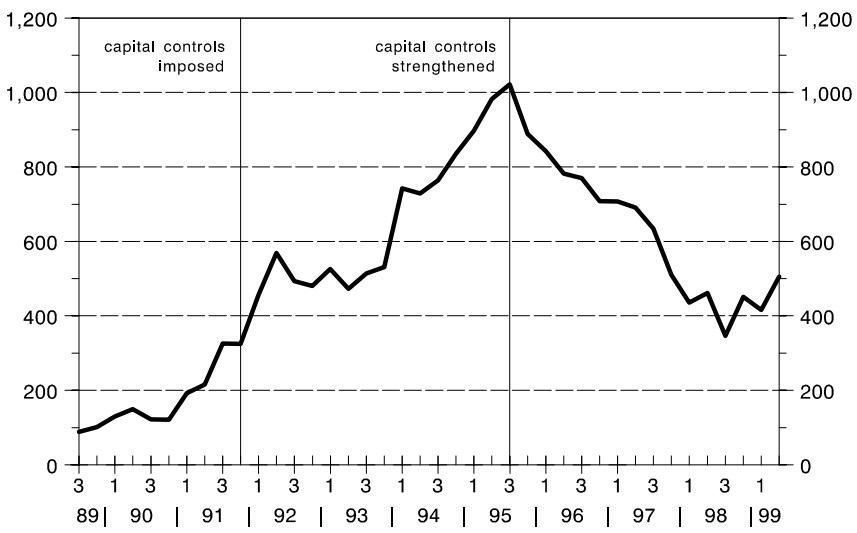
Source: Datastream.

As is clear from the graph, Chile was again experiencing an asset bubble in its stock market in early 1991 -- in the four quarters preceding the first imposition of controls the index used in Figure 21 had jumped by as much as 3.3-fold; seven quarters after the introduction of these controls, the index was still stuck at the same level. However, as in the **levels** of net private inflows studied above, this effect soon ran its course and together with the huge new increase in inflows in 1994, this index jumped again, this time 2.3-fold (following 8 quarters). Then the strengthening of controls in 1995 had an immediate impact on this new bubble, bringing the index down considerably; and when it began to recover again in early 1997, with the new increases in inflows, the mid-1997 East Asian crisis put also a stop to that (as had happened with the revaluation of the exchange rate and increases in reserves).

Something similar, but even more pronounced, took place in real estate after 1995 (see Figure 22).

FIGURE 22

CHILE: quarterly real estate index, 1989-99 *
(local currency, 3/ 89 = 100)



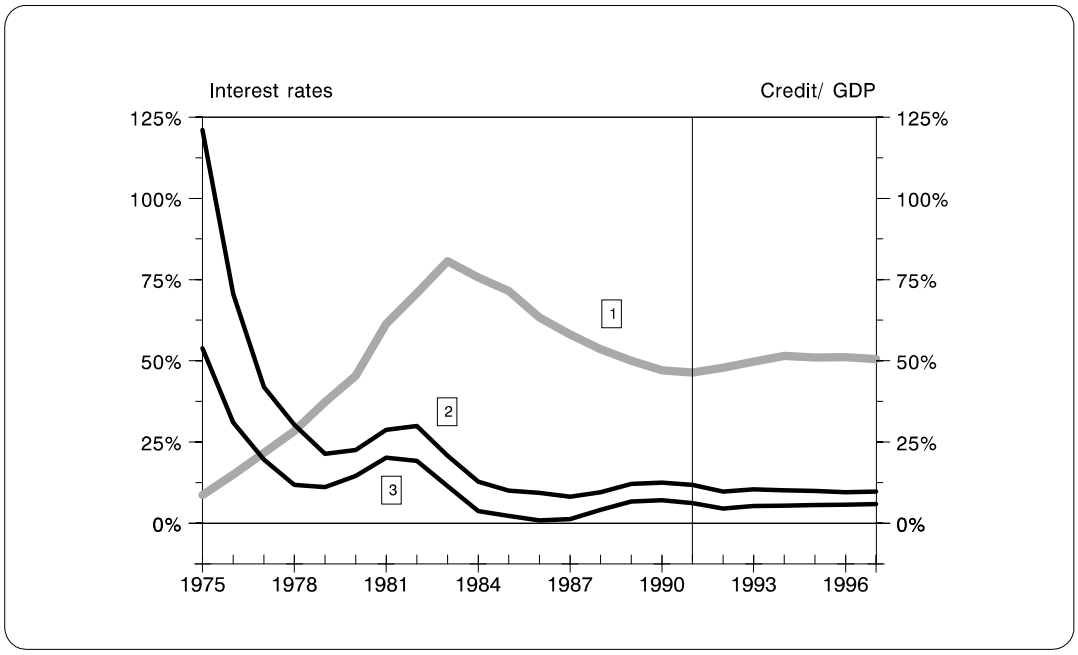
Source: Datastream.

In this market Chile is facing another bubble when capital controls are imposed in 1991. In this case, the (short-term) reduction in net private inflows that came with inflow-controls did not have such an immediate effect as in the stock market, but seems to have had a significant delayed one; by then (mid-1992), this index had already increased 4.7-fold in just six quarters. However, as in the stock market, the respite is also temporary, and this index doubles again between the end of 1993 and the strengthening of capital controls in the third quarter of 1995, following the renewed increase in inflows. The subsequent fall is remarkable -- as in the stock market these new controls seemed to have had the effect of starting a process that took all the life out of this market (even though the economy continued to grow rapidly until 1998).

Finally, Figure 23 shows another related aspect of the Chilean economy that, at least in timing, is associated with the imposition of capital account regulations.

FIGURE 23

CHILE: credit to the private sector and real interest rates, 1975-97 *
(3-year moving average, %)



[1] = credit to the private sector; [2] = real lending rates; and [3] = real deposit rates.

From the perspective of the variables included in Figure 23, between 1975 and 1997 the Chilean economy can be clearly classified into three sub-periods; from liberalisation to crisis, from crisis to capital controls and from the imposition of capital account regulations to the East Asian crisis. Of course, from 1991 onwards there were more things happening in the Chilean economy than capital controls, not least the return to democracy, the change in the economic team (away from the 'Chicago boys'), tighter and more effective regulation and supervision of the domestic financial system,[42] and the large post-Pinochet degree of consensus behind the economic model. But for the reasons discussed above, the weight of the evidence seems to support the hypothesis that capital account regulations can rightfully claim to have played at least a part in the more macro-stable post-1991 story.

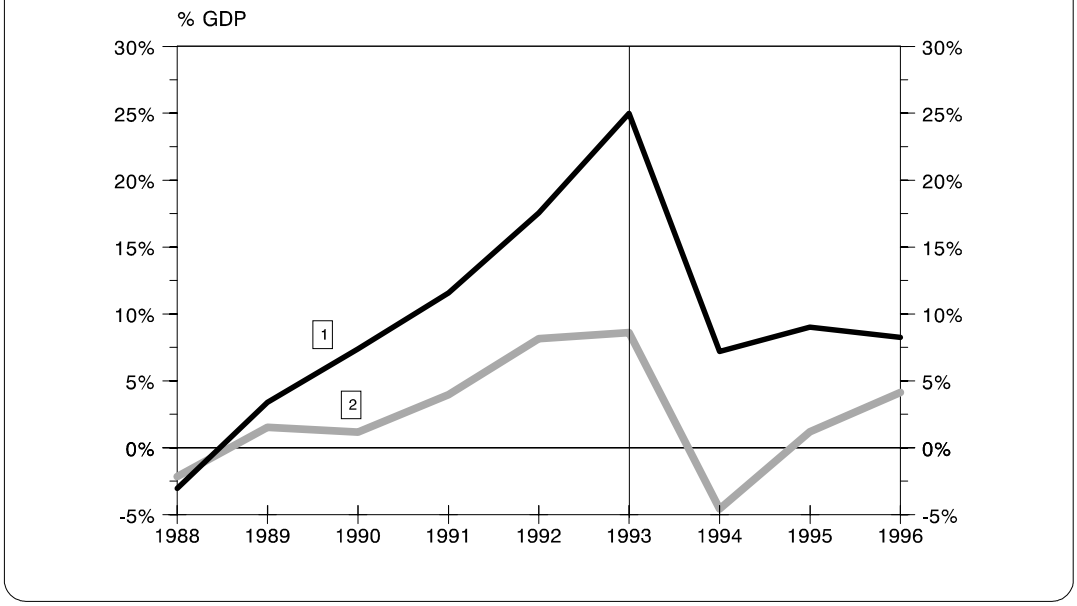
Turning now briefly to the Malaysian case, as Figure 24 shows the surge of net private capital inflows, in relative terms, could probably claim a place in the Guinness

[42] Another positive aspect of **price**-based capital controls in Chile (which there is no space in this chapter to expand on), is that they seem to have mixed well with better regulation of the domestic financial system (which by nature, takes more **quantitative** forms).

Book of Records.

FIGURE 24

MALAYSIA: net private capital inflows (IMF), 1988-96 *



[1] = net private capital inflows; and [2] = their short-term component.

Source: IMF (2000b); includes "errors and omissions"; see this source for definition of 'short-term' flows.

In fact, it is even difficult to imagine how one can run an economy that is facing this kind of surge in capital inflows. Facing this problem, the Malaysian authorities decided to impose strict controls on capital inflows at the beginning of 1994. As unlike the Chilean and Colombian experiments with capital account regulation, the key characteristic of these controls is that they were quantitative in nature; in particular, strict controls on foreign exchange exposures were placed on Malaysian banks and large corporations. Also, deposit interest rates were reduced drastically -- real deposit rates fell from an annual average of 4.2% in 1993 to one of minus 0.93% in 1994, and real lending rates from 6.2% to 1.8%, respectively; this was done in order to reverse arbitrage flows, both 'passive' and 'active' ones. Also, there was some relaxation of financial restrictions on residents.

As these measures were so drastic, and as they included such an strong quantitative

component, the effect was not only immediate, but also dramatic; so much so that as early as September of the same year, some of the controls were already beginning to be lifted, and by the end of the year most had disappeared: the Malaysian authorities seem to have developed some 'overshooting' anxiety.

In fact, net private inflows fell in one year by no less than 18 percentage points of GDP! These measures seem to have been particularly effective vis-à-vis short-term flows, which fell by more than 13 percentage points of GDP in one year; and, although these recovered after 1994 with the lifting of controls, total net private inflows did not, at least in relative GDP terms, continuing at just under 10% right up until the 1997 crisis. This quantitative short-sharp-shock seems to have had rather more long-lasting effects than the continuing (and strengthening) Chilean price-based controls. Maybe when drastic action is needed, as was clearly the case in Malaysia in 1994, quantitative controls are to be preferred.[43]

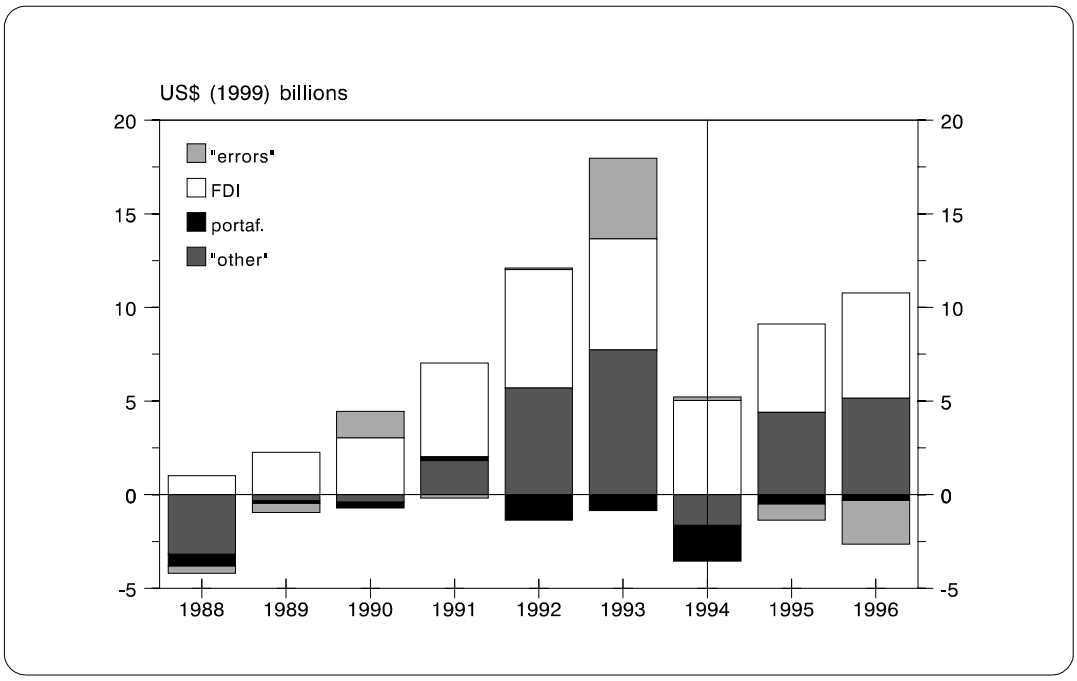
However, not all elements of the inflow-control package were dismantled at the end of 1994; low interest rates were maintained as part of residual policy package to disincentive a possible rapid return of private capital inflows after the end of quantitative restrictions -- real deposit rate increased in 1995 to just 0.9% and in 1996 to 1.8%, while the real lending rate did so to 2.5% and 3.6%, respectively. This is something that might have helped to maintain the volume of inflows at a relatively stable level, but was a policy-instrument that was to be seriously regretted later on, as there is little doubt that this was the main factor behind the extraordinary real estate bubble of 1996, which made the 1997 crisis much worse than it would otherwise have been (see Figure 28 below).

Figure 25 shows what happened in terms of the actual value and composition of these net private capital inflows.

[43] This point is supported by Tobin, who advocates a system in which "[…] governments should limit the hard currency exposure of banks and business" (2000, p. 1104).

FIGURE 25

MALAYSIA: composition of net private capital inflows (IMF), 1988-1996 *



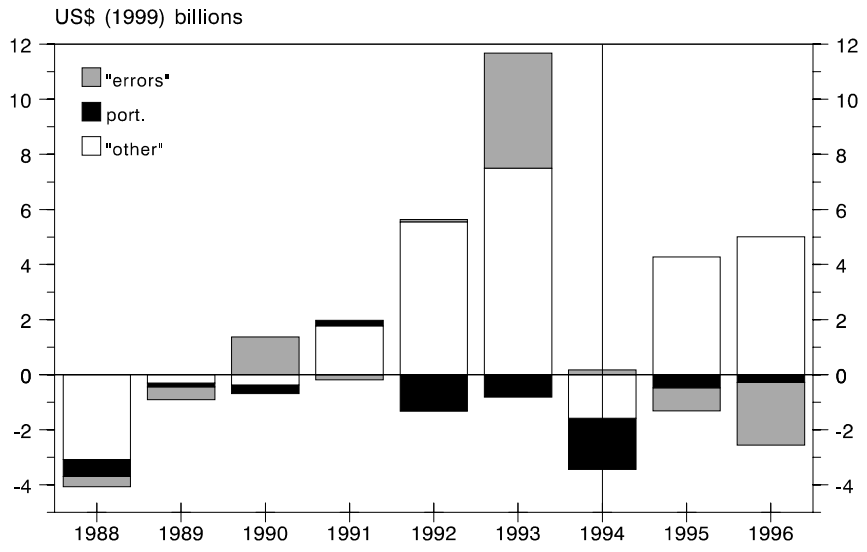
Source: as Figure 24.

As the majority of the harsh quantitative controls lasted for even less than a year, and the 1997 crisis came so soon after the imposition of (and lifting of the majority of) controls, we will never know whether this 'short-sharp-shock'-type of control could have had more long-term effects on the levels and/or composition of net private capital inflows; i.e., whether they made international fund and bank managers restless in a more permanent way. As it happened, the reduction of private inflows in 1994 was substantial -- other than in FDI -- and the recovery in 1995 and 1996 (after the lifting of most controls) was relatively slow -- at least compared with the recovery of net private inflows in Chile after 1995, when there was a particularly rapid recovery, despite the fact that the price-based controls were not only still in place, but that they had just been strengthened.

Figure 26 shows the changes in non-FDI inflows to reinforce the point.

FIGURE 26

MALAYSIA: net "other", portfolio investment and "errors" (IMF), 1988-1996 *



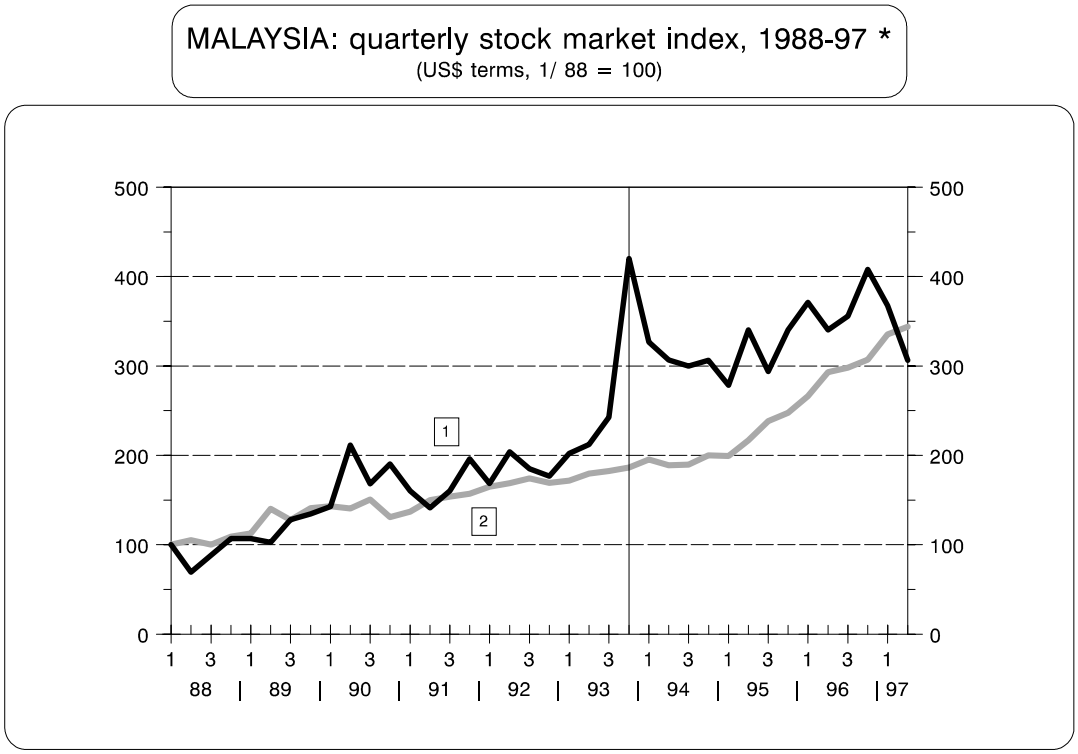
According to Figure 26, non-FDI inflows had increased by about US$ 16 billion between 1988 and 1993; the 1994 controls reversed this whole increase in just one year. Moreover, the recovery after most controls were lifted took place only in "other" inflows, leaving net portfolio inflows still in a net negative figure; finally, “errors and omissions” changed from a large positive to a large negative net figure.

One of the main peculiarities of the Malaysia case is the large size of the balance of payments item 'errors and omissions'. This phenomenon is relevant not only because it reveals pre-1994 deficiencies in Malaysia's Central Bank accounting practices, but also because with controls in place they first disappear, and then, become negative. The relevance of this is that one of the most repeated criticisms of controls is that they would tend to be ineffective because capital will always find ways of bypassing them. Well, in Malaysia it seems to have been the other way round; with controls came a successful tightening of procedures of recording inflows, and a massive reduction, rather than an increase, in this item.[44]

[44] The negative figures for this item in 1995 and 1996 probably reflect capital flight by Malaysian citizens. If this was the case, like their counterparts in Mexico before their December 1994 crisis, maybe they predicted trouble with better foresight than international

Finally, Figures 27 and 28 show that in Malaysia, as in Chile, even if capital account regulations only led to temporary reductions in net private inflows, these seem to have enough capacity to pierce asset bubbles, helping to keep macro-stability within the economy.

FIGURE 27



[1] = Malaysia's dollar denominated index; and [2] = Dow Jones index.

Source: Datastream.

Figure 27 shows the remarkable jump in stock prices at the time of the surge in inflows in 1993. Before the imposition of controls, this index jumped 2.4-fold in just four quarters. However, during the three-quarters that these controls lasted in full, this index fell by 30%; it then began to recover somewhat erratically, almost reaching the previous peak again in the last quarter of 1996.[45]

Figure 28 shows the extraordinary behaviour of real estate prices in Malaysia.

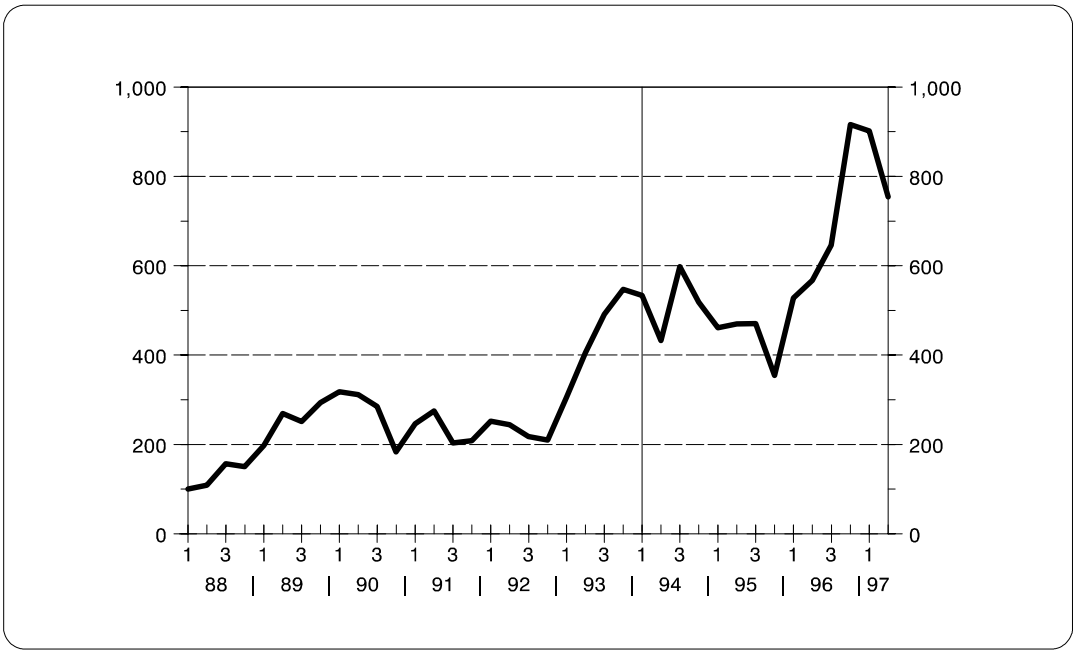
---

fund and bank managers did.

[45] The crash after the mid-1997 crisis was equally remarkable; by the third quarter of 1998 the local currency denominated index had fallen to just 38% of its early 1997 level.

FIGURE 28

MALAYSIA: quarterly real estate index, 1988-97 *
(local currency, 1/ 88 = 100)



Source: Datastream.

First, as in the stock market, there was a rapid bubble developing in real estate prices before the imposition of controls; the jump in the index in the four quarters before the imposition of controls was equivalent to a 2.6-fold increase. Second, as in Chile, the piercing of this bubble was not as immediate as the one in the stock exchange. Third, as opposed to Chile, the return of inflows in 1995 pushed this index back up with a vengeance; of course, the difference was in the levels of interest rates. As mentioned above, Malaysia may have lifted most of the quantitative controls on inflows towards the end of 1994, but kept the low interest rate part of the residual control package. The return of inflows, extremely low deposit rates and little life in the stock exchange (by pre-crisis standards), together with low mortgage rates, set in motion a new real 'route 1'-style estate bubble: in just four quarters the index jumped 2.6-fold again. Together with the usual serious destabilising effect that any asset bubble of this kind tends to have, this one set in motion a Kusnetz cycle that could compete with any of the Chilean or Mexican ones.

Of course, as is often the case, the crash was even more amazing; the trough level of this index (in the third quarter of 1998) was equal to just 9% of its pre-crisis peak!

CONCLUSIONS

Who was the economist who said that prices always reflect fundamentals? And particularly so in financial markets? And certainly in financially liberalised LDCs? Or that estimates of today's objective probabilities, calculated from an observed data-set, can provide statistically reliable information about the conditional probability function that will govern future outcomes? So that the key economic problem is not any longer the uncertainty that surrounds future outcomes? And who were the Nobel prize winners that said that LTCM could not fail? Or that (in economies like Chile or Mexico) trade and financial liberalisation were going to switch (in a fairly automatic way) the engine of growth towards domestically financed private investment in tradable production? Or that budgetary balance and unregulated market signals were going to prove practically sufficient conditions for macroeconomic equilibrium and microeconomic efficiency? Or that, at the macro level, fiscal balance would necessarily release significant amounts of private savings for more productive uses in the private sector? Or that at the micro level, market deregulation and trade liberalisation were to increase significantly both private investment and domestic savings? Or that financial liberalisation would place economic agents in a better position to assess and price their risk properly? Or that the household sector would have better information and incentives not to accumulate excessive amounts of risk via reckless borrowing? Or that capital account liberalisation would help households to 'smooth' their consumption paths over time? Or that (in economies like those in East Asia) financial liberalisation would impose much needed financial discipline in the corporate sector? Or that economies which run on the basis of a close relationship between governments and the corporate sector are unique to 'Asian despotism'? Or that (in economies like Chile, Mexico, Thailand or Malaysia) sharp swings associated with asset bubbles and Kusnetz-type cycles would almost be things of the past? Or that in a financially liberalised economy there would be no room for populism, and that governments (like Brazil's) would have no option but to keep their fiscal accounts in order?[46]

Sorry, I forgot, I suppose it is all the fault of moral hazards and crony capitalism.

---

[46] And if, as argued in this paper, there are such different 'routes' to financial crisis, what is the econometric point, so fashionable at the moment, of mixing data from such different experiences in order to find empty 'averages'?

Or, more likely, as Stiglitz asks:

> Are international policies in this area [financial liberalisation] being designed on the basis of the best available economic theory and evidence, or is there another agenda, perhaps a special interest agenda, seemingly impervious to the effects of such policies, not only on growth, but on stability and poverty? If that is the case, is there a more fundamental problem in the international economic architecture going […] to issues of accountability and representativeness? Do those making decisions that affect the lives and livelihood of millions of people throughout the world reflect the interest and concerns, not just of financial markets, but of business, small and large, and of workers, and the economy more broadly? These are the deeper questions posed by the crisis through which the world is just emerging. (2000, p. 1085)

Another (probably deeper) question that needs to be added to Stiglitz's, is why, at best, did it take massive crashes before policy-makers in some LDCs (like Chile) realised some of these problems and began implementing these types of policies (even if still not based in the best available economic theory and evidence) in a less dogmatic way? And only then were previously untouchable issues, such as capital account regulations, taken seriously.

But at least some policymakers in a few countries have learnt at last -- which cannot be said for the majority of international fund managers who do not seem to have learnt anything from their mistakes and continue to act as if these crises have never happened, and there is nothing in this world but the end-of-year bonus.

In this world of already high, rapidly growing, extremely volatile, and almost totally unregulated international liquidity, capital controls can, of course, be of some help; but one cannot expect them to be able to hold the fort on their own![47]

REFERENCES

- Bhalla A. S. and D. M. Nachane (2001). 'The Economic Impact of the Asian

[47] This is particularly the case in small countries -- small vis-à-vis not only to international financial markets in general, but even to the position-taking capacity of a small number of hedge funds; in them, theory and evidence suggest that they need to follow fundamentally different policies than larger ones, not just as temporary measure but in the steady state (see Eichengreen, 2000, p. 1105).

Crisis on India and China', in Chang, H-J, J. G. Palma and H. Whittaker (2001).
- BIS (1999). 'The BIS Consolidated International Banking Statistics', November.
- Chang, H-J, J. G. Palma, and H. Whittaker (2001). *Financial Liberalisation and the Asian Crisis*, Forthcoming, Macmillan.
- Chile (1988). *Indicadores Economicos, 1968-86*, Banco Central.
- Davidson, P. (2000). 'Is a plumber or a new financial architecture needed to end global international liquidity problems?, *World Development*, Vol. 28, No. 6.
- ECLAC (2000). Statistical Survey of Latin America, ECLAC.
- Eichengreen, B. (2000). 'Taming capital flows', *World Development*, Vol. 28, No. 6.
- De Gregorio, J., S. Edwards and R. O. Valdes (2000). 'Controls on capital inflows: do they work?', *Journal of Development Economics*, Vol. 63.
- Dunbar, N. (2000). *Inventing Money: the story of Long Term Capital Management and the legends behind it*, John Willey & Son, Ltd.
- Galbraith, J. K. (2000). A Short History of Financial Euphoria, Penguin Books.
- Hofman, Andre A. (2000). 'Standardised capital stock estimates in Latin America: a 1950-94 update', *Cambridge Journal of Economics*, Volume 24, Number 1, January.
- Howell, M. (1998). Asia's "Victorian" financial crisis, mimeo, Cross Border Capital.
- IFC (1999). *Emerging Stock Markets Factbook.*
- IMF (2000a). *International Financial Statistics* Databank.
- ----- (2000b). Balance of Payments Statistics.
- ----- (2000c). *World Economic Outlook database*.
- Joshi, V. (2000). '*Capital account convertibility and the national advantage – Has India got it right?'*, mimeo, Oxford.
- Kindleberger, C. (1996). *Manias, Panics, and Crashes: a history of financial crises*, John Wiley & Sons.
- Krugman, P. (2000). 'Curfews on capital flight; what are the options?', http://www.mit.edu/krugman.
- Kuczynski, M. (1998). 'How Asian has the Asian crisis been?', mimeo*, Adenauer Stiftung*.
- McKinnon, R., and H. Pill, (1997). 'Credible economic liberalizations and overborrowing', *American Economic Review*, 87 (2).
- Ocampo, J. A. and C. Tovar, (1999). 'Price-Based Capital Account Regulations: The Colombian Experience', *Financiamiento del Desarrollo Series*, N° 87, ECLAC.
- Ocampo, J. A. (2000). Developing Countries' anti-cyclical policies in a globalized world, mimeo, ECLAC.
- Palma, J. G., (1995). 'UK Lending to the Third World from the 1973 Oil Shock to the 1980s Debt Crisis: on financial *manias*, *panics* and (near) *crashes*', in P. Arestis and V. Chick (eds*.) Finance, Development and Structural Change: a Post-Keynesian Perspective*, Edward Elgar Publishing.
- ----------, (1998). 'Three and a half cycles of "mania, panic and [asymmetric] crash": East Asia and Latin America Compared*, Cambridge Journal of Economics*, November.
- ----------, (1999a). 'Why does Latin America have the worst income distribution in the world? -- on changing property rights, distributional coalitions and institutional settlements', mimeo, Cambridge.
- ----------, (1999b). 'Spin-doctoring or preventive medicine? The role of the World Bank in economic reform in Latin America', in J. Pincus and G. Winters (eds.) *Reinventing the World Bank*, forthcoming, Cornell University Press.
- ----------, (1999c). 'The over-borrowing syndrome: structural reforms, institutional failures and exuberant expectations. A critique of McKinnon and Pill.

(Paper presented at the American Economic Association Meeting -- 1999, 3-6 January 1999, New York), mimeo, Cambridge.

- ----------, (2000). 'The magical realism of Brazilian economics: how to create a financial crisis by trying to avoid one', in J. Eatwell and L. Taylor (eds.), *International Capital Markets*, forthcoming, OUP.
- Rodrik, D. and A. Velasco, (1999). 'Short-term capital flows', mimeo, Harvard.
- Saad Filho, A. (2000). 'The Brazilian economy in the 1990s: counting the cost of neo-monetarism', mimeo, SOAS.
- Stiglitz, J. (1998). 'Sound finance and sustainable development in Asia', mimeo, Manila.
- ----------, (2000). 'Capital market liberalization, economic growth, and instability', *World Development*, Vol. 28, No. 6.
- Summers, L. H. and V. P. Summers, (1989). 'When financial markets work too well: a cautious case for a securities transactions tax', *Journal of Financial Services*, vol. 3.
- Tobin, J. (2000) 'Financial globalization', *World Development*, Vol. 28, No. 6.
- Valdés-Prieto, S. and M. Soto (1998). 'The effectiveness of capital controls: theory and evidence from Chile", *Empirica*, Nº 25.
- United Nations (2000). *Comtrade database.*
- World Bank (2000a). *World Development Indicators CD-ROM*.
- ---------- (2000b). *Global Development Finance CD-ROM*.