A Minskyian crisis: an application to the 1994-95 Mexican experience.

By Moritz Cruz[+]

Abstract

Recent implementation of Minsky's financial instability hypothesis (FIH) deploying *only* macro variables demonstrates that it is a practical framework with which to explain current financial crises. Extending the scope of this work, this paper shows, on the one hand, that a complementary approach can be employed which makes use of more *ad hoc* variables derived from the seminal FIH. On the other hand, this paper argues that a financial crisis in a financially deregulated context could be signalled by a speculative currency attack. Finally, the paper stresses the fact that financial liberalization reduces the government's ability to 'thwart' expectations. The FIH for an open developing economy (FIH-ODE) is applied to the 1994-95 Mexican experience.

Key words: financial crises, expectations, Mexican crisis, currency attacks.

JEL Classifications: E12, E32, E44, E6

[+] The University of Manchester, School of Economic Studies. I would like to thank to Ed Amman and Bernard Walters for helpful comments. The usual disclaimers apply. I thank as well to CONACYT for financial support.

A Minskyian crisis: an application to the 1994-95 Mexican experience.

By Moritz Cruz[+]

I. Introduction

The recent work of Arestis and Glickman (2002) explains the role of financial liberalization in the endogenous process that drives an economy to a financial crisis. This is done using the well-known Minsky's financial instability hypothesis (FIH). Basically, the authors extend Minsky's units taxonomy adding a new sort of unit, which is prone to develop only in a financially deregulated environment. To illustrate that the FIH for an open, developing economy (FIH-ODE)[1] can be deployed to explain the Asian 1997 crisis, they support their point using macro variables, which are not nevertheless the core of Minsky's seminal framework. Additionally, this approach does not present empirically how the economies under analysis evolved until reach a high degree of financial fragility. In this sense, the aims of this paper are twofold. First, to provide a complementary approach of the FIH-ODE that emerges from the seminal FIH because it is based in a key variable that explains why an economy undergoes marked economic cycle changes: *expectations*. The analysis is based on the evolution of firms' expectations rather than on firms' balance sheets, indicating that an economy in which expectations change from pessimistic to optimistic undergoes marked changes regime (going from a tranquil regime to a boom one). In this sense is then possible to argue that firms' classification evolves from hedge to *super-speculative*. This paper also reveals that a financial crisis could

be signaled by a currency attack and gives details about how financial liberalization reduces the government's capability to 'thwart' expectations and avoid a financial collapse.

Given that the Mexican 1994-95 crisis was the one that opened the new era of financial crises and due to the fact that it exhibited markedly the transition between regime changes (due to changes in expectations that it underwent), the second aim of this paper consists in explaining it using the FIH-ODE. Section II describes this theoretical framework. It follows the model developed by Arestis and Glickman (2002), stressing the crucial influence of financial liberalization on the process that leads to financial instability through *financial* and *institutional* factors and the role of expectations. Section III applies the FIH-ODE to the 1994-95 Mexican crisis using the approach here developed, and complementing it with the one of Arestis and Glickman (2002). Based on the business opinion semiannual survey (BOSS), it will be argued that effectively the Mexican economy during the period 1988-94 evolved as the FHI-ODE predicts, undergoing marked economic phases. In this sense, the Peso crisis can be categorized as a Minskyian crisis. Section IV, finally, concludes.

II. FIH for an open, developing economy (FIH-ODE).

Arestis and Glickman's (2002) extension of the FIH considers a financially deregulated economy in which the typical Minsky units' taxonomy is not so direct. As is known, within the FIH framework, units are classified according to and directly from their margin of safety.[2] If a unit has a great margin of safety then it is

a hedge entity; a smaller capability to discharge financial commitments when facing a change in expected cash flows or financial conditions indicates that the entity is a speculative one; finally, if any (small) disturbance makes impossible for a unit to fulfill short and long term payments then it is said to be a ponzi unit.

However for a financially liberalized economy, units are propelled to embark on long-term gestation projects issuing short-term debts denominated in foreign currency. If the unit expects to be able to meet adequately its financial commitments it can be considered, then, a hedge unit. However, the same unit can be classified as a speculative one, with a tendency to resemble a Ponzi, since it is now more vulnerable to both domestic and external financial conditions. Furthermore, a unit that "… borrowed *short-term* in foreign currency to finance domestic long-term assets would also be speculatively financing itself under both of Minsky´s criteria: as well as needing continually to roll debts over, it will also be vulnerable to changes in interest rates… [and] to exchange-rate movements" (Arestis and Glickman, 2002: 242). This sort of unit is dubbed by these authors as *super-speculative*-financing, and is the kind of unit that predominates in an open, financially liberalised economy. The difference, then, between the FIH and the FIH-ODE is the increased vulnerability of units to internal and external shocks in a liberalised environment.

But the complete version of how and why financial crises evolve needs to take into account institutional factors. These related to the financial system (in the way of financial innovations to satisfy the financing demand) and economic policy. To make clear their role within the FIH-ODE, it is necessary to describe

how and why financial practices evolve and explain the relevance of economic policy in the innovation of these financial practices (and on investors' confidence).

In the seminal Minskyian FIH, a state of low financial fragility is usually a characteristic of the upturn cycle phase. During this regime firms, gradually, generate an 'environment' prone to finance their investment projects, because the financial system (largely banks) is able to satisfy their credit requirements. That is, with favourable market conditions and optimistic expectations about the near future, firms and banks regard the margins of safety chosen in the past as over-cautious and their risks start to be underestimated, while at the same time, financing demand increases. Banks and other financial institutions do not have problems increasing the supply of money, either through common channels or through financial innovation.

However, in a financially liberalized economy innovative financial practices tend to develop quicker because domestic units are allowed to borrow and/or lend in international capital markets, and domestic credit increases due to the boost in capital inflows. That is, financial liberalization, in a context of rising optimistic expectations, will have two initial effects. "The primary effect of openness is to import the drive towards financial innovation… as foreign wealth-holders seek out investment opportunities and local households, firms and banks, begin to look abroad for finance" (Arestis and Glickman, 2002: 242-43).

More explicitly, due to openness, the positive effects of the boom will likely spread beyond the economy concerned.[3] Foreign investors will be attracted by

the optimistic conditions, especially if short-term interest rates are low in their major centres, and the host country offers preferential conditions. Thus large capital inflows will arrive and banks will be able to increase their deposits and loans and expand their own international borrowing (Ibid).

In this setting, financial liberalization will promote, according to mainstream theory, economic growth, by increasing savings, investment and the productivity of capital,[4] this means letting the market determine the price and the allocation of credit (Arestis and Demetriades, 1999). In this sense, economic policy, the other institutional factor, then, has a fundamental role in determining the degree of exposure of units to disturbances. When policymakers set up a financial liberalization strategy, units (and even the government itself, as we will see) increase their degree of financial fragility and are highly exposed to any swift and negative change in the financial markets.

The secondary effect of financial openness consists of the fact that it extends opportunities for units to speculate.[5] In this context, initial waves of foreign borrowing are validated by the immediate increase in asset prices, investment and profits. The stream of capital inflows therefore will continue and the exchange rate as a consequence will remain stable. This will then encourage the taking of positions, especially short-term positions on foreign currency (Arestis and Glickman, 2002: 243). The taking of positions denominated in foreign currency will boost the financial fragility of the economy. Even a small change in financial markets will generate a series of defaults, and consequently a crisis.[6]

The conjunction, then, of financial and institutional factors will lead to a process in which the economy will pass from a regime of financial robustness to one of financial fragility. According to Minsky, the transition from financial robustness to financial fragility has its roots in the changes of realized and expected profits (that is in reversals in the present value of current and future cash flows), and in the financial innovations to roll debts over. In this sense, "The instability of a financial regime heavily weighted by speculative and Ponzi finance is due to the importance of changing interest rates…" (Misnky, 1986: 241).[7] This tends to force units to decrease investment or sell out positions provoking the price of capital assets to fall relative to the production cost of investing, leading to a spiral of declining investment and profits (Misnky, 1986: 215-16).

In an open economy the transition from robustness to financial fragility (and to a crisis) follows basically the pattern of a *closed* one, but as noted earlier, due to the access to global capital markets and the lack of barriers the economy falls into a state of greater financial fragility in which "It becomes prone (i) to crisis that is domestic in origin but impacts on its external situation… (ii) to crisis that is external in origin but impacts on its domestic situation… and (iii) to crisis-intensifying interactions between (i) and (ii)" (Arestis and Glickman, 2002: 243).

According to this approach, in case (i) the process that leads to a crisis starts in a typical Minskyan way. For example, assume a rise in the rate of interest provokes a reversal in the present value of realised and expected returns. This generates a series of increasing financial defaults with spreading consequences due to the difficulty of *super-speculative* and Ponzi units to

refinance their debts. Even hedged units will now be speculative financed ones "… in the sense that their debts are denominated in foreign currency whereas their cash inflows are not" (Arestis and Glickman, 2002: 243). Given the reduction in cash inflows, many firms will now look for liquidity,[8] trying to diversify their portfolio by selling out their positions and buying assets denominated in foreign currency. "The domestic currency will be sold out heavily, triggering an exchange rate crisis" (Ibid). This will negatively affect the firms' balance sheets, increasing their debt ratio. High financial fragility will ensue and even with government intervention a crisis is likely to be the final upshot.

Once the economy is financially liberalized, it can be regarded as a financing entity in relation to the external value of its currency. This explains the possibility that a crisis develops according to (ii). The essential idea is that the central bank accumulates foreign assets, which are reflected directly in the amount of its foreign reserves. In this sense, the country can be classified in terms of Minsky's taxonomy according to the size of its debt-to-international reserves ratio. When reserves are substantial in relation to debts, the country remains in the equivalent of a hedge-financing unit. However, when "… endogenous processes drive up the foreign liabilities, and specially the short-term liabilities… its debt-to-reserves ratio rises and it becomes increasingly doubtful that its authorities will continue to be able to finance the transactions they may be called upon to undertake to protect the exchange rate" (Arestis and Glickman, 2002: 244). The country concerned can then resemble a speculative, Ponzi or even a super-speculative unit with respect to the world.

Furthermore, the surge in capital inflows coupled with a stable exchange rate (in consequence of the parity policy adopted) will generate, *a fortiori*, a proportionate deficit on the current account. The vulnerability of the economy, then, will increase. Once the lack of financial barriers against the outflow of capital is present, the amount of international reserves will *artificially* increase (and with them the financial fragility) in direct relation to the facilities to which capital can run. In this sense, the surge of inflows provoking financial fragility is not apparent and, at the same time, minimizes the importance that a large current account deficit entails. Rather to the contrary, the size of the trade deficit may be an indicator for speculative investors and policymakers of the success of the liberalization process.

In principle, then, as the host country keeps attracting large amounts of inflows, the ratio of financial fragility can remain very stable or even low, giving the appearance that the country resembles a hedge unit. The deficit on the current account at this point will not be a focus of attention either to investors or to the government. Nevertheless, the category of hedge unit can swiftly change, as soon as financial or, more frequently, political conditions alter. When initial conditions starts to reverse, that is, when units are doubtful of the capacity of the authorities to maintain the exchange rate, the outflow in capital will start.[9] The country will now resemble a *super-speculative* unit due to the decrease in reserves and the large amount of short-term debts coming due. Furthermore, the size of the external deficit will now worry investors, generating a major run of

capital and pressures on the domestic currency. The country, in this setting, is ready to undergo a currency crisis.

Again, as can be noted, in a context of financial openness the exchange rate plays a key role as an element of uncertainty. On the one hand, units will be exposed to any endogenous process that may negatively alter their liabilities in foreign currency. On the other hand, speculators can, even in the absence of a worsening in the economic fundamentals, be doubtful about the possibility of the central bank supporting the currency. Under these conditions, the domestic currency is highly likely to suffer a speculative attack. It will be inevitable, alternatively, if speculators detect any worsening in the domestic conditions or in fundamentals. With an unstable exchange rate and high rates of interest, units' balance sheets will be negatively affected, their debt ratios will increase and they will become unable to honour their debts. Financial fragility will be high and again the final outcome is likely to be a crisis.

Finally, according to Minsky (1982 and 1986), a crisis can be mitigated if, once signals of financial instability are detected, the central bank and fiscal authorities apply active economic policies.[10] In other words, the typical FIH framework assumes the government is able to 'thwart' endogenous expectations towards instability. Nevertheless, in a financially liberalized context, authorities are constrained because of the negative *ex-ante* and *ex-post* effects of the liberalized strategy. That means whatever the origins of the crisis, (i) or (ii), the situation will be very precarious because "… a reliance on portfolio inflows introduces two general, mutually reinforcing problems… They are termed the

problems of ‘compromised policy autonomy’ and ‘increased risk potential’” (Grabel, 1996: 1763).

With respect to the latter problem further elaboration is provided in footnote 5. Regarding the former one, on the one hand, a government that seeks to attract and maintain external investment inflows (direct and portfolio) as a strategy to boost growth may be from the beginning severely constrained in an *ex-ante* sense. For a government, to create an adequate climate to attract capital, it would be necessary to adopt a set of policies aimed at securing investors’ confidence and reward, such as restrictive monetary and fiscal policies aimed exclusively at price stabilization, maintaining interest and exchange rates higher than otherwise would be preferred and sound public finances, i.e. budgetary balance or surplus. In addition, privatisation programs and measures to liberalize the economy would be necessities (Grabel, 1996).

On the other hand, in the case of an advent of an outflow of capital or a currency crisis the government could be compelled to adopt reinforcing measures aimed at reversing the outflow of capital. These measures would involve basically an intensification of the policies initially adopted. Thus, the government will be in a state of an *ex-post* constraint, which can be aggravated when the country receives financial support or a bailout from some multilateral institution (Grabel, 1996).

As can be noted, then, policymakers, once they have implemented a financial liberalization strategy, have little room for manoeuvre to avoid or

mitigate crises. The 'thwart' surprise factor assumed in the seminal FIH basically disappears in a financial liberalized context.

III. A FIH-ODE version of the 1994-95 Peso crisis

A good example demonstrating that both the seminal FIH and the FIH-ODE frameworks are complementary is the Peso crisis. To this end, we are going to proceed by showing how the change in expectations that the economy registered during the period 1988-94 meant, at the micro level, that units registered different margins of safety being in a hedge, speculative, Ponzi or *super-speculative* position at each phase of the economic cycle. Whereas, at the macro level, it meant the country could be classified as a typical unit, given the financial liberalization.

The stabilisation plan: the change of expectations

After the 1986 oil shock and the 1987 run on the peso, President Salinas put in place a stabilisation plan.[11] The new strategy was based initially on an incomes policy[12] with the exchange rate as anchor.[13] Additionally, the government adopted contractionary fiscal and monetary policies aimed exclusively at reaching a fiscal balance or surplus, contributing to stabilising prices. The stabilisation plan's complement was a privatisation programme, which included the banking system, coupled with a financial and trade liberalisation strategy.[14]

The implementation of the stabilisation plan meant the country evolved through the different regimes described by the FIH. That is, from a tranquil regime to a boom, undergoing a stable economic period from 1988 to 1994, in contrast to the previous six years (see Figure 3.1), due to the reversal of the negative economic expectations of investors. It is noteworthy, however, that some authors have pointed out that the Mexican economy did not undergo an economic boom during the period 1988-1994,[15] neither in terms of rates of growth (especially if they are compared with those attained by the Asian economies prior to their crisis) nor in terms of an enhancement in social welfare. This issue will not be addressed here, but effectively Mexico was far from bringing about reductions in poverty levels, and on the contrary they increased considerably. Nevertheless, the economy did undergo, without doubt, a period of relative stability (and growth) during these years. The bad experiences of the previous years faded, and overall expectations changed to optimistic ones.

As figure 3.1 depicts, economic performance prior to the beginning of the stabilisation plan (1987) shows an unstable pattern with marked ups and downs, especially during the period from 1981 to 1986. During these years, it can be argued expectations were pessimistic, keeping domestic aggregate demand at low levels due to poor investment. Nevertheless from 1987 to 1994, GDP shows not only an increasing but very stable trend. As soon as the government implemented the “Pacto”, agents’ negative expectations shifted to optimistic ones. The level of investment improved and with it domestic aggregate demand.

In sum, during the whole period 1988–94, the pattern of investment is dominated by raising expectations, which were reflected in GDP rising trend.

Here Figure 3.1 Mexico's GDP (1993=100), logs, 1980 - 1995

The tranquil regime

Based on some leading indicators and survey's expectations, it can be argued that the years from 1987 to 1989 can be identified as the economy living through a tranquil economic regime. During this regime, for example, inflation dropped from 159.1% in 1987 to 19.7% in 1989, but the rate of economic growth rose from 1.7% in 1987 to 4.0% in 1989 (see table 3.1). The trend of the fiscal imbalance started to change, decreasing from 14.1% of GDP in 1987 to 4.5% in 1989. The nominal rate of interest in 1987 was 123%, but it shrank to 48.7% in 1989. Given the initial results of the stabilisation programme, accompanied with favourable external conditions, expectations started to change being reflected in the trend of investment and consumption.

Here Table 3.1 Selected variables (rates of growth)

Gross investment, for example, registered a sharp increase in 1988, reaching a rate of growth of 11.7%. However it diminished its dynamism the following year and just grew 5.7%. Private consumption, on the other hand, behaved in the opposite way, it grew just 1.8% in 1988, but the next year increased by 6.5% (see table 3.1). Initially, investment increased after the stabilisation plan started, however, as is known, the positive multiplier effect of

investment takes time and during 1988 consumption did not fulfil agents' expectations. However, in 1989, due to the investments made previously, consumption grew extraordinarily quickly. In sum, the change in expectation was under way.

In order to confirm the shift in expectations, it is useful to analyse some figures from the Business' Opinion Semiannual Survey (BOSS) elaborated by Mexico's Central Bank. To the question of how investors expect business' conditions would be for the first semester of 1987: 30% expected they would be good, meanwhile just 14% considered they would be bad. Optimistic expectations rose for the first semester of 1988, when 54% estimated the conditions would be good and just 3% considered they would be bad. Expectations, however, changed slightly for the second semester of that year. For the first semester of 1989, most of the interviewees, 54%, expected business' conditions to be regular, 38% to be good and 8% to be bad.

On the other hand, to the question whether investors would increase, maintain the same level, decrease or undertake any new investment during the first semester of 1987: 36% replied they would increase it and almost the same percentage, 37%, said they would decrease it, 17% said they would not undertake any new investment. For the second semester of 1987, 42% estimated they would increase investment and 37% said they would maintain the same level. For the second semester of 1989, more than one third of investors, 34%, expected to maintain the same level of investment and 31% said they would increase it. This information is summarised in Table A1 in the Appendix.

Summarising, expectations show raising confidence in both business' conditions and future investments. Actually, looking at the figures, investment followed agents' expectations. Thus, for example, when optimistic expectations recorded the highest percentage, in 1988, the rate of investment reached its highest level. The following year, when expectations were less optimistic, a lower rate of investment ensued.

Due to economic instability prior to 1988, and the tight monetary policy that typified the stabilisation plan, it can be argued that the tranquil regime was characterised by both lenders and borrowers being cautious in their financial requirements. Lenders set up tight policies on lending, meanwhile borrowers tried to get most of their funds from internal sources. However, as soon as expectations changed markedly, from the second semester of 1988, firms started to borrow from financial institutions. The economy was financially and commercially opened and it started to attract external inflows. These factors boosted debt-financed investment and consequently the economy entered a regime of economic prosperity, which, as we will see, quickly turned into a boom regime.[16]

The prosperity regime

By 1990, the economy was already in the prosperity phase. The Mexican Central Bank's annual report of that year[17] states in its first sentence: "The main aim achieved… was, without doubt, the important improvement of agents' expectations of the evolution of the Mexican economy in the short and long-run".

And it further notes that “This optimistic environment propelled a... significant increase in total investment and a relatively high pace in the economic activity”.

The empirical evidence confirmed the Central Bank’s enthusiasm. Firstly, 1990 was the fourth consecutive year in terms of positive growth, 5%, the highest during the period 1988-94, and secondly the rest of the economic indicators continued showing an upswing trend. For example, the fiscal deficit decreased to 2.5% of GDP with respect to the previous year, the nominal rate of interest declined to 34.4%, even though the rate of inflation rose practically ten points, to 29.9%, with respect to the year before. Banks, on the other hand, could lend thanks to the increment in external capital flows[18] attracted by the implementation of the Brady Plan and the initial announcement of the US-Mexico trade agreement. Besides, the external environment was characterized by a continuous reduction in international interest rates, especially because the US recession in the early 1990’s contributed favourably to increase investments from abroad (Ros, 2001). Under these conditions agents became even more optimistic and this fact was reflected in the rate of growth of gross investment and private consumption, which were 13.1 and 6.0%, respectively.

The BOSS shows that, effectively, expectations started to improve in 1990. Table A2, in the appendix, shows that for the first semester of 1990, most of the investors, 63%, expected good business’ conditions and just 4% estimated they would be bad. The expectations for the next semester were even more optimistic: 67% out of the total estimated good conditions will prevail meanwhile a minimum 3% considered conditions could be negative. However, most of the

investors, 37%, estimated they would decrease investment for the first semester of 1990, whereas 27% and 24% expected they would increase it or remain at the same level, respectively. In the next semester, prospects for investment improve: 31% estimated they would increase it, while 29% estimated they would invest the same, the same percentage estimated they would decrease it.

The boom regime

The optimistic inertia of the previous years, coupled with the continuance of the economic openness strategy meant that the economy underwent a boom during the period 1991-94. One of the main factors that boosted enthusiastic expectations was the signing of the commercial trade agreement with the US and Canada in 1992, which culminated the trade liberalisation strategy. In addition, over a thousand state-owned companies were privatised, including large national banks[19] and the telecommunications sector.[20]

Having as a reference the BOSS, it can be argued that effectively optimistic expectations gained ground during this period. As it illustrates (see, Table A3), there is a clear tendency for optimistic expectations to increase, reaching their maximum in the first semester of 1992 with 70% of investors expecting business' conditions to be good and a minimum of 1% expecting then to be bad. In fact, during the whole period, negative expectations over business' conditions never exceeded 4% of the total, meanwhile expectations about regular conditions remained in a range between 29% up to 41%. Expectations regarding investment, on the other hand, show that the majority of firms estimated they would increase or maintain it, with the second semester of 1991 being the most

confident registering 48 and 26%, respectively. Moreover, in the same semester and in the first one of 1992, just 5% out of the total expected to decrease investment.

Furthermore, macroeconomic variables maintained the positive trend. The average rate of economic growth in these years was 3.4% and the investment and consumption average growth rates were 6.9 and 3.7%, respectively. The fiscal deficit of 1990 became a surplus thanks to the revenues obtained from the privatisation process[21] in the two subsequent years, and reached, nevertheless, a minimum deficit of 0.03% of GDP in 1994. The nominal rate of interest continued its decreasing trend and it moved from 24.9% in 1991 to 18.9% in 1994.[21]

Until this point and summing up this section, it can be argued that units' margin of safety become smaller throughout the years, increasing financial fragility at the micro level because the optimistic context allowed debt-investment projects to rise. However, as we will see, due to the financial liberalization, investment focused on portfolio rather than on the productive, generating financial fragility at the macro level as well. In this sense, the economy was ready to undergo a financial crisis of type (i).

From a fragile boom to a currency and a financial crisis

Given the domestic reforms, positive external conditions as well as the beginning of the NAFTA negotiations in 1990 and the maintenance of the peg exchange rate regime, Mexico started to receive large capital inflows from this year, attracting almost half of the total of capital inflows to Latin America during

the period 1990-93. In particular, Mexico attracted US$22.4 billion out of the total of portfolio inflows in the same period; this represented 53% of the total.[22]

The surge of capital inflows, nevertheless, had at least two unstable and reinforcing negative effects in the economy and its degree of financial exposure. The first one was, as the FIH-ODE predicts, the substantial increase in financial innovation. Additionally, the opportunities to speculate were widely extended (increasing the 'potential risk'). The second effect was reflected in the external sector, where the current account registered a large deficit, increasing the vulnerability of the economy. Let us analyse them separately.

Financial liberalization, financial innovation and portfolio investment.

Since 1990, banks were flush with money and as a consequence domestic credit was expanded. As table 3.2 shows there was a substantial increase in domestic credit in relation to the GDP during the years under analysis. Borrower's risk was, consequently, underestimated and tight lending policies were left in the past. Agents found plenty of opportunities to borrow in both the domestic market and abroad, and they did.[23]

Here Table 3.2 Growth of Credit Bank

Thus, on the one hand, the quality of the loans and the creditworthiness of borrowers declined over time, increasing the level of risk in the banking system.[24] Ros (2001; 126-7) highlights "The deterioration of bank's balance sheets is revealed by the increase in nonperforming loans, which rose from a negligible

amount in 1990 to about 9 percent of total bank loans in 1994". This fact was later confirmed when the financial crisis was coupled with a banking crisis.

On the other hand, given the profit-seeking nature of investors and the conditions that the country offered, that is, the lack of capital controls, most of the capital surge went into financing portfolio activities "… fuelling a speculative 'bubble' in Mexican financial markets..." (Blaine, 1998: 32). In fact, during the boom regime, agents' optimistic expectations were really reflected in the level of portfolio investment. As figure 3.2 depicts, foreign portfolio investment rose dramatically from 1990. During the last quarter of 1989, for example, the participation of foreign direct investment in total foreign investment was 84.5%. However, in the first quarter of 1990, this proportion changed dramatically. Direct investment represented just 30% of total foreign investment meanwhile 70% went to portfolio investment. The tendency remained unchanged until the third semester of 1993, when portfolio investment reached US$6969 million, which represented around 93% of total foreign investment.[25]

Speculators found, then, plenty of opportunities to improve their short-term earnings and they did so. The domestic reforms gave speculators enough security to bring and maintain their capital as long as conditions were adequate. Most of the external savings, in other words, were attracted for short-term periods, being able to fly when financial or political conditions changed.

Here Figure 3.2 Foreign Direct and Portfolio Investment, 1990.1 - 1995.1

On the other hand, with large capital inflows arriving in the country, it resembled a *super-speculative* unit, since its stability was dependent on that stream and it continued increasing both the stock of liabilities, especially short-terms debts, and the volume of international reserves. Figure 3.3 depicts the evolution of the short-term debt-to-international reserves ratio. As it can be seen (in fact as is expected)[26] during the majority of the years, the ratio remained highly stable, maintained within an average range of 118% through 1990-93. That meant the country went on acquiring financial commitments at the same rate that the stream of inflows allowed the maintenance of a stable and apparently low degree of financial fragility.

Here Figure 3.3 Short-term debt-to-international reserves ratio (%), 1987-94

From early 1994 a series of political events[27] led to a huge reversal in positive expectations, and in a lack of credibility in the government being able to accomplish its economic policy. The stability of the country started to weaken and investors not only halted their short-term acquisitions and but started to take their money out. The government, in an effort to avoid the run, began the dollarization of the stock of domestic government debt with the conversion of its peso-denominated Treasury bills debt (CETES), long-term Bondes and, inflation-indexed, long-term Ajustabonos into dollar-indexed short-term debt (Tesobonos),[28] and increased the rate of interest on Treasury bills (see figure 3.4). In fact, after the assassination of the PRI's presidential candidate in March, the government increased the CETES' rate, by around six points, from 9.6 to 15.7%, and spent US$10 billion in defending the peso.

Tesobonos were issued in maturities that were multiple of seven days, but most were ninety-one days. This conversion of the debt had two significant effects. First, it increased the Mexican government's dollar-indexed debt relative to its foreign reserves. By August, the amount of Tesobonos outstanding was roughly equivalent to the stock of international reserves (around US$16-17 billion). Second, it reduced the average maturity of the government bonds from a peak of 306 days in April 1994 to 206 in December 1994 (Ros, 2001). The consequence was the large amount of debt (CETES and Tesobonos) becoming due in 1995.[29]

This constant increase in short-term debts coupled with an unvarying fall in the volume of foreign reserves was, as is seen in figure 3.3, reflected in a high ratio of financial fragility in 1994. In this setting, the country's high financial fragility was evident: its short-term debt-to-international reserves ratio actually was 490% that year.[30] In sum, when speculators realised the impossibility of the government continuing to attract capital, they decided to attack the peso (in March and November) in order to obtain, as zealously profit-seeking agents, bulky profits.[31] Their strategy was to liquidate their positions and take their money out to more secure centres. The final speculative attack came on December 20 and over the next two days Mexico lost around US$4 billion in international reserves. On December 22nd the Central Bank reported that the domestic currency would be allowed to float freely.

Here Figure 3.4 Monthly Treasury Bills' (CETES) rate 1990.12 - 1995.1

Financial liberalisation and the external sector

The second effect of the surge of capital inflows involved the external balance. The stabilising plan, as stated earlier, was based on a pegged exchange rate regime, which gradually generated an appreciation in the real exchange rate. Through the years, due to the decreasing price of imports with respect to domestic products, the external deficit became larger and larger. The current account deficit, in this setting, had indeed reached 6.7% of GDP in 1992 and it was to deteriorate further to 6.9% in 1994 (see figure 3.5). In fact, the proportion of imports to GDP rose from 15% in 1990 to 22.3% in 1995. The resulting deficit was accompanied by a capital account surplus, which allowed not only the current account deficit to be financed but also for an increase in the volume of foreign exchange reserves. However, "… a larger and growing current account deficit will only be sustainable if equivalent levels of long-term external funding are available, associated with productive investment capable of generating a future flow of foreign exchange sufficient to pay outstanding debt" (De Paula and Alves Jr., 2000: 590). Neither of these conditions held in Mexico during the years prior to the collapse.

During the boom regime, as stressed earlier, Mexico concentrated largely just on attracting short-term funding and the dynamism of the external sector was based precisely on the exchange rate peg regime. In this sense, despite the fact that the Mexican export sector was one of the most dynamic in Latin America, the rise in exports could not provide a sufficient volume of foreign currency to pay for increasing volumes of imports, especially luxury goods, and at the same time provide the funds to service short-term financial commitments. Since the current

account kept deteriorating during the whole period, and the country continued attracting short-tem inflows from 1990, the reversal in external funding from early 1994 left the country in a very precarious financial situation. The large external deficit was no longer “an indicator to measure the successful Mexican economy”, but it was a symptom of the openness strategy. Agents’ lack of belief of the government’s ability to maintain the peg regime rose, leaving the economy vulnerable to speculative attacks.

Here Figure 3.5 Annual Trade Balance (% of GDP), 1987 – 1995

The set of speculative attacks that started from early 1994 and finished on December 20th impacted on key variables that determine the degree of financial fragility on units’ balance sheets. For example, from January 1994 to February 1995, the peso depreciated with respect to the dollar by 82.9% and the interest rate rose from 10.5 to 42.7%, which represented an increase of 302.3%. These abrupt movements led not only the government into a situation of high leverage with respect to the world with a precarious possibility of honouring its short-term debts, but economic agents (especially banks) viewed a sudden increase in their financial commitments outside of their expectations. With their margin of safety reduced to a minimum or largely overwhelmed, the interlinked system of payments broke down and the collapse came as a corollary. Furthermore, due to the *ex-ante* constraints the government was unable to fulfil its function of lender of last resort and/or increase the fiscal deficit. On the contrary, the country received a bailout from the US government in the aftermath of the crisis, which meant imposed *ex-post* constraints, intensifying policies initially adopted.

Summing up, the sharp increase in the rate of interest and the large devaluation of the domestic currency during late 1994 and early 1995 that generated the peso crisis, were provoked by a sudden, but continuous, loss of reserves. The depletion of reserves was due the lack of credibility in the eyes of agents of the government's ability to maintain its policy. This lack of credibility generated a series of currency attacks. The government tried to avoid the run on the peso by boosting the rate of interest. The peso crisis was then, in the terms stated here, a crisis that was external in its origins but impacted on the domestic situation.

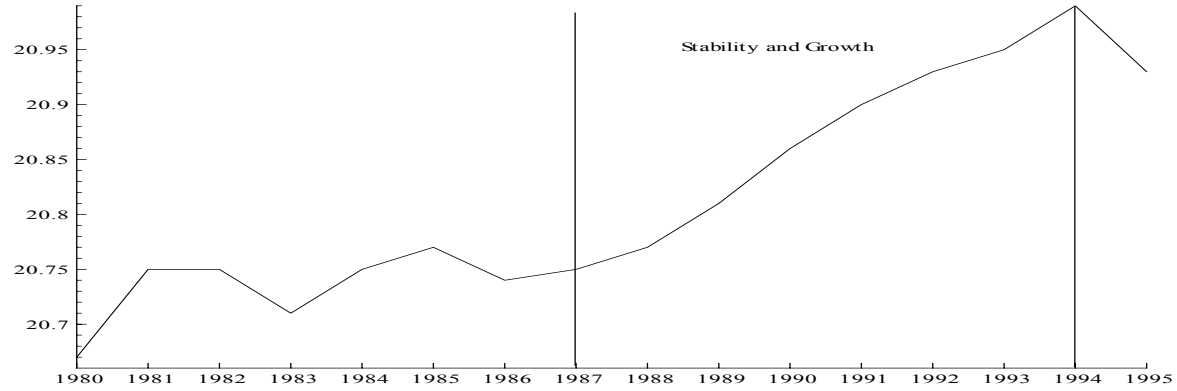
Finally, the initial and short-term upshot of the crisis was a sharp fall in growth, by 6.4%, the bailout of the banking system, which initially cost 15% of GDP, and the undermining of the living standards of the majority of the population.

IV. Conclusions

Using as a practical case, Mexico's 1994-95 crisis, it was shown that the FIH and the FIH-ODE frameworks could be complemented, providing a better understanding of the evolution of a financial crisis. Concretely, it was shown that the role of financial liberalisation must be taken into account as an element that influences the normal endogenous economic cycle, via financial and institutional factors. Additionally, using an expectations business survey it was explained how firms transit from hedge to *super-speculative*, increasing the degree of financial fragility. In this sense, it was argued that not only units' balance sheets could be used to support the FIH but alternative variables can be analysed to this end.

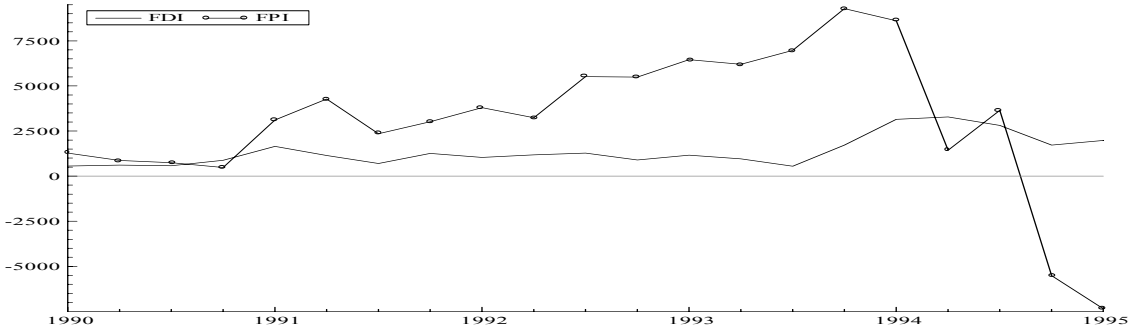
Moreover, the FIH-ODE showed that the Peso crisis was not only a crisis that went from external to internal conditions, but that, given financial deregulation, a currency attack could signal a financial crisis. This result coincides with that of Schroeder (2002) for the case of Thailand. Furthermore, it was concluded that Mexico's peso crisis can be classified as a Minskyian crisis. Finally, it has been demonstrated that financial openness constrains policy autonomy, leaving the authorities unable to 'thwart' negative expectations.

Figure 3.1
Mexico's GDP (1993=100), logs, 1980 - 1995



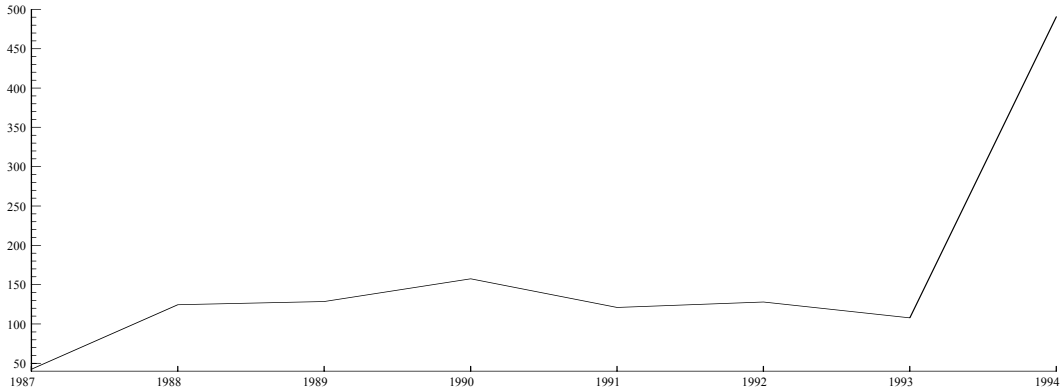
Source: *Inegi (www.inegi.gob.mx)*

Figure 3.2
Foreign Direct and Portfolio Investment, 1990.1 - 1995.1
Millions of Dollars



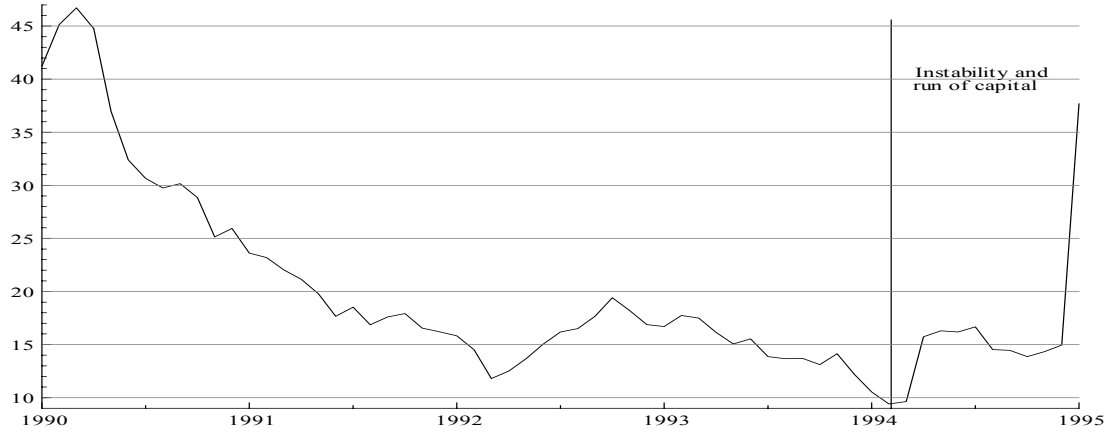
Source*: Inegi (www.banxico.org.mx)*

Figure 3.3
Short-term debt-to-international reserves ratio (%), 1987-94



Source: *Elaborated with World Bank Debt Tables (1996)*

Figure 3.4
Monthly Treasury Bills' (CETES) rate 1990.12 - 1995.1



Source: *Inegi* (w*ww.inegi.gob.mx)*

Figure 3.5
Annual Trade Balance (% of GDP), 1987 - 1995

Source: *World Bank (2000)*

Table 3.1
Selected variables (rates of growth)

Variable	1988	1989	1990	1991	1992	1993	1994	1995
GDP[1]	1.3	4.0	5.0	4.1	3.5	1.9	4.4	-6.5
Gross Investment[1]	11.7	5.7	13.1	10.9	10.8	-2.5	8.3	-29.0
Consumption[1]	1.8	6.5	6.0	4.7	4.3	1.5	4.3	-8.4

Source*: [1]Banco de Mexico (www.banxico.org.mx)*

Table 3.2
Growth of Credit Bank

Year	Bank credit less real GDP growth (%)
1989	31.8
1990	21.5
1991	27.5
1992	27.0
1993	11.4
1994	30.0
1990-94	22.3

Appendix

Table A1
Business' Opinion Semiannual Survey, 1987 – 1989
(Manufactured Sector)

Business' Conditions			Investments				Business' Conditions			Investments			
G[1]	R[2]	B[3]	I[4]	E[5]	D[6]	N[7]	G[1]	R[2]	B[3]	I[4]	E[5]	D[6]	N[7]
1st semester 1987							2nd semester 1987						
30	56	14	36	10	37	17	41	52	7	42	37	14	17
1st semester 1988							2nd semester 1988						
54	43	3	44	28	15	13	41	54	5	34	25	29	12
1st semester 1989							2nd semester 1989						
38	54	8	36	20	29	15	46	51	3	31	34	20	15

Notes: All the figures are percentages.
[1] good; [2] regular; [3] bad; [4] increase; [5] equal; [6] decrease; [7] nil.
Source: Banco de Mexico (several issues).

Table A2
Business' Opinion Semiannual Survey, 1990
(Manufactured Sector)

Business' Conditions			Investments				Business' Conditions			Investments			
G[1]	R[2]	B[3]	I[4]	E[5]	D[6]	N[7]	G[1]	R[2]	B[3]	I[4]	E[5]	D[6]	N[7]
1st semester 1990							2nd semester 1990						
63	33	4	27	24	37	12	67	31	3	31	29	29	11

Notes: All the figures are percentages.
[1] good; [2] regular; [3] bad; [4] increase; [5] equal; [6] decrease; [7] nil.
Source: Banco de Mexico (several issues).

Table A3
Business' Opinion Semiannual Survey, 1991 - 994
(Manufactured Sector)

Business' Conditions			Investments				Business' Conditions			Investments			
G[1]	R[2]	B[3]	I[4]	E[5]	D[6]	N[7]	G[1]	R[2]	B[3]	I[4]	E[5]	D[6]	N[7]
1st semester 1991							2nd semester 1991						
60	37	3	32	32	24	11	32	36	2	48	26	21	5
1st semester 1992							2nd semester 1992						
70	29	1	30	37	27	5	66	30	4	28	27	23	12
1st semester 1993							2nd semester 1993						
67	32	1	31	33	29	8	64	34	3	33	35	20	12
1st semester 1994							2nd semester 1994						
56	41	3	23	33	31	13	64	34	2	24	45	18	13

Notes: All the figures are percentages.
[1] good; [2] regular; [3] bad; [4] increase; [5] equal; [6] decrease; [7] nil.
Source: Banco de Mexico (several issues).

References

Aspe, P. (1993) *Economic transformation. The Mexican Way*, Cambridge, MIT Press.

Arestis, P. (1992) *The Post-Keynesian approach to economics*, Edward Elgar, England.

Arestis, P. and Demetriades, P. (1997) "Financial development and economic growth: assessing the evidence", *The Economic Journal*, **107**, 783-99.

Arestis, P. and Demetriades, P. (1999) "Financial liberalisation: the experience of developing countries" *Working Papers*, University of East London, November.

Arestis, P., Demetriades, P. and Luintel, K. (2001) "Financial development and economic growth: the role of stock markets", *Journal of Money, Credit, and Banking*, **33**, 1, 16-41.

Arestis, P. and Glickman, M. (2002) "Financial crisis in Southeast Asia: dispelling illusion in the Minskyian way", *Cambridge Journal of Economics*, **26**, 237-60.

Atkeson, A. and Rios-Rull, J. V. (1996) "The balance of payments and borrowing constraint: an alternative view of the Mexican crisis", *Journal of International Economics,* **41**, (3-4), 331-349.

Banco de Mexico (several issues) "Encuesta semestral de opinion empresarial", Mexico.

Bellofiore, R. and Ferri, P., eds., (2001) *Financial fragility and the investment in the capitalist economy. The legacy of Hyman Minsky,* Vol. I, Edward Elgar, UK, 1-32.

Blaine, M. (1998) « Déjà Vu all over again: explaining Mexico's 1994 financial crisis", *The World Economy,* **21**, 1, 31-55.

Bordo, M., Eichengreen, B., Klingebiel, D. and Martinez-Peria, M. (2001) "Financial crises. Lessons from he last 120 years" *Economic Policy*, 53-82.

Coggins, B. (1998) *Does financial deregulation work? : a critique to the free market approaches*, Edward Elgard, UK..

Cole, H. and Kehoe, T. (1996) "A self-fulfilling model of Mexico's 1994-1995 debt crisis", J*ournal of International Economics,* **41**, 309-330.

De Paula, L. and Alves, A. (2000) "External financial fragility and the 1998-1999 Brazilian currency crisis" *Journal of Postkeynesian Economics*, **22**, 4, 589-617.

Demirgüç-Kunt, A. and Detragiache, E. (1998) "The determinants of banking crises in developing and developed countries", *IFM Staff Papers*, **45**, 1, 81-108.

Dornbush, R. and Werner, A. (1994) “Mexico: Stabilization, Reform and No growth, Brooking Papers on Economic Activity, I, 253-315.

Edwards, S. (1996) “Exchange rate anchors, credibility and inertia: a tale of two crises, Chile and Mexico”, *American Economic Review,* **86**, 2, 176-180.

Edwards, S. (1998) “The Mexican peso crisis: how much did we know? When did we know it?”, *The World Economy,* **21**, 1, 1-30.

Fazzari, S. M. (1999) “Minsky and the mainstream: has recent research rediscovered financial keynesianism”, paper presented in the Ninth Annual Hyman P. Minsky Conference in Financial Structure”.

Gil-Diaz, F. and Carstens, A. (1996) “One year of solitude: some pilgrim tales about Mexico’s crisis 1994-95”, *American Economic Review,* **86**, 2, 164-169.

Grabel, I. (1996) “Marketing the third world: the contradictions of portfolio investment in the global economy”, *World Development*, **24**, 11, 1761-76.

Grabel, I. (1995) “Speculation-led economic development: a Post-Keynesian interpretation of financial liberalization programmes in the Third World”, *International Review of Applied Economics*, 9, 127-147.

Grabel, I. (1999) “Mexico redux? Making sense of the financial crisis of 1997-98”, *Journal of Economic Issues*, **33**, 2, 375-82.

Grabel, I. (2000a) “Identifying risks, preventing crises: lessons from the Asia crisis”, *Journal of Economic Issues*, **34**, 2, 377-84.

Grabel, I. (2000b) “The political economy of ‘policy credibility’: the new-classical macroeconomics and the remaking of emerging economies”, *Cambridge Journal of Economics*, **34**, 1-19.

International Monetary Found (1998) *International Statistics Yearbook*.

Konstantinos, K. and Spyrou, S. (2001) “Stock and credit market expansion and economic development in emerging markets: further evidence utilizing cointegration analysis”, *Applied Economics*, **33**, 1057-64.

Kregel, J. (1998) “East Asia is not Mexico: The difference between balance of payments crises and debt deflations” Mimeo, 1-23.

Kregel, J. (2001) “Yes ‘it’ did happen again — The Misnky crisis in Asia” in Bellofiore, R. and Ferri, P., eds., *Financial fragility and the investment in the capitalist economy. The legacy of Hyman Minsky,* Vol. II, Edward Elgar, UK, 195-212.

Levine, Ross (1997) “Financial development and economic growth: views and agenda” *Journal of Economic Literature*, 35, 688-726.

Levine, Ross (2001) “International financial liberalization and economic growth” *Review of International Economics*, **9**, 4, 688-702.

Lopez, J. (1997) “Mexico’s crisis: financial modernization and financial fragility” *Banca Nazionale del Lavoro Quarterly Review*, 201, 165-185.

Loser, C. and Kalter, E. (1992) “Mexico: the strategy to achieved economic sustained growth” *Occasional Paper No. 99*, Washington D.C., International Monetary Fund.

Lustig, N. (1992) *Mexico, the remaking of an economy,* The Brookings Institution, Washington D.C.

McKinnon, R. (1973) *Money and capital in economic development*, Washington, DC: Brookings Institution.

Minsky, H. (1970) “A theory of systematic fragility” in Altman, E. and Sametz, A., eds., *Financial crisis: Institutions and markets in a fragile environment*, John Wiley and Sons, New York, 138-152.

Minsky, H. (1975) *John Maynard Keynes*, Columbia University Press, USA.

Minsky, H. (1982) *Inflation, recession and economy policy*, Wheatsheaf Books, Great Britain.

Minsky, H. (1986) *Stabilizing an unstable economy*, Columbia University Press, USA.

Nasica, E. (2000) *Finance, investment and economic fluctuations. An analysis in the tradition of Hyman P. Minsky*, Edward Elgar, UK.

Ros, J. (2001) “From the capital surge to the financial crisis and beyond: the Mexican economy in the 1990’s” in Ffrench-Davis, R. *Financial crises in “successful” emerging economies*, ECLAC-Brookings Institutions Press, USA, 107-140.

Shaw, E. S. (1973) *Financial deepening in economic development*, New York, Oxford University Press.

Schroeder, S. (2002) “A Minskian analysis of financial crisis in developing countries”, CEPA Working Paper, 09, August, 1-44.

Taylor, L. and O’Connell, S. (1985) “A Minsky crisis”, *The Quarterly Journal of Economics*, **100**, 871-885.

Trigueros, I. (1998) “Capital inflows and investment performance: Mexico” in Ffrench-Davis, R. and Reisen, H., *Capital flows and investment performance*, 193-213, ECLAC-OCDE.

Wilson, B., Saunders, A. and Caprio, G. Jr. (2000) “Financial fragility and Mexico’s 1994 peso crisis: and event-window analysis of market-valuations effects”, J*ournal of Money, Credit, and Banking,* **32**, 3, 450-473.

Weller, C. (2001) “Financial crises after financial liberalisation: exceptional circumstances or structural weakness?”, Journal of Development Studies, **38**, 1, 99-127.

World Bank (1996) *World debt tables*, vol. 2.

World Bank (2000) *World Development Indicators*, CD-ROM’s version.

[+] The University of Manchester, School of Economic Studies. I would like to thank to Ed Amman and Bernard Walters for helpful comments. The usual disclaimers apply. I thank as well to CONACYT for financial support.

[1] The term open economy will be used hereafter as synonymous with financial liberalisation, which embraces the opening up to capital movements and the deregulation of the domestic financial sector.

[2] The margin of safety represents a cushion which absorbs any unforeseen changes in the cash inflows and outflows (Kregel, 2001: 196).

[3] In this setting Arestis and Glickman (2002: 244-5) stress that "Financial liberalisation provides an upward step-change in the intensity of the domestic drive towards innovation, as it sweeps away the rules and conventions which previously governed the way banks related to one another and their customers". Additionally Grabel (1996: 1793) stresses, "Financial liberalization introduced dramatic institutional changes in… [developing] countries, including the creation of new financial markets and instruments. These changes, coupled with the ensuing investor euphoria, led to a general speculative appreciation of asset prices, extremely high interest rates, an overall shift in aggregate economic activity toward financial trading and away from industrial activities". See as well Coggings (1998) for a more detailed explanation of the effects of financial deregulation on eliminating the barriers that work as a bulwark against the emergence of financial fragility

[4] See for example McKinnon (1973) and Shaw (1973). See as well Levine (1997 and 2001) for a complete theoretical and empirical defense of this approach. Additionally, see Bordo et al. (2001) for further evidence of the causes of financial crises during the last 120 years and the argument that financial liberalisation had not been a major reason in the origin of financial and banking crisis.

[5] At this respect Grabel (1995: 129) highlights that in an financial deregulated economy "D[irectly] U[nproductive] P[rofit-seeking] activities and a corresponding misallocation of credit toward speculation activities, with destabilizing macroeconomics effects [will increase]". This is what Grabel (1996) terms as 'increased potential risk', which is one on the two problems that reliance on a policy of portfolio inflows introduces. The other one, 'compromised policy autonomy' is analyzed at the end of this section.

[6] In this setting Grabel (1995: 905) argues that "… the success of F[inancial] L[iberalisation] in introducing mechanisms of rapid asset price adjustment may introduce increased volatility into the economy and may,

as a consequence, undermine macroeconomic stability and economic growth". Additionally, several studies have demonstrated empirically that a financial liberalisation strategy increases and leads the economy to a high degree of financial fragility and to a crisis, see among others, Arestis and Demetriades (1999), Arestis et al. (2001), Arestis and Demetriades (1997), Grabel (1995 and 1996a), Konstantinos and Spyrous (2001) and Weller (2001).

[7] It is important to highlight that an increase in the interest rate has two effects on the unit's balance sheets. First, it reduces the present value of the cash flows expected to be earned from operating leverage financial projects. Second, it increases the cash flow commitments for financing charges when lending is primary short-term or set on an adjustable or roll over basis. Additionally, for a firm with a large proportion of imported inputs, or export sales, or foreign borrowing, depreciation in the exchange rate has the same effect on cash flow commitments as an increase in interest rates (Kregel, 2001: 197). Those banks that can borrow and/or lend on international markets are in an even more vulnerable position than the rest of the units facing devaluation or a rise in interest rates. In this case, apart from suffering the effects described earlier, devaluation and/or a rise in interest rates also reduces the credit quality of their loans, which reduces its own credit rating (Ibid).

[8] In fact, a generalized situation of liquidity preference will arise because it concerns not only households and firms, but also banks (Nasica, 2000: 179).

[9] In an open liberalised context, it can be argued that agents' expectations will largely rest in the exchange rate stability rather than in expected cash flows of industrial investments. Furthermore, expectations and economic stability are highly influenced by the government's capacity to sustain an adamant economic policy. Doubts of units concerning the ability of authorities on maintaining their promises can lead to a sudden change in expectations, with the ensuing financial instability.

[10] It is expected that, in the central bank acts as a lender-of-last-resort and, the fiscal authorities halt the fall in profits through a large government deficit.

[11] The model was based on the free market ideology and as Lustig (1992:1) stresses "…the tendency is for the market to replace regulation, private ownership to replace public ownership, and competition, …, to replace protection. Nothing illustrates the change in strategy more vividly than the pursuit of the free market agreement with United States [and Canada]…".

[12] The main goal of this kind of policy is to control and regulate wages and prices. The "Pacto" (name given to the first agreement made between the government, business and labour sector) was the instrument to reach that goal.

[13] The exchange rate was fixed in February 1988

[14] The set of economic measures taken meant the imposing of *ex-ante* economic policy restrictions.

[15] See, for example, Dornbush and Werner (1994) and Edwards (1998).

[16] It is worthwhile to highlight the domestic reforms that contributed to bolster even more positive expectations, and that can be deemed as the core of the openness strategy. In March 1989 the Brady Plan to refinance the external debt was announced and in July it was signed; additionally, the financial deregulation strategy initiated from 1977 was intensified, so starting in 1988 a succession of measures relaxed bank's reserve requirements, credit quotas to high priority sectors and control in interest rates were implemented, the elimination of restrictions to foreign investment in domestic bonds (largely government bonds) and stock markets took place in 1989 and 1990. In order to give security to investors, the Financial Group Law was announced and passed in July 1990. The law allowed private-sector majority ownership of Mexican banks and initiated the privatisation process. Foreign investment was permitted up to 30%. (Ros, 2001).

[17] Available (in Spanish) at www.banxico.org.mx/gPublicaciones/FSPublicaciones.html.

[18] In this setting Ros (2001) points out that "In the initial stage of the surge (1989 and 1990), inflows involve the acquisition of bank deposits and foreign loans to the private sector. With the liberalization of the domestic money and stock market, inflows are redirected towards bonds and stocks".

[19] Banks' privatisation began in 1991 and finished in 1994.

[20] The promulgation of the New Law of Foreign Investment was a key factor in attracted external capital because this opened previously restricted areas to foreign companies and eliminated the 49% maximum clause as the general rule governing foreign participation in local firms (Ros, 2001).

[21] For example, the government received an excess of US$12 billion from the sale of commercial banks in 1991-92.

[21] The rate of interest was a central variable to keep on attracting capital. Its variability depended basically on the volume of capital inflows. This fact explains why it could not fall further and stimulated productive investments, and reflects at the same time, *ex-post* restrictions to the economic policy.

[22] The Mexican stock market had become the world's second largest emerging one in 1992.

[23] It is noteworthy, that in the euphoria, most of the credits obtained were oriented towards consumer spending rather than long-term investments.

[24] Trigueros (1998) in his study of the impact of capital inflows and investment performance in Mexico points out that "It is some extent natural to expect that such a rapid increase in bank-issued credit went in hand with a poor assessment of the creditworthiness of bank credits".

[25] In this setting, the stock market index roared from 1990. The relative increasing tendency initiated in mid 1989 became a boom, picking up to a historic maximum at the second quarter of 1992. In fact the index grew 351% during the period 1990.1-92.5. Moreover, it recorded, once again, a historic maximum in the third quarter of 1993. During the remaining quarter of that year, the index surges, registering the euphoria of profit-seeking investors in acquiring short-term assets (speculative assets). In fact, in December of 1993 the index reached its third historic level.

[26] Remember that a high short-term debt-to-international reserves ratio may remain unapparent, *hiding* high financial fragility. In this setting Kregel (2000: 202) emphasises for the case of the Asian crisis that "The capital inflows which kept the currency stable thus increased fragility".

[27] These political events included the presidential election, a key factor in the determination of expectations, the armed rebellion in Chiapas and the assassinations of the Partido Revolucionario Institucional (PRI) presidential candidate, Luis Donanldo Colosio, and PRI Secretary General, Jose F. Ruiz Massieu.

[28] Foreign investors were the major holders of short-term government securities by late 1993 (Ros, 2001).

[29] In this setting Cole and Kehoe (1996: 310) stress the possibility of a crisis with a low level of debt relative to GDP (10% i.e.) arises because the extremely short average maturity of Mexico's domestic debt – barely more than 200 days in December 1994.

[30] This ratio was practically double the ratio of South Korea in 1997 and was eight times the ratio of Malaysia in the same year, see Arestis and Glickman (2002: 249).

[31] During the last 10 months of 1994 the Central Bank sold roughly US$19 billon of its foreign reserves.