THE ANATOMY OF A MULTIPLE CRISIS:

WHY WAS ARGENTINA SPECIAL AND WHAT CAN WE LEARN FROM IT [1]

DRAFT

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[1] This paper is the output of a collective effort led by the authors, and based on self-standing technical notes on: (i) fiscal issues by Rodrigo de Jesus Suescun and Guillermo Perry; (ii) exchange rate issues by Humberto Lopez and Luis Servén; (iii) financial sector issues by Augusto de la Torre and Sergio Schmukler and on (iv) capital flows and spreads by Norbert Fiess and Luis Servén. Though we quote freely from those notes, the interpretations and conclusions offered in this paper are of the exclusive responsibility of the authors. We are grateful to these colleagues for their respective contributions. We also thank Christian Broda for his kind collaboration on exchange rate issues, Jose Luis Machinea for helpful discussions, and Myrna Alexander, Daniel Lederman, Paul Levy, Ernesto May, David Rosenblatt and Nick Stern for very useful comments. Ana Maria Menéndez provided valuable assistance.

I INTRODUCTION AND SUMMARY

The severity of the Argentine Crisis and its dire social cost have come as a surprise to most observers, even to those that had been predicting it since the Brazilian devaluation of 1999. There were very few that predicted it before 1999. Indeed, the Argentine economy appeared to be in relatively good shape at least until before the Russian crisis. Even then the attention of the markets and the International Financial Institutions was focused on Brazil, which had more apparent macroeconomic imbalances and had suffered severe speculative attacks in October 1997 and again after the Russian crisis, leading to the demise of the exchange rate band and a sharp devaluation of the Real in January 1999.

Argentina outperformed most other economies in the region until 1997 in terms of growth per capita -- though income distribution did not improve and unemployment stayed at high levels -- in a relatively benign external environment (terms of trade, capital inflows and spreads, world growth), in spite of a short-lived interruption in 1995 when it suffered severe contagion from the so-called Tequila crisis. But after the major slowdown in growth in 1999 that affected the whole region, mainly due to capital flow retrenchment after the Russian crisis, other countries in the region began a modest recovery, while Argentina plunged into a protracted recession, reversing most of her previous gains at poverty reduction. We explore in Section II if this difference in performance can be attributed to Argentina receiving more severe external shocks than other economies in the region. We find that Argentina was not hit harder than other Latin American countries by the terms of trade decline after the Asian crisis, nor by the US and worldwide slowdown in 2001, nor by the capital flows reversal and the rise in spreads after the Russian crisis. As a consequence, the fact that Argentina did worse than other countries after 1999 must be attributed to her higher vulnerabilities to shocks, weaker policy responses or a combination of both. Indeed, we find in Section II that the large capital flow reversal in 2001 was driven by Argentina-specific factors. We view this as evidence that "sudden stops" of capital flows acted more as an amplifier than as a primary cause of the crisis [2].

Thus, the bulk of this paper is devoted to examine to which extent and why was the Argentine economy more vulnerable to adverse external shocks than other Latin American economies, and to what extent were policy mistakes (particularly during the De la Rua Government) the main culprit, as is often claimed. We examine the vulnerabilities associated with deflationary adjustments to shocks under a hard peg in Section III; those associated with a large public debt and a fragile fiscal position in Section IV and those hidden under a façade of strength in the banking sector in Section V. We conclude that although there were important vulnerabilities in each of these areas, neither of them on its own was larger than those affecting some other countries in the region, and thus there is no *one* obvious suspect. However, we also find that they reinforced each other in such a perverse way that taken jointly they led to a much larger vulnerability to adverse external shocks than in any other country in the region.

[2] This view is in contrast with the interpretation put forward in Calvo *et al.* (2002), though in most other aspects our conclusions agree with those in that paper.

In particular, the hard peg and inflexible domestic nominal wages and prices imposed a protracted deflationary adjustment in response to the depreciation of the Euro and the real, the terms of trade shocks and the capital market shock of 1998, leading to a major overvaluation of the currency and a rapidly deteriorating net foreign asset position. Such imbalances were aggravated by weak fiscal policies during the decade, especially after 1995. In Section III we estimate that all these factors led since 1997 to an increasing overvaluation of the currency that peaked in 2001 at about 55%. The need to address the rising concern with solvency – given the large debt, the weak primary fiscal balance and low growth – led to tax hikes and budget cuts in 2000 and 2001 that deepened the economic contraction. The endogenous capital flow reversal and increased risk premium in 2001 amplified these problems by requiring a large external current account adjustment. To aggravate matters, such an adjustment under the hard peg had to take place mostly through demand reduction and aggregate deflation – a lengthy, costly and uncertain process.

The hard peg actually hid from public view the serious deterioration in fiscal solvency and the mounting financial stress. Indeed, the protracted deflationary adjustment required to realign the real exchange rate under the hard peg would have unavoidably eroded the debt repayment capacity of the Government, households and firms in non tradable sectors – the debtors whose incomes would be more adversely affected as a direct result of the deflation.[3] The nominal devaluation in 2002 revealed in full force these latent problems and made them much worse due to the exchange rate overshooting and the disruption of the payments system derived from the deposit freeze (the so called "corralito") -- which might have been partially avoided by better policy responses. Financial stress was aggravated by the large exposure of banks and Pension Funds to increasing Government risk. Thus a vicious circle of economic contraction, fiscal hardship and financial stress ensued.

The authorities and the Argentine polity were indeed faced with very harsh dilemmas after 1998 (as discussed in Section VI). They were placed between a rock and a hard place. One option was to accept a painful and protracted deflationary adjustment while keeping the Currency Board – and attempting to retain market confidence in the meantime. This would have entailed a severe test of the fragile Argentine political and fiscal institutions. An early adoption of full dollarization might have reduced the pains and duration of the deflationary adjustment and thus increased the likelihood of success of such an option.

The other option was to allow a nominal devaluation and adopt a float, in an attempt to shortcut the protracted deflationary adjustment. However, this would have precipitated a latent corporate, banking and fiscal crisis, given the open currency exposures in the balance sheets of both the public and the private sectors and the large degree of overvaluation of the currency. In order to avoid such scenario, financial contracts would have to be *pesified* before floating. But this in turn posed the serious

[3] While some debtors from the tradable sector might be affected by an economy-wide deflation as well, the increase in the real value of the debt relative to real income due to the recession and price deflation would have impacted most strongly on the nontradable sector. On this see also the discussion in Roubini (2001).

danger of a deposit run, which would have forced a deposit freeze and/or some kind of Bonex plan, fatally eroding the public's confidence in money as a store of value. In the event, the authorities did not use well their limited margin of maneuver, by engaging in too little and too late fiscal adjustment (which actually should have been done in the boom years before 1999), by hesitating on the ultimate choice of exchange rate regime, by postponing too long the needed public debt restructuring, and by precipitating a major financial and payments crisis – first reducing the liquidity buffers of the banking system and over-exposing it (as well as the Pension Funds) to Government risk, and later adopting an arbitrary asymmetric *pesification* of assets and liabilities and a particularly disruptive deposit freeze, which was held for an excessively long period of time without resolution. Such measures and omissions aggravated the depth of the crisis and created additional unnecessary problems for the recovery.

These hard choices were a reflection of a deep structural problem. On the one hand, the Argentine trade structure made a peg to the dollar highly inadequate -- from a real economy point of view. On the other hand, the strong preference of Argentineans for the dollar as a store of value (since the hyperinflation and confiscation experiences of the 1980s) had led to a highly dollarized economy in which a hard peg or even full dollarization seemed a reasonable alternative – from a financial point of view. No wonder that informed analysts favored –and still do- opposite exchange regime choices depending on the relative weight they assign to real economy or financial (balance sheet) effects.

With the benefit of hindsight the boom years up to mid 1998 were a major lost opportunity. Staying with the hard peg but minimizing the risks associated with adverse external shocks would have required: (1) First and foremost, significant fiscal strengthening, not just to protect solvency but with the broader objective of providing some room for counter-cyclical fiscal policy. This contrasts with the expansionary pro-cyclical stance actually followed during most of the decade, and especially during the boom from end-1995 up to mid-1998 – once the implicit pension debt (as well as other implicit liabilities) had been brought in the open by pension reform (as documented in Section IV). (2) Second, considerable flexibilization of labor and other domestic markets (including utilities). (3) Third, significant unilateral opening to trade. None of this was done in the nineties. And (4) Fourth, even stricter prudential regulations for banks than actually adopted (in spite of the significant progress in this field), probably leading to a form of narrow banking, harder provisioning and/or capital requirements to lend to households and firms in non tradable sectors and a "firewall" between banks and the Government (as discussed in Section V).

Alternatively, those years would have been the right time to engage in a more orderly change of the exchange rate regime. But the exit, whether towards a successful flexible exchange rate regime with a monetary anchor or to full dollarization, would have also required significant structural reforms and institution building. Rather, this was a period of inaction and laxity in many fronts.

Just too often in Latin America the seeds of crisis are planted in good times by imprudent behavior or lack of precautionary action whose consequences are only revealed when bad times arrive. There are deep political economy factors that help to explain such bad outcomes. A key lesson from Argentina is the need to adopt economic and political institutions that align incentives to face hard choices and facilitate timely reforms, and in particular that are less prone to amplifying economic cycles.

The analysis of the Argentine crisis yields many other useful lessons for other Latin American economies. After all, the exchange rate system dilemma faced by a highly dollarized economy that conducts only a fraction of its trade with the US, in a world economy characterized by highly volatile currencies, is not exclusive to Argentina. But even economies with less stringent structural dilemmas often face some form of tension between the convenience of adopting and maintaining a flexible exchange rate regime with a monetary anchor in order to achieve flexibility in responding to shocks, on the one hand, and balance sheet vulnerabilities to major real exchange rate adjustments originated in unhedged foreign-currency debt of firms in non-tradable sectors and of Governments themselves.[4] Even those could draw useful policy lessons from the Argentine debacle. And so can we, in the International Financial Institutions, as we must admit that we were slow in understanding some of the deep problems discussed here and in reacting to them.

[4] What Calvo and Reinhart (2000) have described as "liability dollarization" that leads to "fear of floating" and Hausmann et al. (2000) have attributed to the inability to issue long term debt in local currency.

II ECONOMIC PERFORMANCE AND EXTERNAL SHOCKS IN THE 90s

Over 1990-97, Argentina outperformed most other economies in the region in terms of growth (Table 2.1). These were years of relatively benign external environment (terms of trade, capital inflows, spreads, and world growth), with a short-lived but abrupt interruption in 1995 due to the Tequila crisis, from which Argentina suffered a severe contagion. The growth performance remained fairly satisfactory even in 1998. But after the region-wide growth slowdown of 1999 – largely a consequence of capital flow retrenchment following the Russian crisis – other Latin American countries began a modest recovery, while Argentina plunged into a protracted recession.

Table 2.1

Real GDP Growth Rate
(Percentages)

	1981-90	1991-97	1998	1999	2000-01
Argentina	-1.3	6.7	3.9	-3.4	-2.1
Bolivia	-0.4	4.3	5.5	0.6	1.5
Brazil	2.3	3.1	0.2	0.8	3.1
Chile	4.0	8.3	3.9	-1.1	4.3
Colombia	3.4	4.0	0.5	-4.3	2.2
Costa Rica	2.4	4.9	8.4	8.2	1.3
Ecuador	2.1	3.2	0.4	-7.3	3.9
Mexico	1.5	2.9	4.9	3.8	3.3
Peru	0.0	5.3	-0.4	1.4	1.9
Venezuela	0.3	3.4	0.2	-6.1	3.3
Average	2.0	3.6	3.2	1.6	2.1

Source: World Development Indicators Database and the Unified Survey.

Unemployment kept a slightly increasing trend up to the Tequila crisis, when it jumped sharply (Figure 2.1). The fact that unemployment was rising even when the economy was growing at full steam reflects a combination of increasing participation rates (probably stemming from an 'encouragement effect' due to the growth upturn), productive restructuring towards less labor-intensive activities, and probably also the poor operation of the labor market.[5] The unemployment rate declined in the boom years 1996-1998, to resume an upward trend during the ensuing recession.

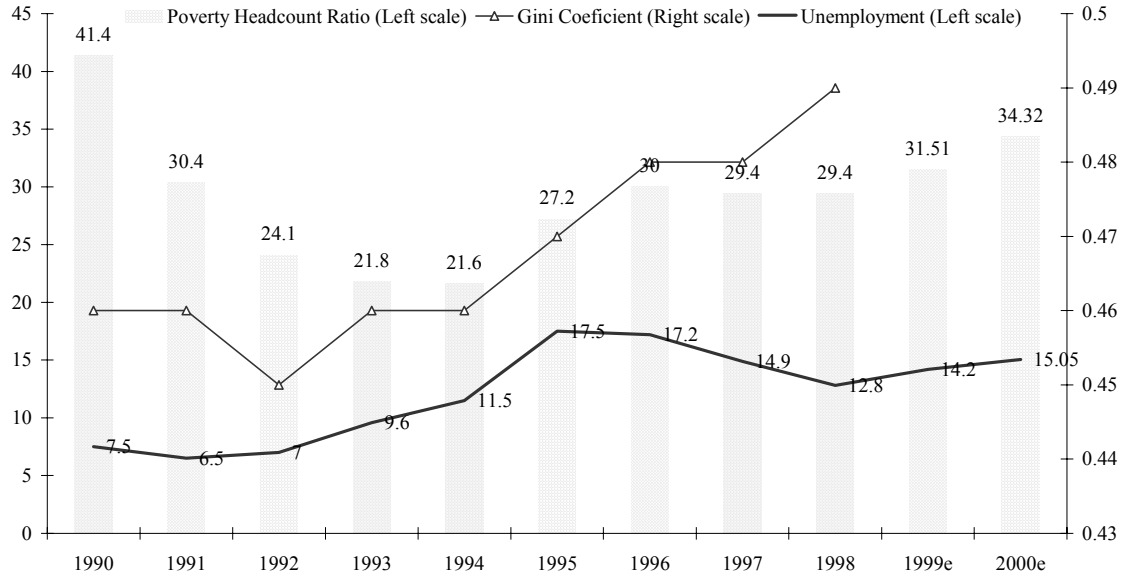
Poverty indicators display a similar trajectory (Figure 2.1). Poverty declined sharply until 1994, but rose again with the Tequila crisis and then continued on an upward trend during the recession of 1999-2000, so that by 2000 most of the gains at

[5] See Galiani (2001) for a recent assessment of the state of Argentina's labor market.

poverty reduction achieved in the early part of the decade had been wiped out. Even more striking is the trajectory of inequality, which appears to have risen without interruption from 1993 on, after an initial decline in 1990-92.

Figure 2.1

Poverty, Inequality, and Unemployment

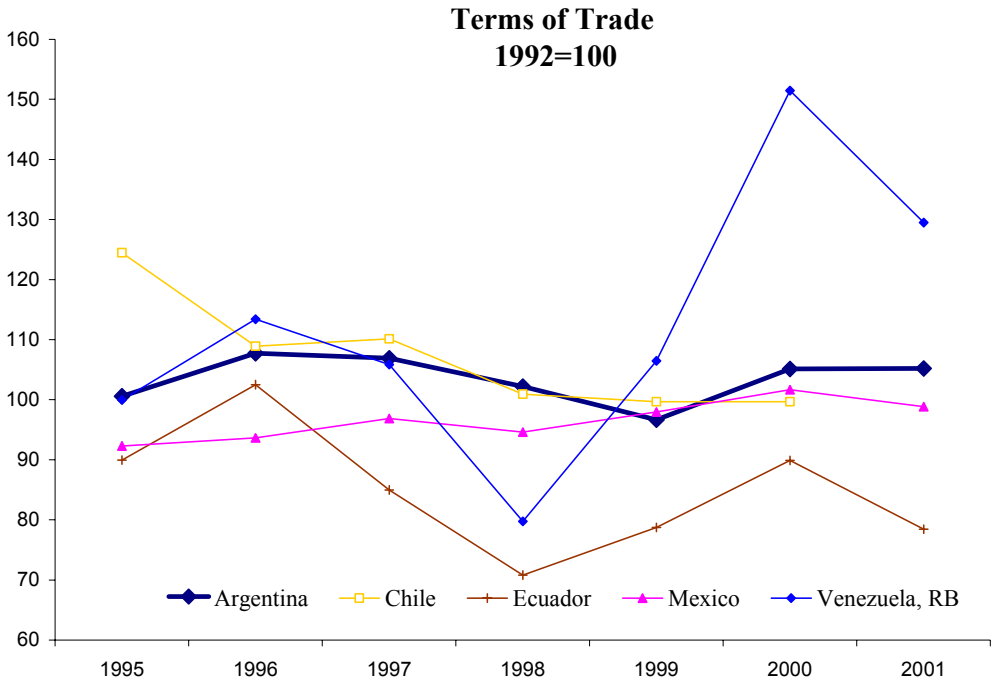


Data for urban areas. Sources: Unemployment from INDEC, Gini Coeficient and Poverty Head Count Ratio from World Bank Poverty Assesment Report (2000) except for the 1999-2000 ratios which are estimated using the trend observed for the Greater Buenos Aires headcound ratios from INDEC.

Was Argentina's poor performance from 1999 onward a reflection of worse external shocks than those affecting other LAC countries? To answer this question, we first consider real shocks – those stemming from terms of trade changes and global growth – and then look at capital flow disturbances.

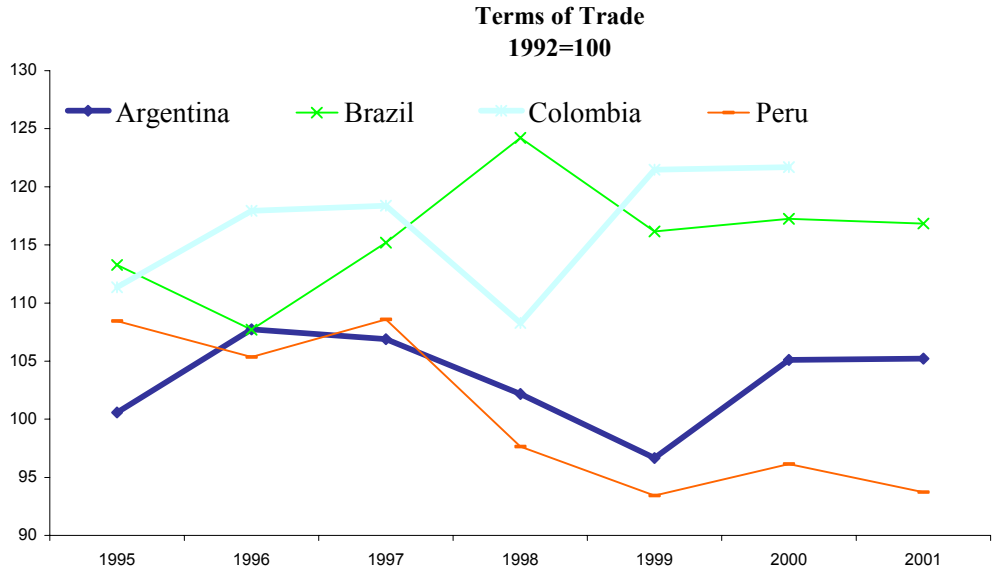
We begin by looking at terms of trade shocks. Argentina's terms of trade declined by over 10 percent in 1998/99, but recovered fairly quickly in 2000/01 (Figure 2.2). Moreover, the temporary drop followed a rise that had occurred in 1996/97. Relative to other countries, Argentina's terms of trade decline in 1998/99 was less severe than that suffered at first by oil exporting countries like Venezuela and Ecuador, which as a consequence suffered a much deeper contraction in 1999 (Figure 2.2a). Likewise, the cumulative terms of trade decline from 1997 through 2001 was less pronounced for Argentina than for Chile, and much less than the one experienced by Peru (Figure 2.2b).

Figure 2.2a



Source: WDI 1995-00 and domestic sources 2001

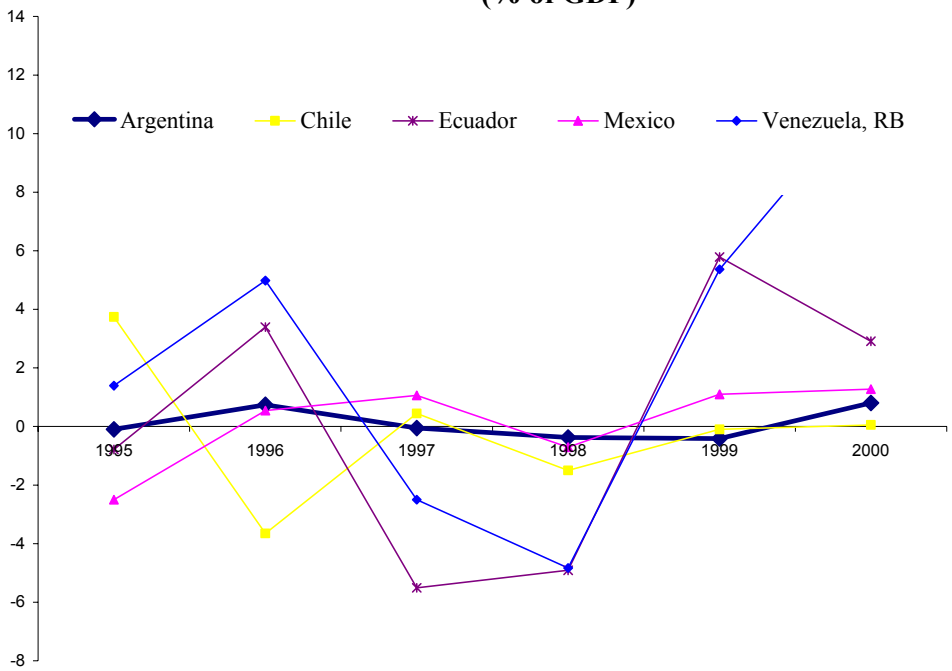
Figure 2.2b



Source: WDI 1995-00 and domestic sources 2001

Figure 2.2c

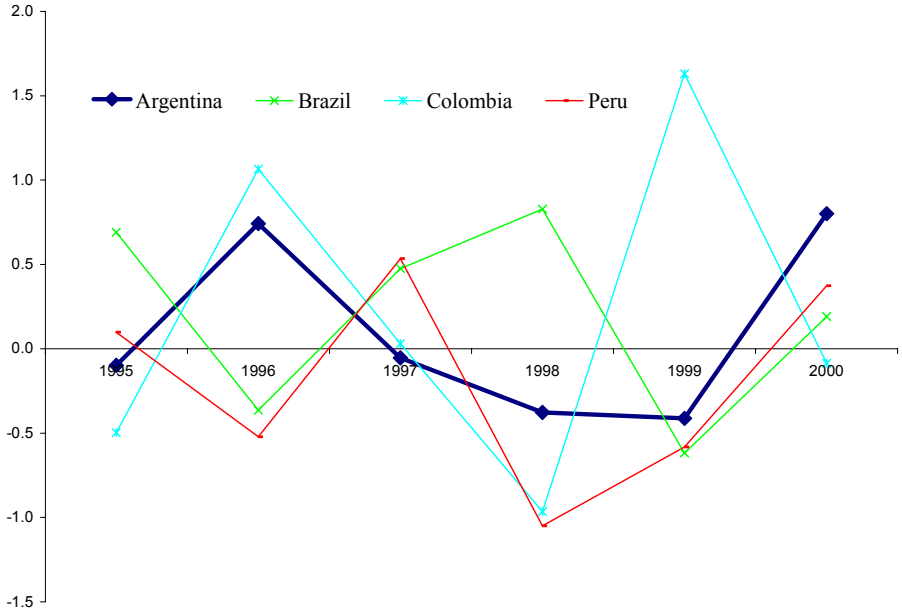
Terms of Trade Shocks
(% of GDP)



Source: WDI.

Figure 2.2d

Terms of Trade Shocks
(% of GDP)



Source: WDI.

In any case, the economic impact of these gyrations in Argentina's terms of trade is virtually negligible when compared with other countries. The reason is that Argentina is a fairly closed economy, and thus terms of trade changes entail only modest changes in real income. This is highlighted in Figures 2.2c and 2.2d, which portray the terms of trade *shocks* suffered by various LAC economies, defined by multiplying the changes in import and export prices by the respective magnitudes of imports and exports relative to GDP. It is immediately apparent that Argentina's terms of trade shocks over the second half of the 1990s were smaller in magnitude than those of any other country in the graphs, perhaps with the only exception of Brazil (which is also fairly closed). Indeed, Argentina's real income loss from the terms of trade fall in 1998-99 amounted to less than 0.5 percent of GDP.

The other source of adverse real shocks was the global growth decline that started in 2000. However, the U.S. (and worldwide) slowdown affected Argentina much less than other countries in the region. Again the main reason is that Argentina is more closed than most other Latin American economies. In addition, the fraction of Argentina's exports destined to the U.S. market is also much smaller than in any other country in the region. As a result, the deceleration in U.S. growth translated into a fairly modest export demand decline for Argentina (Table 2.2).

Table 2.2

The Global Slowdown: Impact on the Region
The Income Effect via Trade Volume

	Exports/ GDP (%) (a)	Exports of goods to US/Total Exports (%) (b)	Impact of expected decline in U.S. growth (% of GDP) (c)=-[(a)*(b)*0.022]*4.1	Impact of import decline in industrialized countries (% of GDP) (d)=(a)*0.10
Argentina	10.77	11.37	-0.11	-1.08
Bolivia	17.10	33.20	-0.51	-1.71
Brazil	10.88	22.64	-0.22	-1.09
Chile	30.74	18.00	-0.50	-3.07
Colombia	19.03	50.27	-0.86	-1.90
Costa Rica	47.94	51.94	-2.25	-4.79
Dominican Rep.	32.25	12.79	-0.37	-3.23
Ecuador	42.43	38.38	-1.47	-4.24
Guatemala	20.26	34.31	-0.63	-2.03
Jamaica	51.40	32.61	-1.51	-5.14
Mexico	31.85	88.40	-2.54	-3.19
Peru	16.07	29.09	-0.42	-1.61
Venezuela, RB	27.22	51.61	-1.27	-2.72

(a)Exports of Goods and Services and GDP of 2000, source: WDI. (b) Exports of goods in 1999 except 1997 for DR and Jamaica, source:UN_Comtrade.(c) 2.2 is the U.S. expenditure elasticity (Clarida,1994), and 4.1% is the expected decline in the U.S.(d)10 % is the expected decline of imports from industrilized economies.

Next, we turn to the disturbances stemming from world financial markets. Following the Russian crisis, Latin American countries – like other emerging economies – had to face a generalized increase in sovereign spreads. In this regard, Argentina did not fare worse than the rest of the region (Figure 2.3). As a matter of fact, Brazil's spreads rose above Argentina's in 1997-99, with speculative attacks on the *real* taking place in October 1997 and October 1998. It was only at the end of 2000 that the Argentine spread began to drift above Brazil's. And the same happened with Venezuela and Ecuador, whose spreads increased more than Argentina's in 1998 and traded wider until 2001.

Figure 2.3

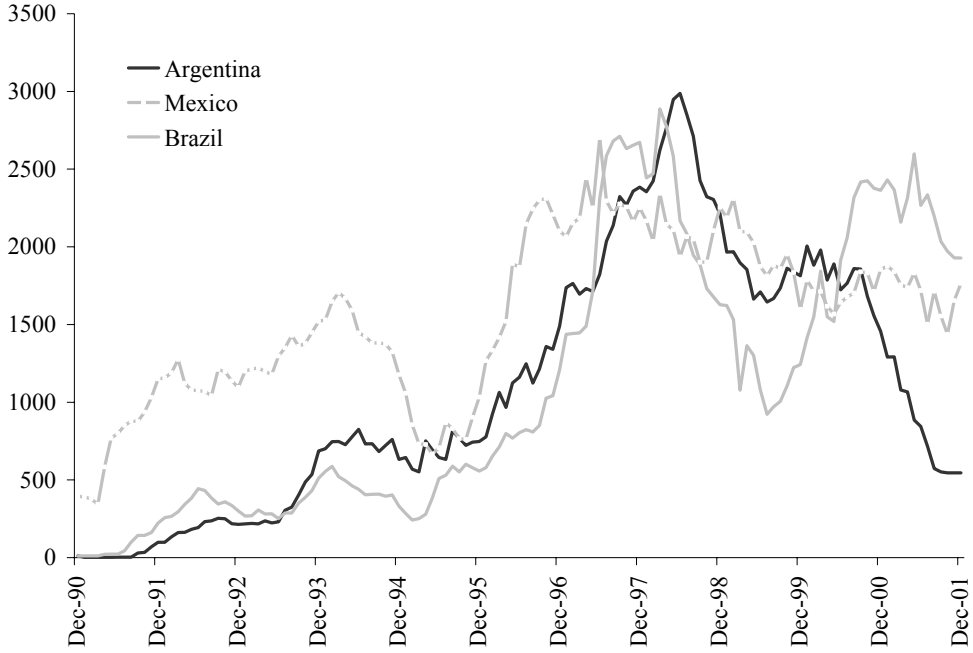
Sovereign Spreads

Source: JP Morgan

The pattern of capital flows was the mirror image of that followed by spreads. Gross financial flows (bonds, bank credit and portfolio equity) to LAC countries contracted sharply after the Russian crisis (Figure 2.4). However, the initial contraction was not larger for Argentina than for other LAC countries. In fact, until mid-1999 Brazil had to face a sharper cut in gross inflows than Argentina. It was only in 2000 and specially in 2001, well into the crisis, when capital flows to Argentina collapsed.

Figure 2.4

Gross Capital Inflows
(12 month moving average)



The comparative evolution of the capital account across LAC countries tells the same story. Until the first quarter of 2000, Argentina's capital account surplus (as a percentage of GDP) continued to exceed the LAC average (Figure 2.5a). Indeed, the current account adjustment that Argentina, like most LAC countries, undertook in 1999 – a result of the capital flow reversal due to the Russian crisis – was fairly modest by regional standards. Among the larger countries, it exceed only Mexico's, and was dwarfed by the current account correction undertaken by Chile, Colombia and Peru – not to mention the dramatic adjustments of oil-exporting Ecuador and Venezuela (Table 2.3).

Figure 2.5a

Capital Account (Percentage GDP)

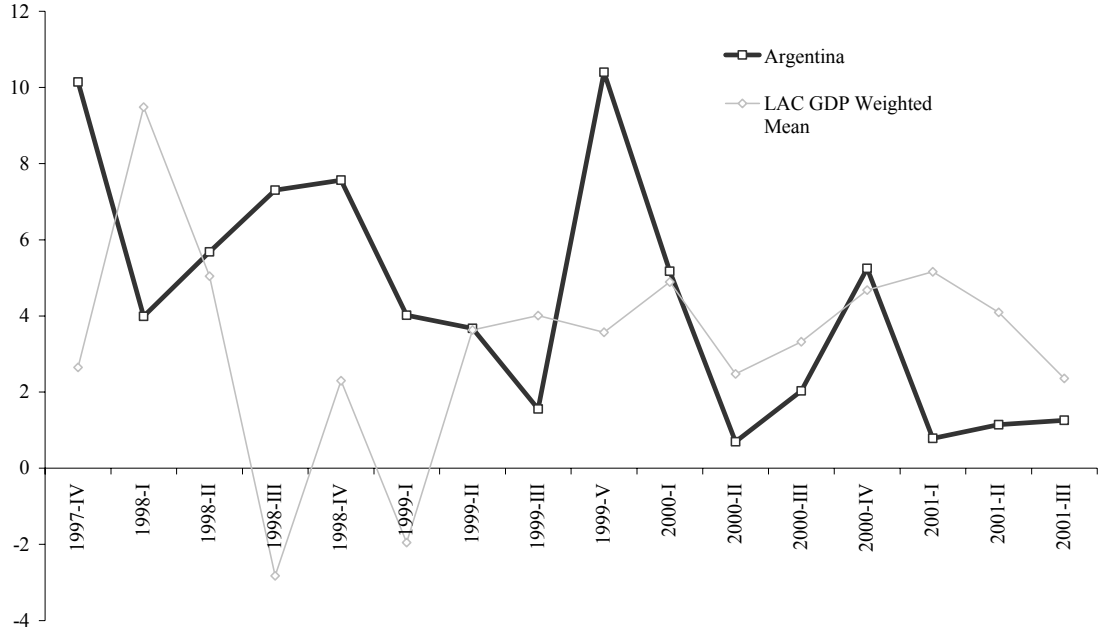
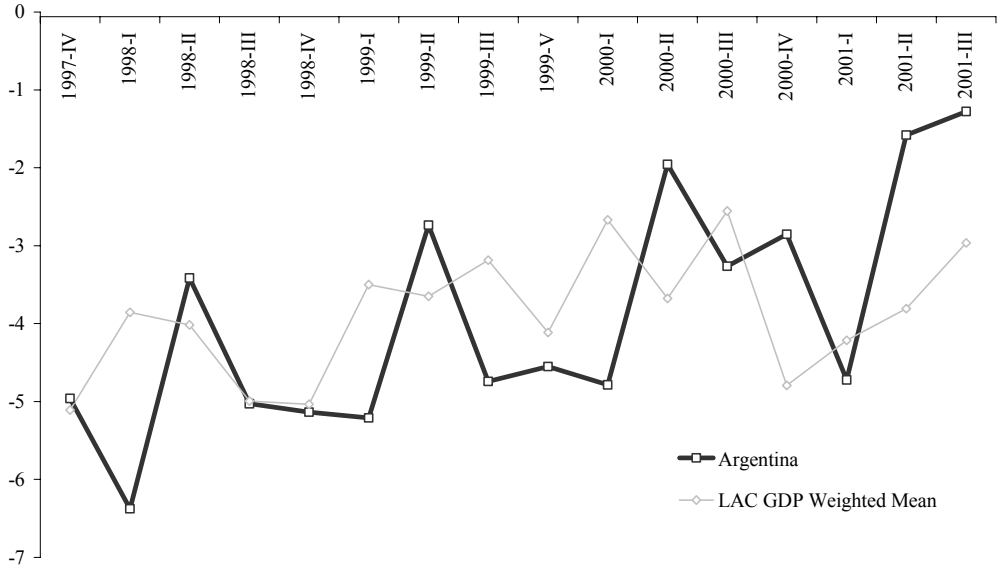


Figure 2.5b

Current Account (Percentage of GDP)



Source: IFS

Table 2.3

Current Account Deficit Adjustment

	as share of GDP		as share of Imports	
	1998/99	2000/01e	1998/99	2000/01e
Argentina	0.77	1.27	7.16	14.33
Bolivia	1.44	1.58	4.96	8.00
Brazil	1.11	-0.55	13.83	-7.33
Chile	5.56	-0.87	22.38	-3.67
Colombia	5.20	-3.14	34.37	-22.57
Costa Rica	-0.91	-0.31	-2.07	-0.76
Ecuador	15.84	-12.19	56.03	-41.14
Mexico	0.37	0.31	1.13	0.92
Peru	3.19	0.50	20.75	3.37
Venezuela, RB	7.24	-5.53	42.99	-41.44
Average	3.98	-1.89	20.15	-9.03

Current (Capital) Account adjustment is defined as the year on year difference in the Current (Capital) Account as share of GDP or imports. Sources: Imports (US$) from Direction of Trade; GDP and Current Account Balance (US$) from World Bank WDI.

In summary, the evidence shows that the global contraction in capital flows that occurred in 1999 did not affect Argentina as severely as (and certainly not more severely than) other LAC countries. Thus, Argentina was able at first to continue running large current account deficits, as it had done in the previous years (Figure 2.5b). After 1999, however, capital flows to most LAC countries recovered somewhat, except for Argentina (and Venezuela), where they continued to fall – especially in 2001. Hence, the conclusion is that most of the deterioration of capital flows to Argentina at the end of the decade reflected Argentina-specific factors rather than global factors.

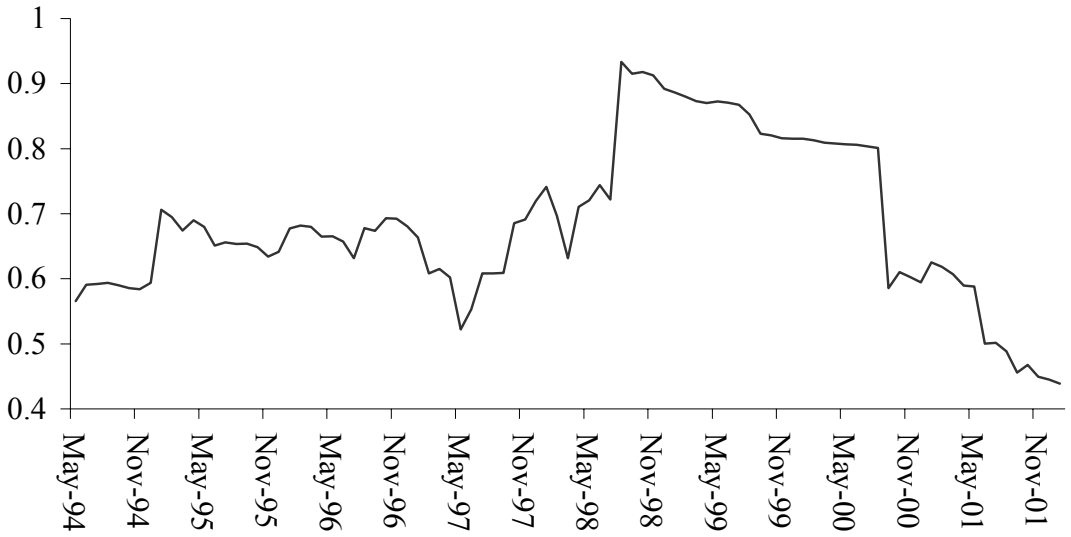
We can assess more rigorously the relative role of global and country-specific factors in the observed pattern of capital flows to Argentina and other countries using a suitable empirical model. In essence, the model separates the common component of emerging country spreads – which, loosely speaking, reflects global conditions or 'contagion', and hence captures systemic risk – from their country-specific component, which should primarily reflect each country's economic fundamentals (or, more precisely, investors' perceptions about them) and provide a measure of each country's pure risk premium. These two separate components are then used as explanatory

variables to account for the observed pattern of capital flows to the countries under analysis.[6]

This procedure yields the indicator of global risk depicted in Figure 2.6, which provides a summary measure of the degree of co-movement among emerging-market spreads. It shows a sharp rise at the time of the Russian crisis, and a downward trend afterwards.[7]

Figure 2.6

Indicator of Global Risk



Combining this global indicator with the associated index of country-specific conditions (or idiosyncratic risk), we can examine their respective roles in the evolution of capital flows in recent years. Performing this exercise for three major Latin American economies – Argentina, Brazil and Mexico – reveals two consistent facts across all three countries. First, capital flows react to changes in idiosyncratic risk, rather than the reverse.[8] Second, the direction of the effect is as expected: lower idiosyncratic risk, as well as lower global risk, both lead to an increase in capital inflows.

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[6] The full details are spelled out in Fiess (2002). In a nutshell, we use principal component analysis to construct an indicator of global comovement from end-of the month JP Morgan EMBI spreads for Argentina, Bulgaria, Brazil, Ecuador, México, Nigeria, Panama, Peru, Poland, Russia and Venezuela over the period from January 1991 to March 2002. The indicator uses a rolling window of 24 months. As a robustness check, we construct an alternative global indicator incorporating also the effects of US interest rates on country spreads. The difference between the two indices is virtually negligible. Other robustness checks are described in Fiess (2002).

[7] Because of the 24-month rolling window underlying these calculations, the index shows a sharp drop in mid 2000, when the observation corresponding to the initiation of the Russia crisis ceases to be included in the moving window. Other various empirical exercises using different window lengths or alternative empirical methods (Fiess 2002) also point clearly towards reduced co-movement of spreads over the last couple of years.

[8] In this experiment, global risk is taken as exogenous – that is, we assume it is unaffected by capital flows to individual countries.

The roles of global and idiosyncratic factors are not the same in all countries, however. Table 2.4 summarizes the discrepancies across countries, in terms of the results of hypothesis tests regarding the determinants of capital inflows in each country. We examine two extreme hypotheses: first, that domestic factors do not matter – so that the only force at play is global contagion – and second, that global factors do not matter – so that only country-specific risk matters.

Table 2.4

Results from Hypothesis Tests on the Empirical Determinants of Capital Inflows

1997-2001

	Hypothesis	
	Domestic factors do not matter	**Global factors do not matter**
Argentina	Rejected	Not Rejected
Brazil	Rejected	Rejected
Mexico	Rejected	Rejected

As the table shows, for all three countries there is strong evidence that idiosyncratic ('pull') factors played a significant role in the observed capital inflows. This seems broadly consistent with the de-linking of country spreads mentioned earlier. On the other hand, we do not find conclusive evidence that global ('push') factors played a major role in capital flows to Argentina. This is in contrast with the results obtained for Brazil and Mexico, where we do find significant evidence of global effects.[9]

These results refer to the entire period under consideration, and it is revealing to examine how the model's assessment of the role of push and pull (or global and local) factors changes over time. This is illustrated in Figure 2.7, which portrays the results from the same hypothesis tests for Argentina but over a changing sample period.[10] Each of the two lines in the figure corresponds to one of the two hypotheses; values above the horizontal line imply rejection of the respective hypothesis.

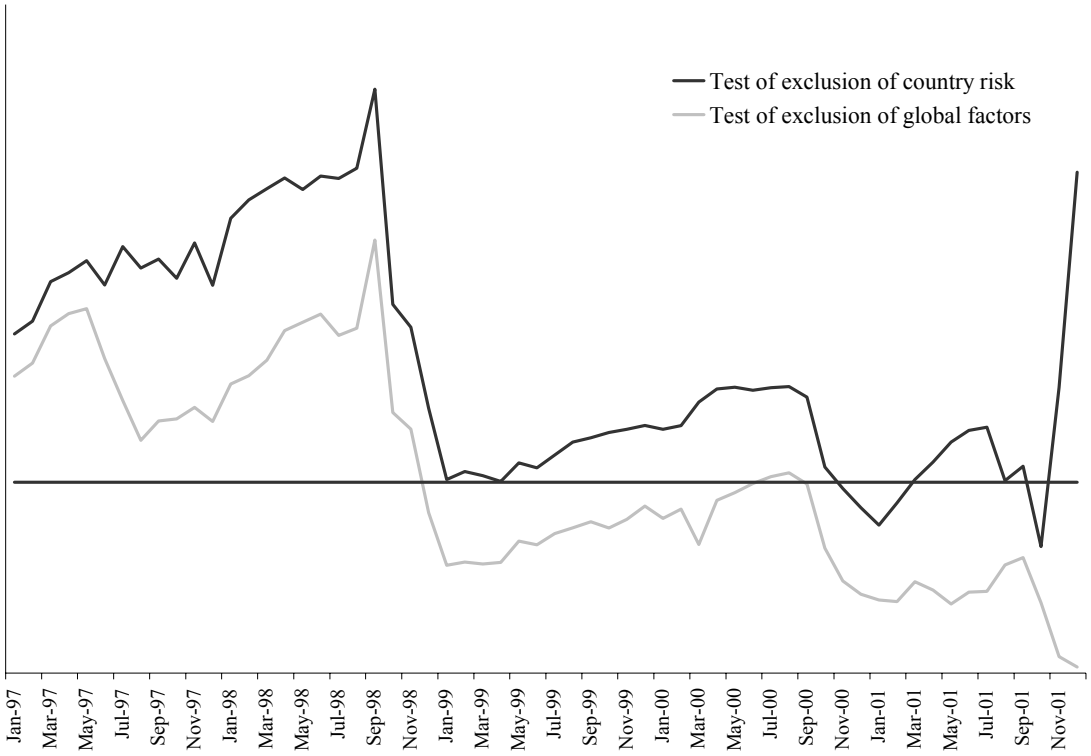
The graph clearly suggests that the contribution of push factors and pull factors changed over time. Prior to the Russian crisis, there is strong evidence that both had a significant effect on capital flows to Argentina. After the Russian Crisis, only country-specific risk reaches statistical significance, while push factors become less important –

[9] This should not be taken to mean that global factors do not matter for capital flows to Argentina, but rather that over the sample under consideration their action is dwarfed by that of idiosyncratic factors.
[10] This graph is constructed from recursive estimation of the empirical model.

except for a brief spell in mid-2000.[11] From mid 2001 onwards, there is overwhelming evidence of a significant role of country-specific risk alone.

Figure 2.7

Determinants of Capital Inflows to Argentina



On the whole, these model-based results reinforce the more informal evidence shown earlier that Argentina was not affected as severely as other countries by the global slowdown in capital flows from 1999 onwards. On the contrary, the sharp reversal of flows to Argentina in 2000 and 2001 was mainly driven by country-specific factors. This strongly suggests that the "sudden stop" of capital flows in 2000/2001 acted as ***an amplifier*** of the effects of domestic factors, rather than being the primary, exogenous, cause behind the crisis.

To summarize this section, Argentina was not hit harder than other LAC countries by the terms of trade decline after the Asian crisis, nor by the capital flow reversals and spread increases that followed the Russian crisis, nor by the U.S. and worldwide slowdown that started in 2001. On the contrary, the sharp capital flow reversal from 2000 onwards was primarily an Argentina-specific phenomenon.

[11] Two events may lie behind this spell: the downswing in U.S. growth, and the upgrade of Mexico to investment grade.

Since Argentina did not receive worse external shocks than the rest of the region, ***the fact the Argentina performed worse than other LAC countries after 1998 must reflect either higher vulnerabilities or weaker policy responses, or both***.

It is true that Argentina was particularly affected by other external events, such as the appreciation of the dollar and the depreciation of major trading-partner currencies. But such differential effects were a consequence of policy decisions – the peg to the dollar under the Currency Board arrangement – and the handicaps that they created. Most important among the latter were the significant balance sheet vulnerabilities to external shocks that plagued the Argentine economy. We turn next to discuss these issues.

III. OVERVALUATION AND DEFLATIONARY ADJUSTMENTS UNDER THE HARD PEG: Why Old Lessons about Optimal Currency Areas should not be Forgotten

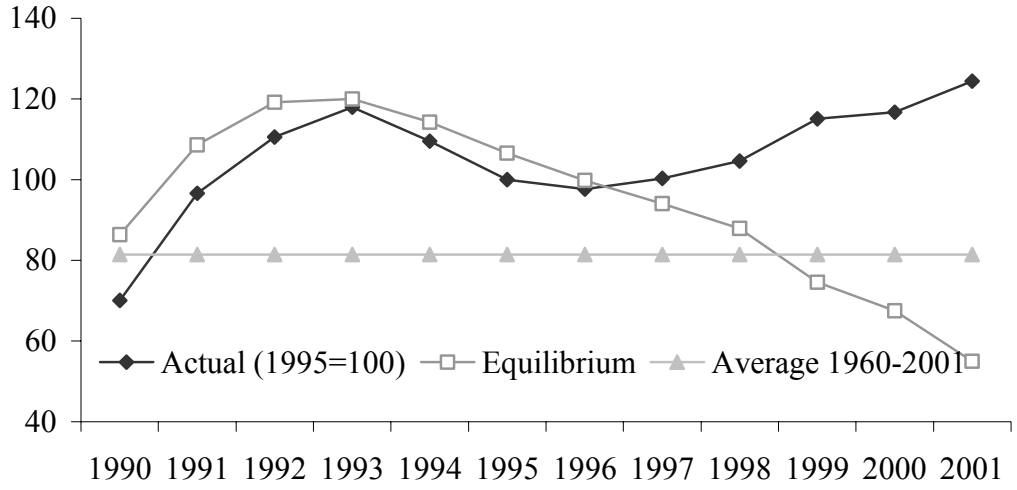
We next turn to an assessment of the role of the dollar peg in the Argentina malaise from 1997 onwards – how it added to the external vulnerability and how it hampered adjustment to real shocks.

A. *Was there an overvaluation? Where did it come from?*

Argentina's real effective (that is, trade weighted) exchange rate (henceforth REER) experienced a considerable appreciation during the 1990s.[12] Between 1990 and 2001, the REER rose[13] by over 75 percent (Figure 3.1). The bulk of the appreciation developed before 1994. In fact, the REER depreciated after that date and until 1996, but then appreciated again to reach its peak in 2001.

Figure 3.1

Actual and Equilibrium REER



This evolution of the REER was duly reflected in Argentina's export performance. While real exports did show positive growth over 1991-2000, they grew less than in comparable countries, and their rate of expansion was closely associated to the evolution of the REER. During the initial real appreciation at the time when the currency board was established, Argentina's exports stagnated. As the REER depreciated after 1993, exports

[12] Trade weights are taken from the IMF's *Direction of Trade Statistics* and correspond to 1995. They refer to goods trade (imports and exports).
[13] Throughout this note we define the RER so that an increase represents a real appreciation.

expanded vigorously, at rates similar to, or higher than, those experienced by other countries. When the REER started appreciating again in 1997, export performance fell significantly behind that of comparable countries. (Table 3.1).

Table 3.1

Average Annual Growth of Real Exports
(Goods and Non-Factor Services, Percentages)

	1992-1993	1994-1997	1998-2000	1992-2000
Argentina	1.8	14.4	3.5	8.0
7 major LAC countries -w/o Argentina	7.7	11.1	9.5	9.8
Upper middle-income LDCs	8.4	13.4	11.1	11.5
Memo item:				
Argentina's REER growth	10.5	-4.0	5.2	2.1

Source: WDI, World Bank.

Real appreciation is not necessarily a symptom of imbalance in need of correction. Indeed, during the 1990s – especially in the early part of the decade -- a number of reasons were offered by different observers in order to explain the persistent real appreciation of the peso as an equilibrium phenomenon. Most importantly, it was argued that the efficiency-enhancing reforms of the early 1990s had led to a permanent productivity increase in the Argentine economy, which would have justified a permanent REER appreciation. Nevertheless, over the last two or three years an increasing number of independent observers and financial market actors expressed the view that the peso was overvalued – although the precise extent of the overvaluation was disputed, depending on the measure of the equilibrium REER used as benchmark of comparison.[14]

In many cases, the real exchange rate was simply compared with its historical value, under the view that the equilibrium REER is constant – the so-called *purchasing power parity* (PPP) view. Figure 3.1 illustrates the use of this approach to assess the misalignment of the Argentine REER over the 1990s, taking as equilibrium value the REER average over the last four decades (1960-2001). The latter is depicted by the horizontal line in the figure. Comparison with the actual REER suggests that the peso

[14] For example, Deutsche Bank perceived the peso to be some 20 percent overvalued in real terms in mid-2000. In turn, Sachs (2002) places peso overvaluation prior to the crisis in the 30-40 percent range. Most other observers agree with the view that the peso was significantly overvalued, without advancing any particular figure; see e.g., Rodrik (2002) and Hausmann and Velasco (2002).

was initially undervalued in 1990, but became increasingly overvalued after the introduction of the Convertibility Law in 1991. The overvaluation peaked initially in 1993, declined later through 1996, and rose again to exceed 40 percent in 2001.

However, this approach neglects two important factors that shape the equilibrium REER The first one is the relative level of productivity across countries. Other things equal, an increase in traded-goods productivity in a given country relative to its trading partners should lead to a REER appreciation[15] -- precisely the argument advanced by some observers to justify the rapid real appreciation of the Argentine peso in the early 1990s.

The second ingredient is the adequacy of the current account to sustain equilibrium capital flows. The real exchange rate must be consistent with a balance of payments position where any current account imbalance is financed by a sustainable flow of international capital – one that does not lead to explosive accumulation of external assets or liabilities. The sustainable stock of net foreign assets is given by the present value of future trade surpluses. In this framework, the equilibrium REER is that which permits sustaining the economy's long-run net foreign asset position.[16]

Our assessment of Argentina's equilibrium real exchange is based on an empirical model encompassing these two ingredients. By using an analytical framework combining both features,[17] we take into account simultaneously the internal (productivity) and external (asset position) equilibrium of the economy to draw inferences about the overall equilibrium or disequilibrium of the real exchange rate.

Empirical application of this analytical framework to Argentina using data for 1960-2001 yields the estimated equilibrium REER shown in Figure 3.1. The figure suggests that the trajectory of the equilibrium REER consists of two stages. First, an initial real appreciation in 1991-93 – particularly sharp in the first two years. Second, a steady depreciation from 1994 on, which by 2001 has brought the equilibrium REER below its initial value.

The equilibrium and actual REER are compared in Figure 3.2, which presents the percentage deviation of the actual REER from its equilibrium value, along with the 95 percent confidence bands derived from econometric estimation of the equilibrium real exchange rate model. In the figure, a positive value indicates overvaluation, and a negative one means undervaluation. The graph reveals two stages of real misalignment. Between 1990 and 1995, the REER was undervalued, although the undervaluation had become almost negligible by 1994-95. In fact, in 1996, the actual and equilibrium REER coincide almost exactly, implying that the real exchange rate was correctly aligned in that

[15] This is the so-called Balassa-Samuelson effect.

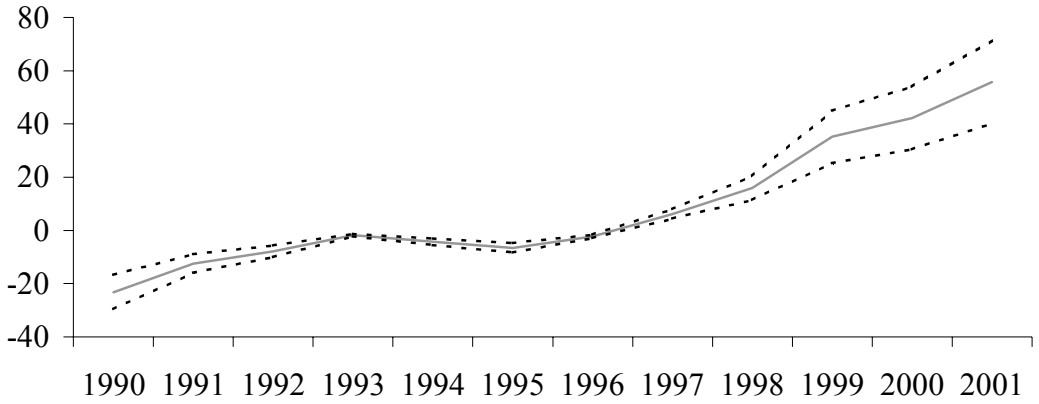
[16] While this stock-based asset view of real exchange rate determination has become mainstream, an alternative *flow*-based view assigns to exogenous capital flow fluctuations a dominant role in the determination of the equilibrium REER. According to this approach, the equilibrium level of the real exchange rate is that which makes the current account balance equal the (exogenously given) supply of net foreign financing.

[17] The details are spelled out in Alberola et al. (1999) and Alberola and López (2001).

year. From 1997 on, however, a gap opened between the REER and its equilibrium counterpart, resulting in an increasing overvaluation. By 2001, the REER exceeded its equilibrium value by a margin of 55 percent.

Figure 3.2

REER Over(+) or Under(-) valuation
(Equilibrium REER Model, Percentages)

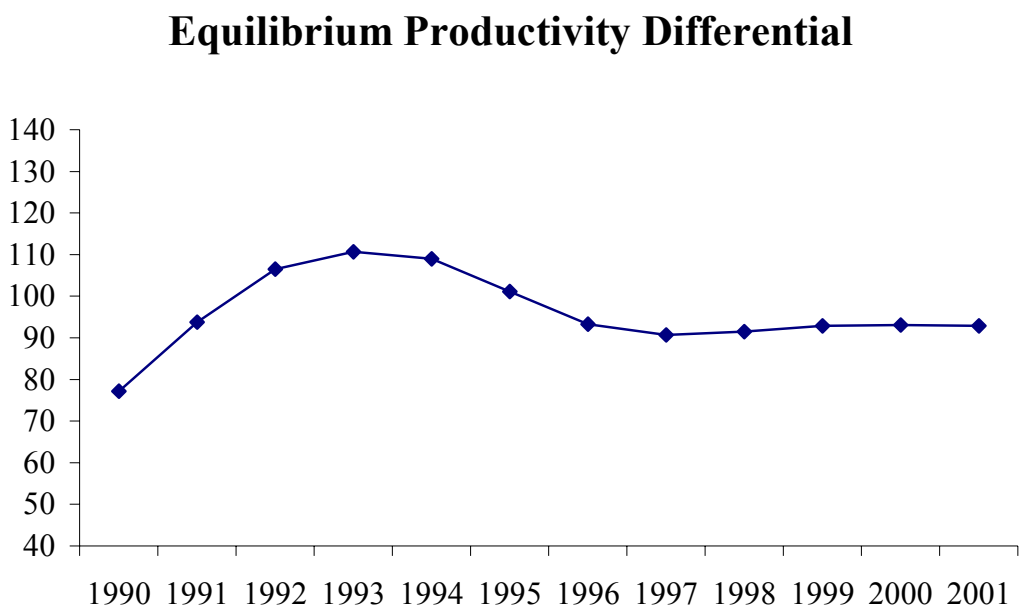


Notice the contrast between the degree of misalignment derived from the equilibrium model and that arising from the simple-minded PPP calculations mentioned earlier. While by both yardsticks the peso was substantially overvalued by 2001, the PPP calculations imply that the overvaluation of the peso developed basically between 1991 and 1993, with little change afterwards, while the latter suggests that the real exchange rate was moving closer to its equilibrium value until 1996, and the overvaluation arose after that date. What lies behind these contrasting assessments ? As discussed earlier, the analytical model of the equilibrium REER used here encompasses two main determinants of the exchange rate: (i) the productivity differential between Argentina and her trading partners, and (ii) Argentina's net foreign asset position. Our empirical estimates allow us to calculate the equilibrium values of these two components, which drive the equilibrium REER. It is useful to examine them in turn.

Figure 3.3 portrays the time path of the equilibrium productivity differential. An increase represents an improvement in Argentina's competitiveness, and calls for an appreciation of the equilibrium REER. The figure suggests a clear rise in relative productivity in the early 1990s and hence, given other things, an appreciation of the equilibrium REER between 1990 and 1993-94. Much of this gain in productivity could be traced to the efficiency gains derived from the end of hyperinflation achieved in 1991. After 1993-94, however, there were no additional gains in relative productivity, and in fact a partial reversal appears to have taken place after 1994. This absence of further

productivity gains is consistent with the stalling of Argentina's structural reform process in the second half of the decade.

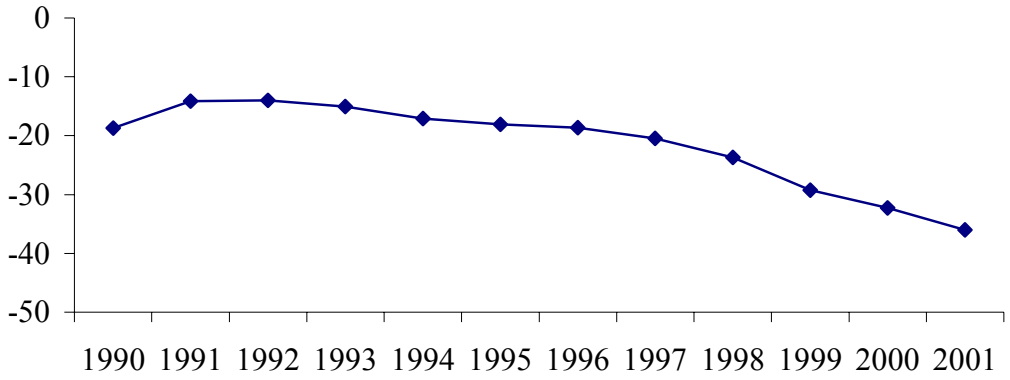
Figure 3.3



If the initial productivity gains are largely responsible for the appreciation of the equilibrium REER in the early 1990s, its depreciation in the late 1990s is driven by the changes in Argentina's equilibrium net foreign asset position, shown in Figure 3.4. In the figure, an increase represents a rise in Argentina's equilibrium NFA position (relative to GDP) and hence calls for an appreciation of the equilibrium REER, given other things.The figure displays an initial rise of equilibrium NFA in 1991, followed by a steady decline between 1993 and 2001, during which the equilibrium NFA/GDP ratio falls by over 20 percentage points. The decline proceeds at a particularly fast pace after 1997. In the face of a stagnant productivity differential, as shown above, this deterioration in the equilibrium NFA position is the driving force behind the steady depreciation of the equilibrium REER in the late 1990s.

Figure 3.4

Equilibrium Net Foreign Assets
(Percent of GDP)



The falling equilibrium NFA/GDP position is largely a reflection of the rising trend in Argentina's foreign liabilities relative to GDP over the late 1990s, which resulted from the combination of substantial current account deficits – particularly large in 1997-99, as shown earlier – and, in the final years of the decade, a persistent growth deterioration. It is true that by 1999-2000 Argentina's current account imbalance, while large, was not too far above the region's norm -- at least if the wide surpluses of the oil importing countries are excluded from the comparison. But Argentina's deficits were being incurred in the midst of a severe recession with escalating unemployment. This suggests that the full-employment current account deficit would have been much bigger than that actually observed.[18] In the next section we examine how these persistent current account imbalances relate to the fiscal gaps that developed over the decade.

Our empirical framework allows us to reassess the role of external shocks in the mialignment of the Argentine peso:

- **Adverse terms of trade shocks:** as already discussed, in 1998-99 Argentina's terms of trade declined by some 11 percent. However, the shock was only temporary, and was reversed in 2000. In addition, it happened after a terms-of-trade windfall in 1995-96. Hence, the terms of trade trajectory had presumably a very modest impact on the extent of misalignment of the peso.

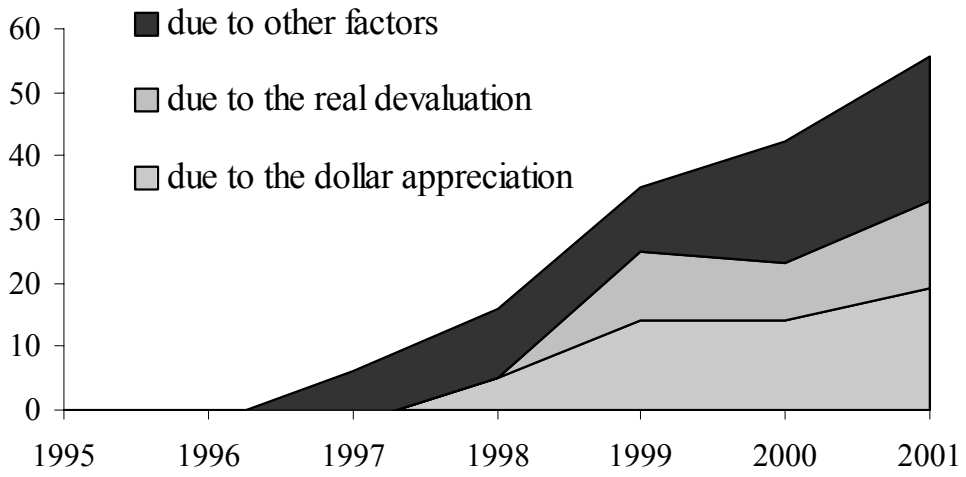
- **The U.S. dollar overvaluation (or 'pegging to the wrong currency')**: it has been argued that much of the overvaluation of the peso can be attributed to the appreciation of the US dollar in the late 1990s relative to major trading partners of

[18] This point is underscored by Roubini (2001).

Argentina – e.g., the countries in the Euro area. This is not an 'external shock' in the true sense of the term, but a self-inflicted one resulting from Argentina's choice of currency regime. Figure 3.5 provides an assessment of its impact.[19] The figure suggests that starting in 1998 the real appreciation of the US dollar accounted for an increasing portion of the peso overvaluation – up to 20 percent by 2001. Thus, between one-third and one-half of the observed effective overvaluation of the peso in 2001 was directly due to the peg to an appreciating US dollar. But, to the extent that the partly dollar-induced appreciation of the peso led to declining net foreign assets relative to GDP – and hence to the declining equilibrium REER -- the dollar appreciation would account indirectly for an additional portion of the peso overvaluation. All in all, we might conjecture that pegging to a strong US dollar could account for up to half of the observed overvaluation of the peso.

Figure 3.5

Direct impact of the US Dollar peg on REER overvaluation
(Percentages)



[19] To quantify this effect, we need to move beyond effective exchange rates and compute bilateral RER disequilibria. The resulting calculation is only approximate because third countries carry different trade weights in the Argentine and US REER.

- **The devaluation of the real**: the Brazilian devaluation of 1999 undoubtedly added to the misalignment of the peso as well by reducing the competitiveness of Argentina's tradable sector – another consequence of 'pegging to the wrong currency'. In fact, Figure 3.2 above showed that the overvaluation of the peso increased by almost 20 percent in 1999. Numerical calculations suggest that the depreciation of the real was responsible for about half of this amount (11%).[20] The same calculations indicate that by 2001 the depreciation of the real had contributed around 14 percentage points to total peso overvaluation in that year. (Figure 3.5). Again, this figure corresponds only to the direct effect of the depreciating real, ignoring indirect effects accruing through the accelerated decline in the net foreign asset/GDP ratio arising from Argentina's loss of competitiveness vis-à-vis Brazil.

To sum up the above discussion, we conclude that the REER had become substantially overvalued after 1996, in the face of stagnant relative productivity and mounting foreign liabilities relative to GDP. We also find that the appreciating U.S. dollar and the depreciating Brazilian real accounted for a large portion of the peso overvaluation – perhaps two-thirds, or even more, when the two forces are combined.[21]

Importantly, we reach these conclusions in a framework in which capital flow fluctuations play no role in the determination of the equilibrium REER. This is consistent with the analysis in the preceding section, which found little evidence of global contagion in the observed pattern of capital flows to Argentina, especially after 1998.

B. *Persistence of misalignments and deflationary adjustments under hard pegs*

Real misalignments can and do occur under both fixed and flexible exchange rate regimes. The difference between them is that under a floating regime a real misalignment can be eliminated quickly through a nominal exchange rate adjustment. Thus, if a temporary spending boom, say, causes the real exchange rate to appreciate above its equilibrium value, as the spending boom unwinds the nominal exchange rate will typically depreciate, helping eliminate the real overvaluation.

In a pegged regime, in contrast, the real exchange rate adjustment has to occur through changes in the domestic price level vis-à-vis foreign prices. Disturbances requiring a real depreciation – such as the Brazil devaluation or the U.S. dollar appreciation just reviewed – call for a decline in the inflation differential vis-à-vis trading partners in order to restore REER equilibrium. If trading partner inflation is low, this means that domestic prices need to fall in *absolute* terms. Under nominal inertia – of

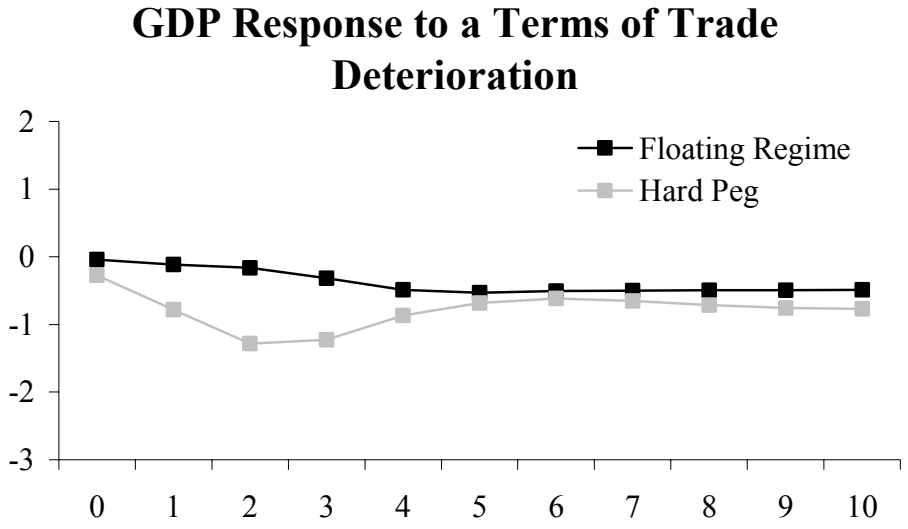
[20] This figure is similar to that reported by leading financial market analysts.

[21] Adding together the effects of the U.S. dollar appreciation and the Brazilian *real* depreciation involves some double-counting because the two phenomena are not independent – i.e., the *real* is already included among the currencies against which the trajectory of the U.S. dollar is measured. However, the weight of the *real* in the U.S. trade basket is almost negligible, so that this double-counting is not a concern.

wages and other prices – deflation in turn requires a recession, making the adjustment process slow and costly in terms of output and employment. This generates a second difference with floating regimes: in the presence of a large overvaluation, the fact that the required adjustment process may entail large (and politically unpalatable) output losses could in turn undermine confidence in the sustainability of the peg itself – specially when fiscal institutions are weak, as was the case in Argentina (see Section IV below).

The cost of adjustment under a hard peg can be illustrated on the basis of empirical evidence on the adjustment to real disturbances from a large sample of industrial and developing countries under different exchange rate regimes. Figures 3.6 and 3.7 portray the adjustment of countries with floating regimes and hard pegs (such as Argentina's currency board) to a trajectory of the terms of trade similar to that experienced by Argentina in 1998-99 – a cumulative drop of 11 percent.[22] The figures show the time path of output and the real exchange rate, in percentage deviation from the initial (pre-shock) level.

Figure 3.6



[22] This is based on an extension of earlier work by Christian Broda (2001).

Figure 3.7

RER Response to ToT Deterioration

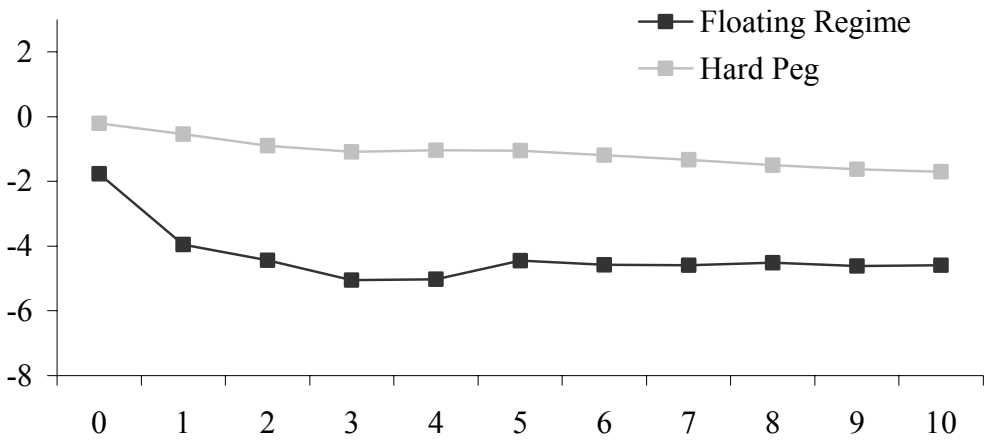


Figure 3.6 shows the adjustment of real GDP. In floating regimes the output loss is small – it never exceeds 0.5 percent of initial GDP. In hard pegs, in contrast, the terms of trade deterioration leads to a sizable output contraction in the short-run – up to 2.5 percent by the second year. The initial contraction is followed by a partial recovery of GDP, which approaches the level of the floating regime by the fifth year.

The other side of the coin is shown in Figure 3.7, which presents the time path of the real exchange rate, again distinguishing between floating regimes and hard pegs.
In floating regimes, the terms of trade loss causes an immediate real depreciation. The RER depreciates by over 1.5 percent on impact, and continues to depreciate over the following periods – by up to 5 percent by the third year. In contrast, under hard pegs the real depreciation is gradual and of very modest magnitude – around 1.5 percent at its peak – in spite of the sharp output contraction. Moreover, it is possible to show that the adjustment patterns under both regimes are significantly different in the statistical sense.

These empirical results conform with the experience of Argentina. As noted earlier, Argentina's REER overvaluation was partly a reflection of external disturbances to which the currency board was vulnerable – such as the appreciation of the US dollar and the Brazilian real devaluation. In the adjustment to these disturbances, prices did fall, but by a very modest magnitude – a total around 3 percent over 1998-2000. This price deflation was wholly insufficient to offset the impact of the shocks on the misalignment of the REER -- even though nominal deflation was the only way to achieve REER adjustment under the hard peg. However, a faster deflation would have been politically very difficult, as it would have required an even deeper recession and higher unemployment than actually witnessed in 1999-2001.

C. *Summing up*

To sum up, we can highlight some lessons that emerge from the discussion.

- Taking into account developments in both Argentina's relative productivity and her foreign asset position, we find that the appreciation of the peso up to 1993 was to a large extent an equilibrium phenomenon, reflective of efficiency improvements that took place in Argentina at the beginning of the 1990s. On the other hand, we also find that the peso had become grossly overvalued by 1999-2001. We reach these conclusions in a framework in which possible imperfections in international financial markets play no role.

- From the perspective of the choice of exchange rate regime, the experience of Argentina provides a vivid illustration of the rigidities imposed by a hard peg. The observed degree of downward price flexibility proved wholly insufficient to absorb the adverse real shocks that impacted on the economy in the late 1990s. While deflation provided the only mechanism for REER adjustment under the peg, the deflation required to adjust to the shocks would have been politically hard or impossible to achieve.[23] In this regard, the hard peg offered the mechanism for a persistent and large REER misalignment to go unchecked. As we shall see below, it also hid from public view a rapidly mounting fiscal solvency problem.

- Related to the previous point, we have argued that a considerable portion (perhaps two-thirds or more) of the overvaluation of the peso by 2001 can be traced to the combined effect of the US dollar appreciation and the Brazilian real depreciation. This shows the dangers of pegging the exchange rate to a currency that only accounts for a relatively small fraction of total external trade – less than 15%, according to Table 3.2 – and especially in a very closed economy such as Argentina, in which trade with the U.S. accounted for less than 3 percent of GDP.

- In other words, the standard trade-based currency-union arguments need to be taken at face value in the choice of exchange regime – and in the case of Argentina those arguments would have pointed clearly against a peg to the US dollar. This contrasts with the finance-based arguments, which may have pointed in the opposite direction, as we shall discuss in Section VI.

- A key ingredient behind the mounting overvaluation of the peso after 1996 was the decline in Argentina's equilibrium NFA position. This in turn can be traced to the large external imbalances that developed over the 1990s, which led to an escalation in external liabilities relative to GDP – especially in the context of slow or negative growth at the end of the decade. In these latter years, Argentina's full-employment current account deficit would surely have exceeded by a wide

[23] This view is also stated by Rodrik (2002) and Sachs (2002).

margin the already sizeable deficits that were being incurred in the midst of a severe recession. Low productivity growth and, as we shall discuss below, public sector imbalances were major elements in this process.

Table 3.2

Argentina's Trade Structure

	Geographical composition of imports plus exports (percentage of the total)
Brazil	24%
Main LAC without Brazil	14%
USA	13%
Europe	25%
Rest of the world	24%

Source: UN-COMTRADE database. Figures for 2000.

IV. FISCAL VULNERABILITIES:

Mismanagement in the Boom and large Fiscal Contingencies associated with adverse external shocks

A. *Fiscal policy during boom and bust*

Many observers, until recently, had put most of the blame of Argentine pains on the lack of fiscal discipline which was essential to preserve the Currency Board, while others argued that Argentine conventional debt and fiscal indicators did not look worse than those of most other LAC countries even until mid 2001. See Table 4.1

Table 4.1

Debt Indicators in Emerging Markets (2000)

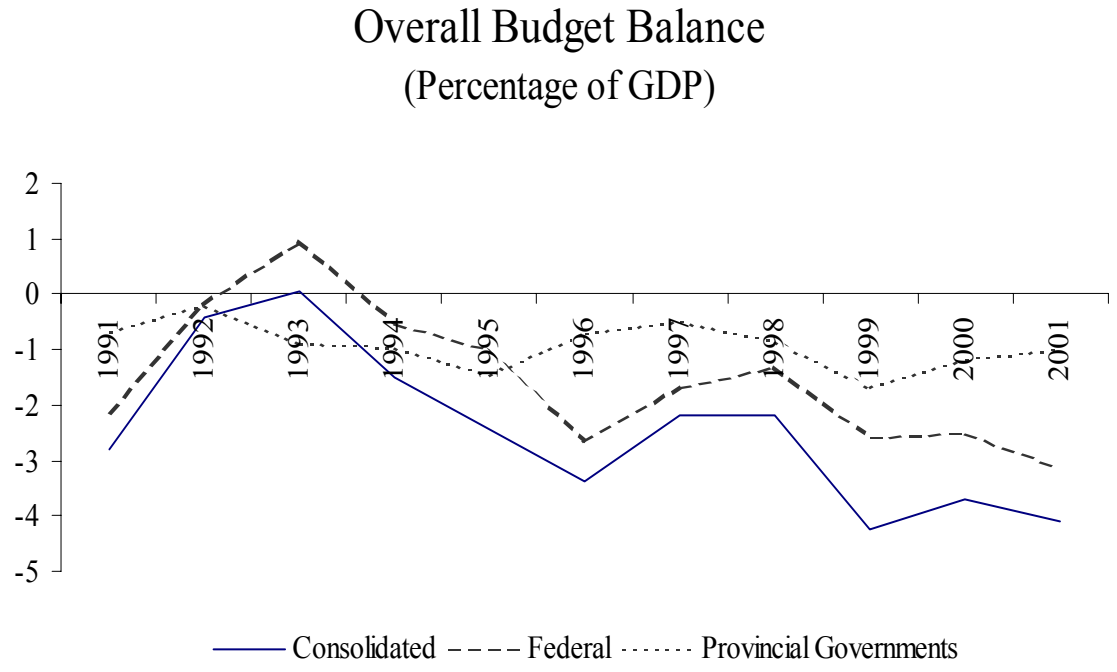
	Public Debt Interest Payments			**Public Debt**
	(% of GDP)	(% of Tax Revenue)	(% of Public Debt)	(% of GDP)
Argentina	4.6	21.6	8.7	55.9
Brazil	9.5	33.8	15.5	65.0
Colombia	5.0	25.3	9.8	50.8
Mexico	2.6	25.7	9.4	27.7
Venezuela	3.3	18.7	9.3	35.3
Poland	2.9	11.0	7.4	39.1
Russia	3.0	7.9	5.7	52.3
Turkey	23.7	133.1	27.8	85.1

Source: Goldman Sachs, 2000

We begin our inquiry by examining how and when fiscal vulnerabilities developed during the nineties. Most analysts have pointed out to the deterioration of fiscal balances (both at the Federal and Provincial levels) and the corresponding increase in debt indicators since 1995 and, specially, since 1999.[24] See Figures 4.1 and 4.2.

[24] Argentina's fiscal balances during the first part of the nineties look better than what they actually were, as they include some privatization receipts above the line and hide important fiscal liabilities (in both Federal and Provincial pension systems and other line items –backlog of pension payments and arrears of royalties owed to Provinces –see Alexander, M) that were later partially recognized, especially from 1994 onwards. Public debt decreased up to 1993 thanks to the use of large privatization receipts and the Brady deal, while from 1994 onwards it reflects the recognition of some of the previously hidden liabilities. Also, from 1995 on the Federal Government absorbed cash flow deficits previously included in the Provincial

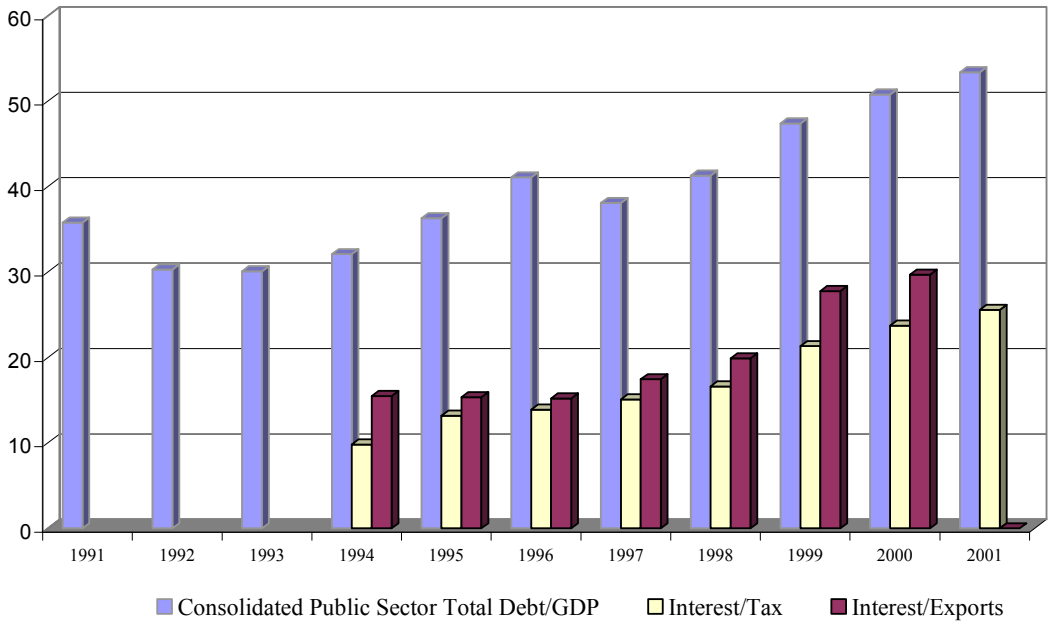
Figure 4.1



pension system. This latter change does not affect the consolidated (Federal + Provinces) deficit but only its composition.

Figure 4.2

Consolidated Public Debt and Service
(Percentages)

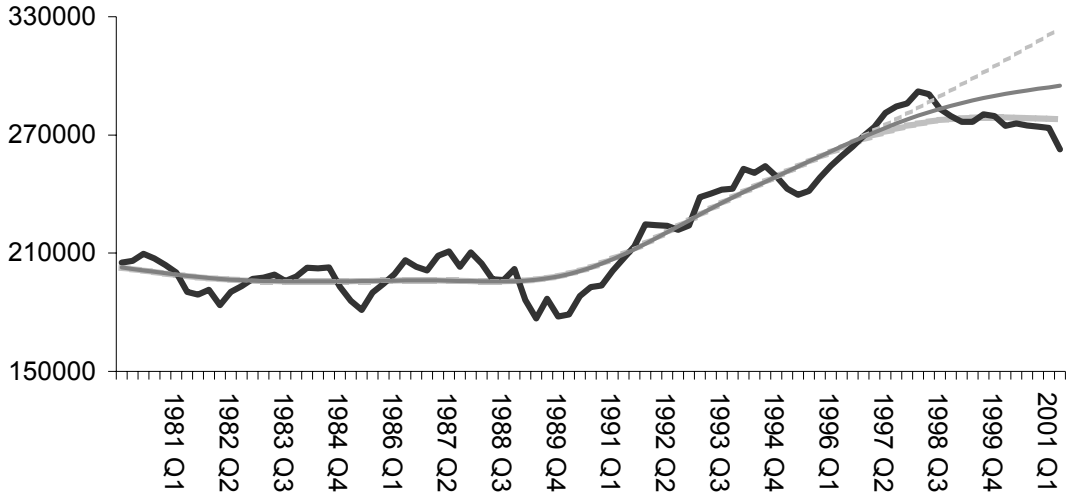


However, these figures should be corrected by the effects of the cycle and the increase in interest rates at the end of the decade to assess correctly the fiscal policy stance. Unfortunately, we do not have sufficient data to attempt this cyclical adjustment at the level of the consolidated public sector, but only for the Federal government. Nevertheless, Figure 4.1 shows that the time profile of the Federal and consolidated deficits is very similar, so the cyclically-adjusted fiscal stance should also be very similar for both government definitions.

To compute the cyclically-adjusted figures, we construct two potential output estimates – one through a Hodrick-Prescott filter, and another just fitting a straight line. As is well known, the HP filter tends to give biased estimates at the end points. In this case it appears to underestimate potential output at the end of the period (zero or negative growth), while the straight line approach probably overestimates it. Thus, we opt for a middle of the way estimate between these two. See Figure 4.3.

Figure 4.3

GDP and Potential GDP (Hodrick-Prescott Trend and Linear Trend)

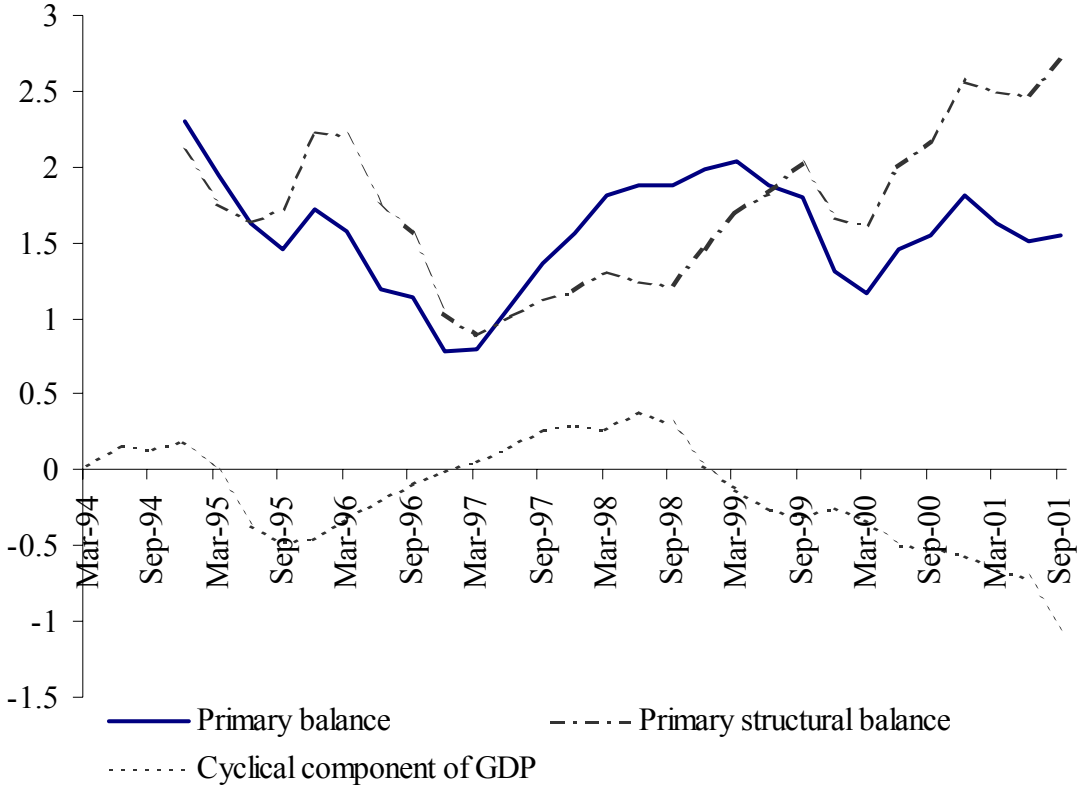


Using this estimate, we correct the Federal primary balance for cyclical effects by applying a revenue elasticity of 1.14 to GDP. We find that the Structural Fiscal Primary Balance of the Federal government deteriorated in a significant way (by about 1.5 % of GDP) during the boom period from the end of 1995 to mid 1998, while there was an important adjustment afterwards (slightly above 1.5% of GDP until mid 2001), punctuated by sub periods of relaxation, mostly during the run to elections at the end of 1999. See Figure 4.4. Later on we will assess to what extent this apparent fiscal deterioration reflects unfunded liabilities in the pension system that were revealed by the pension reform -- that is, to what extent the Federal budget situation was already weak before 1995 and the weakness became explicit when the pension reform was enacted.

Figure 4.4

Current and Structural Primary Budget Balance of Federal Government

(Percentage of potential output and percentage deviation from potential output)



Fiscal impulse estimates, using different methodologies, show indeed a significant expansionary stance of the Federal government during the boom period, followed by progressive adjustment after mid 1998 (except for a few months in the runup to the 1999 election). Figure 4.5 present estimates of the fiscal impulse derived from Figure 4.4, while Figure 4.6 follows Blanchard [25] . The latter represents a less controversial measure of fiscal impulse as it avoids taking a stand on the nature of business fluctuations or on the decomposition technique. It compares actual revenue and expenditures with those that would have happened if the previous year "economic environment" (as described by inflation, real interest rates, unemployment and trend output) had prevailed. As seen from the figures both estimates tell essentially the same story.

[25] Blanchard, O. (1990).

Figure 4.5

Fiscal Impulse of Federal Government
(% change and deviation from potential output)

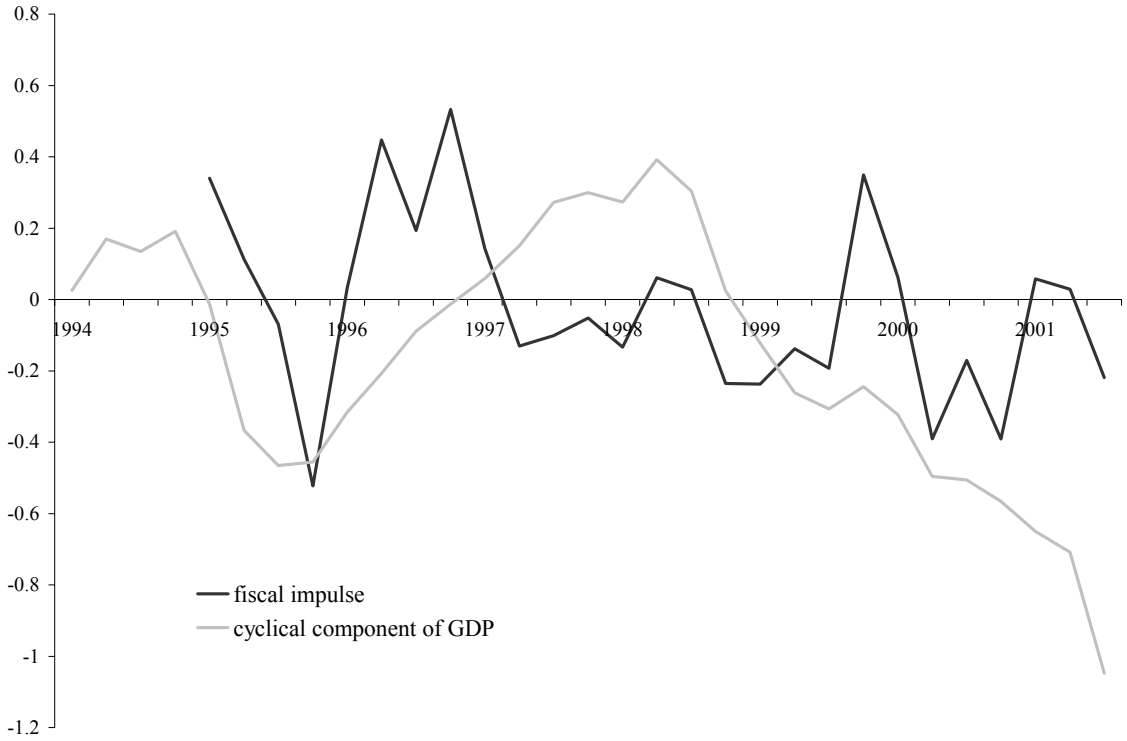
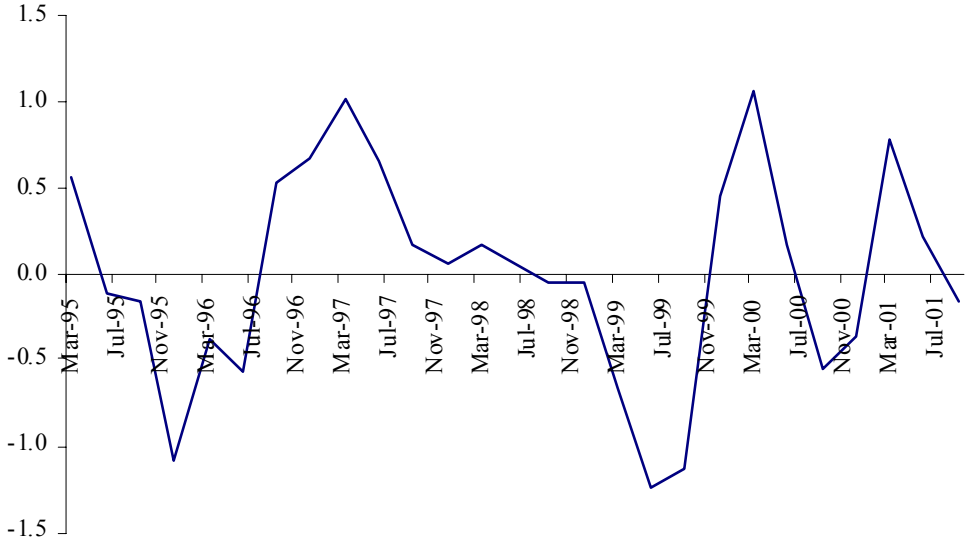


Figure 4.6

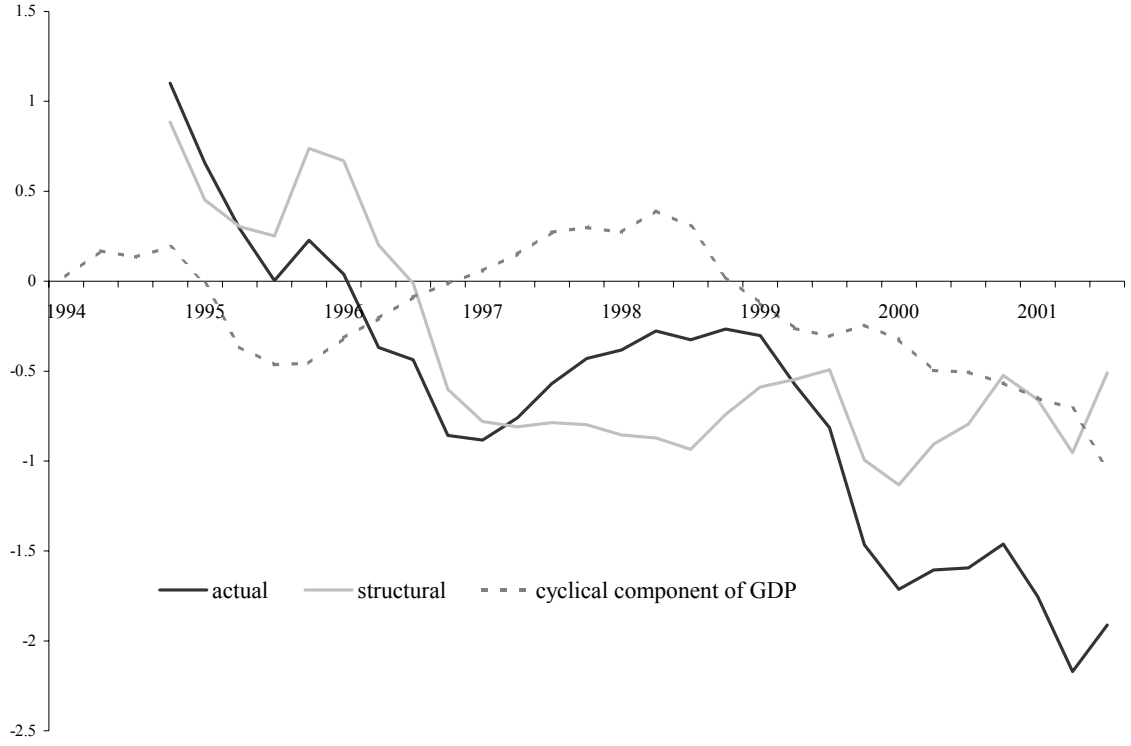
Blanchard's Indicator of Fiscal Impulse
(Percentage of GDP)



More often than not Latin American fiscal problems have originated in booms, when weak fiscal institutions and policy complacency do not facilitate the achievement of surpluses. As a consequence fiscal policy has to be pro cyclical also in bad times, contributing to a deepening of recessions and social tensions -and occasionally ending up in severe fiscal crisis. Argentina in the nineties was no exception to this unfortunate Latin American policy tradition [26].

The adjustment in the structural primary balance that took place after 1998, however, was not enough to compensate for growing interest rate payments, as evidenced by Figure 4.7, which shows how the Federal government's structural overall balance was kept in negative territory (around 1% of GDP) since the end of 1996. Indeed, interest payments increased from around 2% of GDP in 1995/96 to 3.4% in 1999 and 4.3% in 2001. Much of this increase can be attributed to the rise in implicit interest rates on public debt, that accelerated after the Russian crisis and especially in 1999-2000 due to the perceived weakening of Argentine fundamentals, as discussed above. See Table 4.2 . The additional deterioration in the Federal government's overall balance can be attributed to the effects of the slowdown. (Difference between the two solid lines in Figure 4.7)

Figure 4.7
Current and Structural Overall Federal Budget Balance
(Percentage of potential GDP and percentage deviation from potential GDP)



[26] The procyclicality of fiscal policy in LAC has been examined in Gavin and Perotti (1996); Gavin, et al. (1996) and Perry (2002)

Table 4.2
Interest Payments on Public Debt

	Interest Payments on Debt	Change in Interest Burden	Contribution to Change in Interest Burden	
	(Percentage of GDP)	(Percentage of GDP)	Quantity Effect	Interest Rate Effect
1991	2.8			
1992	1.6	-1.1	-0.4	-0.8
1993	1.4	-0.2	0.1	-0.3
1994	1.6	0.1	0.1	0.0
1995	1.9	0.3	0.2	0.1
1996	2.1	0.2	0.1	0.1
1997	2.3	0.3	0.1	0.2
1998	2.6	0.3	0.2	0.1
1999	3.4	0.8	0.4	0.3
2000	4.1	0.6	0.3	0.4
2001	4.3	0.3	0.3	0.0
TOTAL				
1991-2001		1.5	1.4	0.1
1993-2001		2.9	1.7	1.2

B. ***Fiscal solvency assessments***

We turn next to explore debt sustainability. First, we attempt to mimic debt sustainability exercises on the basis of available information in each year. These exercises, as reported in Table 4.3, reveal that declining long term growth projections (influenced by the deflationary adjustment under the hard peg) may have been even more important than implicit public debt interest rate increases in assessing fiscal sustainability. Indeed, assuming that markets assessed long term growth potential based on a (3 and 5 year) moving average [27], the simulations indicate that by the year 2000, and certainly by 2001, debt sustainability was clearly open to question, in the sense that the required primary balance of the consolidated government approached or even exceeded 4% of GDP, a figure that looked unlikely given Argentine fiscal history and institutions. In practice, although fiscal discipline had been a concern for years, it is fair to say that most analysts in investment banks and elsewhere began to seriously question fiscal solvency in these years and not before. It should be pointed out, however, that Argentine economists centered the debate in the electoral year of 1999 on the need for further fiscal adjustment

[27] Of recent and (correctly) predicted short term growth.

and that the Fiscal Responsibility Law was enacted in mid 1999 as a means to guarantee fiscal solvency. Non-compliance with its goals in the run up to the election and afterwards contributed to undermining confidence in solvency.

Table 4.3

Indicators of Fiscal Sustainability

	Average Growth Rate (three preceding year average) (Percentage)	**Implicit Interest Rate on Gov. Debt** (Percentage)	**Consolidated Gov. Primary Balance** (Percentage of GDP)	**Sustainable Balance (a)** (av. growth rate based on last 3 year observations) (Percentage of GDP)	**Sustainable Balance (b)** (av. growth rate based on last 5 year observations) (Percentage of GDP)
1991	0.7	8.6	-0.4	2.7	2.8
1992	5.7	6.2	1.2	0.1	1.4
1993	7.3	5.0	1.5	n.s.p.	0.5
1994	6.5	5.1	0.1	n.s.p.	n.s.p.
1995	2.6	5.4	-0.5	0.8	0.1
1996	2.8	5.6	-1.2	0.9	0.4
1997	3.6	6.1	0.3	0.9	0.6
1998	5.8	6.4	0.5	0.2	0.8
1999	2.9	7.2	-0.8	1.7	2.0
2000	-0.1	8.0	0.5	3.8	2.4
2001	-0.7	8.0	0.3	4.5	3.0

n.s.p: no sustainability problem

The protracted deflationary adjustment to the external shocks imposed by the hard peg to the dollar (as discussed above) had thus a major effect on debt sustainability perceptions, through two channels. On the one hand, by reducing long term growth expectations, and on the other by making further fiscal adjustment more difficult and painful as the ratio of revenues to GDP collapsed. In this context, further tax hikes (as the "impuestazo" in 2000) or expenditure cuts (as during the second half of 2001) aggravated the recession and subsequent social and political tensions.

Even more, the observed adjustment in the structural primary balance was clearly insufficient if we take into account both the direct and indirect effects of exchange rate overvaluation since 1997 on the balance sheet of the government. Our calculations indicate that in year 2000 the overvaluation of the exchange rate, estimated above, implied that the conventional accounting measures of public debt to GDP ratio had become undervalued by at least 40%, as most of public debt was denominated in dollars while Government assets (mostly its capacity to tax) was not. Even if the Currency Board had not collapsed, the required REER adjustment –through a deflationary process- would have eventually revealed the reduced capacity of the Government to pay back its debt and would have required an additional primary surplus of about 2% of GDP yearly to avoid

explosive debt dynamics. See Table 4.4. **The peg actually hid from public view this sharp deterioration of the fiscal position and made it more difficult to elicit political support for an additional adjustment**.

In the same vein, even if the Currency Board had not collapsed, households and firms in non tradable sectors would have suffered severe financial stress through the required REER adjustment, as their capacity to repay their dollar and peso debts would have been eroded through the deflationary adjustment. This would have had a major impact on the quality of bank portfolios and the Government would have been faced with significant fiscal contingencies (though probably not as large as happened after the nominal devaluation). These issue is further discussed in Section V below.

Table 4.4

Fiscal Sustainability and the Exchange Rate

	Equilibrium REER Index	**Debt-Output Ratio**	**Debt-Output Ratio Adjusted for RER**	**Sustainable Balance Adjusted for RER** (Percentage of GDP)	**Sustainable Balance** (avg. growth rate based on last 3 years) (Percentage of GDP)	**Consolidated Government Primary Balance** (Percentage of GDP)
1991	0.88	0.32	0.28	2.1	2.7	-0.4
1992	0.92	0.26	0.24	0.1	0.1	1.2
1993	0.98	0.29	0.28	n.s.p.	n.s.p.	1.5
1994	0.96	0.31	0.30	n.s.p.	n.s.p.	0.1
1995	0.93	0.35	0.32	0.8	0.8	-0.5
1996	0.98	0.37	0.36	0.9	0.9	-1.2
1997	1.06	0.38	0.40	0.9	0.9	0.3
1998	1.16	0.41	0.48	0.2	0.2	0.5
1999	1.35	0.47	0.64	2.0	1.7	-0.8
2000	1.42	0.51	0.72	5.2	3.8	0.5
2001	1.56	0.54	0.84	6.3	4.5	0.3

n.s.p.: no sustainability problem. The growth rate of the economy greater than the interest rate.

As mentioned before, it is important to observe that a fraction of the cyclically adjusted deterioration in these years was due to the medium term cash costs of pension reform (see Figure 4.8), which aimed at improving the long term structural fiscal position of the country in the first place. Pension reform just revealed a hidden public sector debt (just like nominal devaluation in 2002 revealed the true volume of explicit public debt), which was kept out of sight by the former Pay as You Go System (just like the hard peg did after 1997 with conventional debt). Thus, the Argentine fiscal situation up to 1994 was worse than shown by the published figures. Strictly speaking, the same is true for any other LAC country that has not undertaken pension reform[28]. In this sense, it must be

[28] As mentioned before, in Argentina the hidden liabilities also refer to Provincial pension systems, which were absorbed after 1995 by the Federal Government.

concluded that fiscal imbalances (both explicit and implicit) were prevalent during the whole decade.

Nevertheless it is also important to note that only part -- around 1 percent of GDP -- of the observed increase in net Social Security transfers (Figure 4.8) was due to the reform. The rest resulted from a reduction in employers' contributions and other factors.[29] Furthermore, such figure of 1 percent of GDP is small relative to the extent of the fiscal correction that would have been required to address the fiscal sustainability problem identified in the previous tables. In other words, the finding that public finances were headed for insolvency after 1999 stands irrespective of whether the reform-induced increase in Social Security transfers is included or excluded from the analysis.

Yet the fact that the reform led to a higher measured fiscal deficit still carries a lesson. From the economic, as opposed to accounting, perspective, the higher deficit had existed all along, and the 'lifting of the veil' just put it in the open. But the conversion of the implicit into explicit debt did impact on two dimensions, however. First, public sector financing needs were raised by the amortization of the newly-recognized debt -- as measured by the benefits that the public sector had to keep on paying -- and this entailed additional demands on domestic and/or foreign financial markets. Second, market perceptions of Argentina's fiscal position were affected as well, to the extent that markets may not have seen fully through the veil separating explicit from implicit government debt.

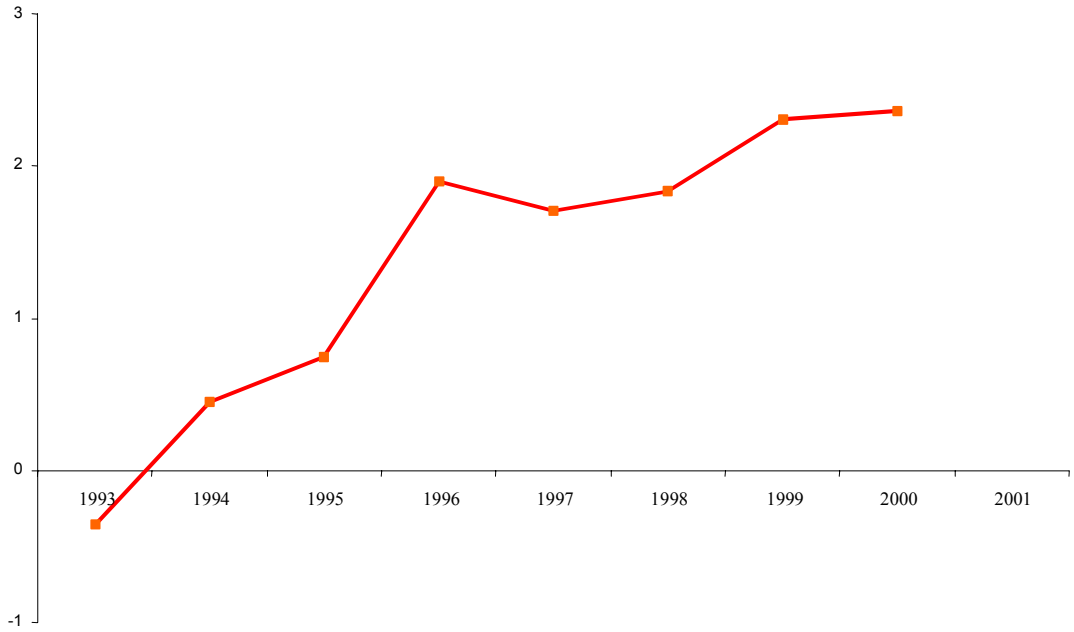
The lesson is that extra care is needed about the market consequences of revealing and floating hidden pension liabilities: in particular, we must recognize that even if doing so improves the long term fiscal position, it must be accompanied by further fiscal adjustment in the short term (to absorb at least part of the increased medium term cash deficit) and good instruments of long term domestic debt.[30] With the benefit of hindsight the boom years from the end of 1995 to mid 1998 were a major lost opportunity to correct the fiscal imbalances that had been revealed by the pension reform (and by the Tequila crisis).

[29] Even more, there are still some hidden liabilities in the system; see Machinea's data on Argentina and Tejeiro (2001).
[30] Other noticeable examples are Bolivia and Colombia.

Figure 4.8

Social Security Net Transfers

(Percentage of GDP)



Finally, we explore to what extent fiscal imbalances contributed to the persistent current account deficits of the nineties. The large current account gaps posed two threats: they increased vulnerability to capital flow reversals, and also added to the overvaluation of the currency – since, as we found above, part of the peso overvaluation can be traced to a deterioration of the net foreign asset position of the country.

As Figure 2.4b showed, the Argentine economy ran sizable current account deficits throughout the decade. What were the contributions of the private and public sectors to this overall imbalance? This is shown in Figure 4.9, which depicts the current account balance along with the overall fiscal balance of the consolidated government (exclusive of privatization revenues) and the private sector surplus – with the latter defined as the difference between the current account and the fiscal balance.

The figure shows that both the private and public sectors exhibited sizable imbalances over the period under analysis. But after 1994, the private sector exhibited a deficit only in the boom years of 1997-98. Except in those two years, the public sector's

budget position was weaker than that of the private sector. By 1999 the latter had moved to a position of surplus, while the former continued to show a large deficit.

Figure 4.9

Current Account and Private and Public Saving Rates
(Percentage of GDP)

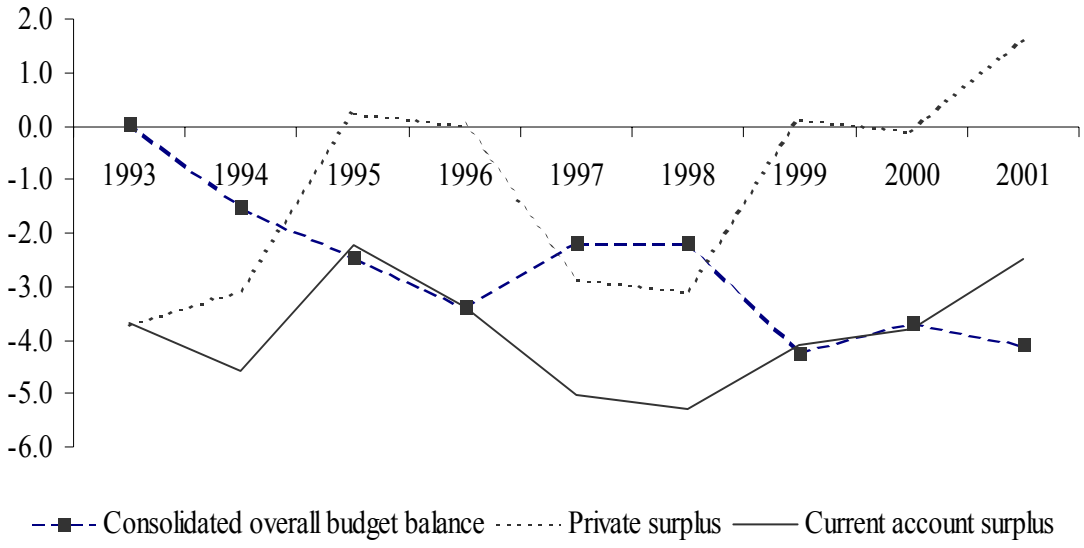


Figure 4.10

Private Savings and Investment
(Percentage of GDP)

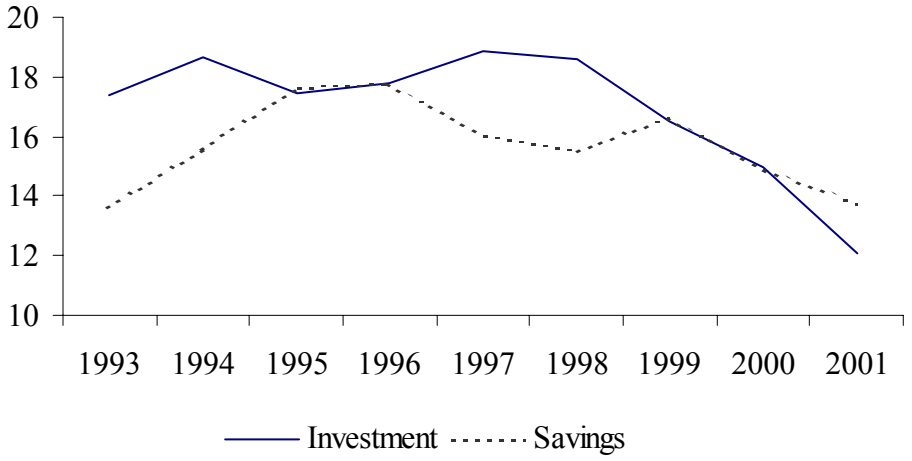


Figure 4.10 disaggregates the overall budget balance into government revenues and expenditures -inclusive of interest payments. Revenues and expenditures are highly correlated, a feature that reflects the failure to operate of automatic fiscal stabilizers. This is even more evident when government expenditures are adjusted to exclude interest payments on domestic debt, as shown in the figure.

In summary, was Argentina's foreign debt build-up process dominated by the public or the private sector? Table 4.5 shows that the economy's total external debt increased from 27.7% to 58.3% of GDP between 1993 and 2001. About one-third of this change reflects higher public indebtedness, while the rest (2/3) seems to have resulted from aggressive private sector borrowing abroad. Indeed, private external debt increased from 5.6% of GDP to 25.5% during the period. One could view this as evidence that the private sector, rather than the public sector, was the primary culprit of the accumulation of net foreign liabilities.

However, at the same time the public sector was borrowing massively from the private sector in the domestic capital market (see table 4.5). Indeed, while the foreign public debt / GDP ratio showed little change after 1998, domestic public borrowing rose by over 10 percent points of GDP. This effectively means that the private sector was borrowing abroad on behalf of the government. As the government was putting pressure on domestic financial markets, the private sector was forced to resort to external markets to meet its financing needs.

In conclusion, Argentina's large external imbalances and the deteriorating net foreign asset position reflected the action of both the private and public sectors at different times. During the boom of 1997-98, the private sector was the one showing the larger imbalance. But the absence of a counteracting effort on the part of the public sector in those years (especially after part of the hidden liabilities in the pension system had already become explicit as a consequence of pension reform) represented a missed opportunity for setting the government's and the country's finances on a firmer footing. In turn, after 1998 the expanding saving-investment gap of the public sector was the main force at work behind the escalating foreign liabilities of the Argentine economy.

Table 4.5

External Debt
(Percentage of GDP)

	Total External Debt	Consolidated Government Debt			Nonfinancial Private and Financial External Debt	Private External Debt Net of Gov. Bond Holdings
		Total	Of which			
			External	Domestic		
				(a)	(b)	(c)=(b)-(a)
1993	27.7	28.7	22.1	6.6	5.6	-1.0
1994	29.6	30.9	23.5	7.4	6.1	-1.3
1995	39.0	34.8	26.8	8.0	12.1	4.2
1996	41.8	36.6	27.3	9.3	14.5	5.2
1997	44.8	38.1	28.2	9.9	16.6	6.7
1998	48.6	41.3	30.5	10.8	18.0	7.3
1999	53.6	47.4	33.2	14.2	20.4	6.2
2000	54.0	51.0	33.9	17.1	20.1	3.0
2001	58.3	54.1	33.2	20.9	25.1	4.2

V. THE BANKING SYSTEM: LARGE VULNERABILITIES BEHIND A STRONG FAÇADE

A. Strengths

Hyperinflation and deposit confiscation at the end of the eighties[31] wiped out confidence in the peso and domestic financial intermediation. After Convertibility was enacted, a major effort was launched to recreate a solid financial sector mostly based in dollar-denominated deposits and loans. In 1995 Tequila contagion led to a run on 18% of total deposits and to systemic illiquidity which, in the absence of a domestic lender of last resort, required prompt support from the IFIs to avoid a collapse of the banking and payments systems. The authorities responded by "building" a large liquidity buffer and through other ambitious reforms in order to consolidate a highly resilient financial system. Results were impressive. By 1998 Argentina ranked second (after Singapore, tied with Hong Kong, and ahead of Chile) in terms of the quality of its regulatory environment, according to the CAMELOT rating system developed by the World Bank [32] See Table 5.1 .

Table 5.1

Camelot Ratings for Banking System Regulation

Country	Total Score*
Singapore	16
Argentina	21
Hong Kong	21
Chile	25
Brazil	30
Peru	35
Malasya	41
Colombia	44
Korea	45
Philippines	47
Thailand	52
Indonesia	52

*Lower numbers indicate better ranking

Source:World Bank. Argentina Financial Sector Review (1998)

[31] The so-called Bonex plan instituted in 1989.

[32] The CAMELOT index combined separate rankings for capital requirements (C); loan loss provisioning requirements and definition of past-due loans (A); management (M), defined by the extent of high-quality foreign bank presence; liquidity requirements (L); operating environment (O) as measured by rankings with respect to property rights, creditor rights, and enforcement; and transparency (T), as measured by whether banks are rated by international risk rating agencies and by an index on corruption. Argentina ranked 1 for C (tied with Singapore), 4 for A, 3 for M, 4 for L, 7 for O, and 2 for T. For further discussion see World Bank (1998).

The banking system was apparently in a very solid position not only by 1998, before the Brazilian devaluation of January 1999, but also afterwards and through the end of 2000, despite the post-1998 continued economic contraction. In effect, through the year 2000 conventional indicators of financial health depict a well-capitalized, strongly provisioned, and highly liquid banking system, although it was experiencing losses and increasingly burdened by bad loans after 1998.[33] See Table 5.2. The banking system's prudential buffers were sufficient to enable it to withstand sizeable liquidity and solvency shocks—including a flight of more than one-third of the system's deposits as well as a sudden and complete default in up to 10 percent of the loan portfolio—without endangering the convertibility system.[34] The important presence of reputable foreign banks in the domestic system (they accounted for over 70 percent of total banking assets in 2000) was broadly perceived to implicitly augment these liquidity and solvency cushions. See Table 5.3. These banks were expected to stand behind the capital and liquidity of their affiliates in Argentina, at least in the context of bad states of the world associated with bad luck (few were thinking then of bad states of the world caused directly by confiscatory government policy).

Table 5.2

Selected Banking System Indicators
(Percentages at end-year)

	1997	1998	1999	2000
Net Worth/Assets	12.11	11.44	10.72	10.52
Capital / Risk Weighted Assets	18.13	17.64	18.56	21.18
Non Performing Loans/Total Loans (a)	8.23	5.98	7.14	10.21
Provisions/Total Loans	7.70	7.10	7.82	8.65
Provisions/Non Performing Loans (a)	108.64	140.40	122.25	77.13
Systemic Core Liquidity (b)	42.98	39.58	40.89	38.69
Return on Equity before Provisions	22.59	10.61	8.43	7.76
Return on Equity after Provisions	7.41	-2.24	-6.71	-9.42
Return on Assets after Provisions	1.04	-0.27	-0.77	-1.01
Leverage Ratio (not in precent)	6.11	7.26	7.74	8.33

Source: Central Bank of Argentina
(a) Non performing loans is defined as the sum of loans with problems (category 3), loans with high risk (category 4) and non-recoverable loans (categories 5 and 6)
(b) Defined as the ratio of international reserves of the Central Bank in foreign currency and other liquidity requirements held abroad, and total deposits

[33] Profits had turned negative already in 1998, and became deeply negative during 1999-2000 mainly because of the need to constitute provisions in the face of rising bad loans. NPLs spiked to 10.2 percent of total loans in 2000, from 7.1 percent the year earlier, and the increase in provisions started to lag behind (Table 5.3).

[34] Table 5.3 puts systemic core liquidity (disposable international reserves of the central bank plus foreign exchange in cash or near-cash held abroad by banks) at above 35 percent of banking system deposits. However, there was a significant variance in the distribution of such liquidity across banks. This may explain why the "corralito" was imposed at the end of 2001 before deposits had fallen by 30 percent.

Table 5.3

Consolidation and Internationalization of the Banking System

	Dec.1994	Dec. 1998	Dec.2000
Number of total banks	166	104	89
Foreign banks			
Number of banks	31	39	39
Number of branches	391	1,535	1,863
Share of total assets (%)	15	55	73
Number of public banks	32	16	15

Source: Central Bank of Argentina

B. *Vulnerabilities*

As the policy intent was to reinforce the viability of convertibility, it made no sense for the authorities to issue prudential norms that would dissuade the use of the dollar in financial contracts *per se*. To be sure, the markets did not take the permanence of the Currency Board completely to heart—the peso problem continued throughout the 1990s, as evidenced by the always positive "currency risk" implicit in forward contracts, spiking during turbulent times. See graph 5.1. But the authorities could not signal the possibility of a *nominal* devaluation through prudential norms without undermining their own quest to raise the credibility of convertibility above all doubts. The hard peg and prudential regulation thus contributed to keep a high share of dollar deposits and dollar loans in the domestic financial system. See Figure 5.2. The share of dollar deposits increased after the Russian crisis and the Brazilian devaluation and specially after mid 2001 as expectations of devaluation soared.

Figure 5.1

Anticipated devaluation implied by the 30-day NDF discount -- up to 3/15/01

(at different perceived probabilities, percentage)

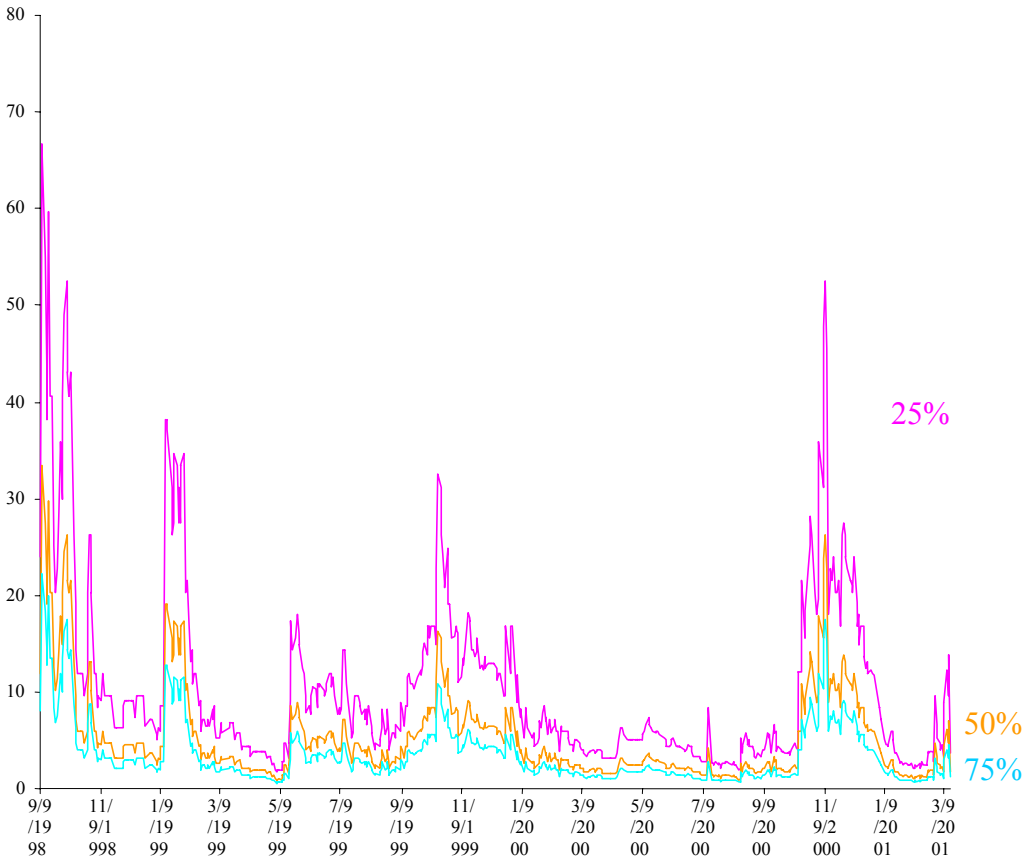
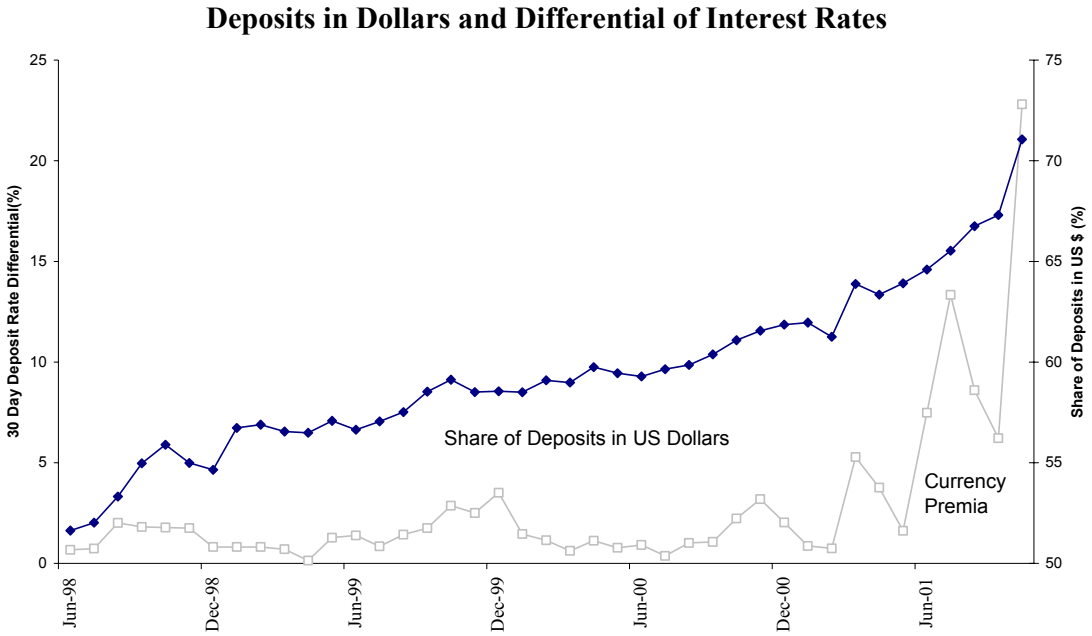


Figure 5.2



Source: Deposits from Ministerio de Economía. http/www.mecon.org, 30 day deposit interest rates in pesos and dollars from Bloomberg
Currency premia is defined as the difference of domestic interest rates in pesos and US dollars

It was thus no secret that a disorderly breakdown of the rule of one-peso-one-dollar would wreck the banking system and this was the main reason why many Argentine economists and external analysts preferred an exit from the Currency Board towards full dollarization, instead of towards a flexible exchange rate regime and a monetary anchor –and some still hold to this view-.

However, with the benefit of hindsight we can now identify at least three crucial vulnerabilities in the financial sector and weaknesses in the regulatory framework, even in the hypothesis that the Currency Board was to be permanent. The shortcomings relate to:

- the link between debtor capacity to pay and the deflationary adjustment to a more depreciated equilibrium real exchange rate;
- the growing exposure of the banking system to government default; and
- the insufficient realization that *general* liquidity buffers, even if high, do not adequately protect the payments system from a run.

The first vulnerability had to do with credit risk—the latent non-performing loans (NPLs) in the context of a misalignment of the *real* exchange rate (RER) relative to a more depreciated *equilibrium* level. As mentioned, it is estimated that, by the year 2001, the Argentine RER was overvalued by about 55 percent. Under convertibility, the

adjustment of the RER towards equilibrium was bound to imply a protracted and painful deflation and recession, which would have certainly eroded the capacity to pay of debtors whose earnings came from the non tradable sector.[35] Hence, the first prudential shortcoming was the failure to recognize the special risk of loans to debtors in the non tradable sector—a credit risk that would materialize in the event of significant adverse shocks that led to a deflationary adjustment. Taking the one-peso-one-dollar rule as a given, it would have been advisable for the authorities to require relatively more provisions (or a higher weight for the purposes of measuring capital requirements) in the case of loans to the non tradable sector, regardless of whether the loans were peso or dollar denominated.[36]

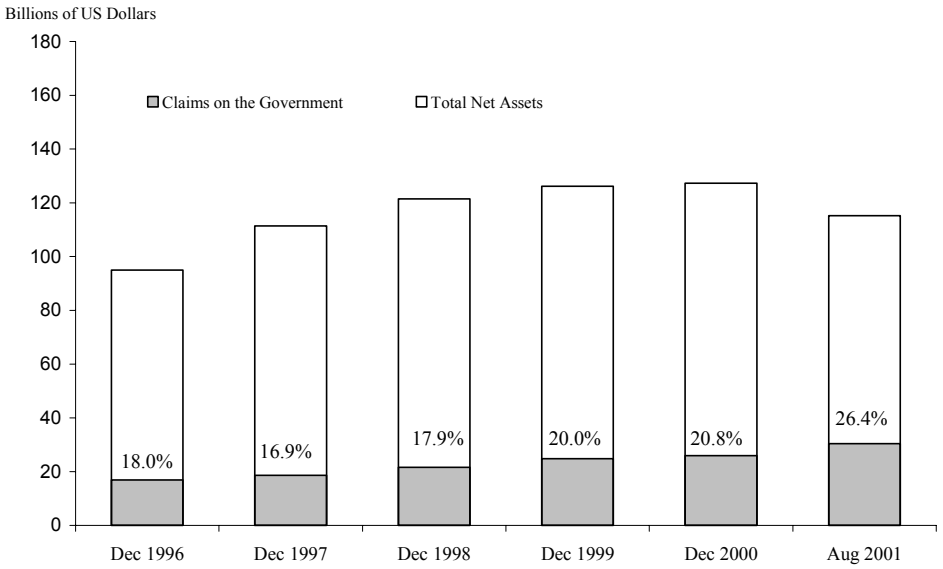
The second vulnerability and prudential shortcoming also had to do with credit risk, but derived from exposure to Government risk. It consisted in the failure to isolate the solvency of the banking system from the solvency of the government. In countries with recurrent fiscal problems, as Argentina, it appears worthwhile to endeavor to de-link financial system solvency from fiscal solvency, through the use of prudential norms. The authorities moved in this direction belatedly, in 2000, when they introduced mark-to-market requirements for government bond holdings and established a positive weight for loans to the government for the purposes of determining capital requirements. It would have been advisable to complement this prudential approach by not allowing government securities to count as part of the assets eligible to meet liquidity requirements. In this manner, the stability of the banking system and the viability of convertibility would have been better insulated from the vagaries of the fiscal process, including an event of government debt default. Direct exposure of banks to Government risk was not high until 2000 –less than 20% of total assets. However, in 2001 the Government began to fund itself using available liquidity in the banking system in response to increasing external borrowing constraints (see Figure 5.3 and Section VI). Other components of the financial system, most notably private pension funds, had even higher exposure to Government risk.

[35] By contrast, in a country with a flexible exchange rate (i.e., where a fixed parity is *not* part of the social contract) and *without* a liability dollarization problem, the adjustment to a more depreciated equilibrium RER would come through a nominal depreciation, which would be associated with an *improvement* (through debt dilution) in the capacity to pay of debtors in the nontradable sector.

[36] Given that information asymmetry problems in buoyant times lead to rising bank exposure to the nontradable sector without adequate internalization of risks, a system of counter-cyclical loan-loss provisioning requirements, like the one established at end-1999 by the Bank of Spain Bank of Spain (Circular No. 9/1999 of 17 December 1999), could have been adapted in Argentina to address risks in loans the nontradable sector. Such a system requires a build up of counter-cyclical provisions in good times (thereby curbing excessive dividend distributions in good times), which are turned into specific provisions in bad times (without passing through the income statement) as the loan portfolio decays.

Figure 5.3

Argentina's Financial Sector: Exposure to Public Sector



*Total net assets correct for double counting on repos. Claims on the government include public bonds in foreign and local currency and loans (net of provisions) to public sector in local and foreign currency. Source: Central Bank of Argentina.

The third vulnerability and prudential regulation shortcoming relates to the insufficient realization that *general* liquidity safeguards, even if high, do not adequately protect the payments system from a run. To be sure, high liquidity requirements, as those in effect in Argentina during the second-half of the 1990s, enhance the resiliency of the banking system—they cushion the system vis-à-vis liquidity shocks and deter runs, thereby, reducing the scope for multiple equilibria. Thanks to its liquidity requirements, the Argentine banking system withstood a prolonged and severe process of deposit withdrawal during 2001. At the same time, however, the Argentine experience illustrates that once a run is underway, relaxing liquid reserve requirements can have adverse signaling effects that exacerbate the run on the peso (instead of spurring credit growth as Minister Cavallo had wrongly hoped[37]), further weakening confidence.

Moreover, Argentina illustrates that, as confidence collapses, a *general* liquidity requirement (available to all deposits) fails in its most basic intended function—it does not protect the payments system. The lesson is sobering. In the absence of a credible lender of last resort, the payment system is vulnerable and can collapse under a run even where liquidity is high but still a fraction of deposits and equally available to pay *any* deposit withdrawal. It thus would appear that, under a currency board and formal dollarization, the protection of the payment system from bank runs may actually require some form of a narrow-banking structure. That is, a structure where there is full liquidity

[37] Many analysts actually cautioned about the potential negative effects of this move, and the extent of the reduction was a major cause of dispute between the Central Bank and the Government.

backing for transaction balances (demand deposits). Liquidity would be earmarked to these balances and thus able to preserve the functioning of the payment system (and avoid deposit freezes and interruptions of the payment system) even in the extreme scenario where banks are unable to honor withdrawals of time deposits.

VI. POLICY OPTIONS BEFORE AND AFTER 1999

A. *The Argentine via crucis: policy under the De la Rua Government and beyond.*

Right from the beginning, the De la Rua administration (which assumed power in December 1999) was caught in a trap of low growth, high and increasing rolling debt requirements, overvalued and constrained exchange rate. The government's strategy to break free from this trap focused on reviving growth while reducing the fiscal imbalances, although the means to achieve this objective changed dramatically after April 2001, when Mr. Cavallo took the post of Minister of Economy (See Annex 1). During 2000, growth resumption was sought indirectly—trying to regain investor confidence through fiscal adjustment. It was hoped that improved confidence would eventually lead to lower interest rates, more capital inflows and growth, making the debt and current account sustainable. To be sure, the authorities also tried to address the problem of currency overvaluation directly, through the flexibilization of labor markets –though the passage of labor reform through Congress was linked to a bribery scandal that led to the resignation of the Vice President, thus further aggravating confidence problems and weakening governance. In addition, as confidence was not restored and growth failed to pick up, the authorities shifted their attention towards calming fears of a possible debt default. The December 2000 IMF package (US$40 billion) was negotiated with this latter objective prominently in mind. However, none of these actions achieved the expected results and hopes of reviving growth faded away.

Minister Cavallo brought his prestige to attempt the rescue. He also focused on rekindling growth, but this time more directly, through heterodox measures (in addition to enacting a revenue enhancing financial transactions tax). These included imposing a tax on imports and subsidizing exports (a fiscal devaluation for trade flows), lowering reserve requirements, and announcing the eventual peg of the peso to the dollar *and* the euro (with equal weights), once these two currencies reached parity. With hindsight, it is clear that this growth-focused strategy, particularly in Cavallo's heterodox version, was naïve. Not only did it fail to yield growth, it also increased uncertainty about the two other components of the trap, namely the debt rollover and the currency arrangement. The trap thus tightened.

Doubts about convertibility soared—the one-peso-to-one dollar rule had already been broken through the back door for trade transactions and could be easily broken also for financial transactions. We examine below to what extent these doubts were the trigger of the crisis, as some observers have claimed. Perhaps more importantly, the government procrastinated in taking a decision on the debt front. Instead of recognizing that debt restructuring was becoming a necessity following the failed attempts to restore confidence and growth, the government averted debt service arrears by draining the financial system's liquidity.[38] This increased the financial system exposure to a

[38] Amendments were introduced to allow banks to hold a larger proportion of required liquidity in the form of claims on the government. The $___ million bond issued in July 2001 was mainly placed with banks

government default and heightened concerns about a potential abandonment of the currency board -- as choices to finance the deficit through debt rapidly shrank, the specter of money printing loomed bigger.

In the process, the future of public finances, of the banking system, and of the currency became tightly linked. This link foreshadowed the catastrophe—a disorderly abandonment of the one-peso-one-dollar in an economy with widespread balance sheet vulnerabilities (i.e., dollar debts of non-dollar earners) both in the public and the private sector. As a result, the little confidence that remained was splintered, and the crisis exploded as investors and depositors ran for the exit, forcing a deposit freeze (the "corralito"[39]) and a change in government.

We examine briefly the question if it was a growing perception of "currency risk", associated with "news" that might have put into question the permanence of the Currency Board and thus of the banking system, what led to a perception of fiscal un sustainability, given the large fiscal contingencies associated with a nominal devaluation, as frequently argued. We saw above that such contingencies were a consequence of a misalignment of the REER, irrespective of whether its correction was to happen trough deflation or through a nominal devaluation, but market perceptions seem to have been concerned only (or mostly) with the latter. In addition, it can be argued that the fiscal contingency associated with the debts of households and firms in the non tradable sector would have been much larger under a nominal devaluation, both because under a gradual REER deflationary correction economic agents would have had more time to capitalize and recompose their balances, thus limiting the wave of bankruptcies, and because it was likely that floating the exchange rate would have led to an overshoot in these circumstances. This situation would have constituted a textbook case of a dual equilibrium and such "news" could have acted as the trigger from a bad to a worse equilibrium.

Figures 6.1 and 6.2 below indicate that "news" that could affect perceptions about the permanence of the Currency Board (the announcement of changes in the peg, the Convergence factor, the ousting of the President of the Central Bank, the changes in the liquidity reserve requirement of Banks) did indeed provoke a significant increase in currency risk, followed by an increase in country risk, but that these effects were transitory (both currency and country risk returned after a while to a level similar to the one before the "news"). Irreversible effects began to appear by July 2001 and became exponential since November 2001. Large deposit runs also occurred at these two dates. See Figure 6.3. In July 2001 the Government was for the first time not able to roll domestic debt at a reasonable spread and a large deposit outflow ensued [40]. It is not fully clear what precipitated this event. It appears that by then the fate of Government

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and pension funds in Argentina . By August 2001, 15 percent of the "liquidity" that banks were required to hold was in the form of the July 2001 bond.

[39] The fact that the imminence of the crisis lasted several months made the crisis worse because depositors (mostly large and informed ones) had time to withdraw around 18 percent of the deposits, leaving only small depositors in the system.

[40] A smaller outflow had happened in March after the demise of Ministers Machinea and Lopez Murphy.

solvency, the banking system (whose liquidity had been drained in favor of extending finance to the public sector) and the Currency Board were inextricably intertwined, as discussed above. The "news" in November were related to the fact that it became plainly clear that the international financial community and the IMF were not willing to continue supporting the current Argentine program.

Figure 6.1

Currency and Country Risk
(1999 – 2002)

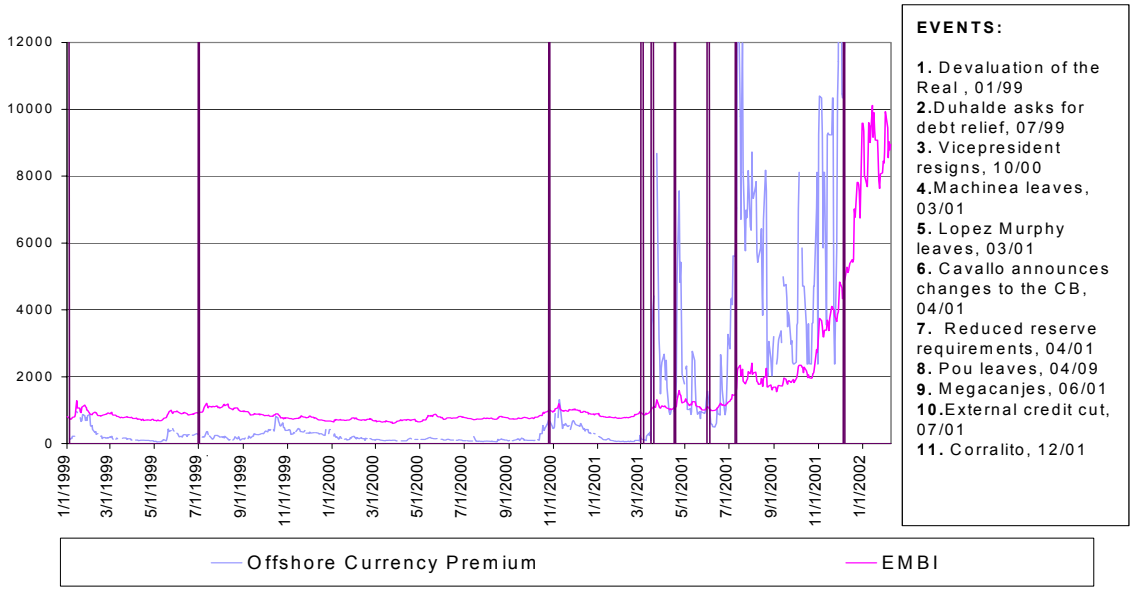


Figure 6.2
Currency Risk and Country Risk (2001 – 2002)

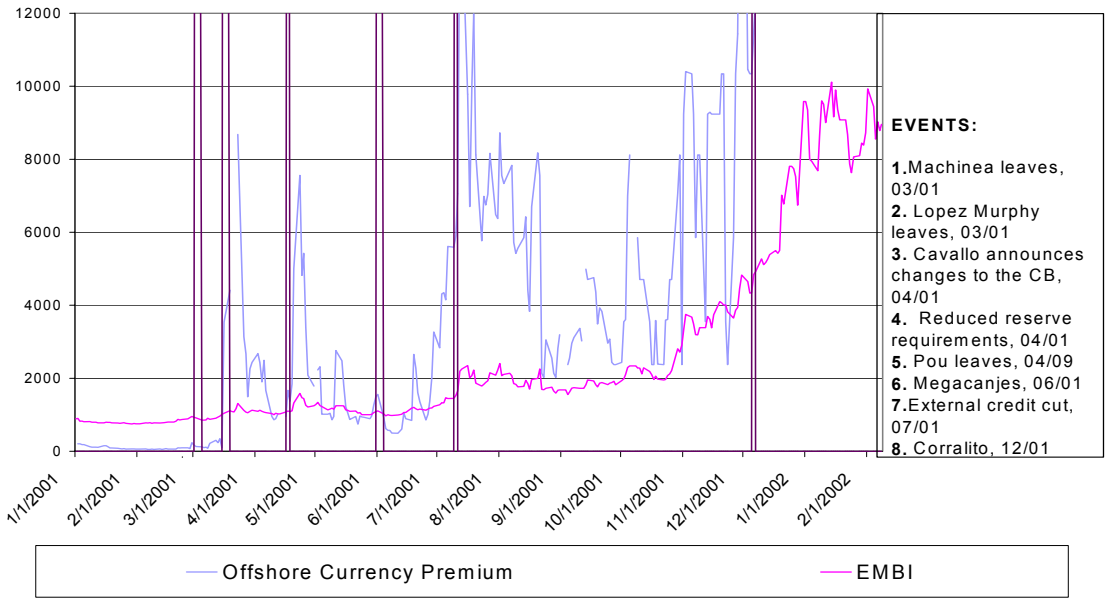
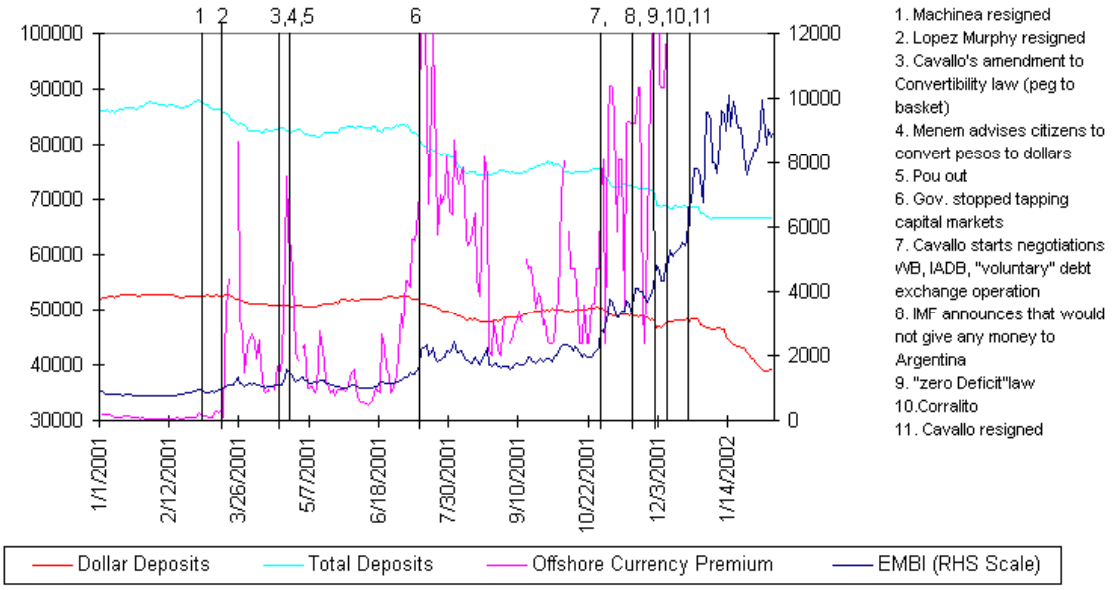


Figure 6.3

Currency Risk, Country Risk and Deposits in Peso and Dollar (2001-2002)



B. *Policy dilemmas and options*

We now return to the discussion of the harsh policy dilemmas that Argentine authorities confronted after 1998. Keeping the hard peg, that had served so well until then, required a protracted deflationary adjustment to bring back the REER to equilibrium, given the large degree of overvaluation that had developed as a consequence of adverse external shocks and insufficient price flexibility, as well as the deterioration of the economy's net foreign asset position. This deflationary adjustment would have reduced the debt repayment capacity of households and firms – especially those in the nontradable sectors -- and, together with the long recession, deteriorated the loan portfolio of banks. It would have also reduced the debt repayment capacity of the Government, increasingly raising the doubts about debt sustainability and requiring large expenditure cuts, faced with declining revenues. The harsh fiscal adjustment that had to be unavoidably imposed to restore solvency would also add to the recession, further complicating the adjustment for households, firms, banks and the Government. Argentine fragile institutions –both economic and political- were to be put to a major test.

Accelerating the required REER depreciation, in order to shortcut such a protracted and painful deflationary adjustment, would have required a large nominal devaluation. This, however, would have brought immediately to bankruptcy a large number of households and firms in the non tradable sector with dollar denominated debts,

suddenly deteriorating bank portfolios. Public debt to GDP would have ballooned and the Government might have found itself suddenly cut out from credit. Although all these effects would have happened gradually anyhow under the hard peg, the abruptness of the balance sheet effects might have precipitated an even larger wave of bankruptcies than in the alternative scenario and, as a consequence, the insolvency of the banking system and a major deposit flight. A plain devaluation in an economy with such large balance sheet mismatches in both the public and private sector would in all probability have led to an immediate banking and fiscal crisis –as many analysts, us included, predicted at the time.

What were the alternatives? The authorities might have attempted an earlier forced *pesification* of all domestic contracts before devaluing, in order to limit adverse balance sheet effects of the devaluation to firms in non tradable sectors with foreign debts and to the Government foreign debt, thus largely protecting the financial sector. However, forcefully breaking dollar deposit contracts would in all probability have led to a major deposit flight and would have required a deposit freeze in order to protect the payment system. In addition, this option would have demanded significant efforts to restore confidence in the peso as a store of value and achieve credibility in the new monetary authorities and the creation of an alternative anchor to the hard peg. The disorderly way in which this process was actually conducted, the increased financial sector exposure to Government debt, the widespread violation of property rights through arbitrary asymmetric *pesification* and discriminatory practices, the maintenance of a deposit freeze for a long period of time with changing rules and high uncertainty about the actual possibility of recovery, the almost unlimited lender-of-last-resort support to the weakest banks (instead of confronting the need for their resolution through equity injections or liquidation), all contributed to magnify these –to some extent unavoidable- adverse effects.

The authorities might have accepted the need of a protracted deflationary adjustment and gone the opposite route, establishing full dollarization, in order to eliminate currency risk and hopefully obtaining a reduction in interest rates and thus somewhat limiting the duration of the recession and alleviating the required fiscal adjustment. This would have been the option with lower short term costs –if it had been politically viable. However, it would have left Argentina liable to similar episodes in the future, where large adverse external shocks would have required long protracted deflationary adjustments. To minimize these potential future costs, the authorities would have had to engage in significant fiscal strengthening (not just to protect solvency, but more broadly also to provide some room for counter cyclical fiscal policies), stricter prudential regulations (probably leading to a form of narrow banking, harder provisioning or capital requirements to lend to households and firms in non tradable sectors and a "firewall" between banks and the Government) and considerable flexibilization of labor and other domestic markets (including utilities). Those actions would have had salutary effects also under a future floating exchange rate regime, but were sorely needed under a hard peg or dollarized economy.

Obviously any of these alternative courses would have been easier and less costly before solvency doubts had arisen. The "best" period for an orderly exit into either

pesification and floating or full dollarization would have been the boom years of 1996/97. Any of these courses of action should of course had been accompanied by fiscal tightening (instead of the fiscal expansionary policy at the time) and considerable institutional strengthening (to permit a credible monetary policy in the first case; to reduce the deflationary consequences of future adverse external shocks in the second one). However, this was precisely the time when everything was going fine, nobody was asking for a change and it might have been difficult to get political support for a major shift of policy and institution building. This is by no means a new finding: we have always known that exiting an exchange rate regime should be done in good times, precisely when nobody sees the need for the exit. Still, it would have been convenient at least to strengthen the fiscal position – instead of the structural weakening that was taking place, even after the pension reform and the recognition of other hidden liabilities had revealed the true extent of the fiscal problems- as well as to adopt even stricter prudential regulations in the boom period.

As mentioned in the Introduction, these hard choices were just a reflection of a deep structural problem. On the one hand, the Argentine trade structure made a peg to the dollar highly inconvenient –from a real economy point of view. On the other, the strong preference of Argentineans for the dollar as a store of value –since the hyperinflation and confiscation experiences in the eighties- had led to a highly dollarized economy in which a hard peg or even full dollarization seemed a reasonable alternative –from a financial point of view. Facing such a dilemma, the authorities either succeed in restoring confidence in the peso as a store of value –so that a floating exchange rate regime and a monetary anchor have a fair chance of success-; or else they will have to opt for full dollarization, achieve enough market flexibility and adopt an especially strong fiscal stance and strict prudential regulation, so that the economy is able to adjust in less painful ways to adverse external shocks in the future. In either case they will have to build stronger and more resilient institutions. After the recent confiscation of deposits and forced breach of contracts, to restore confidence in institutions, in the peso and the financial system –under whatever exchange rate regime and monetary arrangements- will be a major challenge. Most likely Argentina will have to move forward for a while with some form of narrow banking– a situation which will give an extra premium to the development of a sound capital market and to restoring prompt access to external credit. Deep crises, however, offer the opportunity for bold changes and we can only hope that the Argentine society grabs the chance to construct stronger institutions than those of the past and a more resilient economy, free of the major vulnerabilities and harsh dilemmas that characterized the one that has just collapsed.

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Annex 1

Argentina's Via Crucis

- When President De la Rua took power in December 1999, the country was already in recession and the public debt had reached high levels.
- The government tried to gain confidence by doing a fiscal adjustment.
- The fiscal adjustment did not bring growth.
- On the other hand, the recession deepened and doubts about debt sustainability were raised once more.
- The political weakness of De la Rua's administration became evident when vice president Carlos Alvarez resigned in October 1999.
- In December 2000, finance minister Machinea negotiated a large package of 40 billion dollars with the international financial institutions and domestic financial institutions to extend the public debt maturity and try to ease fears of default for the following two years.
- The government's bet was that once these fears were eased, growth would resume.
- Growth did not pick up by March 2001, so Machinea resigned.
- Two weeks after Machinea's resignation, the newly appointed economy minister Lopez Murphy resigned as well, upon strong opposition to the new package he had sent to Congress on March 16. His package was based on a strong reduction in fiscal deficit.
- Cavallo assumed once more as economy minister and tried different measures to revive growth.
- On April 16, 2001, Cavallo sent to Congress a proposed amendment to the Convertibility Law, according to which the peso would be pegged to a basket consisting of U.S. dollars and euros with equal weights, when the dollar-euro rate reaches 1:1. Congress approved the law in mid June.
- The rationale behind this change in the currency board was to align the peso more with Argentina's trading partner.
- On April 25, 2001, Cavallo replaces Pedro Pou by Roque Maccarone as the new president of the central bank.
- On July 10, 2001, after the government was forced to pay an interest rate of 1,410 basis points at the time it issued a short-term bond. The government announced the "zero deficit" rule. It then became obvious that the government could not tap capital markets without the debt exploding.
- Given this lack of access to the market, the government push hard to obtain a new agreement with the IMF. To do so, it needed an agreement with the provinces on tax redistributions.
- On October 26, 2001, the negotiations on an agreement on the distribution of taxes revenues to the provinces by the central government failed again.
- At the same time, John Taylor (US Treasury) said that there would not be any external help to Argentina until it could obtain its objective of a zero deficit.
- On October 28, 2001, Minister Cavallo started the negotiations to obtain warranties from the IMF and US Treasury to the new bonds issued in an exchange of its local and external debt, which summed up to more than US$100 billions. He was also trying to obtain more warranties from the World Bank and the IDB.
- On October 29, 2001, Cavallo defined the debt exchange operation as being a voluntary exchange for bonds that would pay 7% per year of interest but would have as guarantee taxes revenues. However, the IMF and US Treasury still demanded the deficit zero and an agreement with the provinces on the distribution of taxes revenues before any kind of guarantee is given. The negotiations lasted for more than a month.
- On November 19, 2001, the IMF announced that it would not give any new disbursements to Argentina before having a reassurance that it had reached all the goals previously defined.
- On December 2, 2001, the government announced several measures restricting withdraws from all banking accounts, called corralito, where it was imposed a limit on withdraws of 250 pesos (dollars) per week for each account.
- On December 19, 2001, Cavallo and all other ministers resigned.
- On December 20, 2001, President De la Rua also resigned and Ramon Puerta was the provisory president.
- On December 23, 2001, - Rodriguez Saa, governor of one of the provinces, became the new (provisory) president for the next 60 days, until elections on March 3rd. He declared the suspension of external debt payments for at least 60 days.

- On December 24, 2001, the government announced that a new currency without foreign-currency backing would be created, the "argentino."
- On December 30, 2001, Rodriguez Saa resigned and Eduardo Duhalde was elected by the Legislative Assembly as the new president. He assumed on January 2nd, ending the currency board and floating the peso.