



# Restoring Economic Growth in Argentina

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**SUMMARY**

*Economic potential* – Despite its economic collapse in 2001-02, the Argentine economy has elements of fundamental strength that should enable it to return to growth. Argentina's growth performance was strong in most of the 1990s after privatization, deregulation, and other market-oriented reforms. It is a relatively advanced economy in terms of standard of living, with purchasing-power parity income per capita and levels of education and health that exceed those of most emerging market economies.

*The 3D economic collapse* – The default and devaluation at the end of 2001 and depression of 2002 with an 11 percent decline of GDP comprised Argentina's worst economic collapse on record. The one ray of light was that Argentina avoided hyperinflation, which many had feared would follow the plunge of the peso's value from parity to the dollar to as low as 3.8 per dollar. The severe depression in domestic demand, the bank deposit freeze, and an incomes policy averting wage increases in response to the devaluation (in contrast to historical experience) all helped avoid hyperinflation, but the outcome was also consistent with the international pattern in recent years whereby domestic price increases in emerging market economies following severe devaluations have been surprisingly modest.

*Principal causes* – The initial section of this study surveys the leading interpretations of the causes of the collapse. Some authors emphasize fiscal weakness. Although the rise in non-interest (primary) spending in the 1990s was limited, there was a failure to run sizable primary surpluses in the high-growth years (e.g. 1996-98), a run-up in debt that exceeded cumulative deficits because of recognition of debt "skeletons," a need for adjustment to offset the revenue loss from the shift toward privatized social security and a rising burden of interest on debt, and vulnerability of the public debt burden to devaluation. There was also a pernicious interaction between shocks and fiscal stability, as a considerably higher primary surplus was needed to stabilize the ratio of debt to GDP as interest rates rose and growth stagnated. Some authors emphasize unsustainability of the currency-board, and most agree it was maintained too long. Commitment to it was understandable in view of the memory of hyperinflation linked to rapid devaluation. Increasingly the main threat came not from an inflationary risk of devaluation, however, but from the currency mismatches in balance sheets which meant devaluation would impose a shock to debtors including the government. Most analysts agree the peso became overvalued under the currency board parity with the dollar, although by how much is more disputed. Most also recognize the contribution of external shocks, including the "sudden stop" in capital markets after Russia's default, Brazil's major devaluation, and the rise of the dollar against the Euro and other currencies. This study

considers all of these influences to have been important, but judges that what precipitated the collapse was a vicious circle of domestic political shocks (including resignation of the vice president, resignation of two finance ministers, breakdowns in negotiations with provincial governors) interacting with a rising risk spread on government bonds, in a “multiple-equilibrium, political-shock” framework.

*The economy in 2002 and recent trends* – Argentina appears to have successfully overcome the risk of hyperinflation that was inherent in the sharp depreciation of the peso, the ballooning of the peso money supply with conversion of dollar deposits to pesos, large central bank lending to public sector banks, and the need to release frozen bank deposits. The great bulk of the rise of prices by some 40 percent had occurred by August, 2002. Industrial production began to rebound by the second half. The peso began to recover after mid-2002, and had rebounded to 2.8 per dollar by early June 2003. For 2003 the recent trends suggest real growth of 4 to 5 percent, and inflation of 15 to 20 percent or lower.

*Avoiding high inflation* – The greatest threat of inflationary resurgence appears to have been overcome as the December 2001 freeze on bank deposits will have been completely lifted by May 2003. A cautious monetary policy by the central bank so far in 2003 provides the underpinnings for moderate inflation. Proximate remaining inflation risks include the need to increase frozen utility prices and pressures for increases in public sector wages.

*Refurbishing the banking system* – A key proximate challenge is to strengthen the banking system. The level of deposits has begun to rebuild, and the banking system is currently liquid, but in economic terms it is insolvent. About one-half to two-thirds of its assets are in claims on the government, and these are worth only about half of face value at market prices. The politically motivated asymmetric conversion of dollars into pesos for bank deposits and loans imposed a loss equivalent to \$10 billion or more on the banking system. Asymmetric indexation of deposits and loans, and exchange losses on court-ordered releases of former dollar deposits, imposed additional losses. The promised compensation in government bonds – not yet fully delivered – restores accounting solvency if the bonds are carried at face value, but not economic solvency at market prices. Some form of collateralization of government bonds held by the banks could help boost their market value. Until the asset values rise enough to turn net worth positive in economic terms, the banking system will tend to refrain from making new loans, curbing investment needed for growth. Similarly, it will be important to exclude banking sector claims on the government from debt restructuring “haircuts.” Otherwise the government could find it necessary to take on more debt in order to recapitalize the banks. The banking system will also need to be strengthened through the

restructuring and/or privatization of the weakest banks, which tend to be public banks holding weak claims as a consequence of political influence in credit allocations.

*Restructuring Government Debt* – A successful restructuring of government debt that is considered even-handed by creditors and leaves a sustainable level of debt will be crucial for reestablishing Argentina's credit reputation and eventual capacity to return to credit markets. Total government debt of about \$170 billion presently exceeds GDP, but with reasonable exchange rate and price trends, dollar GDP should rise such that government debt could be about 95 percent of GDP next year. The three driving forces in the "haircut" or depth of forgiveness on government debt are the ratio of debt to GDP, the size of the primary fiscal surplus, and the portion of total government debt considered untouchable ("senior"). Simulations suggest that with a 4.5 percent of GDP primary surplus, and with a narrow block of senior debt limited to that held by multilateral institutions (\$14 billion to the IMF, about \$8 billion each to the IDB and World Bank, and about \$5 billion to bilateral official creditors, plus another \$25 billion or so held by the Argentine banking system), the "haircut" on the rest of the government's debt might need to be around 47 percent in face value, corresponding to a 63 percent cut in present value discounting at 10 percent. Negotiations will be difficult, but a maximum effort by the government to give domestic and foreign holders symmetrical treatment will help in reaching agreement.

*Maintaining the social safety net* – The Heads of Households subsidy of 150 pesos (now about \$50) monthly, received by some 2 million unemployed, played a key role in calming social turmoil during the course of 2002. It will be important to continue the program in the near term, but it also would seem desirable to transform it from a simple subsidy to a self-selecting program of minimum employment requiring actual work in public works projects, and to review the present distribution method which seems vulnerable to manipulation by the *piqueteros* who had organized demonstrations before the end-2001 political collapse.

*Medium-term prospects* – Over the next three to four years it should be possible to achieve growth of 3 to 5 percent annually, because the rebound will be from such a low base. Even the latter rate would merely return real GDP to its 1998 level by 2006, and hence should be feasible as most of the peak productive capacity remains in place. The chances of reaching the higher end of this range will be improved if the new president moves quickly to confirm a market-oriented rather than populist or interventionist strategy.

*Fiscal reform* -- Fiscal consolidation will be crucial to restoring long-term growth in Argentina. Even

after government debt restructuring, Argentina will need to seek a “primary surplus” (fiscal surplus excluding interest payments”) of perhaps 4-1/2 percent of GDP, about the level now being achieved by Brazil. In contrast, in recent years the primary surplus has typically been close to zero, and it is projected at 2.5 percent of GDP for 2003 (including the provinces). Improved enforcement of the value added tax, along with economic recovery, could boost its revenue from last year’s 4.5 percent of GDP to perhaps 8 percent, based on international experience. Greater enforcement is also needed on income taxes. Conspicuous jail sentences for tax evaders could be a helpful tonic to collections. Spending discipline is also needed to address the need to phase out two presently important taxes: the export tax and the tax on checking debits and credits. The export tax will have to be reduced to maintain competitiveness as the peso further regains strength in real terms against the dollar. The checking tax causes distortions, including an incentive to carry out transactions in the black economy rather than through the banks.

*Provincial revenue sharing* -- Reform of the provincial-center fiscal relationship will be important to fiscal sustainability. The current arrangement channeling 58 percent of federal revenue (except customs taxes) to the provinces creates procyclical incentives in provincial spending. Another incentive distortion stems from the past practice of transferring to the national government the responsibility for debt run up at the provincial level. Desirable reforms could include legislation (or constitutional change) requiring balanced budgets at the provincial level, and the setting aside of shared revenue above moderate baseline levels for repayment of provincial debt held by the center and for a fiscal stabilization fund to be used during recessions. The current distortions in the pattern of allocation among the provinces, to the disadvantage of the larger provinces, also warrant correction.

*The exchange rate regime* – Despite its merits in halting inflation in the early 1990s, the collapse of the currency-board arrangement at the end of 2001 means that this regime no longer has the credibility to be restored. Going forward, the most promising exchange rate regime appears to be managed floating, sooner or later within an explicit inflation-targeting framework along the lines adopted by many other countries in recent years. Maintaining a competitive real exchange rate will be crucial in this strategy. The much-discussed alternative of adopting the dollar as the Argentine currency no longer has as much relevance, as its greatest appeal was as a way to bolster the currency board fixed rate and avoid the severe devaluation losses from currency mismatch between assets and liabilities that have now taken place.

*Trade policy* – Argentina’s export base is small relative to GDP, making it more vulnerable to external shocks. Further opening of the economy would provide a greater incentive to exports, and there is ample

room for reducing protection in the Mercosur common external tariff. Ideally Argentina should negotiate jointly with Brazil and other Mercosur partners to secure reciprocal liberalization in industrial country markets, in the context of the Doha Round and in negotiations with the United States for the Free Trade Area of the Americas.

*Foreign direct investment.* Argentina's strong reputation for a market-friendly environment for foreign investment, dating from the privatizations and deregulation of the 1990s, has been tarnished by its unilateral freeze in rates charged by the foreign-owned utility companies and its populist interventions undermining the solvency of the banking system. Direct foreign investment has collapsed from its typical range of \$8 billion to \$12 billion annually in 1996-2000 (and \$24 billion in 1999 with the foreign purchase of oil company YPF), yet with the cessation of private lending following the default, direct investment will be even more important in the future. The new government will need to act forcefully to reestablish an image of even-handed treatment of direct foreign investment, most directly by early corrective action on utility rates.

*Labor market reform* – Rigidity in the labor market was one reason adjustment under the currency board was difficult. Reforms are needed reducing the still high social charges on labor, increasing flexibility by reducing high severance costs, and facilitating wage bargaining at the firm rather than sectoral level.

*Political institutions* -- Although Argentina's still young democracy vastly improves on the military regimes that preceded it, the forced resignation of two sitting presidents (Alfonsín in 1989 and de la Rúa in 2001) suggests severe dysfunctionality and lack of comity in the system. This is perhaps best illustrated by the apparently active participation of the opposition party in Buenos Aires in helping foment violent street demonstrations that forced de la Rúa, already weakened by opposition within his own party, to relinquish office. It will be for the Argentines themselves to discover the solutions to the political problems that most of them would probably agree lie at the root of economic disarray. One area for reform could include strengthening the legislature by making representatives more directly accountable to local districts rather than being heavily dependent on provincial governors in the party-list nomination system. If a greater sense of shared responsibility is not secured going forward, at some point the Argentines may wish to revisit the issue of whether the system should be parliamentary rather than presidential. An urgent proximate need is for the new administration to take every step possible to reestablish an international image of Argentina as a country where the rule of law and respect for property rights prevail. The initiative of the new Kirchner government to reopen impeachment measures against

members of the Supreme Court may heighten risks in this area, even though the Supreme Court has arguably complicated economic management through decisions that are inconsistent with the nation's resources available.

## **1. INTRODUCTION**

Argentina experienced three decades of deteriorating growth performance during 1960-1990, culminating in hyperinflation. In the 1990s, however, Argentina made impressive gains in structural reform, achieved price stability, and outperformed by a significant margin the average per capita growth record of middle-income countries (table 1 and figure 1). The Argentine economic renaissance stalled out by 1999, however, and a protracted recession intensified into a cataclysm of default, devaluation, and depression in 2002. After average growth of 5.8 percent annually in 1991-98, real GDP fell 3.4 percent in 1999, 0.8 percent in 2000, 4.4 percent in 2001, and 10.9 percent in 2002 (MECON, 2003a, 2003b). Real GDP has thus fallen a total of 18.4 percent, and per capita GDP, by 22.3 percent from its peak in 1998.

This study seeks to identify possible paths back to sustained growth in Argentina. The election of President Nestor Kirchner in May, 2003 provides the opportunity for a new beginning. Moreover, despite the atmosphere of despair that prevailed through much of 2002, Argentina remains one of the richer emerging market economies in physical and human resources. Thus, in 2000 Argentina's per capita income in purchasing power parity (ppp) dollars stood at about \$12,000, well above the levels in other major Latin American economies and below only Korea among other major

emerging market economies (table 2).<sup>1</sup> Its infant mortality was lower than for other principal Latin American economies except Chile, and its educational level was the highest in the region. These underlying strengths, together with the array of market-oriented reforms adopted in the 1990s (including especially privatization and deregulation), suggest that the country should be able to return to growth if political coherence and support for sustainable economic policies can be reestablished.

The organization of this study is as follows. Part II examines the causes of the Argentine collapse. Following a critical synthesis of the leading analyses to date, the discussion focuses on the roles of fiscal imbalances, the vulnerability of the currency board arrangement ("convertibility") to external shocks, and the influence of political shocks. This section concludes with an examination of the role of the International Monetary Fund in the development and aftermath of the Argentine crisis. Part III addresses key short-term issues and challenges, which include avoiding high inflation, reviving the banking system, restructuring government debt, and maintaining a social safety net. Part IV turns to strategies for the longer term, including fiscal reform, choice of the exchange rate regime, trade policy, rules of the game

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<sup>1</sup> Because the ppp measure already adjusts for distortions associated with over- or under-valued exchange rates, this level was not exaggerated by overvaluation of the Argentine peso in 2000.

for foreign investment, labor reform, pension system policy, and evolution of the judicial and political systems.

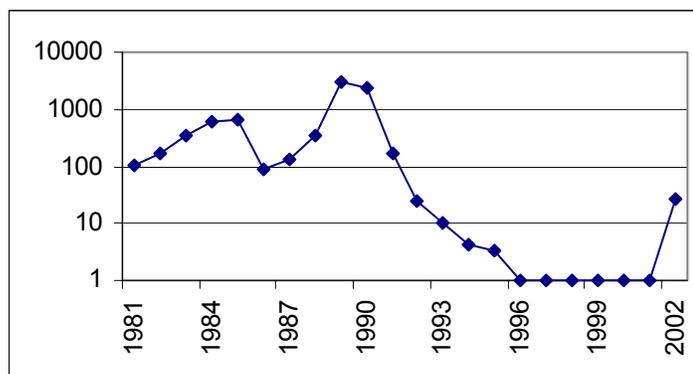
Table 1

Long-term growth in international perspective  
(percent per annum)

	1960-70	1970-80	1980-90	1990-2000	average
<b>GDP</b>					
Argentina	4.2	2.2	-0.4	4.3	2.6
Brazil	5.4	8.6	2.7	2.9	4.9
Chile	4.5	2.0	3.2	6.8	4.1
Colombia	5.1	5.9	3.7	3.0	4.4
Mexico	7.6	5.8	1.0	3.1	4.4
Korea	8.6	7.7	9.7	5.7	7.9
Philippines	5.1	6.2	0.9	3.2	3.9
Thailand	8.4	7.5	7.6	4.2	6.9
Middle income countries	6.0	5.6	2.5	3.6	4.4
<b>Population</b>					
Argentina	1.4	1.6	1.3	1.3	1.4
Brazil	2.8	2.1	2.2	1.4	2.1
Chile	2.1	1.7	1.7	1.5	1.8
Colombia	3.0	1.9	2.0	1.9	2.2
Mexico	3.3	3.1	2.0	1.6	2.5
Korea	2.6	1.7	1.1	1.0	1.6
Philippines	3.0	2.7	2.4	2.2	2.6
Thailand	3.0	2.5	1.8	0.9	2.1
Middle income countries	2.5	2.4	2.0	1.2	2.0
<b>Percap Inc</b>					
Argentina	2.8	0.6	-1.7	3.0	1.2
Brazil	2.6	6.5	0.5	1.5	2.8
Chile	2.4	0.3	1.5	5.3	2.4
Colombia	2.1	4.0	1.7	1.1	2.2
Mexico	4.3	2.7	-1.0	1.5	1.9
Korea	6.0	6.0	8.6	4.7	6.3
Philippines	2.1	3.5	-1.5	1.0	1.3
Thailand	5.4	5.0	5.8	3.3	4.9
Middle income countries	3.5	3.2	0.5	2.4	2.4

Source: World Bank, World Development Report: 1981, 1983, 1992, 2002.

Figure 1  
Inflation in Argentina  
(percent, logarithmic scale)



Note: 1996-2001 average = -0.3 percent annually.

Table 2

Standard of Living Indicators

	PPP per capita income (a)	Under-5 mortality (per 10000)	Education index
Argentina	12090	22	0.92
Brazil	7320	40	0.83
Chile	9110	12	0.90
Colombia	5890	28	0.85
Mexico	8810	36	0.84
Korea	17340	9	0.95
Philippines	4220	41	0.91
Thailand	6330	33	0.84
Middle income countries	5650	38	n.a.

Source: World Bank, World Development Report 2002;  
UNDP, Human Development Report 2001  
a. 2000 purchasing power parity dollars

## **2. ORIGINS OF THE CRISIS**

Diagnosing the causes of the Argentine economic collapse is important because of the implications for future policy directions. By now several economists have prepared analyses of the causes. Most agree that it was a combination of several influences that, like a “perfect storm,” brought about what might be called the 3D collapse: default, devaluation, and depression. There is considerable divergence of opinion, however, on the relative importance of each of the main factors.

### *A. Principal diagnoses*

Table 3 summarizes the leading candidates for causes of the crisis, along with the positions of ten authors (or joint authors) on which of these influences were the more dominant. The first cause, “fiscal,” refers to the role of cumulative fiscal deficits in provoking the crisis. The second, “currency board,” refers to the nexus of overvaluation, rigidity in adjustment to external shock, and currency mismatches that accompanied the fixed parity of the dollar and peso that had been a centerpiece of policy in the 1990s. The third influence, “external shocks,” typically refers to the shock to emerging capital markets following the Russian and East Asian crises, the international appreciation of the dollar, and the Brazilian devaluation of 1999. The fourth causal influence involves the interaction between successive episodes of domestic political shocks with escalation in the country-risk spreads on private external financing and hence the outlook for debt sustainability. A fifth possible cause, mistaken policy advice by the IMF, is included as well.

For each study listed in the rows of table 3, the corresponding emphasis in the diagnosis is shown across the various causal influences. The importance of each factor as judged by each author is indicated as high (H), medium (M), low (L), or “not a factor” (N).

**Table 3**  
**Main Causes of Argentina’s Economic Collapse:**  
**Alternative Diagnoses**

	Fiscal	Currency Board	External Shocks	Political Shocks	Labor Rigidity	IMF Mistakes
Calvo-Izquierdo-Talvi	M	M	H	--	L	N
Corrales	L	N	(H)	H	L	(H)
Hausmann-Velasco	L	H	H	L	L	N
Krueger	H	H	M	--	M	N
Mussa	H	L	M	--	L	N
Perry-Serven	H	H	M	--	L	N
Porzecanski	L	H	M	--	--	--
Pou	L	N	M	H	H	L
Powell	M	M	M	H	L	N
Stiglitz	N	H	M	--	L	H
Teijeiro	H	L	L	M	L	N
This study	M	M	M	H	L	N

H = high M = medium L = low N = no

The studies listed in table 3 are indicated in the references at the end of this study. Key distinctions made by the various authors on each of the causal influences are considered in the discussion below of each major influence. It is useful at the outset, however, to synopsise the salient viewpoints of these authors. For especially Teijeiro (2002) but also Mussa (2002), fiscal deficits and the buildup of government debt were the prime causes of the 3D collapse. Perry and Serven (2002) and Krueger (2002a) agree that weak fiscal performance was important, but emphasize the interaction with overvaluation caused by exchange rate rigidity under the currency board. Thus, Perry and Serven stress the masking of the public debt problem caused by the overvaluation, which hid the potential ratio of public debt to GDP by overstating the true value of GDP relative to largely dollar-denominated debt. Krueger adds that there should have been earlier attention to “debt dynamics” and a need for debt reduction, a focus consonant with her proposals for a new Sovereign Debt Restructuring Mechanism (SDRM; Krueger, 2002b). In sharp contrast, especially Stiglitz (2002) but also Hausmann and Velasco contend that after taking account of recession and privatization of social security, fiscal deficits were by no means egregious. Stiglitz accordingly attacks the IMF calls for fiscal tightening as a serious mistake that worsened the recession.

Stiglitz (2002) and Porzecanski (2002) cite the currency board as a system doomed to fail, and Perry and Servén arrive at a high estimate of the degree of overvaluation that occurred under it. Mussa (2002) places less emphasis on it, in part because his study is oriented toward the role of the IMF in the crisis, and the IMF expressly allows its member states to choose their own exchange rate regimes.<sup>2</sup>

Calvo, Izquierdo, and Talvi (2002) bring a nuanced approach to the diagnosis, and attribute the collapse to the combination of external shocks with a brittle economic structure vulnerable to them because of “CDM”: a relatively closed economy with low exports relative to GDP (C); a dollarized economy (D), and large financial mismatches between dollar liabilities and peso assets (M). They also emphasize the “Sudden Stop” in emerging market capital flows as the trigger of the crisis. Hausmann and Velasco (2002) also stress the adverse capital market developments and the overvaluation of the exchange rate.

In contrast, former central bank governor Pedro Pou considers that the currency board was not to blame, although it would have functioned more effectively with greater labor flexibility. Instead he emphasizes the series of political shocks that greatly eroded confidence and caused foreign lending rates to soar (Pou, 2002). Corrales (2002) also attributes the collapse to the political unraveling, and provides an analysis of the special political weakness deriving from president de la Rúa’s lack of support in his own party. He also cites as the other main adverse effect a switch in international policy toward tougher IMF policies and against large support packages in mid-2001 (hence the inclusion of IMF “mistakes” in his listing for table 3).

My own view is that Argentina was already vulnerable because of large debt and under the circumstances inadequate fiscal adjustment, and because of overvaluation and currency board rigidities, but that there would have been reasonable chances that even so it could have avoided the 3D collapse if it had not been for the inflammatory interaction of domestic political shocks and external credit market pricing. I suggest a Political Shock, Multiple Equilibrium (PSME) framework as the best means of understanding why Argentina was pushed over the brink despite its successful reforms in the 1990s. The closest other diagnosis to this is by Powell (2002), who provides considerable detail on the political destabilization as well as suggestive statistical tests in support (as discussed below). The PSME approach places special emphasis on the destabilizing effect of the escalation of sovereign risk spreads to completely unpayable levels, in combination with the incentive for the public to withdraw bank deposits and place capital abroad under the currency board’s fixed exchange rate and in the face of ever-dwindling foreign reserves.

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<sup>2</sup> Note that although table 3 lists Mussa (2002) as not attributing the crisis to IMF mistakes, as discussed below he does judge that the IMF made a serious mistake in mid-2001 when it provided another large loan to Argentina when, in his judgment, default and devaluation were already unavoidable.

*B. Fiscal imbalance and debt sustainability*

From a historical perspective, fiscal weakness is a highly plausible cause of Argentina's crisis. Fiscal imbalances that became monetized accounted for decades of inflationary bias in the economy. The "Convertibility Plan" currency board adopted in 1991 put a halt to monetary expansion and hence monetization of deficits. For a short time, the aftermath of the 1980s debt crisis and Brady debt reductions similarly put an end to borrowing, and Argentina was basically operating on a cash basis. Success soon bred the capacity to borrow once again, however. As the decade progressed, the resulting problem that emerged was not inflationary monetization of deficits, but excessive accumulation of debt and an eventual decline in the market's perception of public sector solvency.

Teijeiro (2001, 2002) was one of the earliest and most persistent in emphasizing the fiscal problem. He has stressed that the successive incorporation of "recognized debt" or "skeletons" (such as bonds issued to compensate victims of the 1980s "dirty war") caused public debt to rise considerably more than explained by the cumulative fiscal deficits.<sup>3</sup> Similarly, Mussa (2002, pp. 14-15) emphasizes that even before the recession and its adverse fiscal impact, from 1993 to 1998 the ratio of public debt (including provincial) to GDP rose from 29.2 percent to 41.4 percent. In this period cumulative fiscal deficits amounted to about \$32 billion, but there was an additional \$10 billion increment in debt from the "skeletons." Moreover, the recorded deficit would have been considerably larger if revenue from privatizations had been excluded. Powell (2002, p. 18) similarly calculates that from 1995 through 2001, the increase in public debt exceeded cumulative fiscal deficits by \$30 billion, with a rising contribution to the difference from debt stemming from provincial deficits.

Those who argue against a fiscal origin of the crisis make essentially four points. First, the annual deficits and the ratio of debt to GDP were in ranges that looked moderate, and were within Maastricht limits. Second, there was no major increase in primary (non-interest) spending relative to GDP. Third, beginning in 1999 the fiscal deficits were driven by recession. Fourth, the measured deficit was an exaggeration of weakness, because it did not give credit for the fact that a substantial part of the deficit resulted from the shift of social security toward a privatized basis, with falling contributions despite continuation of outlays for existing retirees.

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<sup>3</sup> Teijeiro (2001) also stresses that there was a large increase in spending in dollar terms, including on wages, at the beginning of the convertibility plan: by 72 percent from the rate in the first quarter of 1991 (immediately before the plan) to 1992 and by 120 percent by 1994. However, the real exchange rate was still highly depreciated in the first quarter of 1991 (standing at an index of 64 with 1993-95=100; see figure 3 below), so it is questionable to treat that quarter as a reasonable base for spending in dollar terms.

Table 4 reports the consolidated federal and provincial government balances for 1991-2001. Several important points emerge from the table.

First, in retrospect, most would agree that a major mistake was to fail to achieve a higher non-interest (primary) surplus during the boom years of 1996-98 (following the dip into recession from the Tequila shock in 1995). The average primary balance in these three years was -0.1 percent of GDP, well below the level of 1.5 percent in 1992-93. If primary surpluses on the order of 3 to 4 percent of GDP had been achieved (as in neighboring Brazil), Argentina would have been in better shape to cope with the fiscal pressures associated with the recession in 1999-2001.

Second, there was a surge in primary spending in 1999, from about 23 percent of GDP to about 25 percent. This reflected politically-oriented spending in the runup to the presidential elections of October 1999, and included a large boost in spending in the province of Buenos Aires by Peronist candidate Eduardo Duhalde as well as increased federal spending in the period when President Menem was seeking to change the constitution to secure a third term.

Third, there was a major increase in interest spending, from only about 1.5 percent of GDP in 1993-94 to about 3.5-4 percent of GDP by 1999-2000. A significant component of this increase was a legacy of the Brady Plan, which provided for a “step-up” in interest on restructured 1980s debt from a low rate in the initial years of the 1990s. There was a need to provide for this anticipated increase, yet primary revenue did not rise accordingly.

Fourth, the pace of deterioration in the ratio of public debt to GDP accelerated substantially after 1998, as the ratio surged from 41 percent to 64 percent by 2001. This was the result not only of widening fiscal deficits (to 6.4 percent of GDP by 2001, including provinces), but also a declining GDP not only in real terms but even more so in nominal terms due to deflation. Thus, the GDP deflator fell at an average of 0.9 percent annually in 1998-2001.

Table 4

Fiscal Indicators, Consolidated Government  
(percent of GDP)

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Revenue	20.1	23.4	24.6	24.1	23.2	22.2	23.2	23.7	24.3	24.7	23.5
Tax	13.6	16.2	16.1	16.2	15.6	15.8	16.8	17.4	17.5	18.1	17.5
Social Security	4.6	5.1	5.9	5.7	5.3	4.4	4.2	4.0	3.8	3.7	3.6
Privatization	a	0.9	0.2	0.3	0.5	0.1	0.0	0.0	0.9	0.1	0.0
Other	1.9	1.2	2.4	1.9	1.8	1.9	2.2	2.3	2.1	2.8	2.4
Primary spending	20.6	21.9	23.1	24.1	23.7	23.3	22.9	23.2	25.1	24.2	25.0
Wages	8.0	8.4	8.8	8.9	8.9	8.3	8.2	8.3	9.4	9.5	9.9
Pensions	5.4	6	5.6	5.9	6	6.2	5.9	5.8	6.2	6.1	6.2
Other	7.1	7.5	8.8	9.3	8.7	8.8	8.8	9.0	9.5	8.6	8.9
Primary balance	-0.5	1.4	1.5	0.1	-0.4	-1.1	0.3	0.5	-0.8	0.4	-1.5
Interest	3	1.9	1.4	1.6	1.9	2.1	2.3	2.6	3.4	4	4.8
Overall balance	-3.5	-0.4	0	-1.5	-2.3	-3.2	-2.1	-2.1	-4.2	-3.6	-6.4
Off-budget debt creation	0.0	0.1	0.3	0.4	0.8	0.5	0.3	0.4	0.5	0.0	0.0
Balance incl. off-budget	-3.5	-0.5	-0.3	-1.9	-3.1	-3.6	-2.4	-2.5	-4.7	-3.6	-6.4
Memorandum:											
Public debt (bn pesos)	64.7	68.8	77.6	90.4	101.4	108.3	111.5	123.5	134.3	144.8	172.2
Percent of GDP	38.8	32.9	32.8	35.1	39.2	39.8	38.1	41.3	47.4	50.8	64.1
GDP (bn pesos)	166.9	209.3	236.5	257.4	258.4	272.2	292.8	298.9	283.3	285.0	268.6

a. Included in "other"

Source: Krueger (2002)

Regarding the four arguments against a serious fiscal problem, the first – that debt and deficits were within Maastricht bounds – misses two central considerations. One is that Argentina increasingly could not obtain new borrowing at Maastricht-type interest rates. Thus, even before the severe upward spiral in country risk spreads in 2001, Argentina’s risk spread was on the order of 500 basis points. This meant that if US or European treasury bond rates were, say, 5 percent, Argentina had to borrow at 10 percent. So a comparably safe ratio of debt to GDP should have been about half of the Maastricht threshold, or 30 percent instead of 60 percent.<sup>4</sup> Argentina was in a relatively safe range of 33 percent in 1992-93, but had jumped to an unsafe (for it) range of 64 percent by 2001. The other anti-Maastricht consideration is that Argentina’s revenue base was considerably smaller than that of most industrial countries. Thus, taxes plus social security receipts amounted to about 21 percent of GDP (consolidated government), whereas in the OECD the comparable general government revenue base is an average of 36 percent of GDP (OECD, 2001, p. 231). So once again, against a metric of revenue base, the annual fiscal deficit target might appropriately have been only about three-fifths or so of the Maastricht target (1.8 percent of GDP instead of 3 percent).

The second anti-fiscal argument, that there was no major increase in primary spending (emphasized by Hausmann and Velasco, 2002), was true for some of the period, but as noted there was a surge in 1999, and despite a modest rollback with fiscal adjustment early in the de la Rúa regime, consolidated primary spending at 25 percent of GDP remained about 2 percentage points higher by 2001 than in the mid-1990s. And in any event, there would have to have been either a reduction in primary spending or a rise in revenue to compensate for the rise in the interest bill from the phase-in of step-up interest costs, as just discussed.

The third argument, that deficits were widened by recession, is of course true. Hausmann and Velasco (2002) estimate that the elasticity of tax revenue with respect to GDP is about 1.5, while that of primary spending excluding social security is about 0.7. So the cumulative nominal decline of GDP by 10.1 percent from 1998 to 2001 would have cut tax revenues about 15 percent and spending only about 7 percent. Applied to the 1998 base levels of about 52 billion pesos for both primary spending and revenue (excluding social security), these changes suggest that recession should have been expected to worsen the primary balance by about 8 percent of the 52 billion peso base, or by about 4 billion pesos (about 1.4 percent of GDP). This is slightly larger than the actual decline in the balance between tax revenue and non-pension primary spending (by 3.8 billion), so it is fair to say that the entire deterioration of the

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<sup>4</sup> For the same reason, Japan’s public debt has been “safer” at some 130 percent of GDP than Argentina’s at less than half that level, because Japan’s interest rate has been close to zero.

primary balance from 1998 to 2001 was attributable to the recession. Moreover, as Hausmann and Velasco emphasize, the fiscal adjustment efforts of the de la Rúa regime (especially the *impuestazo* or “tax coup” in early 2000) helped limit the fiscal balance erosion.<sup>5</sup> The main point here, however, is that the fiscal weakness stemmed from failure to run larger primary surpluses in 1996-98, which would have allowed achievement of smaller overall deficits in 1999-2001 even taking into account the recessionary influence.

Finally, as for the privatization of social security, it is true that social security receipts fell from an average of 5.5 percent of GDP in 1992-93 to 4.2 percent of GDP in 1996-98, and this decline of 1.3 percent of GDP was almost the same as the 1.5 percent of GDP decline in the average primary surplus during the same period (table 4).<sup>6</sup> However, the fundamental point would seem to be that markets tend to give credit for actual outcomes rather than hypothetical comparisons. Privatizing social security incurs an immediate debt (for the transition) in return for reducing a future contingent obligation. The market tends to look at the actual debt, and give less credit for the reduced contingent obligation – in part because the pay-as-you-go system meant that in a pinch the government might not fully pay the future pensions expected (as indeed happened in the second half of 2001 when pensions, along with other public salaries, were cut by 13 percent in the effort to achieve the “zero deficit” target of then Minister of Economy Domingo Cavallo). As a result, an economy choosing to transit to privatized pensions needs to increase the primary surplus during the transition to offset the loss of social security contributions (as argued by Mussa, 2002).

The heart of the fiscal sustainability question is whether the burden of public debt relative to GDP is spiraling upward out of control, or whether instead it is being held at a plateau or preferably being reduced over time. The fundamental sustainability equation is as follows: the primary fiscal surplus must be high enough to cover interest net of an allowance for GDP growth. As shown in Annex 1, the main economic condition for this to be achieved is that the *primary surplus as a percent of GDP equals or exceeds the debt/GDP ratio multiplied by the real interest rate minus the real growth rate*. If the exchange rate is expected to depreciate, the primary surplus has to be somewhat higher. Especially after the close examination of Brazilian public debt sustainability in that country’s early-1999 crisis, international markets were increasingly attentive to this comparison. Increasingly, they found that it did not give a reassuring answer for Argentina.

Table 5 uses the fiscal sustainability condition (from Annex A) to identify the primary fiscal surplus that would have had to be achieved under benign and malign conditions.

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<sup>5</sup> They estimate the tax measures boosted tax revenue 11 percent above the levels they otherwise would have reached.

<sup>6</sup> Part of this decline reflected a reduction in rates applied, rather than the shift toward private pension plans.

Table 5

Primary surplus required for fiscal sustainability  
under alternative conditions (percent of GDP)

	Benign: A	Malign: B short-run	C long-run w/o depreciation	D long-run w/ depreciation
Real growth rate (%)	4	-1	-1	-1
Inflation (%)	3	-1	-1	-1
Real interest rate (%)	7	11	16	16
Currency depreciation (%)	0	0	0	5
Required primary surplus (%)	1.4	6.1	8.7	11.1

Note: assumes 95 percent of debt denominated in foreign currency.

Short-run: continued past interest rate on debt. Long-run: all debt converted to new market rate.

The table shows vividly how Argentina could have been considered to be on a fiscally sustainable path under “normal” conditions but was far from sustainability under the adverse conditions of 2000-01. Thus, as indicated in column A, with reasonable growth of 4 percent, inflation of 3 percent, and no change in the currency board peg to the dollar, it required only a primary surplus of 1.4 percent of GDP to hold the public debt/ GDP ratio constant at 50 percent (the level at end-2000; table 4). Such a surplus was not beyond reach, and had been achieved in 1992-93 (but was 1 percent of GDP higher than the actual primary surplus in 2000).

In sharp contrast, in the midst of a recession, (e.g. growth of -1 percent), and with deflation running at about 1 percent annually, then even with no change in the interest rate (10 percent) because of the relatively long maturity on debt outstanding (“short run,” column B), it would have required a primary surplus of about six percent of GDP to avoid an upward spiral in the debt to GDP ratio. Market participants looking at a “long-run” and considering the impact of eventual refinancing of all debt coming due at the new, higher interest rates (15 percent nominal) would have seen the required fiscal surplus at nearly 9 percent of GDP, and even higher at about 11 percent if they judged that the peso would have to depreciate at about 5 percent per year to reestablish competitiveness (columns C and D respectively).<sup>7</sup>

Table 5 also highlights the “multiple equilibrium” problem Argentina faced. If growth and confidence could be reestablished (along the lines of column A), moderate primary surpluses could suffice for fiscal sustainability. But if high country-risk spreads persisted, recession continued, and some process of peso

<sup>7</sup> Case “D” with depreciation could be adjusted to allow for greater inflation as an induced effect of the depreciation, but reasonable adjustment would still leave a more adverse fiscal sustainability position than in the other cases.

depreciation began, the required surpluses would turn so unreachable as to call into question the sustainability of the debt and the solvency of the government. I will argue below that it was this susceptibility to a flip from the “good equilibrium” to the “bad equilibrium,” combined with domestic political shocks contributing to such a shift, that were at the heart of the Argentine economic collapse.

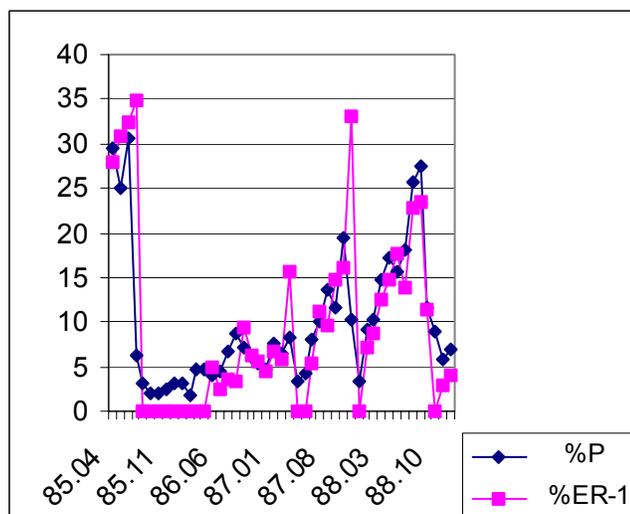
The overall thrust of the fiscal diagnosis, then, is that there should have been a more aggressive effort to build a primary surplus in the good years of 1996-98, precisely to reduce the vulnerability to a flip from the good to the bad equilibrium as a result of shocks to confidence. This judgment does not directly answer the question, however, of what should fiscal policy have been by 2000-2001 in the midst of severe recession. Stiglitz (2002) has argued that the IMF was wrong to press for fiscal contraction, and that instead a fiscal stimulus was called for to fight the recession. If access to new credit to finance fiscal deficits had been readily available, this would have been a credible approach. In terms of the fiscal sustainability equation (Annex I), a credible boost to economic growth from an outlook of, say, -1 percent to, say, +3 percent, would have reduced the needed primary surplus by about half this much as a percent of GDP (or by 2 percent of GDP). The Stiglitz critique, however, does not come to terms with the fact that financing was not available. Nor does it deal with the fact that the Keynesian analysis of fiscal stimulus to counter recession was premised on a government with sound credit. If instead the government is perceived in risk of default, then the signaling effect from adopting a wider fiscal deficit may undermine market confidence and boost interest rates, potentially imposing a contractionary rather than expansionary effect of a wider fiscal deficit.

### *C. The currency board and overvaluation*

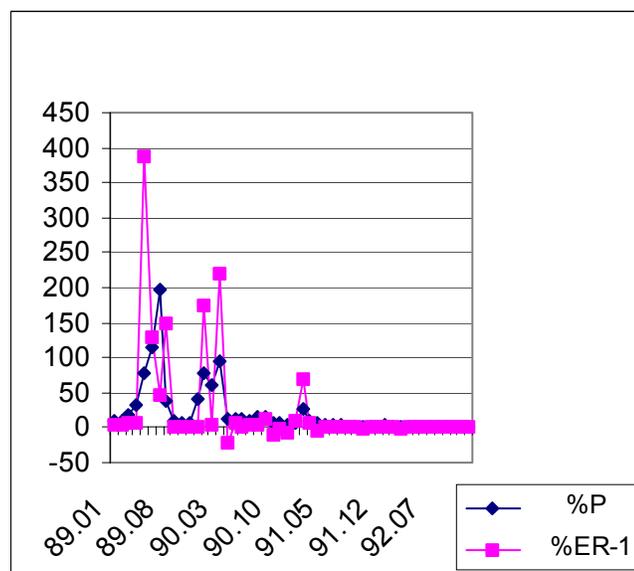
When Argentina adopted the currency board fixing the peso at parity with the dollar in 1991, it did so first and foremost in order to achieve a definitive break in the vicious circle of peso depreciation and inflationary aftermath. Notable previous attempts to halt inflation with a fixed exchange rate included the *tablita* pre-announced crawl of 1978 and the Austral Plan in June of 1985 (which included wage and price controls). These efforts eventually foundered on induced overvaluation (in the case of the *tablita*) and the lack of fiscal adjustment required to complement the fixed rate (in especially the Austral Plan, and in subsequent shorter stabilization episodes such as the Spring Plan of August 1988). The result was to establish a persistent pattern of experience in which a forced devaluation would be accompanied or followed by a surge in domestic prices. This pattern became ingrained in inflationary expectations in Argentina in a manner that led to a widespread view that any attempt to devalue would be

counterproductive because there would be an (at least) equal and offsetting rise in prices. Figure 2A depicts the close relationship between the monthly percent rise in consumer prices and the percent depreciation of the exchange rate (rise in number of pesos per dollar) one month earlier in the period surrounding the Austral and Spring plans. Figure 2B shows the same relationship during the period of outbreak of hyperinflation in 1989-90 and the subsequent period of exchange rate fixity and stabilization under the currency board of the Convertibility Plan. As suggested by the latter, the plunge of inflation to zero and eventually to deflation only served to reinforce this structure of expectations in which expected inflation was linked closely to the exchange rate.

**Figure 2A**  
**Monthly Exchange Rate Depreciation and Inflation, 1985-88**



**Figure 2B**  
**Monthly Exchange Rate Depreciation and Inflation, 1989-92**



In the framework set forth in 1991 by then Minister of Economy Domingo Cavallo, the Convertibility Plan comprised not just the exchange rate parity, this time set into law and requiring an act of congress to alter. It also included as an integral feature the right of any Argentine citizen to hold and transact business in foreign currency. The law required that the amount of the money base (currency plus bank reserves in the central bank) had to be kept equal to or less than the amount of foreign exchange reserves plus a modest cushion of central bank holdings of dollar-denominated government debt (no more than 15 percent of the total money-base backing). This cushion proved useful in the Tequila crisis of 1995 in the face of an outflow of foreign reserves.

The legally-binding dollar parity and foreign reserve backing helped the Convertibility Plan’s currency board succeed in stabilizing prices where its fixed but still adjustable exchange-rate precursors had failed.<sup>8</sup>

<sup>8</sup> Some critics argue that the convertibility plan was not a meaningful currency board because it did not force strict equality of the money base with external reserves. However, there were two distinct periods of its existence. In the first, from 1991 through 1994, there was indeed a near straitjacket binding the two, as both rose from about \$5 billion to about \$16 billion during the phase of remonetization after hyperinflation. The second period began in 1995, when the Tequila crisis triggered a collapse of reserves to \$10 billion in the first quarter. The government cushioned the shock by reducing the money base only to \$13 billion. A long boom then followed in which reserves rose to \$26 billion by end-1999 but the authorities held the money base to no more than about \$15 billion. The strict tie had indeed been broken on the upside, reflecting caution in expanding money in light of the Tequila experience. Then in the second quarter of 2001 in the face of recession, Minister of Economy Domingo Cavallo boosted the money base in a catch-up to the level of reserves, which had by then eased back to about \$20 billion. However, he did not shrink the money base again despite the subsequent plunge of reserves to \$10 billion, breaking the tie between the two on the downside. While the period 1995-2001, and more convincingly 2001, may disqualify the plan from the designation as a true currency board, for at least the period 1991-2000 the system achieved the economic objective of a currency board by providing strong confidence that the national currency would be backed by reserves. Moreover, it would likely have been a mistake to pursue more rapid money expansion in 1996-2000, aggravating the economic cycle. Cavallo’s attempt to stimulate the economy with money expansion in March 2001 may have been more of a mistake, in part because failing subsequently to reduce the money base as external reserves declined helped spur deposit withdrawals and further loss of reserves.

The mechanism also helped ensure fiscal balance because officials could cite the Convertibility Law as the reason the government could not print money to cover budget deficits. That constraint was binding at first because in the aftermath of the 1980s debt crisis and Brady restructuring the government did not have significant access to capital markets and so could not borrow. Increasingly, however, the plan became a victim of its own success, because as lenders gained confidence, the government became able to borrow in large volume, eliminating the fiscal constraint and laying the groundwork for a government solvency crisis.

It was clear at the time that adopting the currency board was an extreme measure, in economic terms not unlike adopting the gold standard. Like the historic gold standard, it posed the risk that in the face of adverse external developments and a need for adjustment, the economy would be forced to adjust by going through a recession rather than carrying out a peso devaluation. This rigidity eventually caused the gold standard to collapse internationally in the Great Depression. The more general risk was one of overvaluation of the currency, in part because inflation did not halt immediately upon adoption of the dollar parity. The persistent policy effort to deal with any problem of exchange rate competitiveness was to increase productivity and reduce the “Argentine cost” associated with inefficient infrastructure (ports, highways).<sup>9</sup> Argentina did indeed make a lot of progress in this direction, but eventually the gains in productivity were not enough to address the additional loss of competitiveness associated with the sharp devaluation of the Brazilian real in 1999 (as Brazil is Argentina’s largest trading partner), the persistent rise of the dollar against European currencies and the yen during 1996-2001, and the freeze in emerging market credit flows.

The currency board brought a significant real appreciation in the peso. As shown in figure 3, if consumer prices are used to deflate, the real effective rate -- weighting by trade turnover (exports plus imports) with Argentina’s 8 largest trading partners -- approximately doubled from its level in the late 1980s to its level in the mid-1990s under the currency board.<sup>10</sup> Perry and Serven (2002) argue that through 1996, important gains in relative productivity in the tradable goods sector warranted the gains in the real exchange rate.<sup>11</sup> More generally, improvements in the domestic economic environment in the 1990s likely warranted a

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<sup>9</sup> Another part of the same strategy was to improve competitiveness by reducing taxes on labor, but this approach confronted the fiscal problem.

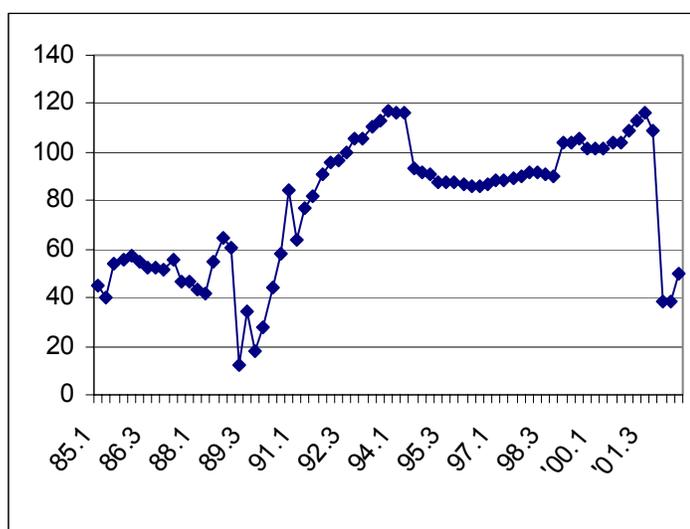
<sup>10</sup> Excluding China, for which consumer price time series are incomplete. The weights, based on trade in 2000, are: Brazil, 39 percent; United States, 12 percent; Chile, 9 percent; Germany, 6 percent; Spain and France, 5 percent; Uruguay and Japan, 4 percent (IMF, 2001).

<sup>11</sup> Japan’s historical experience is a prime example of justifiable real appreciation of the currency supported by a rise in productivity in the traded-goods sector (the “Balassa-Samuelson” effect). However, in the underlying model used by Perry and Serven (Alberola, Lopez, and Serven, 2003), the use of the ratio of consumer prices to producer prices as the proxy for the rise in relative productivity of tradables to non-tradables in comparison with other countries (the variable for the Balassa-Samuelson) is problematical. There would seem to be strong circularity in this approach. An appreciation of the real exchange rate tends to reduce traded goods prices relative to those of nontradables. It is easy to imagine an unwarranted appreciation of the exchange rate that occurs with no change in the relative physical productivity of tradable and nontradable sectors. Using the consumer price relative to the wholesale price as the proxy for relative physical productivity will falsely show a warranted real appreciation in such a circumstance. Moreover, much of the important gain in productivity in the early 1990s occurred in the non-tradables sector (e.g. from privatization of utilities), again casting doubt on the Perry-Serven interpretation that in this period the Balassa-Samuelson effect dominated.

higher real exchange rate than in the late 1980s when economic disarray discouraged investment and exports.<sup>12</sup> Moreover, if producer prices are used to deflate, there was nowhere near as much real appreciation. Thus, from the 1987-88 average to the 1993-95 average, whereas the consumer-price deflated real exchange rate rose 75 percent, the producer-price deflated real exchange rate actually fell by 1.2 percent.<sup>13</sup>

On the cpi measure, as shown in the figure, there was a period of real exchange rate decline from 1994 to 1995, reflecting the real appreciation of Brazil's currency under the fixed rate of the Real Plan as well as dollar weakness internationally in 1995. Conversely, by 2001 the rise in the dollar's international strength and the sharp devaluation of the Brazilian real boosted Argentina's real exchange rate back to the peak reached in the first half of 1994.

**Figure 3**  
**Real effective exchange rate, CPI deflated (1993-95 =100)**



Whether to use consumer or producer (especially wholesale) prices for obtaining real exchange rates is a matter of debate (Cline, 1995, pp. 33-35). The main point, however, is that in terms of international competitiveness, the rise in the real exchange rate under the Convertibility Plan was considerably less than implied by relative consumer prices alone.

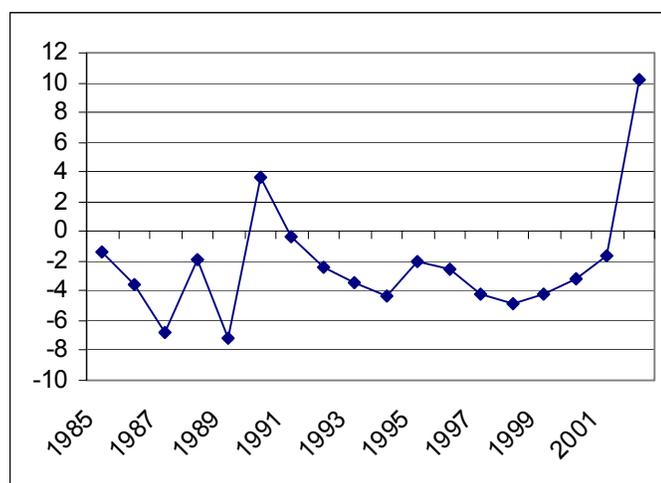
Direct international price comparisons provide an alternative gauge of possible overvaluation of the Argentine peso in the mid-1990s. In purchasing power parity (ppp) estimates based on surveys referring to 1993, the World Bank/ United Nations International Comparison Programme placed the 1999 ratio of

<sup>12</sup> This type of gain would warrant a rise in the real exchange rate even if there were no change in the relative productivity of the tradable and non-tradable sectors but instead a productivity gain in both.

Argentina's nominal GNP to its ppp GNP at 0.67, about the same as for Brazil (0.70) but somewhat higher than the average for Mexico and Chile (0.56) and for all upper-middle-income economies as a group (0.59; World Bank, 2001, pp. 274-75). The ppp comparisons might suggest relative overvaluation on the order of 15 percent (i.e.  $0.67/0.59$ ), but not of much more extreme magnitudes.

In any event, the central test of exchange rate competitiveness is the revealed performance on external current account balance, taking into account the level of employment and activity. As indicated in figure 4, through most of the 1990s Argentina's external current account deficit was smaller relative to GDP than in the late 1980s. Moreover, export performance was strong. In the period 1990-99, real exports of goods and services grew at an annual rate of 8.7 percent, far better than the 3.8 percent rate in 1980-90 (though not as high as the 10.8 percent average for upper-middle-income countries as a group, which includes the East Asian economies; World Bank, 2001, pp. 294-95). Even so, by 1999-2001 the moderate current account deficit masked an underlying weakness in competitiveness because it reflected weak import demand in the face of recession. The cyclically-adjusted current account deficit would have been substantially larger. Moreover, the Mercosur market and the cycle of exports to Brazil to some extent exaggerated the underlying strength of export performance through 1998.<sup>14</sup>

**Figure 4**  
**Current account balance as percent of GDP**



Overall, despite the currency board the peso does not seem to have been substantially overvalued as of the mid-1990s, but by 2000-01, in part because of adverse external developments, it had become seriously

<sup>13</sup> Calculated against the same 8 trading partners (from IMF, 2003). For some trading partners only the wholesale rather than producer price is available.

<sup>14</sup> Argentine exports to Brazil rose from \$1.4 billion in 1991 to \$7.8 billion in 1998 (or by 426 percent compared to 76 percent for exports to the rest of the world), and reached 30 percent of the total in that year. A significant portion of this expansion was associated with rising overvaluation of the Brazilian currency after the Real Plan, and the sharp devaluation of the real in 1999 brought a 28 percent contraction in Argentine exports to Brazil (IMF, 2002).

overvalued. In particular, the rise of the dollar internationally and the sharp fall of the Brazilian real boosted the real exchange rate from a level of 88.8 in 1997 (with 1993-95 = 100, consumer price deflated basis) to an average of 103.2 in 1999-2000 and 111.6 in 2001. Moreover, during 1999-2000 the current account deficit was virtually the same (3.6 percent of GDP) as the average in 1993-98, even though the economy had entered into recession (average growth of -2.1 percent versus 4.4 percent, respectively). There was thus a growing difficulty with exchange rate competitiveness that was hidden by the impact of the recession on imports.

Perry and Servén (2002) argue, moreover, that because Argentina's external debt was building up relative to GDP, the sustainable real exchange rate should have been depreciating rather than appreciating in the late 1990s in order to provide the needed stimulus to future exports to service the debt.<sup>15</sup> In their analysis, the peso was undervalued prior to the Convertibility Plan, was at approximately its sustainable real rate in 1996, but rose to an excessive level that peaked at 55 percent above the sustainable real level in 2001 (p. 4). As the real rate rose only 29 percent from 1996 to 2001 (cpi deflated), Perry and Servén implicitly calculate that the real rate instead should have fallen by 17 percent to remain at a sustainable level, because of the rise in net external debt relative to GDP (from 34.3 percent in 1996 to 46.9 percent in 2001) and a slowdown in the rise of relative productivity in tradables, by their proxy measure.<sup>16</sup>

Similarly, there was pressure for real depreciation of the exchange rate to compensate for the "Sudden Stop" in emerging market capital flows. Calvo, Izquierdo, and Talvi (2002, p. 16) calculate that Argentina would have needed to depreciate its real exchange rate by 46 percent to compress its current account to zero in response to the halt in net capital flows after the East Asian and Russian financial crises. However, complete elimination of the current account deficit would not have been necessary under more normal circumstances even with the emerging capital markets bust. Direct investment had held up relatively well for Latin America, and in 2000-01 averaged 1.9 percent of GDP for Argentina. Moreover, IMF and to some extent multilateral finance are designed to help act as a balance wheel and tide economies over during transitory shocks to the private capital markets.

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<sup>15</sup> As noted, in their methodology a rise in productivity of tradables relative to untradables, relative to this ratio for trading partners, justifies a rise in the real exchange rate. In addition, their model uses cointegration techniques to identify the secular trend of the real exchange rate, with inclusion of a variable representing cumulative net foreign liabilities. The coefficient on this variable is found to be high, leading to a sensitive response of their equilibrium exchange rate to the buildup in foreign debt. (One reason may be Argentina's historical sequence of a severe real depreciation during the 1980s debt problem, followed by real appreciation of the peso after Brady debt relief.) It is unclear, however, how the estimated coefficient would compare with results from an alternative approach that examines forward-looking consistency between the trade accounts and prospective debt servicing obligations (i.e. a prospective calibrated model rather than a retrospective estimated model). The empirical estimates may thus overestimate the extent to which the real exchange rate needed to be depreciated to address the rising burden of external debt.

<sup>16</sup> That is:  $1.29/0.83 = 1.55$ .

A reasonable working number for the overvaluation of the peso by 2001 is probably some 30 percent. Thus, the recession had cut imports from \$30 billion in 1998 to \$19 billion in 2001. Recovery could have been expected to boost imports back by about \$10 billion. The trade balance could thus have been held approximately at the 2001 level (\$7.5 billion surplus) by a real depreciation of about 25 percent, leaving some additional improvement from a further 5 percent depreciation to address the implications of rising external debt.<sup>17</sup> The Perry-Serven calculation of 55 percent overvaluation would appear most appropriately to be viewed as an upper-bound estimate.

Although by 2000-2001 there was a growing consensus that the peso was overvalued, the risks of devaluing continued to look daunting. There still remained justifiable fear that devaluation would once again unleash inflationary expectations, for the reasons reviewed above. However, three factors suggest instead that by this time the inflationary risk had eased. First, the Argentine economy was in a severe recession, undermining the capacity of firms to raise prices and of labor to seek wage increases after a devaluation. Second, a decade had elapsed with stable prices, likely eroding the strait-jacket tying expected peso prices to the price of the dollar. Third, experience in the East Asian and Brazilian crises had shown a surprisingly mild response of domestic inflation to sharp devaluation. Third,

By 2001, an equal or greater danger than inflation resulting from devaluation was the prospective damage that would be done to balance sheets (as emphasized by Calvo, Izquierdo and Talvi, 2002). Government debt was largely in dollars, but revenue was largely in pesos. Private borrowers had developed a mismatch between dollar liabilities, incurred at attractive dollar interest rates, and peso assets. Although the currency match was technically favorable for the balance sheets of the banks, with a modest net positive dollar position, a major portion of their dollar assets were dollar-denominated claims against the private sector, so that they were vulnerable to the impact of a devaluation through its effect on the ability of firms and households to honor the bank loans. In short, the inflation risk of devaluation was beginning to be surpassed by the insolvency risk of devaluation for both the government and the private sector.

One of the prominent debates on the exchange rate by 2000-01 concerned whether an overvalued peso from the currency board parity was or was not a prime source of Argentina's recession, and by implication whether devaluation would help bring recovery. Skeptics argued that, because exports of goods and services accounted for only 11.5 percent of GDP (in 2001), even if there were a devaluation and a resulting boost in exports the impact on economic growth would be too limited to provide much

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<sup>17</sup> If we assume that the price elasticity of both exports and imports was unity, a 25 percent real depreciation would have boosted exports from \$26.7 billion (2001 level) to \$33.4 billion, and curbed imports from a post-recovery level of \$30 billion to \$24 billion, leaving the trade surplus at \$9.4 billion – comfortably above the 2001 base level.

macroeconomic stimulus. This critique took too narrow a view of the impact of the rigid and overvalued exchange rate, however. Under conditions of an adverse international capital market, the inability to alter the exchange rate exacerbated financial market concerns about public debt sustainability by adding doubts about whether the external debt was manageable in a regime deprived of the exchange rate as an adjustment mechanism. This in turn meant a higher country risk premium, contributing to high domestic interest rates and hence contributing to recession to a degree surpassing that which might have been expected from the small size of the external sector.

More specifically, as Calvo, Izquierdo and Talvi (2002) and Wolf (2003) have emphasized, the closed (“C” of the CDM noted above) economy meant that it required a large proportionate change in the low base of exports and imports in order to close a resource gap of a given percent of GDP. Moreover, the fixed rate meant that this adjustment had to be accomplished mainly through the compression of imports from lower growth (“expenditure reduction”) rather than through a change in the price signal to discourage consumption of imports (“expenditure switching”; Meade, 1951).

The main mechanism for achieving adjustment through prices rather than compression of activity under the currency board (or gold standard) is through the reduction of domestic prices relative to international prices.<sup>18</sup> Argentina did achieve considerable adjustment in this manner. Thus, from the first quarter of 1995 to the fourth quarter of 2001, the Argentine consumer price index fell 2.4 percent, while that for the United States rose 17.5 percent (IMF, 2003). This adjustment in relative prices proved insufficient, however, in part because downward rigidity in wages – especially government wages – made downward price adjustment less feasible than required for the smooth functioning of the currency board (or classical gold standard) mechanism. Krueger (2002) has emphasized that the differential between average wages in the federal government and the private sector rose from 25 percent in 1994 to 45 percent in 1998. Although she cites these wage trends as evidence of a bloated public sector and fiscal pressures, they are equally eloquent in suggesting that at least the government sector lacked the downward wage flexibility necessary for smooth functioning of the currency board.<sup>19</sup>

By mid-2001, in recognition of the need to alleviate the drag on the economy from a loss of competitiveness associated with the by-then overvalued exchange rate, Domingo Cavallo began to take the peso out of parity with the dollar by adopting a “fiscal devaluation.” Well before then he considered

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<sup>18</sup> This occurs automatically in the classical “specie flow” model, in which under the gold standard an external deficit causes a loss of gold and hence shrinkage of money supply, which in turn causes domestic prices to fall and wages to decline in nominal terms.

<sup>19</sup> Former central bank governor Pedro Pou (2002) has also emphasized that one of the needed reforms that was not accomplished was: “Labour flexibility, in particular in the public sector, a needed requirement of a fixed exchange rate system to allow the economy to cope with real shock with as little unemployment as possible.”

that the peso should eventually float, once it faced a context of strength rather than panic.<sup>20</sup> He then came to the view that in the interim it should be fixed against a basket with equal weights on the dollar and Euro. He adopted a regime of import surcharge and export rebate in an amount to be varied such that the incentive to exporters and importers was equivalent to a peso set half at one peso to the dollar and half at one peso to the Euro.<sup>21</sup> At such time as the Euro and dollar once again were of equal value (as eventually occurred in late 2002), the peso was to be formally pegged to this basket of two currencies, and the fiscal tax-rebate mechanism eliminated.

However ingenious this arrangement, its impact on market expectations was disastrous. The decision seemed to undermine the core principle of the Convertibility Plan by removing parity with the dollar. Its implementation shortly after the mega-swap of government debt (see Annex C below) marked a turning point to renewed deterioration in the country-risk spread after a brief confidence boost from the debt swap.

To recapitulate, there are strong reasons to judge that the rigidities of the currency board, and Argentina's resulting overvaluation by 2000-01, were an important source of the economic problems that set the stage for the political-economic collapse of end-2001. The currency mismatch in public and private balance sheets that developed under the currency board especially contributed to the severity of the impact of the eventual devaluation. Most would agree, with the benefit of hindsight, that an exit from the currency board by, say, 1997, would have been a more prudent course. Most would also agree, however, that the still dominant fears of resulting inflation because of Argentina's historical experience and the resulting structure of inflationary expectations made the balance of risks between keeping and exiting from the currency board far less obvious at the time.

#### *D. External shocks*

It is sometimes argued that external shocks could not have been the source of Argentina's 3D collapse, because most other emerging market economies did not experience such dire consequences (e.g. Corrales, 2002). However, the vulnerability of the Argentine economy to shocks was unusually high, as set forth above, and its political fragility reinforced this vulnerability, as examined below. The proper test of the role of external shocks is thus to ask what might have happened in their absence, rather than to dismiss them because other countries did not experience comparable crises.

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<sup>20</sup> At a National Bureau of Economic Research conference in October, 2000, Cavallo stated: "When the currency inspires enough confidence, we will have a floating exchange rate ..." (Cavallo, 2003, p. 80).

<sup>21</sup> As the Euro was at 92 cents at the time, this meant placing a tax of 4 percent on imports and providing a subsidy of 4 percent to exports.

At least one classic external shock does not seem to have occurred: Argentina did not face a severe decline in its terms of trade (export prices relative to import prices). In the good years 1996-98, the terms of trade index stood at an average of 106.9 (against a base of 1993=100), according to Ministry of Economy calculations; in the bad years of 1999-2001, the average was 102.7 (MECON, 2003c). The decline of about 4 percent was too small to account for the economic crisis.

Figure 5 shows the path of export prices, import prices, and terms of trade from 1993 through 2002. It is evident that the overall terms of trade were relatively constant over this period. The figure also shows the individual export price components for agricultural products and fuels. There was a substantial decline in agricultural prices, from a peak of 136 in 1996 to 89 by 2001. This was offset, however, by the surge in the price of oil exports (which had fallen from an average of 111 in 1995-97 to 76 in 1998 but then surged to an average of 129 in 1999-2001). Oil exports had become increasingly important after the privatization of the national oil company (YPF, purchased by Spain's Repsol). Oil and other fuel exports rose from 4 percent of total exports in 1989 to about 10 percent in 1990-95 and 16.5 percent by 1999-2001, whereas primary product exports (including the key categories of cereals and oilseeds) fell from about 27 percent in 1990-92 to about 21 percent in 1999-2001 (*ibid*). As a result, the boost in oil prices by 1999-2001 offset the erosion in traditional agricultural export prices. Moreover, falling import prices (from 102 in 1996-98 to 92 in 1999-2001) associated with the rising dollar internationally meant that the terms of trade held up relatively well despite erosion in overall export prices.

It can be argued that the oil-price rescue of the terms of trade was less than a full offset for the economy, however. To the extent that the oil sector is an “enclave economy,” its gains would not have compensated in employment and activity levels for the losses in the agricultural export sector, even if the terms of trade offset was effective for foreign exchange earnings.

There were, moreover, three external shocks that were severe: the sharp rise in the dollar; the Brazilian recession and collapse of its currency the real; and, especially, the severe retreat in international capital flows to emerging market economies after the East Asian and Russian crises.

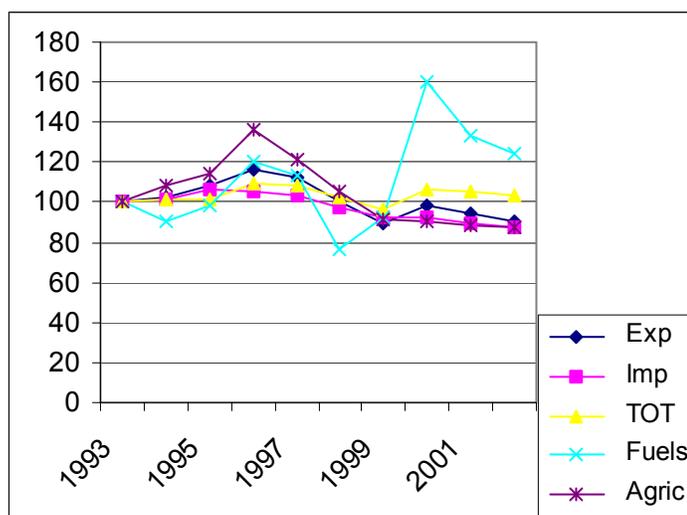
From 1996 to 2001 (yearly averages), the dollar rose 44.2 percent against the Euro (IMF, 2003a).<sup>22</sup> Euro-area countries accounted for 18.3 percent of Argentina's trade turnover in 2000 (IMF, 2001). So the rise of the dollar imposed on Argentina what was equivalent to a tax of 44 percent on all exports to the Euro area and a subsidy of 31 percent on all imports from the Euro area, and this disadvantage affected about

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<sup>22</sup> The simple average for Germany and France. The Euro equivalents for 1996 are obtained by converting the Deutschemark and Franc by their respective conversion rates to the Euro when it was inaugurated in 1999.

one-fifth of total trade (or even more considering several Eastern European and other non-Euro economies geared their exchange rates to the Euro).<sup>23</sup>

**Figure 5**  
**Trade prices and terms of trade (1993=100)**



For its part, Brazil had been a source of buoyancy for Argentine exports in the mid-1990s when the Real Plan caused an overvaluation in the new Brazilian currency, stimulating Argentine exports. The Mercosur free trade area further heightened the importance of Brazil in Argentina’s trade, and the bilateral trade turnover rose from 20.5 percent in 1993 to 26.3 percent in 2000 (IMF, 2001). The peso’s advantage from the overvalued real in the mid-1990s came back to haunt Argentina in 1999 when Brazil was forced to devalue, however. The real fell from 1.16 per dollar in 1998 to 2.36 in 2001, while domestic Brazilian prices rose only 20 percent over the same period. The effect was equivalent to imposing a tax of 70 percent on Argentine exports to Brazil and an import subsidy of 40 percent on Argentine imports from Brazil. Even worse, there was a decline in Brazilian demand volume associated with Brazil’s recession in 1998-99. As in the case of the dollar shock, Argentina could not respond by depreciating its own currency because of the straitjacket of the currency board.

The capital market shock, however, was likely even more severe than the dollar and real shocks. Argentina had been the foremost beneficiary of the boom in emerging markets lending in the mid-1990s. Net private credit flows (from banks, bonds, and other sources) to emerging market economies soared from an annual average of \$71 billion in 1991-94 to \$153 billion in 1995-97, but then plunged to an

<sup>23</sup> The 31 percent subsidy-equivalent to imports is from:  $1 - 1/1.44 = 1 - 0.69$ . Note that the dollar also rose against the yen in this period but by less (11.7 percent) and Japan constitutes a surprisingly small share of Argentina’s trade turnover (2.4 percent in 2000).

average of only \$2 billion in 1998-2001 (IIF, 2003 and previous issues). Whereas this market recovered strongly from Mexico's 1994-95 crisis, it did not recover from the series of crises that began with East Asia in 1997, was seriously affected by Russia's default in 1998, and continued under a cloud of uncertainty in the face of the Brazil crisis in 1999 and then Argentina's own crisis in 2000-01.

The drying up of the emerging markets credit flows doubly affected Argentina, because not only was it important for the financing of the external current account deficit, but external bond issues had become crucial to the financing of the Argentine public sector. In the mid-1990s, the government turned increasingly to the attractively priced international market to cover its deficits. Outstanding public sector external bonds rose from \$32 billion at end-1993 (the Brady bonds) to \$58 billion at the end of 2000 (MECON, 2003b).

The financial crises not only curbed the flow of new lending but raised the price of borrowing. The JP Morgan "EMBI+" index of emerging market sovereign spreads over US Treasury rates was in the range of 500 to 600 basis points during the first half of 1998, but surged to a range of 1200-1700 basis points in October 1998 after the Russian default. During the course of 1999 these spreads eased back to about 1200 basis points, and by October 2000 they were down to about 700 basis points. Throughout this period Argentina's spreads were about the same or somewhat lower than those of the rest of the EMBI+ index.

The surge in emerging market borrowing rates in 1998-99 posed a special risk for Argentina because of its heavy reliance on the external market for financing government debt. The government sought to move toward borrowing in the domestic market in this period, but the potential domestic lending capacity was limited, and the shift in borrowing as well as the link of domestic to international interest rates contributed to a rise in domestic interest rates and in turn to the recession. Thus, whereas the 30-day prime lending rate stood at 8.5 percent in April-August 1998, it jumped to 13.6 percent in September 1998-February 1999, at a time when inflation was at or below zero.

In sum, the external shocks of a strong dollar, the devaluation of the Brazilian real, and especially the "sudden stop" in emerging market capital flows and surge in borrowing rates, played an important role in Argentina's economic collapse, in considerable part because its rigid exchange rate and public borrowing dependency on the external market made the economy especially vulnerable to such shocks.

*E. Political shocks*

Despite Argentina's fiscal problems, and its heightened vulnerability to external shocks in view of the rigid exchange rate, there are solid grounds for judging that the 3D collapse could have been avoided in the absence of domestic political shocks. The argument is as follows. First, some or all of the purely economic shocks were potentially reversible given enough time. In particular, the dollar has fallen sharply against the Euro since end-2001, when the peg of the peso to the strong dollar was a major source of pressure. Second, the driving force in the eventual collapse was the vicious circle of severe deterioration in market confidence, rising country-risk spread, and still further loss of confidence as a result of the worsened solvency outlook from higher interest rates. Third, the proximate cause of the surge in spreads above those paid by other emerging market economies was a series of domestic political shocks. Fourth, the conclusion is that in the absence of these shocks Argentina "could have made it." All together, this view of the collapse amounts to a "multiple equilibrium" diagnosis, in which the initial underlying conditions are consistent either with a good or a bad outcome depending on which way the balance is tipped, with the key tipping influences for Argentina being domestic political shocks.<sup>24</sup> This diagnosis may be summarized as the Political Shock – Multiple Equilibrium (PSME) model.

Corrales (2002) has provided a political analysis that helps underpin the PSME approach. He argues that under President de la Rúa, Argentina became a "state without a party." This occurred because de la Rúa lost the support of his own party (the Radical Civic Union), in a split with former president Raul Alfonsín (who was vocally critical of the Convertibility Plan).<sup>25</sup> De la Rúa took office in December 1999 in the Alliance coalition with a new center-left party (FREPASO), on a program calling for an end to corruption and investment in the social sectors. His initial efforts focused on unavoidable fiscal adjustment, however, and this lost the support of his coalition partners. The coalition's split became acute with the resignation of Vice President Carlos Alvarez in October, 2000, prompted in part by de la Rúa's failure to support Alvarez' critique of the Labor Minister for alleged bribery of Peronist senators to assure passage of a labor reform bill (Manzetti, 2002). When Minister of Economy Jose Luis Machinea resigned in early 2001 over the lack of support for fiscal adjustment, de la Rúa at first appointed fiscal conservative Ricardo Lopez Murphy as his replacement, but almost immediately after was forced by the UCR leaders to dismiss Lopez Murphy.

De la Rúa thus had sharp opposition from his own party in congress. He developed an ad hoc response by seeking to govern through negotiations with the Peronist (Partido Justicialista, PJ) governors of the

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<sup>24</sup> Obstfeld (1985) sets forth the dynamics of multiple equilibria in the context of exchange rate outcomes. Williamson (2002) has pointed out that multiple-equilibria dynamics apply as well to the solvency-insolvency outcome for a sovereign debtor.

provinces, and thence through the PJ members of congress. This awkward and fragile arrangement proved incapable of meeting the severe test of congressional (and provincial) support needed for the tough measures that had to be taken.

When Domingo Cavallo succeeded Lopez Murphy at the end of March, 2001, there seemed still some chance of avoiding the economic collapse. He obtained emergency powers and undertook some corrective fiscal measures, though he did not receive UCR support for his desire to use future tax revenue as collateral for government bonds in order to bring down their interest rate (Cavallo, 2002), and his “competitiveness program” scheme of tax incentives to business to jump-start the economy had little effect while conveying a sense of incoherence in overall fiscal policy. The market reacted unfavorably, however, to Cavallo’s forcing Central Bank President Pedro Pou out of office in April, 2001, which reflected Cavallo’s desire for a more stimulative monetary policy as well as Pou’s disagreement with the plan to shift to a joint dollar-Euro exchange rate peg. The effect was to undermine the perception of central bank independence.

By July 2001 Cavallo had realized Argentina’s credit was exhausted, and he adopted a Zero Deficit policy that involved an immediate cut of 13 percent in public sector salaries and pensions, to be adjusted further if necessary to accomplish fiscal balance. This program came on the heels of the successful mega-swap for \$30 billion in public debt (see Annex C). However, as noted earlier, Cavallo at the same time announced his “fiscal devaluation,” which began to undermine confidence. The market reaction to the Zero Deficit policy was also adverse, as investors began to fear the political reaction.

This reaction was indeed forthcoming, as de la Rúa lost resoundingly in the October 2001 congressional elections. The most severe political shocks, however, came in December when Cavallo temporarily froze bank accounts because of the rapid runoff in bank deposits and international reserves. Street riots, reportedly exacerbated by the Peronist authorities in Buenos Aires, led to 22 deaths in late December, forcing Cavallo and de la Rúa to resign.<sup>26</sup>

The overall effect of the political unraveling was to undermine market confidence that there would be political support for the needed economic policies. Whether it was the resignation of the Vice President, the resignation of Minister of Economy Machinea, the dismissal of Lopez Murphy, a report of yet another

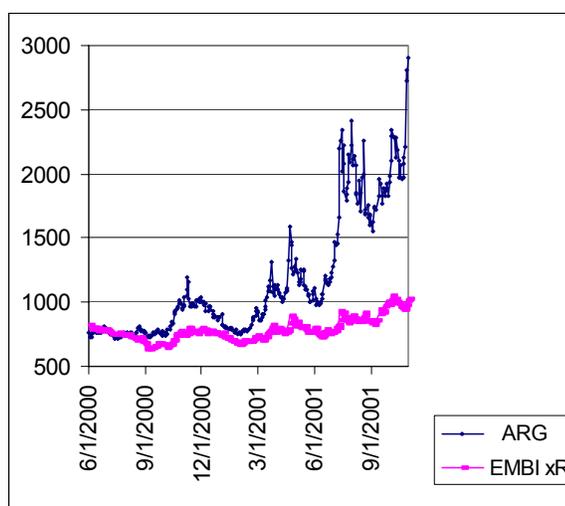
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<sup>25</sup> Some have attributed the stunning persistence of Alfonsín’s influence on the Radical party in Argentina, despite his having presided over hyperinflation, to the public’s affection for him as the first democratically selected president after the military regimes.

<sup>26</sup> Cavallo (2002) states that the “street turmoil” was “stirred up by the Government of the Province of Buenos Aires [then under Governor Carlos Ruckauf] in the form of confrontation tactics, pressures and deals with potential rioters and local political leaders,” and that “the Province of Buenos Aires’ Police Force turned a blind eye” to the riots. Tommasi (2002, p. 42) similarly states that “the street riots and manifestations that marked the departure of de la Rúa was in part spontaneous mobilization of the middle classes after their bank savings were expropriated, but largely due to the mobilization of violent protests by the peronist machinery of the Province of Buenos Aires.”

rejection of government proposals by the provincial governors, reaction to the Zero Deficit public sector wage cuts, or the government’s loss in the congressional elections, at each successive political shock there was an escalation in the country risk spread on external bonds. Figure 6 shows this spread for Argentine government bonds and for the JP Morgan EMBI+ index excluding Russia. In Argentina, this “country risk” was highly publicized and watched daily by the public. A risk spread of about 1500 basis points, which became the norm by mid-2001 and after, means that the market expects a loss of 65 cents on the dollar, meaning for example that there is a 90 percent probability of default and a recovery rate of only 28 percent if default occurs (see Cline and Barnes, 1997, p. 40). The persistence and continued escalation of the spreads gave an increasing sense of inevitability of default. This in turn increasingly prompted the public to protect itself by withdrawing deposits from banks to remit abroad or hoard domestically, particularly in light of the memory of the Bonex Plan freeze in bank accounts in 1990.

**Figure 6**  
**Spreads above US Treasury bonds (basis points)**



As figure 6 suggests, before July 2001 the response of spreads to political shocks tended to be temporary. There had been some moderate improvement in June with the megaswap, but on July 15 the announcement of the “zero deficit” plan triggered a jump of 400 basis points in the spread, to 1600 bp. At the time, Minister of Economy Domingo Cavallo made statements that the 13 percent wage cut in the plan was needed because Argentina no longer had access to credit. Powell (2002, p. 13) argues that the seeming desperation of the zero deficit plan may have acted as a rallying signal to creditors that the

situation was worse than they had realized. He notes the role of a change of this nature in the “common knowledge,” in game-theory terms, causes the players in the game (investors) to change their view of what most of the other players will do, and hence switches the equilibrium to a new (and in this case more adverse) one.

Argentina’s political system exacerbated the potential for vicious circles. There was an unfortunate tradition whereby the sitting president could be forced to resign if conditions deteriorated enough. Raul Alfonsín left office 6 months early in 1989. With the expectations of the dissident UCR faction, the Peronist opposition, apparently some media groups, and presumably many in the public that de la Rúa similarly could be forced to resign, instead of a process of consensus building there was an escalation of pressures for presidential resignation by December 2001. Domingo Cavallo subsequently wrote:

*From December 19<sup>th</sup> through 30<sup>th</sup>, 2001, Argentina suffered an institutional coup that resulted in the subsequent resignations of President Fernando De la Rúa and Provisional President Adolfo Rodríguez Saa. The aims behind the institutional coup were Argentina defaulting on its debts and abandoning “convertibility” ... Those who pressed for this institutional breakdown thought that by defaulting on the debts and moving away from convertibility, the heavily indebted private sector would eventually have its financial problems solved: if Argentina “pesified” its economy – that is, forcing the conversion of all dollar contracts into peso contracts and then devaluing the peso – a huge amount of resources would be automatically transferred from creditors to debtors. This presumption may have been the main source of financial and media backing for the coup.<sup>27</sup>*

In sum, under these circumstances of political collapse in which the president not only lacked support of his own party but, if Cavallo is accurate, faced their demand for his resignation, it is no wonder that default and devaluation occurred at end-2001. Given the vulnerabilities outlined above, it is correspondingly no surprise that the result was depression, the third D, in 2002. Argentina’s default placed it squarely in the camp of other major emerging market sovereign defaults in recent years, in that the recent default cases have prototypically been cases of political unravelling (Indonesia, where Suharto was forced out of office – although there the defaults were in the private sector and not by the government; Russia, where Yeltsin had lost control and debt was not successfully restructured until Putin was in power; and Ecuador, where the president was forced out of office by a junta comprising military

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<sup>27</sup> Cavallo (2002). Cavallo goes on to say that the leaders of the institutional coup were the leaders of the Radical Party. Their tactics were to boycott the 2002 budget bill, then to demand the resignation of the cabinet, and then to demand the resignation of the president. He also indicates that key leaders of the Radical Party had pressured de la Rúa and Cavallo to default on the government’s debt or abandon convertibility as early as March 2001.

and indigenous leaders). In sharp contrast, where there has been orderly continuity of government, even in an election period, key emerging market economies facing financial crises have been able to overcome them without default, notably including Korea in late 1997 and Brazil in 2002. These experiences strongly suggest the usefulness of the PSME framework for understanding defaults in general and Argentina's 3D economic collapse in particular.

Powell (2002) has provided statistical support for the PSME model. He applies vector autoregression (VAR) analysis to test among four competing hypothesized causes of the crisis: fiscal unsustainability, current account unsustainability, political risk, and multiple equilibria. His variables are the EMBI spread, fiscal revenue, bank deposits, imports, and an index of political risk. He finds that higher political risk leads to lower deposits and lower fiscal revenue, and that lower deposits in turn lead to a higher EMBI spread, providing support for the political-shock multiple-equilibrium model. He also finds that lower imports boost rather than reduce the spread, suggesting that creditors were more concerned about growth than about the current account deficit. He concludes (p. 37) that:

- *there is evidence to suggest that political risk affected economic variables that then certainly made the debt position worse; and*
- *there is strong evidence in favor of vicious cycles at work and hence multiple equilibria through solely economic variables, as well as from the economic variables to the politics and back to the economics.*

#### *F. Role of the IMF*

This study is not about the International Monetary Fund. One reason is that I have not had access to confidential IMF documents, and it is problematical to evaluate the Fund on the basis of such sources as press accounts.<sup>28</sup> Even so, reviewing the Argentine crisis without considering the role of the IMF would be like staging a performance of Hamlet without at least Polonius, if not the Prince of Denmark.

There are perhaps five central questions about the IMF's role in Argentina. First: was the IMF too lenient in its conditionality in the period before the 3D collapse? Second, did the IMF give the wrong advice, in particular by pushing for excessive fiscal adjustment? Third, was the IMF seriously mistaken to provide another round of financial support in August, 2001? Fourth, was the IMF too hard on Argentina in 2002 when an entire year passed without the successful negotiation of a new agreement? Fifth, has the IMF's

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<sup>28</sup> This is a potentially fundamental problem of observation, because the only parties with full information are likely to have an institutional bias toward a favorable judgment on the IMF.

large outstanding claim on Argentina placed the institution in the “lender’s trap” in which it cannot impose strict conditions because of concern about having such a large block of its portfolio nonperforming?

The first question primarily centers on whether the IMF allowed Argentina to persist in fiscal deficits too long, and whether it should have insisted on an exit from the currency board. There were seven major IMF support programs beginning in March 1992, with the final agreement in August of 2001.<sup>29</sup> They successively ratcheted upward IMF support for Argentina from \$3.9 billion in 1992 to \$7.2 billion by March 2000, \$14 billion by January 2001, and potentially (though not fully drawn) \$22 billion in August 2001. Most critics have stressed the repeated failure of Argentina to meet its fiscal targets under the programs, as well as insufficiently ambitious targets in the late 1990s. Thus, the early-1998 program called for a federal deficit of 1 percent of GDP in what turned out to be a boom year. The actual deficit turned out to be 1.4 percent of GDP. The March 2000 program called for the consolidated public primary balance to shift from a small deficit in 1999 to a 3-3/4 percent of GDP surplus in 2000 (the attempted fiscal correction at the beginning of the de la Rúa administration). The actual primary balance for 2000 turned out to be 0.4 percent of GDP. The January 2001 program sought to reduce the federal deficit to 2.2 percent of GDP; the actual 2001 federal deficit turned out to be 3.2 percent of GDP.

Although to critics this pattern signified undue IMF lenience in the face of a record of non-achievement of conditionality targets, the underlying dynamic was almost certainly the severe shortfall in growth from the rates assumed in the programs, and hence much worse fiscal performance than anticipated. The programs had assumed growth of 3.5 percent in 2000 and 2.5 percent in 2001. Instead, growth was -0.8 percent in 2000 and -4.4 percent in 2001. Moreover, in this period the IMF was under severe criticism for its excessive targets for fiscal adjustment in the East Asian financial crises in 1997-98, and the Fund itself had recognized that because the depth of the East Asian recessions was greater than had been anticipated, its initial fiscal targets had indeed been too austere (Cline, 1998). In Argentina, the principal shortcoming on this count, especially in light of the buildup of debt from non-budgetary sources (skeletons, provincial debt) was almost certainly the insufficiently ambitious surplus targets during 1996-98 when the economy was in a boom phase. It is more difficult to argue that the IMF should have cut off Argentina in 2000 or (early) 2001 because of failure to reach fiscal targets when the economy had fallen into unexpected recession.

As for the currency board, the discussion above reviews the high stakes for Argentina of a decision to exit,

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<sup>29</sup> See IMF Press Releases 92/27; 95-18; 96-15; 98/1; 00/17; 01/3; and 01/81.

even though with the benefit of hindsight (especially with the experience of low induced inflation from sharp depreciation) an orderly exit sometime in the late 1990s would have been desirable. As for the IMF's role, Mussa (2002) argues that the IMF in principle allows the member country to make its own choice about its exchange rate regime, and would not have been in a position to insist on exit from the currency board as a condition of support.

The answer to the first question, then – was the IMF too lenient – is that at most it was too lenient in that it failed to seek fiscal surpluses in the boom years. It is more difficult to argue that it was too lenient on fiscal performance once the recession got under way in 1999-2000. Correspondingly, the answer to the second question – was it overly harsh in seeking fiscal adjustment – as contended by Stiglitz (2002) -is no (as discussed above in the section considering fiscal causes of the crisis).

The third question is whether the August 2001 support program was a mistake. Mussa (2002) argues that it was; that by that time there was no hope for Argentina to avoid a default, and the IMF was irresponsible to provide additional support. I have disputed this diagnosis, along with Mussa's corresponding critique that the mega-swap of external debt in June 2001 was far too costly to Argentina (Cline, 2002 and Appendix C in the present study). Mussa judges that when Economy Minister Lopez Murphy was not supported in his fiscal adjustment proposal of March 2001, Argentina missed its last chance to avoid default. My own sense is that the zero deficit program of Economy Minister Domingo Cavallo in July 2002 was a sincere effort that was in fact applied, and that there were still considerable chances of reversing the downward spiral in market confidence.

What is certain is that IMF refusal to provide further support in August 2001 would have been a sure death-knell for avoidance of default, and probably for avoidance of devaluation. Should the IMF have pulled the trigger on Argentina at that time? In Cline (2002) I argue that in financial crisis management, the quasi-lender of last resort function carried out by the IMF should give the benefit of the doubt in diagnosing whether the country is solvent and therefore should be eligible for large temporary liquidity support, because the costs of default are high and certain. I conclude that the IMF made the right choice by providing extra support in August 2001. Perhaps the main question is whether having decided to provide support, it was mistaken to do so in a half-hearted fashion that was arguably insufficient in volume and, more dangerously, in a manner that seemed to signal that private creditors should expect to have their debt restructured (Powell, 2002, pp. 38-39). Namely, in part apparently at the urging of then US Secretary of Treasury Paul O'Neill, disbursement of \$3 billion out of an \$8 billion package was to be

delayed unless it was used in support of debt restructuring, and by implication restructuring with a haircut considering that the market-based megaswap had already been completed.

The fourth question concerns 2002. During the course of the year, Argentine authorities would successively announce that they had met almost all of the IMF's preconditions for a renewed program, but that the Fund kept delaying agreement. The distinguishing feature of this period was that any IMF support was acknowledged to be little more than enough to enable Argentina to repay amounts coming due to the Fund. This was appropriate, because once the country has defaulted, there is no longer a case for large, temporary lender-of-last-resort financing to reverse adverse market confidence. Post-default is a period of picking up the pieces. Multilateral lenders basically cooperate by rolling over their claims (providing new loans that cover the amount of amortization due); bilateral lenders essentially do the same, sometimes with formal reschedulings if their claims are large; and private creditors try to work out a deal with the government on at best rescheduling principal and more likely restructuring with some "haircut." This is a well-established pattern from the 1980s (from the "Baker Plan" rescheduling Latin debt to the "Brady Plan" forgiving some of it), with the nuance that today's markets somehow have to accomplish the same outcome with much more decentralized holdings of the debt in the form of international bonds.

In the workout phase, there is a case for a lower threshold of IMF conditionality. The issue is not whether it will risk more taxpayer money (large sums of net additional lending are not on offer). The issue is whether it will apply the stick rather than the carrot, by forcing the country into the financial-pariah status of being in default to the IMF. This, of course, is a two-edged sword, because it is uncomfortable for the IMF as well to have a major client in default.

One interpretation of the absence of an agreement during the course of 2002 is that the IMF decided to "get tough" with Argentina, to set the record straight in the face of critics who considered it had been too lenient too long with the country. A get-tough posture might also have been attractive in period when the institution was providing massive support to Turkey and under criticism for providing too many large financial packages with too much moral hazard. A simpler interpretation, however, may be that a number of the populist and interventionist measures of the Duhalde regime, such as the freeze in utility tariffs, posed obstacles to an agreement because of the Fund's reluctance to endorse them.

In the end, the answer to the question of IMF roll-over support was forced by Argentina's default on a payment of about \$800 million due the World Bank in mid-November, 2002. This default meant among

other things that the World Bank would have been unable to continue its lending for Argentina's social safety net (the Heads of Households program discussed below) in 2003 in the absence of clearing of the arrears. Prospectively, similar defaults on payments due in mid-January of about \$800 million to the Inter-American Development Bank and \$1 billion to the IMF were imminent.

It is conceivable that if left to their own counsel, IMF officials would have decided not to renew lending, and Argentina would have entered into default on IMF and IDB credits. The issue had already escalated to the political level of principal IMF shareholders, however, with support for Argentina from Spain (home to major direct investors in Argentina) and, by the later months of 2002, the United States. By mid-December after the grace period on the World Bank loan expired and Argentina defaulted, there was reportedly an intensification of pressure from G-7 officials for the Fund to reach some form of an agreement (*El Cronista*, 18 December 2002; *La Nacion*, 19 December 2002).<sup>30</sup> President Duhalde indicated to the press that US, Spanish, and Italian authorities had been instrumental in paving the way for what turned out to be a “transitional” program extending the term of payments due (without providing additional new support) in mid-January 2003. The program bridged the period through August, 2003, by which time a new program would be needed as some \$3 billion in repayments to the IMF would be due. In announcing the program, IMF Managing Director Horst Köhler noted that it involved “exceptional risks to the Fund.”<sup>31</sup> As it turned out, Argentina more than met its fiscal targets through April 2003 under the transitional agreement, but it failed to deliver on the commitment to end the moratorium on foreclosure on nonperforming mortgage loans (which congress extended in legislation President Duhalde did not veto).

In short, a case can be made on either side of the question of whether the IMF was too tough on Argentina in 2002, and the answer depends primarily on whether there should be two-tier conditionality (Mussa, 2002) in which a more lenient set of conditions is considered satisfactory when no (or no significant) net new lending is involved and the issue is whether to roll over principal in an orthodox fashion or to enter into forced roll-over through arrears, with all that implies for both the country and the IMF.

The final question regarding the IMF is whether it and the other multilateral donors have now entered into the “lender's trap” in which there is a great deal of leverage on the side of the debtor because it expects no net new financing from the donor and it can threaten not to pay principal due. The best approach on this issue is to recognize that even in this situation, the Fund and the country can still play a “positive-sum game” in which both benefit through a cooperative approach. The only difference from the normal situation is that the “gain” is an algebraic one involving “avoidance of damage inflicted” on both sides,

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<sup>30</sup> *El Cronista* (18 December 2002) cited intense efforts by IDB president Enrique Iglesias to convince both sides of the importance of an agreement.

<sup>31</sup> IMF Press Release 03/06, 17 January 2003.

not unlike the doctrine of “Mutually Assured Destruction” that governed nuclear diplomacy in the Cold War. The keys to how this new phase plays out will most likely be whether the IMF recognizes grounds for more flexible conditionality than when it is putting up new money, on the one hand; and on the other hand, how fully the new Kirchner government pursues Argentina’s long-run interest in maintaining strong ties with the international official community and eschews pressures for more short-sighted populist policies inimical both to sustained growth and to precedents the IMF can tolerate setting.

The reality is that neither side can inflict the mortal damage on the other required for a Mutually Assured Destruction game, so there is a significant risk that one side will miscalculate and a disruption unfavorable (but not fatal) to both will occur. The pattern that appears to be evolving to avoid this outcome, however, is the use of a compromise “transitional” agreement of short duration pending governmental action on key reforms. The first transition was until after the presidential elections. A new transitional arrangement might extend until late in 2003 or at the outset of 2004, comfortably after the October congressional elections and perhaps giving enough time for greater clarity on the issue of Supreme Court impeachments. While the government can plausibly argue that it cannot commit to an offer of long-term debt restructuring to its private creditors in the absence of a medium-term agreement with the IMF, preparations could reasonably be made to allow both to materialize simultaneously by late 2003 or early 2004. It seems unlikely that the IMF would instead grant a medium-term rollover without more responsive government action on such key issues as utility rates and mortgage bankruptcy resolution. The IMF itself is insufficiently at risk to be so deeply in the lender’s trap that it would have no alternative, and the G7 political leaders would seem unlikely to mobilize in the same way they did in late 2002 when Argentina was still in a more acute phase of depression and the risks of political destabilization remained higher.

To assess the IMF issue, it has been helpful to consider developments up through early 2003. Before turning to the elements of the strategy for restoring growth going forward, however, it is necessary to return to the major economic developments and policies during the course of 2002.

### **3. A YEAR IN PERDITION: 2002**

#### *A. Overview*

The default at the end of 2001, devaluation at the beginning of 2002 and subsequent depression made 2002 the worst year in Argentine economic history from the standpoint of output, but not from the standpoint of inflation. Hyperinflation was avoided, almost certainly the most important achievement of the Duhalde administration. Moreover, by the second half of the year there was an encouraging phase of stabilization in prices and the exchange rate, and output began to recover. From the perspective of mid-2003 there was at least as much reason to be impressed by the so-far successful stabilization after the 3D crisis as by the severity of the crisis itself.

The severe decline in output had already begun in the second half of 2001. The change in seasonally adjusted real GDP from the previous quarter was -4.4 percent in the third quarter of 2001, -5.6 percent in the fourth quarter of 2001, and -6.2 percent in the first quarter of 2002, before turning to an average of +0.75 percent in the second through fourth quarters of 2002 (MECON, 2003b). Thus, while the most acute phase of the depression was immediately after the default and devaluation, two-thirds of the decline in output had already occurred in the second half of 2001.

Upon de la Rúa's resignation, following the Constitution, the Peronist-controlled congress selected Adolfo Rodríguez Saá as interim President, reflecting a compromise between the Menem and Duhalde factions of the party (Corrales, 2002). His first act in office was to declare public external debt in default. Within a week he resigned, citing lack of support from party leaders. On January 1, 2002, Congress selected Eduardo Duhalde to serve as President through the completion of de la Rúa's term. Within a week, he devalued the peso (and Congress revoked the Convertibility Law). After a brief period of a dual exchange rate, the currency floated down sharply, falling to 2 pesos per dollar by the end of January and 3.9 per dollar by the end of June 2002.

There have been three phases in the economy since the beginning of 2002.<sup>32</sup> The first phase, one of devaluation and serious risk of hyperinflation, extended for the first half of 2002. The pesification process (conversion of dollar accounts to pesos at 1.4 pesos per dollar) meant a surge in the peso money supply, and the central bank lent heavily to especially public sector banks. The bank deposit freeze militated

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<sup>32</sup> This phasing has been suggested by Guillermo Mondino (by communication).

against a hyperinflation outcome, but avoiding hyperinflation was by no means guaranteed.<sup>33</sup> The monetary overhang was absorbed in this period by allowing the exchange rate to depreciate more sharply, by depositors' shifting from demand to term deposits in response to higher interest rates, and by the rise in prices. Social turmoil, including recurrent street demonstrations, was severe.

By July 2002 President Duhalde contributed importantly to an atmosphere of greater social calm by announcing that new elections would be held in early 2003. By mid-year the second phase of greater fiscal certainty and the digesting of the monetary overhang had begun, under a new economic team. Although the new policies remained populist in some dimensions (redistribution, intervention), in others they were more conservative (fiscal adjustment and allowing the exchange rate to move rather than fixing the rate and causing a large parallel market premium).

After a new round of monetary expansion in the final quarter of 2002, a third phase characterized by monetary restraint began by January 2003 with the arrival of a new president at the central bank and the achievement, after months of discord, of the “transitional” agreement with the International Monetary Fund. In this phase, central bank president Alfonso Prat-Gay has pursued a monetary target and gradually liberalized foreign exchange controls to dampen the tendency of the peso to regain strength, in light of the need for a highly competitive exchange rate to boost import substitutes and exports and, especially, revenue from export taxes. The alternative of holding the exchange rate through intervention in the exchange market would have placed more pressure on monetary expansion. An overarching feature of the successive phases, many in Argentina would argue, has also been the end of the large capital outflows (including into “mattress” local holdings of US currency) that occurred in the second half of 2001 and first half of 2002.

### *B. Output and inflation*

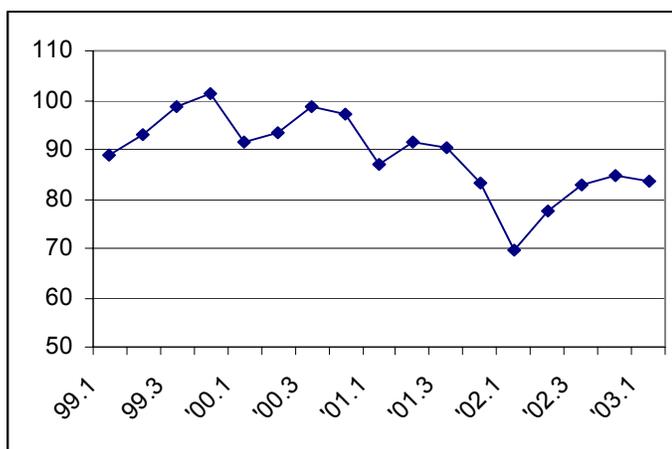
As noted, the financial crisis and extreme uncertainty had already caused a major decline in output in the second half of 2001, and following the bank deposit freeze in December, the devaluation, and the default, in the first quarter of 2002 output plunged further. Industrial production fell to about 22 percent below its already weak average of the first three quarters of 2001, before staging a moderate but persistent recovery during the second through the fourth quarters of 2002 (figure 7). Open unemployment, which had been 15

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<sup>33</sup> Indeed, Minister of Economy Robert Lavagna has stated publicly that in the second quarter of 2002, the IMF suggested as one option the release of the frozen bank deposits and a consequential rise in prices by some 400 percent, along with further exchange rate depreciation. This may have been mooted, however, primarily as a means of warning how unacceptable the inflationary result would be if the IMF's reportedly preferred option of converting all frozen deposits to bonds on a mandatory basis were rejected.

percent in 2000 and had risen to 18.3 percent by October 2001, rose further to 21.5 percent in May 2002 before easing to 17.9 percent by October 2002 (MECON, 2003b).

**Figure 7**  
**Industrial production (1997=100)**



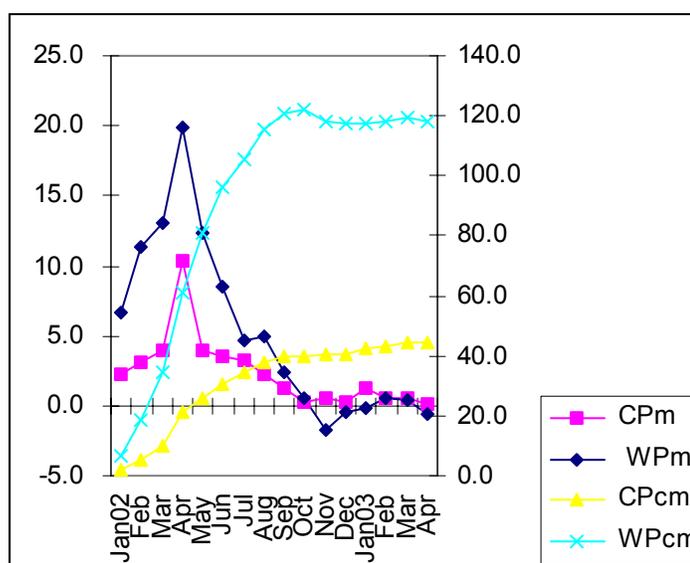
Source: MECON (2003b)

Like those for output and employment, inflation trends were severe in the first half of 2002 but showed surprising improvement by the second half. Monthly inflation peaked in April 2002 at 20 percent for the wholesale price index (the more sensitive to traded goods prices) and 10 percent for the consumer price index. The cumulative rise in prices above the December 2001 level reached about 120 percent for the wholesale price index and about 40 percent for the consumer price index. Crucially, almost all of this increase occurred by August, and thereafter inflation fell back close to zero rather than spiraling upward (figure 8).

The total increase of 40-120 percent (depending on the index) was far less than the increase in the peso price of the dollar, which had peaked at 260 percent by the end of June 2002 (with the exchange rate at 3.75 per dollar) and eased slightly to 240 percent by the end of December (3.4 per dollar). This sharp delinking of domestic prices from the exchange rate, contrary to widespread expectations of a strait-jacket tying the two together based on past Argentine experience (as discussed above), was one of the few rays of light in the otherwise dark economic picture. Importantly, in contrast to past experience in Argentina, there was no surge in wages in response to the exchange rate depreciation, reflecting the weakness of the economy, a government incomes policy for public sector workers, and perhaps the lesser degree of unionization than in the past. Nonetheless, there were grounds for concern that the muted inflationary

impact of devaluation could prove transitory, because it had reflected the severe depression of demand as well as the artificial collapse in liquidity from the freeze on bank deposits.

**Figure 8**  
**Consumer and wholesale price inflation (percent)**  
**(monthly, left; cumulative, right)**



The course of the economy in 2002 can be understood in the following framework relating policy to outcome. The severe decline in output was driven by the initial seizing up in liquidity with the freeze in bank deposits and the debilitation of the banks by asymmetric treatment of devaluation effects, and by the shock to balance sheets from borrowers’ devaluation losses on dollar-denominated external debt. The muted response of prices to the steep devaluation reflected not only depressed demand and constrained liquidity but also partial but influential price freezes, most notably on utility prices, as well as a de facto freeze in government salaries. For its part, the mild recovery that began at mid-year can be seen as a consequence of a large runup by then in the money supply, especially in currency held by the public (including the provincial quasi-moneys), on the one hand, and the devaluation-induced stimulus to production of import substitutes (such as textiles and machinery and equipment), on the other.

*C. The external sector*

Argentina's imports plunged in 2002 to \$9 billion (CIF), down from \$20.3 billion in 2001 and an average of \$28.1 billion annually in 1997-2000 (MECON, 2003b). The decline reflected the collapse in domestic demand from the recession as well as the sharp increase in the price of imported goods relative to domestic import substitutes because of the devaluation.. In contrast, exports held about steady at \$25.3 billion (compared to \$26.6 billion in 2001 and an average of \$25.6 billion annually in 1999-2001). Although the strong exchange rate incentive might have boosted exports further, other things being equal, the drying up of short-term credit for the prefinancing of exports in light of the default on external debt curbed the potential export response. For its part, the collapse in imports helped boost demand for the domestic production of import substitutes such as textiles.

Direct investment collapsed, reflecting both the collapse in domestic demand and the shock of increased political and institutional uncertainty posed by the resignation of the de la Rúa regime and more specifically the high-profile cases of rate freezes for the foreign-owned, privatized utilities despite their contract clauses providing for correction in the event of devaluation.

At the outset of 2002 the government declared exchange controls limiting capital outflows. In addition, the government was in default on its external debt (except for substantial payments made to multilateral organizations). The exchange controls also required exporters to surrender foreign exchange earnings to the central bank. Although there were limits on the effectiveness of exchange controls, in particular because of arbitrage carried out by transactions in such assets as Argentine company shares listed in New York, and although as a consequence no major black market spread emerged in the peso-dollar rate, for at least the large companies the exchange controls were relatively effective in preventing large placement of assets abroad.<sup>34</sup>

The result of the large upswing in the trade surplus (from \$7.4 billion in 2001 to \$16.8 billion in 2002) and the cessation of demand for dollars to service external debt was far greater than the downswing in direct investment receipts. With the easing of capital flight by mid-year the resulting high supply of dollars and low demand for them eventually exerted enough pressure on the exchange market to cause the overshooting in the peso depreciation to halt and begin to reverse.

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<sup>34</sup> As an example of arbitrage, RepsolYPF is listed on both the New York Stock Exchange and the Buenos Aires stock exchange. Someone wishing to convert pesos into dollars could purchase shares for pesos in Buenos Aires and sell the same amount of shares short in New York for dollars.

In the face of a strengthening peso, the central bank began relaxing exchange controls (Banco Central, 2003, p. 12). The relaxation of controls probably had a “virtuous-circle” effect reducing the demand for capital flight. By early 2003, firms were once again free to remit abroad interest and dividends. Individuals and firms could make capital transfers abroad of up to \$150,000 monthly. The threshold above which exporters had to surrender foreign exchange earnings was raised from \$200,000 to \$1 million monthly.

#### *D. The deposit freeze and pesification*

An important part of the story of the imposition and then amelioration of shock to the economy turns on the deposit freeze and the succession of adverse and then compensatory measures affecting the banking sector. The deposit freeze began in mid-December, 2001, when the de la Rúa administration sought to halt the large withdrawals of deposits and resulting losses of international reserves as depositors took their capital abroad. That freeze, the *corralito* (little fence), prevented the conversion of demand deposits into currency (except for modest monthly sums), but allowed full use of demand deposits for any payments within the banking system. In part because of concern that this arrangement was causing a migration of funds from the public sector banks and Argentine national-ownership banks to the stronger foreign-owned banks, in January 2002 the new administration tightened the freeze, preventing the use of demand deposits even for payments within the banking system except for transactions within the specific bank where the deposit was held. At the same time, a *corralon* (big fence) was imposed freezing dollar time deposits that had been pesified and reprogrammed to mature in 2003-05. It is no surprise that such a pervasive initial freeze would have sparked a seizing up in payments and economic activity, although during the course of 2002 the demand deposits in the *corralito* were gradually released.

Aside from the immediate measure of continuing and tightening the deposit freeze to avoid a mass exodus of funds and further drain on reserves, in January the Duhalde government converted all deposits and debts into pesos (“pesification”). There had been considerable discussion even in 2001 of converting debts to pesos as a means of dealing with the risk of mismatched balance sheets of firms and households indebted in dollars but earning pesos (Hausmann, 2002). Unfortunately, when the government did adopt pesification in early 2003, the devaluation had already occurred, so that a conversion of loans to pesos at the market rate would not have avoided the shock from the asset-liability currency mismatch.

Moreover, for political reasons the government did not use the devalued exchange rate to pesify debts, but decreed that a wide range of dollar-denominated debts would be converted to pesos at the old parity of one peso per dollar.<sup>35</sup> Yet it allowed the holders of dollar deposits in the banks to obtain a much more favorable exchange rate of 1.4 pesos for each dollar. The result was a large loss imposed on the balance sheets of the banks, who could only claim 1 peso for each dollar in debt owed by borrowers but now owed 1.4 pesos for each dollar held by depositors. The dollar time deposits frozen in the *corralon* were converted to pesos at a rate of 1.4 pesos per dollar, in the form of CEDROS (certificates of reprogrammed deposits) indexed against inflation and bearing interest.<sup>36</sup> This “asymmetric pesification” was one of the most conspicuous examples of a broader phenomenon: the highly political nature of the allocation of the losses from the 3D crisis among the various sectors. In this case the allocation involved depositors, debtors, the banks, and the government. In effect the government granted a windfall gain to debtors owing dollar obligations and imposed a loss on the banks, which subsequently necessitated that the government make good on some part of the bank loss if it desired to avoid a collapse of the banking system.

The losses imposed on the banks by the asymmetric pesification amounted to about \$10-15 billion, compared to their equity (net worth) of about \$17 billion at the end of 2001.<sup>37</sup> The government soon recognized that it could not risk a consequential collapse of the banking system, and it eventually agreed to grant \$9 billion or more to the banks in compensation, in the form of government bonds (Boden).<sup>38</sup> From the standpoint of the banks, however, a true accounting of the value of the compensation bonds was

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<sup>35</sup> About two-thirds of loans to the private sector enjoyed the conversion at parity, including mortgages up to \$100,000, auto and consumer durable loans up to \$30,000, consumer loans up to \$10,000, and small business loans up to \$100,000. Other dollar-denominated debts were converted at 1.4 pesos per dollar, and by February 2002 the government converted its own dollar-denominated domestic-law debt to pesos at 1.4 per dollar.

<sup>36</sup> As of mid-March 2003, the CEDRO with accumulated inflation correction (by the CER) and interest amounted to about 2 pesos for each original dollar, in contrast to the exchange rate at about 3.1 to the dollar.

<sup>37</sup> Others have reached similar estimates; Lagos (2002) places the cost at \$11.2 billion. My own rough calculation of the asymmetry loss is as follows. The banks had \$45 billion in dollar deposits. If these are converted at an average exchange rate of 2.0 (about the CEDRO value by early 2003), their liabilities jumped by 45 billion pesos; if they are converted at 2.5 pesos, the increase in liabilities was 67 billion pesos. The banks held about \$11 billion in “unsheltered” dollar loans to the private sector, converted at 1.4 pesos per dollar, and about \$21 billion in dollar loans to the public sector, converted at 1.4 pesos to the dollar; so the value of these assets rose by about 13 billion pesos. Net liabilities thus rose by an amount ranging from 32 to 45 billion pesos, or about \$10-15 billion at the late-March 2003 exchange rate of 3.1 pesos per dollar. In actual practice, there were dollar deposit liability liquidations at a more steeply depreciated exchange rate, boosting the loss. An offsetting consideration, however, is that there were also the amounts of dollar deposits unwound by transactions on the discounted secondary market (noted below), which would have enabled a bank to reduce both its dollar claims and dollar liabilities without a loss except for the forgiveness granted on the loans in question.

<sup>38</sup> Compensation is to be paid either in peso bonds maturing in 2003-07, indexed to inflation and bearing 2 percent interest; or in dollar bonds (Bonos Optativos del Estado Nacional, Boden) maturing 2005-2012 and bearing interest at Libor. The amount of the compensation is the difference between the bank’s net worth at end-2001 valuing its dollar assets and liabilities at 1.4 pesos per dollar, on the one hand, and the same net worth valued at the actual (asymmetric) exchange rates applied in the pesification process. The peso difference can be taken in the government indexed peso bonds, or the dollar difference can be taken in Boden (Lagos, 2002).

problematical, considering that market prices on the Boden government bonds were about 50 cents on the dollar (and prices on other government bonds were as low as 25 cents on the dollar).<sup>39</sup>

The International Monetary Fund had reportedly sought that Argentina convert all of the frozen bank deposits into government bonds in order to avoid an inflationary impact of the release of these funds. Instead, the government pursued a patchwork of policies that had the effect of gradually releasing the bulk of the funds. One important provision was that depositors could sell their frozen deposits to corporations at a discount for use by the corporations to repay debts owed to the same bank in which the deposits were held. Similarly, additional amounts were released by the court-awarded *amparos* to individual plaintiffs who had legally challenged the freeze.

Other windows permitting release from the freeze were the allowance of use of deposits of up to 100,000 pesos to pay mortgage debt and up to 35,000 pesos to pay debt on automobiles and other consumer durables. In addition, the government carried out two rounds of deposit swaps for government bonds on a voluntary basis, although these met with only limited response. Further, the banks themselves were allowed to offer advanced release of depositor funds at a discount of about one-third, though again the uptake by holders was limited. The combined effect of all of these mechanisms was to cut back the amount of frozen deposits in the *corralon* to only one-fifth of total deposits by March, 2003, allowing the Minister of Economy to pledge complete liberalization of the freeze by the time of the new government's entry into office by May 25 (*La Nacion*, 18 March 2003).<sup>40</sup>

### *E. Fiscal performance*

Some in Argentina refer to the phase of policy beginning in mid-2002 under Minister of Economy Roberto Lavagna as “neo-populist” (Macrovision Consulting, 2003). The “neo” refers to the commitment to fiscal and monetary balance, in coexistence with populist measures such as the freeze in utility rates and the asymmetric pesification favoring debtors owing dollar debts.<sup>41</sup> The commitment to fiscal orthodoxy proved to be significant. The government did not increase public sector wages, despite a cumulative 40 percent inflation. Mainly as a result of this wage stability, primary (non-interest) spending by the federal

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<sup>39</sup> As discussed below, the banks are being allowed to phase in gradually over five years the marking to market of the value of the government bonds they hold on their books.

<sup>40</sup> Javier Finkman estimates the disposition of dollar accounts as follows. Initial stock: \$46 billion. Pesified in January-February 2002: \$16.4 billion. Rescheduled and pesified into Cedros (Certificados Reprogramados de Plazo Fijo) at end-February 2002: \$30 billion. Released through Amparos completed and pending as of late February 2003: \$4.6 billion. Exchanged in Swap I: \$4.7 billion. Swap II and loosening of the corralon: \$0.86 billion. Bank conversion offering: \$0.6 billion. Loans repaid on automobiles, mortgages, and other “windows”: \$10.4 billion. Remaining rescheduled deposits as of March 2003: \$8.8 billion. By communication, 14 April 2003.

<sup>41</sup> The “neo” also captured the administration's apparent preference for an undervalued rather than overvalued currency, to stimulate exports and import substitutes (in contrast to traditional populist preference for overvalued exchange rates combined with exchange controls). For the purist, “semi-populist” might be a better term, as “neo” refers to revival of the original spirit.

government rose only modestly in nominal terms, from 49.9 billion pesos to 53.6 billion pesos (MECON, 2003b). As a result, primary spending fell substantially relative to GDP, from 18.6 percent in 2001 to 17.1 percent in 2002. The depression cut into tax revenue as well, as tax and social security revenue fell from 17.4 percent of GDP to 15.9 percent. Nonetheless, the primary fiscal surplus improved slightly from 0.54 percent of GDP in 2001 to 0.72 percent in 2002. For their part, the provinces limited their primary deficit to 0.5 percent of GDP in 2002 (MECON, 2003c), reflecting the federal government's agreements with most of the provinces to assume provincial debt in exchange for elimination of the provinces' deficits and termination of the printing of provincial quasi-money.

Improvement in the fiscal accounts came in part from two revenue sources that pose significant problems of distortion. In April, 2002, the government imposed a 20 percent tax on most exports. In addition, the "financial transfer tax" (or checking tax) adopted in April 2001 was maintained.. These two taxes together were the principal source of increased revenue, and (together with import taxes) accounted for 22 percent of revenue in 2002 (table 11 below).

#### *F. Monetary policy*

Under the currency board, there had been either no monetary policy or at most a passive one. With the floating of the exchange rate, there was once again the scope, and need, for a domestic monetary policy. One of the complaints of the International Monetary Fund during the course of 2002, which delayed a new agreement, was that there was a lack of a "monetary anchor" in the existing monetary policy.

The most important dynamic in the monetary area was a large increase in the peso money supply that resulted from the pesification of dollar deposits in the banks and large central bank lending to public sector banks. The conversion of dollar deposits at 1.4 pesos to the dollar automatically boosted these deposits by 40 percent as measured in pesos. Of course, with the deposit freeze the consequence was not the normal inflationary pressure from a larger money supply. However, the potential was present for such pressure once a thaw occurred, and this is the reason the Fund favored involuntary conversion of the frozen bank deposits into government bonds. Moreover, provincial currencies being issued to cover deficits in the provinces were increasing the effective currency in circulation.<sup>42</sup> Although they initially traded at a discount, because they could be used at face value to pay taxes and for other purposes the discount soon narrowed.

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<sup>42</sup> The issuance of new provincial quasi-currencies was halted in mid-2002.

The monetary base (bank reserves held at the central bank plus peso currency in circulation) rose from 12 billion pesos at the end of 2001 to 29.2 billion at the end of 2002, an increase of 140 percent, with the rise concentrated in January-February (by 71 percent) and then again in November-December (by 29 percent; Banco Central, 2003b). A broader aggregate, M2, similarly rose from its usual average of about 12 percent of GDP in recent years to about 21 percent by March 2002 with the pesification and large central bank rediscount financing to the public sector banks. Central bank open market operations using the newly created Central Bank Letters (Lebac) – considering that traditionally-used government debt was now suspect from the external default – reabsorbed much of this potential liquidity. Even so, by January 2003 the ratio of M2 to GDP was still at about 14 percent of GDP. Deflating by consumer prices, real M2 had fallen from 26 billion pesos in December 2000 to 19 billion in December 2001, but then surged to 42 billion by February of 2002 (Banco Central, 2003a, p. 4). Despite a subsequent real reduction from inflation to about 28 billion pesos by September 2002, it was this overall environment of rapid money expansion that caused the IMF in particular to be concerned about a “monetary overhang,” and hence to place a strict limits on the wide money base in the agreement reached in January 2003.<sup>43</sup>

The central bank has outlined the measures it took in the second half of 2002 to curb inflationary expectations and insure against a run on the peso (Banco Central, 2003c, p. 2). It emphasizes that its policy included: a) careful assistance to financial institutions facing liquidity pressures from deposit withdrawals, including as the result of judicial orders (*amparos*); b) intervention to stabilize the exchange rate; and c) sterilization of excess money to reduce inflationary expectations, through the placement of Lebac, which had the additional benefit of establishing a reference interest rate. The central bank emphasizes that it followed these cautious policies despite pressures for a more expansionary monetary policy to fight the recession, and argues that the most important contribution a central bank can make to economic growth is to consolidate price stability.

Characterizing monetary policy as contractionary or expansionary is often challenging because different measures (money aggregates, interest rate, exchange rate) can give different answers. This ambiguity is even more pronounced for Argentina in 2002. For example, should the M1 money supply considered include or exclude the dollar deposits available at the end of 2001? Their inclusion substantially reduces the measured money growth. Similarly, how should frozen deposits be treated in counting the money supply? Judging monetary policy by the results, it is fair to say that policy was successful in curbing inflationary expectations and halting the plunge in the exchange rate.

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<sup>43</sup> Net domestic assets by August at the end of the transitional IMF program were to be no higher than at the end of 2002. The wide money base, defined to include provincial quasi-moneys, stood at 36.6 billion pesos at end-2002. Note, however, that in mid-May 2003 the government and

The eventual stabilization of prices in 2002 despite the strong runup in the money supply by at least some measures suggests that there was an unusual rise in demand for money, especially during the later part of the year as the successive thaws in the *corralon* made more of the potential money supply available. A rise in demand to hold currency, from fear of a further freeze in deposits, may have been one reason; another may have been a rise in the informal sector of the economy.

Overall, an initial expansionary effect of the rise in the peso money supply (despite the deposit freeze) appears to have contributed to the turnaround and partial recovery of economic activity by the second half of 2002, while monetary policy was sufficiently cautious in the second half to avoid a spiral of rising inflationary expectations and currency depreciation. At the same time, the overall effect of monetary policy in 2002 combined with the deposit thaw suggests that there was a need for caution going forward to ensure against a second major round of inflation. It was on this basis that the IMF program agreed in January 2003 set an austere target for money growth that was subsequently relaxed somewhat in order to allow for foreign exchange reserve purchases to moderate appreciation of the peso.

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IMF negotiators reportedly reached agreement on boosting the amount of currency issued by the central bank by some 4 billion pesos, in light of low inflation and the pressure on the peso to appreciate in the absence of more rapid reserves accumulation (*Clarín*, 12 May 2003).

#### 4. IMMEDIATE CHALLENGES

##### A. Avoiding high inflation

The surge in the peso price of foreign exchange by some 270 percent after the collapse of the currency board might have been expected to touch off another historical round of high inflation in Argentina. Instead, consumer prices rose only about 40 percent during the first two quarters of 20 and then largely stabilized (figure 8 above). As of June, 2003, while there remains some danger of a strong resurgence in inflation, the chances seem increasingly good that this outcome can be avoided.<sup>44</sup> Indeed, the inflation target of 35 percent for 2003 (December to December) contained in the January agreement with the International Monetary Fund already appears unduly pessimistic, and discussions between the IMF and the government in May were reported to have adjusted the projection to 15-20 percent.

During much of 2002, the depression helped limit inflation from the side of demand. Another temporary anti-inflationary influence was the freeze in bank deposits (the *corralito* on demand deposits and *corralon* on time deposits). It is thus reasonable to question how sustainable the leveling-off in prices was. By the second half of 2002, the tendency of the peso to regain strength acted as a more positive and hopefully more sustainable curb on inflation, and by the first quarter of 2003 there was further help from Central Bank adherence to monetary targets in the new IMF agreement.

Three main inflationary pressures will have to be overcome in the short-term. First, the influence of the final thaw in bank deposits will have to be managed, including the impact if the Supreme Court decides that “pesified” dollar deposits still held in the converted CEDRO accounts have to be redollarized. Second, there is a need to correct utility rates, which have been frozen at pre-devaluation levels. Third, there could be a wave of demands for wage increases.

There are grounds for optimism that the worst of the inflationary impulse from the thaw in bank deposits is past. By mid-February 2003, only one-fourth of the amount initially frozen was still subject to the freeze (Banco Central 2003, p. 1), the rest having been withdrawn under the permissible monthly ceilings, released under court order in individual depositor suits (*amparos*, running at a pace of about 1 billion pesos monthly), or converted into government bonds (BODEN) in voluntary exchanges (as opposed to mandatory bond conversion reportedly favored by the IMF in 2002). A Supreme Court decision in early

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<sup>44</sup> Consumer prices actually fell 0.4 percent in May, 2003 (*Financial Times*, 6 June 2003). It might be asked whether there is significant risk of deflation, especially considering the trend of appreciation in the exchange rate. The risks on the inflation side outlined here would still seem to dominate by far those of deflation, however, in part because the weaker than anticipated shock to prices from the collapse of the peso would seem to imply only moderate downward pressure on prices as the peso regains strength.

March, requiring that banks honor in dollars some \$200 million in deposits of San Luis province raised the threat of a new round of inflationary pressure if this same treatment were promptly extended to the total of about \$9 billion in remaining dollar deposits.<sup>45</sup> At the same time, the Supreme Court clarified that it would consider cases one by one, implying a lengthy process. More fundamentally, any sweeping requirement to pay out dollar deposits would require conversion into government bonds, as the foreign exchange is not available for immediate payment.

At the end of March, the government lifted what remained of the freeze on deposits. Depositors could either keep their CEDROs on a voluntary basis, or exchange them for payment in cash at 1.4 pesos per original dollar plus CER inflation (i.e. the CEDRO value in pesos) plus government bonds (Boden 2013) to cover the difference between this amount (about 2 pesos per dollar) and the market exchange rate (about 3 pesos).<sup>46</sup> More than half of the deposits appear to have remained in the CEDRO time deposits despite this offer to exit, apparently in part because of depositor hopes that the Supreme Court would issue a decision requiring reconversion of these accounts in dollars. In short, although the whole process of bank deposit freeze and subsequent conversion and release has involved enormous inequities and windfall gains and losses, with major new indebtedness transferred to the government, the exit from the freeze seems to have been largely accomplished without touching off severe round of inflation.

For its part, the monetary target under the IMF program has been strict: the “wide money base,” defined to include currency plus bank deposits held at the central bank (the usual definition) plus the total of provincial quasi-money (scrip issued by provincial governments), was to be no higher in August (when the transitional IMF program expires) than at the end of 2002, after allowance for a seasonal rise in early 2003.<sup>47</sup> Although it is difficult to identify the correct “velocity” relating the money base to the price level after a severe shock such as the 3D crisis, a freeze in the money base would seem incompatible with a return of high inflation within just about any model of inflation. As of mid-February, the central bank had more than fulfilled its commitment, as the wide money base was well below the scheduled trajectory (Banco Central, 2003a, p2). As noted earlier, however, by mid-May the government and the IMF had reportedly agreed to an upward revision of the monetary target in view of increased demand for pesos, enabling the central bank to be more active in purchasing dollars for reserves and thereby curb the pace of peso appreciation.

Utility prices pose a significant challenge. They are a significant component of the consumer price index, and adjustments in utility prices can also play a broader signaling role for other price adjustments.

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<sup>45</sup> For example, if banks were forced to buy dollars in large amounts in the exchange market, this would tend to depreciate the peso anew, reversing the inflation relief coming in recent months from its tendency to rebound.

<sup>46</sup> *Ambito Financiero*, 21 March 2003.

Despite typically having been denominated contractually in dollars by multinational firms operating the privatized utilities, utility prices have not been allowed to adjust at all, let alone by the full amount of the devaluation. The utility firms reportedly have barely been able to cover operating costs as a result, and have not been able to service dollar debt or undertake new investments.<sup>48</sup> This is not a sustainable arrangement, and understandably correction in utility prices was reportedly one of the principal demands of the IMF in the protracted negotiations during 2002. The Duhalde administration sought to impose a 10 percent utility price hike in early 2003, but even this was blocked by a court injunction.

The Kirchner administration will likely have to implement at least some hike in utility prices. Estimates of the consumer price impact of a given percentage rise in utilities prices tend to range from one-tenth to one-third, with the lower end of the range the more relevant if increases do not trigger wage increases. As discussed below, corrections that adjusted for increased costs might raise utility prices some 40 to 50 percent. If so, a boost of some 5 to 10 percentage points could result in the overall price level. Nonetheless, this would be a classic case of unavoidable “corrective inflation,” and if combined with appropriate monetary and fiscal policies would not necessarily lead to a permanent rise in the inflation rate.

Wages are another likely area of pressure. There is a profound confirmation, in Argentina’s recent experience, of the Keynesian diagnosis that nominal wages are “sticky downward” but can be eroded in real terms by inflation. The 13 percent cut in public sector wages adopted by the de la Rúa regime in mid-2001 was a prime trigger to the political collapse that occurred by December. Yet an even larger real wage reduction – by 40 percent – has been experienced in the public sector since the collapse of the de la Rúa regime as a result of unchanged nominal wages in the face of 40 percent cumulative inflation. Following a court decision, the Duhalde government has granted restitution of back wages lost from the 13 percent cut in mid-2001, but otherwise it has not proposed public sector wage increases. (As discussed above, prior to the economic crisis government wages had moved considerably ahead of those in the private sector.) A 15 percent wage hike in the railroads following a rail strike in early March is suggestive of the wage pressures that can be expected. Even so, the Duhalde government did not respond to pressure for public sector wage increases, and the new Kirchner administration may find it possible to hold the line on public wages. At the same time, the Duhalde government did impose an increase of 50 pesos per month on all private sector salaries in mid-April, portraying the move as a compromise between labor unions demanding higher increases and private employers resisting increases. This increase was in addition to a similar mandated increase of 150 pesos per month in 2002, which was part of the Duhalde

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<sup>47</sup> As noted above, however, some allowance for larger currency issuance was reportedly agreed in mid-May.

<sup>48</sup> Although in some cases the foreign parent company has serviced the foreign debt in question.

government's incomes policy.

Overall, the proximate potential inflationary pressures help explain why the January 2003 IMF program anticipated 35 percent inflation during this year despite the much lower recent pace, and the restrictive monetary targets in the program reflect the intent of insuring that these pressures not translate into persistent inflation even if they provoke a one-time rise in the price level. This being said, it will be critical that the new Kirchner government exercise restraint in government spending, as the result otherwise could be to reinforce any temporary inflationary pressures and reignite a process of ongoing inflation.

### *B. Refurbishing the financial sector*

During the course of the 1990s Argentina's banking sector had been built into one of the strongest in emerging market economies. In part because the currency board arrangement meant in principle there was no lender of last resort function (because the central bank could not print additional money without additional reserves), there were high reserve requirements on the banks to assure liquidity. Capital-asset ratios were high by international standards. The banks also had special contingent credit lines from banks abroad. The banking system had become increasingly dominated by branches and subsidiaries of foreign entities, which gave an aura of strength to the system that was nevertheless always subject to uncertainty about whether the parent companies would bring in more capital in the event of a crisis. In general, the foreign-owned portion of the banking system was the strongest; the private Argentine-owned sector next; and only the public sector banks tended to have weak balance sheets and capital ratios. The shares of assets in these three sectors were approximately one-half, one-sixth, and one-third, respectively, at the end of 2001.

Despite its seeming overall strength, the banking system had two major potential weaknesses prior to the crisis. First, its client debtor firms and households were exposed to potential losses from devaluation. Although the balance sheets of the banks themselves were relatively well matched between pesos and dollars on the asset and liability sides, the same was not true of its borrowers. The system as a whole could not be in currency balance, because there was a large net borrowing position from abroad, and foreign lenders rarely denominated the loans or bonds in pesos. Second, the banks held a substantial share of their assets in government paper.<sup>49</sup> A loss of government solvency thus would mean severe economic losses for the banks, albeit not necessarily losses in book-value accounting terms if the face value of the

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<sup>49</sup> The fraction of banking system assets held in claims on the government hovered at around 17 percent in 1999-2000, but was up to 25 percent by end-2001 as the government turned increasingly to domestic financing (Lagos, 2002).

claims remained unchanged despite a collapse in market value.

The banks were under pressure during the course of 2001, moreover, as the persistent run on banks in the face of the worsening crisis caused a large loss in deposits. Bank deposits fell from 86.7 billion pesos at end-2000 to 67.0 billion at end-2001. Banks reduced their assets correspondingly, cutting their loans outstanding to the private sector by about one-fifth (Lagos, 2002). In the face of the loss in deposits, in November 2001 the government effectively imposed ceilings on deposit interest rates. This aggravated the run on deposits, leading to the *corralito* freeze in early December.

The outbreak of the 3D economic collapse inevitably would have caused severe problems for the banking sector because of these two potential weaknesses. However, the manner in which the government responded to the crisis seriously aggravated the losses. Initially the government's asymmetric peso conversion of dollar deposits and dollar claims of the banks imposed a large loss on the banking system. The government's subsequent compensation in government bonds covered most of these losses in nominal accounting terms but not in real terms because the market value of the government bonds was far below par. The overall effect was to augment the losses of the banks that would have occurred anyway from the devaluation and depression by further politically imposed losses designed to shift the loss from households and businesses onto the banks. This political loss was then partially mitigated by a shift of some real portion back to the government. However, it left the banks with a much larger share of their assets in government bonds, which had market value well below face value. At face value, by end-2002 bank holdings of government obligations accounted for 48 percent of bank assets (Lagos, 2002).

There were two sources of politically-imposed losses on the banks and one institutionally-imposed source of loss. The first politically-imposed loss was the exchange rate asymmetry. As noted above, debts to the banks denominated in dollars were converted to pesos at one peso per dollar, whereas dollar deposits in the banks were converted to pesos at 1.4 pesos per dollar. Moreover, another major liability of the banks, their dollar obligations abroad, was subject to the market exchange rate, and this introduced an additional asymmetry between liability valuation and asset valuation with much of the banks' dollar claims on borrowers converted at only one peso per dollar.

The second politically-imposed loss was an indexing asymmetry. Deposits frozen under the *corralon* were indexed against consumer price inflation (CER) in the Certificate of Reprogrammed Debt (CEDRO), and also bore interest. Household mortgage and other debts were instead indexed to an index of wages

(CVS). Because wages were stagnant during the course of 2002 whereas consumer prices rose about 40 percent, the result was an indexation loss on deposits that exceeded the indexation gain on claims against households.

The institutionally-imposed loss was the *amparo* process. Despite the government's arrangement for pesification and deposit freeze, a flood of court cases generated a steady flow of court orders to release deposits of successful plaintiffs. Those deposits freed under the *amparos* that had originally been denominated in dollars were required by the court orders to be paid in dollars rather than in pesos at the pesification rate of 1.4. So the exchange rate asymmetry loss was even greater on dollar deposits released under the *amparos* than under the general pesification scheme.

The principal developments in the banks' balance sheets from these various effects were as follows. At the end of 2001 the system had total net worth of about 15 billion pesos, then also worth \$15 billion US. If the guaranteed loans to the government held by the banking system at that time as a result of the domestic bond exchange in November 2001 are valued at their market price at that time, however, the net worth of the banking system even at that time was zero. As discussed above, the asymmetric pesification of dollar claims and deposit liabilities imposed a loss amounting to about 30 billion pesos or more, causing net worth to swing to a negative 15 billion pesos in accounting terms. The compensation bonds promised (but as of the second quarter of 2003 not yet fully delivered) amounted to about \$9 billion in face-value terms. As a result, in accounting terms the banking system returned to positive net worth of about 15 billion pesos once again, albeit this time at pesos only worth about one-third as much as at the end of 2001. However, if the compensation bonds are valued at a market price of about 50 cents on the dollar, then the net worth of the banking system is negative, amounting to about -\$7 billion in dollar terms (about -20 billion pesos).

These are broad approximations, as the most recent data published by the central bank on the consolidated accounts of the banking system are for December 2001. The overall result is that whereas in the second half of 2001 the banking system was solvent but illiquid (as depositors continued withdrawing funds in the face of the growing crisis), today it is liquid but insolvent. Deposits have begun to rise again and the banks have considerable liquidity, as their deposits with the central bank have risen sharply in the absence of new loans and in the face of exchange controls precluding their placing liquidity abroad. However, their non-performing loans and especially their holdings of government paper mean they are probably insolvent in meaningful economic terms. Estimates of claims on the government held by the banking

system typically place them at about one-half to two-thirds of the banks' assets, so if these claims are worth only half of face value, the weakness of government paper alone wipes out about one-fourth to one-third of bank assets. In addition, perhaps half or more of loans to private sector borrowers have defaulted or been restructured with large haircuts.

The banking regulatory authority has allowed the banks to carry their government bonds on their books at nearly face value so far, but has ruled that they must be marked to market values gradually over five years, with most of the adjustment toward the end of the period. At the same time, banks owing rediscount loans to the central bank are being allowed to repay them with government bonds at full face value. Both the rediscount obligations and the holdings of government bonds are concentrated in the public banks, giving them an advantage that helps offset their weak loan portfolios. This process does raise the question, however, of the resulting impact on the central bank's balance sheet as it acquires government bonds with low market value.

The weak underlying solvency position of the banks means in turn that they are reluctant to begin lending again to households and firms. Instead, they have tended not to make new loans, but to use repayments on maturing loans to increase their liquidity, building up balances at the central bank (despite a punishing spread between interest rates of about 25 percent paid to their depositors versus only 1.2 percent earned on deposits at the central bank). The result has been a steady reduction in outstanding credit to the private sector. From the beginning of 2002 through January 2003, loans outstanding to the private sector fell by cumulative amounts of about 45 percent for personal loans, credit card debt, and consumer durable debt; about 30 percent for mortgage debt; and about 35 percent for loans outstanding to business (Banco Central, 2003, pp. 9-10).<sup>50</sup> Consumer credit now stands at only about 10 percent of GDP, down from 25-30 percent of GDP in the 1990s.

A proximate problem for the banks is that a Supreme Court decision in early March could eventually lead to the redollarization of the remaining deposits in the banking system that were originally in dollars and were frozen in the *corralon* in the form of CEDROs. Because each dollar of original claim is now worth about 2 pesos (from the CER indexation and interest), whereas the market exchange rate is about 2.8 pesos per dollar (as of early June), the banks have faced a potential loss of about one peso for each original dollar of these deposits. Although this potential loss stood at perhaps about \$2 billion, the withdrawal of a significant portion of the CEDROs to take advantage of the government's end-March offer (as described above) will have reduced this amount substantially. Any remaining potential loss on these accounts

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<sup>50</sup> These percentage declines are after taking account of pesification of dollar-denominated debt.

would thus seem moderate.

The irony of liquidity despite insolvency (on an economic, if not accounting, basis) is evident in the fact that whereas bank loans to the private sector have been falling, their deposits have once again been rising after the acute runoff in 2001 and despite the various liberations of frozen deposits during the course of 2002. Private sector deposits in the banking system fell from about 75 billion pesos in February 2002 to a trough of 57 billion at the end of July 2002. They then began a steady climb, returning to about 62 billion by the end of February, 2003 (Moya, 2003). This partial revival of private sector deposits is somewhat surprising despite the rebound in production, considering the shock to confidence in the banking system from the deposit freeze. Nonetheless, there is a dearth of liquid asset alternatives for especially the large corporations unable to place assets abroad because of the capital controls, and deposits of these firms may account for much of the buildup.

For at least the private banks, meaningful capital-asset ratios will have to be reestablished before there can be expansion in credit to the private sector. Capital is merely the bank's net worth, or excess of assets over liabilities valued at meaningful market prices. At the moment, aggregate capital is arguably negative (because of the low market value of government paper held as assets). Pursuit of target capital-asset ratios will thus tend to involve a continued shrinkage of the denominator – which means shrinking loans outstanding to the private sector – and increase in the numerator, which means the gradual accumulation of profits to offset the economic losses associated with accumulation of government paper worth less than face value.

This process could continue for an extended period. As a result, the banking system for some time could be little more than a transactions intermediary rather than an investment intermediary. Depositors will make deposits and payments will flow through the system, but the system will not accumulate claims on the private sector in the form of loans used for real investment. Instead, it will accumulate assets that are as liquid as possible, such as central bank paper (Lebac). A purely transactional function is of course important, as it is essential to the functioning of the economy and even to the fiscal accounts given the importance of revenue from the checking tax of 1.2 percent (0.6 percent on each side of the transaction). Nonetheless, the investment-intermediary function (between savers and real-sector investors) will likely continue to be minimal until capital-asset ratios can be restored, valued at market prices.

The usual solution for banking sector cleanup, moreover, is not available in Argentina. In numerous

financial sector crises over the past few years, governments have purchased the weak loan portfolios from the banks, in effect recapitalizing them by replacing bad assets with good assets. These cleanups have often cost governments several percentage points of GDP. In Argentina, however, the government cannot purchase anything in a meaningful way, including weak loan portfolios. The reason is that the government's bonds given in exchange for weak loans will not be worth full face value, and may be worth less than the weak loans. The implicit assumption behind the use of government bonds to support the banking system (including all the compensation bonds that have been issued) is that this paper is senior to the government's other debt, and will not be swept up in any debt restructuring. As a result, the implicit interpretation is that government debt held in bank portfolios is worth much more (relative to face value) than government debt held by the private sector (including foreigners) more generally.

One partial way out of the insolvency dilemma, by implication, is for the government to make it explicit that its bonds held by the banking system will be considered of the same non-restructurable status as government debt to the IMF and other multilateral organizations. If, and as, this commitment gains credibility, the banking system will increasingly be on solid grounds to treat the government paper in its portfolio at face rather than market value. This in turn will rapidly increase the economic calculations of capital asset ratios (although the accounting calculations would not be changed). It could be useful for this purpose to in addition distinguish the government paper held by the banks from other government debt by some distinctive feature, such as some form of collateralization by a tax stream. There would be some instinctive appeal to using the checking tax revenue as a source of collateral, considering that the presence of the banks is indispensable to the collection of this tax. There is indeed a precedent for such treatment, as the guaranteed loan portion of the banks' claims on the government, which they received in the bond swap in November 2001, already have collateralization by receipts from the financial transactions tax.<sup>51</sup> Operationally, it would probably be necessary to carry out a selective bond swap for this purpose, whereby government bonds held by domestic banks as of a certain date would be exchanged for collateralized bonds, but the same class of bonds held by non-banks would not be eligible for this swap. A less satisfactory (but perhaps legally more certain) alternative would be for the government to announce that in the event of any forgiveness negotiated on bonds of the classes held by the banks, the government would compensate the banks by providing new (this time collateralized) bonds to cover the amount of the loss.

In the absence of some more explicit commitment that compensation bonds and other claims on the government held by the banking system have seniority, the pressure to raise the capital-assets ratio on a

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<sup>51</sup> To some extent the market may already consider the BODEN 2012 compensation bonds held by the banks to have some seniority over other government paper, as these trade at about 50 cents on the dollar whereas other government bonds trade at only about 25 cents on the dollar.

basis of internationally accepted accounting could exert continued pressure for the foreign-owned banks to keep reducing their loan portfolio. These banks now represent about 44 percent of bank liabilities, down from about 51 percent at the end of 2001, while the public sector banks comprise about 41 percent, up from about 32 percent, and the private Argentine-owned banks account for the remaining 15 percent, down from about 17 percent at end-2001. The reduction in private foreign bank participation reflects the exodus of Scotia Bank and Credit Agricole. It also reflects the greater rate of expansion of the public banks, not only thanks to ample central bank rediscount lending made available to them (but not to foreign-owned banks) during the crisis, but also perhaps a concern among depositors that the foreign banks might leave the country.<sup>52</sup> It could well be that the public sector banks could expand lending because of an absence of a meaningful capital adequacy target given more lenient than international treatment of the valuation of holdings of public sector debt, and also because the public banks can repay the central bank rediscount lines using government bonds at full face value. There would seem to be limits, however, on relying on an expansion of public sector banks as the source of credit growth, especially as there are pressures from among others the International Monetary Fund to restructure these banks.

At a more fundamental level, some might even argue that for some time to come the banking system will not be a constraint on growth, because the key to growth lies mainly on the demand side rather than in building up the real capital stock, in view of the fact that real GDP remains some 25 percent below its peak in the fourth quarter of 1998. This same line of thinking might further invoke the likely presence of some \$20 billion or more in hoarded US currency within Argentina, that can act as the fuel for internal financing by firms so that they need not rely on bank credit for their new investments. While there is probably some truth to both of these points, there can be little doubt that over the medium term a persistently fragile banking system would pose a serious obstacle to sustained economic growth. It would therefore seem prudent to act as aggressively as possible toward renewing the strength of the banking system. Ideally, some form of domestic nonbank capital market would develop to help fill the gap. Once the economy begins to show greater recovery, it would seem plausible that at least the larger and stronger corporations could issue bonds, and that the pension funds in particular could be potential customers.

Finally, although the discussion in this section has focused on possible approaches to reviving the banking system as a whole, there will also be a need to carry out restructuring in some of the weaker banks. The public banks in particular tend to hold relatively weak loans, in part because of political influences in the

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However, the BODEN 2012 are also held by the pension funds and others, and a stronger seniority for bond holdings by the banking system would be preferable for restoring the strength of the system.

<sup>52</sup> Rediscount lending was made available to foreign banks only if they matched peso funds borrowed with new capital brought in from abroad from parent companies.

allocation of credit, and one group of experts has recommended that their role “should be radically redefined through restructuring and/or privatization” (LASFRC, 2002).

*C. Restructuring government debt*

The Argentine central government currently has approximately \$170 billion in debt (table 7).<sup>53</sup> This amount is up from \$144 billion at the end of 2001 (MECON, 2003b). The increase of some \$25 billion despite the absence of access to capital markets for new borrowing stems from interest arrears as well as from the debt burden undertaken by the government as a consequence of political decisions to shift some of the losses from the devaluation and pesification from households and firms to the government, as well as from nationalization of about \$11 billion in provincial debt.

Table 7  
Composition of Argentina's Federal Government Debt  
(billions of dollars)

	Dec. 01	Dec. 02	Jun 03 e
I. Performing			
Loans			
Multilateral	32.4	30.4	30.4
Bilateral	4.5	4.3	4.3
Banks	2.0	1.2	1.2
Other	1.5	0.3	0.3
Guaranteed loans (swap)	42.3	22.8	27.2
Compensation bonds			
Denom. in dollars		6.2	6.2
Denom. in pesos		7.3	8.7
Bonds to depositors			
Denom. in dollars		5.7	5.7
Denom. in pesos		0.1	0.2
Short term	6.7		
Subtotal, performing:	89.4	78.2	84.0
II. Nonperforming			
Bonds denom. in dollars	53.6	60.4	60.4
Bonds denom. in pesos	1.5	4.9	5.9
Arrears:			
principal		4.3	4.3
interest		7.7	7.7
Provincial debt assumed		10.6	10.6
Subtotal, nonperforming:	55.1	88.0	88.9
III. Total	144.5	166.2	172.9
Memorandum: percent denominated in pesos:	23.3	21.2	27.3

Source: MECON (2003b); Marx (2003).  
Exchange rate: end 2002 = 3.36 p/\$; June 2003 = 2.82 p/\$.

<sup>53</sup> See Marx (2003); Broda (2003); and MacroVision Consulting (2003).

Approximately \$65 billion in government bonds is in default (including interest arrears). Some \$35 billion is owed to the international financial institutions (\$14 billion to the IMF, about \$8.5 billion each to the IDB and World Bank, and about \$4 billion to bilateral creditors). The remaining \$60 billion or so comprises the various blocks of restructured and compensatory new debt that has emerged so far from the government's attempts to deal with the crisis. These include, first, some \$27 billion in "guaranteed loans" resulting from the domestic swap of November, 2001. In this swap, the banks, pension funds, and others exchanged about \$40 billion in bonds for loans collateralized with revenue from the financial transactions tax; the shrinkage reflects exchange losses on the peso portion of these loans. The compensatory and new debts also include: (a) approximately \$15 billion in bonds (Boden) issued to the banks in compensation for asymmetric pesification of deposits and liabilities; (b) some \$11 billion in nationalized debt of the provinces; (c) about \$6 billion in Boden held by savers as a consequence of a swap out of the frozen dollar savings accounts; and (d) additional amounts pending for further compensation of banks and savers.<sup>54</sup>

Argentina's debt restructuring promises to be extremely difficult. The central issues will be: (a) how large a primary fiscal surplus can Argentina generate on a sustained basis, to service the restructured debt; (b) how large will the GDP be expressed in dollar terms, and hence how large will the absolute base for servicing the debt be given the primary surplus target as a percent of GDP; (c) how much of the debt will the government consider "senior" or ineligible for restructuring; and, as a result, (d) how large a "haircut" of debt forgiveness will the holders of "junior" debt be expected to take. In addition to these economic issues, there will be major logistical and collective-bargaining issues in view of the wide disparity of holders, ranging from large international banks and pension funds to thousands of small "retail" holders in, especially, Europe and Japan.

The objective of debt restructuring should be to achieve a balance between sustainability of the restructured debt, on the one hand, and keeping the imposed debt-forgiveness as mild as possible to facilitate preservation of reputation in the capital markets, on the other hand. On the sustainability side, most analysts would agree that Argentina should be able to achieve persistent primary fiscal surpluses in the range of at least 3 percent of GDP, and some would argue that the goal for this surplus should be 5 percent or even 6 percent of GDP. A somewhat ambitious but reachable goal, for working purposes, might be about 4.5 percent of GDP, approximately the same level as currently being planned in Brazil.

As for the absolute magnitude of the GDP base, a reasonable central estimate for 2004 is \$190 billion. Nominal GDP in 2002 stood at 313 billion pesos (MECON, 2003b). With an average exchange rate of

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<sup>54</sup> Note that the estimate of \$15 billion in compensation bonds to the banks in the debt data compiled by Marx (2003) exceeds a corresponding estimate of \$9 billion by Broda (2003).

3.48 pesos per dollar in 2002 (IMF, 2003), dollar GDP shrank to only \$90 billion (from \$269 billion in 2001). The end-2001 government debt of \$144 billion would thus have catapulted from 54 percent of 2001 dollar GDP to 160 percent of 2002 dollar GDP even without any further increase in the debt. The prospects for this year and the next, however, are for a reversal of this increase in the debt to GDP ratio, as the effect of real appreciation of the peso restores the dollar GDP base toward a more normal level.

Inflation during the course of 2003 appears on track to reach about 20 percent (or less). Real GDP seems likely to grow perhaps 4.5 percent or more after last year's drop of 11 percent. Taking into account the time path of inflation during 2002, these estimates would suggest that nominal GDP in 2003 should stand at perhaps 390 billion pesos.<sup>55</sup> If real growth in 2004 is 3.5 percent and inflation 10 percent, nominal GDP would be about 450 billion pesos.

The analysis below suggests that the peso could appreciate to perhaps about 2.0 to 2.3 pesos per dollar before eliminating the undervaluation from overshooting in the currency collapse. If this range is applied, then a GDP of 450 billion pesos in 2004 would amount to \$180 billion to \$205 billion.<sup>56</sup> On this basis, the analysis that follows uses a central estimate of \$192 billion for 2004 GDP. This places pre-restructuring 2004 debt at 94 percent of GDP.

A recovery of the peso combined with further inflation will also boost the dollar value of pesified debt. As indicated in table 7, debt denominated in pesos accounts for an estimated 27 percent of the total. After accounting for the rise in the dollar value of this debt in light of appreciation by 2004, the mid-2003 stock of debt would stand at \$180 billion. The central case estimate of the ratio of government debt to GDP in 2004 (prior to restructuring) is thus 94 percent (\$180 billion/\$192 billion).

With a debt to GDP ratio not much below 100 percent, one simple approximation might be that this is probably about twice as high as would be appropriate for sustainability, so a cut of about one-half might be needed overall.<sup>57</sup> Because of senior debt, however, this would imply a substantially larger cut for the junior debt. The core senior debt is that owed to the multilateral and bilateral institutions, which is \$35 billion, or 18.2 percent of the central-estimate \$192 billion GDP.<sup>58</sup>

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<sup>55</sup> From end-2001 to June 2002, consumer prices rose 30.5 percent. By end-2002 they had risen a cumulative 42.6 percent. With 20 percent inflation during 2003, the price level should stand at about 1.57 by June against end-2001 as 1.0. So mid-2003 prices should be about 20 percent higher than mid-2002 prices. Adding 4.5 percent for real growth, nominal GDP should rise about 25 percent this year, to 392 billion pesos.

<sup>56</sup> At 2.2 to 2.5 pesos per dollar after allowing for the 10 percent inflation in 2004.

<sup>57</sup> This would still be higher than the benchmark range suggested in the earlier discussion of why a lower debt ratio would be appropriate for Argentina than, say, the Maastricht range. However, in this case the rollover of the debt would be assured by the long-term nature of the restructuring agreement, so a somewhat higher transitional debt to GDP ratio could be sustained than in a situation requiring strictly voluntary attraction of rollover capital. In any event this ratio would fall as GDP grows if, as seems likely, additional borrowing is limited for some considerable time.

<sup>58</sup> The \$4.4 billion in bilateral debt includes only \$1.8 billion owed to Paris Club members. The Paris Club rescheduling practice for middle-income countries is to restructure maturities but not to forgive debt (with the important historical exception of Poland, where political

The block of debt included as senior should be as small as possible to avoid an unduly deep haircut on the junior debt. The narrowest appropriate senior debt concept would probably include not only multilateral debt but also government debt held by the banking system. It does little good for the government to seek forgiveness on debt held by the banking system, because then the government in essence has to turn around and issue more debt to recapitalize the system. Dujovne and Guidott (2002) estimate that as of mid-2002, the banking system held claims of \$21.5 billion on the government, including \$9 billion in dollars and 43.6 billion pesos (valued then at 3.5 pesos per dollar). Lagos (2002) similarly places the bank claims on the government in mid-2002 at \$23.5 billion (including compensation bonds). After taking account of appreciation of the peso, a working estimate for bank claims on the government is \$25 billion.<sup>59</sup> Of this amount, about \$15 billion would be in compensation bonds and \$10 billion in guaranteed loans from the November 2001 exchange.<sup>60</sup> So a narrow measure of senior debt would amount to about \$60 billion for the multilaterals and the banking system, or 33 percent of a benchmark \$180 billion in total public debt (today's stock at the 2004 exchange rate, as derived above).

Annex B sets forth a simple model to derive the depth of the forgiveness haircut needed on junior debt to make debt servicing sustainable with the prospective primary surplus after taking account of any amortization and given the level of the initial debt to GDP ratio and the prospective interest rate on restructured debt. Table 8 reports the results of this calculation under alternative assumptions.

The base case assumes a narrow class of senior debt, at only 33 percent of the total (as just discussed). The net amortization rate on restructured debt is set at 0.01, meaning that net repayments are held to only 1 percent of the new total. Implicitly this assumes that the restructuring and improved policies restore confidence enough that the country begins to approximate more normal conditions in which the debt stock is not being paid off but instead grows with the economy. It implies that virtually all of the "senior" debt outstanding is rolled over in one way or another, and that the "upfront cash" to other creditors is very small.<sup>61</sup> The base case also assumes the benchmark ratio of initial debt to GDP is 0.94 (as discussed). The primary surplus is set at 4.5 percent of GDP in the base case. A reasonable value for the interest rate on restructured debt is the 30-year US Treasury bond rate plus 100 basis points, or about 6 percent ( $r =$

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considerations led to a 50 percent forgiveness). Given the extremely small share of Paris Club claims in the total debt stock (about 1 percent), it would seem unlikely that Argentine negotiators would expend much negotiating capital in seeking special forgiveness on this debt.

<sup>59</sup> Some estimates place the banking system's claims on the government as high as \$35 billion, however.

<sup>60</sup> The bulk of the remaining \$17 billion in guaranteed loans is apparently held by the pension funds and Argentine residents.

<sup>61</sup> Use of the 1 percent net amortization rate in the simulation does not necessarily mean that the restructured instruments would amortize this slowly. If the holders of senior debt de-facto roll over principal, and if they comprise 33 percent of the debt, then a net amortization rate of 1.9 percent could be managed on the rest of the debt. That is, with a haircut of 47 percent on the 67 percent that is junior, this debt would fall to 35.5 against a benchmark of 100 for original total debt, and hence to 33 percent of GDP in the calibration here. Senior debt would remain at 33. With an average net amortization rate of 1 percent on the new total, 68.5, amortization would be 0.685, which would be 1.9 percent of the new amount of restructured junior debt if fully concentrated on this debt. The rate could be boosted to 5 percent (20-year amortization) by successful net new

0.06). Under these assumptions, there needs to be a 47 percent cut in the face value of the junior debt for the resulting debt service to just equal the amount of the primary surplus. With junior debt standing at \$120 billion out of \$180 billion, a 47 percent cut would reduce junior debt to about \$64 billion, and would cut total debt to \$124 billion or 65 percent of benchmark dollar GDP. This Maastricht-like level might be more sustainable in a post-restructuring mode than would be usual for a Latin American country, because the interest rate (6 percent) would be considerably lower than a market rate under substantial risk conditions.

Table 8

Depth of haircut under alternative assumptions

	Primary surplus $s$	Amortiz. rate $a$	Interest rate $r$	Senior fraction $\lambda$	Debt/GDP ratio $d$	Haircut fraction $\beta$
Base case:	0.045	0.01	0.06	0.33	0.94	0.47
Alternative cases:						
1	0.05	0.01	0.06	0.33	0.94	0.36
2	0.05	0.03	0.06	0.33	0.94	0.61
3	0.05	0.01	0.06	0.48	0.94	0.46
4	0.05	0.03	0.06	0.48	0.94	0.79
5	0.04	0.01	0.06	0.33	0.94	0.59
6	0.04	0.03	0.06	0.33	0.94	0.79
7	0.04	0.01	0.06	0.48	0.94	0.75
8	0.04	0.03	0.06	0.48	0.94	1.01
9	0.03	0.01	0.06	0.33	0.94	0.81
10	0.03	0.03	0.06	0.33	0.94	0.96
11	0.03	0.01	0.06	0.48	0.94	1.05
12	0.03	0.03	0.06	0.48	0.94	1.24
13	0.04	0.00	0.06	0.3	0.94	0.42
14	0.04	0.01	0.06	0.3	1.2	0.75
15	0.04	0.01	0.06	0.3	0.8	0.41

Note:  $\beta > 1$  means even complete forgiveness of junior debt is insufficient to permit full servicing of senior debt

The sensitivity analysis in the table considers alternative ranges for the primary surplus, the fraction of debt granted senior status, and the overall amortization rate. The high variant for the senior debt is set at 48 percent, the share of debt presently being serviced by the government (table 7). If the primary surplus is as low as 3 percent of GDP, then even under a narrow senior debt class (33 percent of the total) an

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borrowing amounting to 1.0 percent of GDP. Note, indeed, that some analyses do not set an amortization rate at all, on grounds that after the restructuring it will be possible to secure enough new financing to roll over any amortization due on the restructured debt (Marx, 2002).

estimated 94 percent of the junior debt must be forgiven, and under the broader senior debt class (48 percent) even the entire forgiveness of junior debt is not sufficient to limit debt service to the available primary surplus. In contrast, with a 5 percent of GDP primary surplus, the haircut on junior debt can be as low as about 36 percent when the class of senior debt is narrow. Even a 4 percent primary surplus can limit the haircut to 41-42 percent if the net amortization rate falls to zero (case 13) or the base (before-restructuring) debt to GDP ratio turns out to be only 80 percent instead of 94 percent (case 15).

It will likely be politically difficult to limit senior debt to multilateral and banking system claims. The holdings of the pension funds in particular will represent a politically sensitive block of debt. However, for purposes of “symmetrical treatment” of foreign and domestic creditors, the pension funds and other non-bank domestic holders of debt should be subject to the general junior debt haircut, if the new government places a high priority on reestablishing future capital market access. The exception could involve the guaranteed loans from the November 2001 domestic restructuring. These have already experienced a haircut of about 35 percent based on their current value (\$27.2 billion) compared to their end-2001 value (\$42.3 billion; table 7) as a consequence of devaluation. It could be argued that even for nonbank holders of these guaranteed loans, the additional haircut should be limited to the difference between the new restructuring haircut on junior debt generally and the reduction already imposed on the guaranteed loans.

Finally, the market valuation of restructured debt is likely to apply a discount rate that exceeds the interest rate used in these calculations. Using a high discount rate, such as 15 percent, because of perceived continued risk of even the restructured claim, sharply shrinks the present discounted value of the restructured claim. Thus, with a 30 year claim paying 6 percent interest plus 1 percent of face for net amortization annually and the balance in year 30, the base case illustration of a 47 percent haircut on junior debt (table 8) would amount to a present value haircut of 75 percent discounting at 15 percent. That is, at this discount rate, even full retention of face value and payment of 6 percent interest would amount to a present value of only 49 cents on the dollar (present value haircut of 51 percent), so cutting the principal by 47 percent would constitute a total present value haircut of 74 percent.<sup>62</sup> In economic terms, however, it would seem more meaningful at most to use a time discount rate of say 10 percent (which happens to be the average interest rate on outstanding Argentine public debt as recently as early 2001). Discounting at 10 percent, retaining full face value the 30-year instrument would have a discounted present value of 70 cents on the dollar, so after a 47 percent haircut in principal the haircut in present

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<sup>62</sup> With the claim cut to 53 cents on the dollar, and the present value of each dollar in remaining claims worth only 49 cents on the dollar, the present value haircut is:  $1 - (.53 \times .49) = 0.74$ .

value terms would amount to 63 percent.<sup>63</sup> That would make junior debt worth 37 cents on the dollar, somewhat above the 30 cents or so where Argentine government bonds trade currently.<sup>64</sup>

The overall picture of the likely debt restructuring, however, is one of severe creditor losses by any historical standard. It is particularly sobering that the prospective depth of the haircut for junior debtors will likely be substantially larger than in the Brady Plan restructuring ending the debt crisis of the 1980s. In that workout, Argentina received a 35 percent reduction in conversion of its debt to international banks into “discount bonds” (with face value cut 35 percent) or “par bonds” (with cuts in interest rates to concessional levels). As shown in table 8, the size of the haircut today consistent with a plausible primary surplus is about one-third larger. The historical irony is that the forgiveness would be greater after a decade of reform and, for the most part, strong economic growth. The explanation of this paradox lies in the fact that the advent of Eurobonds in the emerging markets capital market that developed in the 1990s, and the very success of Argentina’s post-Brady economy, meant that international markets gave Argentina enough rope to hang itself once again. As set forth at the outset of this study, however, a good case can be made that the outcome of default and subsequent deep forgiveness was by no means preordained, and that the default and forgiveness could quite possibly have been avoided if it had not been for the increasingly virulent interaction of political shocks and market pricing of Argentine sovereign debt.

#### *D. Maintaining the social safety net*

A final major area in which immediate challenges will have to be faced is that of the social safety net. As noted earlier, open unemployment reached 21.5 percent of the urban labor force in the May 2002 survey. Moreover, the incidence of poverty (by the national definition) has reached about half of the population or more, and stands more than twice as high as in 1995 (e.g. UNDP, 2003). Specifically, in the most recent Permanent Survey of Households (October 2002), 57.5 percent of the urban population was identified as being in poverty, comprising 27.5 percent reported as being below the “indigence” line and 30.0 percent additionally below the “poverty” line (INDEC, 2003). It would appear, however, that the Argentine national poverty line is high by international standards.<sup>65</sup>

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<sup>63</sup> Or:  $1 - .53 \times .7 = .63$ .

<sup>64</sup> Note, however, that the Boden 2012, the bond used for compensation to the banks for asymmetrical pesification, trade at about 50 cents on the dollar, confirming that the market places considerable implicit seniority on banking sector claims.

<sup>65</sup> The “indigence” line is calculated as the amount of income required to cover a basic food basket (generating 2,700 calories per day per adult male equivalent). The “poverty” line is based on Engel curve relationships of total consumption to food, and stands at about 2.2 times the food-based indigence line. For a family of five comprising two parents and three children of 5 years and under, the indigence line in October 2002 was 353 pesos per month, and the poverty line, 779 pesos per month (INDEC, 2003). At the October 2002 exchange rate, these amounted to \$95 and \$210, respectively, or about \$3 and \$7 per day, respectively. As noted above, in 1999 Argentina’s purchasing power parity income was about 50 percent above its nominal dollar income. With the steep devaluation of 2002, this ratio was probably at least 2:1 by October 2002. This would seem to imply that the Argentine national

In this context of severe social dislocation from the 3D economic collapse, the government announced in January 2002 that it would launch a social safety net program. By May it had implemented a system of monthly support to Heads of Households declaring themselves unemployed. Approximately 2 million heads of household receive 150 pesos monthly as a direct payment in this program. In principle the program has a work requirement, but it is lax, involving 4 hours per day of participation in community service of some form (loosely enough defined to include such activities as sewing circles) or in training. Some accounts suggest that only about one-third of recipients are working in projects organized by the program. The World Bank, which provides financial support for the program, has ruled out the use of the stipends in the form of wage subsidies to private employers.

There are indications that the Heads of Household program has played an important role in helping calm social unrest. Data compiled by the Ministry of Justice, Security and Human Rights indicate that the monthly average number of “social protest events” (demonstrations, blocking roads, strikes) fell from about 2,500 in January-February 2002 and 2,300 in March-April to about 1,500 in May and then to a much lower plateau of about 850 in June-December and 640 in January-February 2003 (MECON, 2003a).

Some questions may reasonably be raised about the Heads of Household program. Its fiscal cost amounts to about 4 billion pesos per year (i.e. 2 million x 1,800 pesos), or about 1 percent of GDP. The amount of the stipend is modest, corresponding at recent exchange rates to about \$1.60 per day per head of household. Even so, the amorphous work requirement raises potential difficulties. A classic case of a successful social safety net, Chile’s Plan of Minimum Employment carried out in the mid-1980s, not only required work in public works projects, but paid slightly below the minimum wage. This structure meant that the program had a strong built-in incentive for self-selection in, of the truly needy, and self-selection out, for all others. Some reports suggest instead that the Heads of Household program is having the effect of making it difficult for farm areas to recruit seasonal farm labor, for example. There is also the question of whether recipients are really heads of households (and of households with children under the age of 18), as some surveys indicate that fewer than half have this status, and that well over half are females.

Another possible issue concerning the program concerns the apparent role of *piqueteros* in at least some portion of the program to administer the selection of participants and distribution of funds. The *piquetero*

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poverty line is about \$14 per day at international purchasing power parity terms, or about seven times as high as the World Bank’s \$2 per day ppp international threshold. Part of the rise in poverty incidence may be explained by the use of the food basket as the base for the calculation, combined with the impact of the devaluation on the price of food relative to other goods and services. Agricultural prices are closely tied to world prices and hence the dollar, despite the wedge provided by the export tax.

movement in Argentina in recent years takes its name from the setting up of roadblocks by disaffected groups. The movement began in the provinces and escalated in the main cities by late 2001. Although the recruitment of some of its members to help administer the Heads of Households subsidies no doubt played a role in the cooling off of demonstrations, this process raises the issue of whether the government is becoming beholden to specific groups under an implicit threat to break the peace if the subsidies are not delivered. It also raises the question of political patronage.<sup>66</sup>

Going forward, there would seem to be grounds for shifting the Heads of Households to a basis with a much more meaningful work requirement, in which recipients are expected (for example) to show up for, say, 6 hours of work daily on public works projects. It would also seem appropriate to phase out the *piqueteros* in the administrative structure, and to assure that audits verify fair distribution of funds. These modifications would likely trim the number of recipients, help ensure that those who remain are the most needy, and curb the fiscal costs while probably providing some scope for increasing the benefit per recipient.

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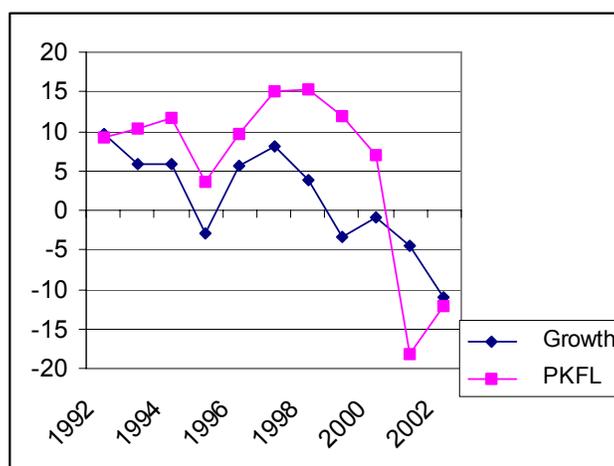
<sup>66</sup> The perception of the interaction of politics with the *piquetero* movement is illustrated by the following press account: “The crisis and resulting unemployment created a violent militance in the streets and highways: the ‘piqueteros,’ which initially were encouraged by the government (especially by Carlos Ruckauf when he was governor of Buenos Aires) and then ‘professionalized’ with activists paid by the Heads of Household, Trabajar [Work], and other programs.” *Ambito Financiero*, 25 April 2003.

## 5. STRATEGIES FOR THE LONGER TERM

### A. Baseline prospects for growth and principal challenges

If stability can be maintained through progress in the areas of immediate challenge just outlined, the chances seem good that Argentina can enjoy substantial growth for this year and the next two or so years merely from returning back toward full capacity at the peak level of GDP in the second quarter of 1998. Even after some rebound, the fourth quarter real GDP in 2002 was still about 20 percent below that high-water mark. As time passes, however, increasingly the question will be how Argentina can achieve sustained growth that goes beyond recovery from depression. The challenge of doing so will be especially demanding considering that in the past, Argentina's periods of growth have tended to coincide with those of large capital inflows (figure 9), but in the future the aftermath of the debt workout will likely mean the need to turn to domestic saving rather than foreign capital as the source of investment for growth. There are many structural aspects of the economy (and society) that will affect growth potential. This section focuses on some of the most important, but others (such as education for the formation of human capital and institutions to spur personal saving) will also be important.

**Figure 9**  
Economic growth and net private capital flows (% and \$billions)



Before turning to the major individual issue areas, it is useful to consider the baseline economic outlook over the medium term. The initial recovery phase should generate relatively high annual

growth rates, merely because last year's GDP fell so low. In real terms, in 1998 GDP was 288 billion pesos; by last year it had fallen to 235 billion (both at constant 1993 prices; MECON, 2003b). A return to the 1998 level would thus show up as cumulative "growth" of 22.5 percent. Although the January 2003 transitional agreement with the IMF assumes growth of "between two and three percent" in 2003 (MECON, 2003c), recent output trends suggest an outcome closer to 4.5 percent.<sup>67</sup> A plausible time path thereafter to reattain the 1998 output level by 2006 would involve growth of 6 percent in 2004 and 5 percent annually in 2005-06. Because the productive capacity of 1998 is still largely in place, and even considering that there will be some change in composition toward tradables and away from nontradables (given the real exchange rate change), such a path does not seem unrealistic. A key factor in whether it can be realized will be whether there is a major degree of normalization through increased political stability, and whether the new government follows investment- and market-friendly policies or instead adopts unsustainable populist policies.

On May 25, Nestor Kirchner took office as the sixth president of Argentina within 18 months. Carlos Menem, who had enjoyed a slight lead in the initial round of presidential voting in April, resigned from the run-off elections in the face of Kirchner's large lead in the polls. Kirchner's inaugural address warned foreign creditors that Argentina needed debt relief and declared that "a way of doing politics in Argentina is over" (*New York Times*, 26 May 2003; *La Nacion*, 26 May 2003). Kirchner reappointed Roberto Lavagna as Minister of Economy, and can be expected to continue the relatively cautious fiscal policy combined with relatively populist government interventions that characterized the Duhalde transition. It seems more likely that the new government will seek primary fiscal surpluses of say 3 percent of GDP than that it will aim for targets as high as 4 or 5 percent of GDP, and some reports have indicated it intends a major public works program.

Output growth could potentially average some 5 percent annually in 2003-2006, as this would simply restore real GDP to the 1998 level by the end of this period. However, even to achieve this recovery, it will be crucial to restore market confidence. Maintaining the more positive relationship with the IMF achieved in early 2003 will be important for this purpose, as will the pursuit of policies in a wide range of areas -- including on utility rates, debt restructuring negotiations, and bankruptcy laws -- that continue to repair the damage done to confidence in the rule of law and adherence to principles of property rights.

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<sup>67</sup> Some press accounts as of early May indicated the IMF and the new government would revise the growth and inflation targets, likely toward 4 percent growth and 15-20 percent consumer price inflation, but that the primary surplus target of 2.5 percent of GDP would be maintained.

Inflation, in the baseline, seems likely to be moderate this year, and in all likelihood well below the 35 percent December to December rate assumed in the January IMF program. Once again the impact of the election outcome on confidence will be important. Considering that inflation was running at an annual rate of only 6 percent in the six months ending April 2003, prices might rise 15-20 percent December to December, an outlook that makes significant allowance for some inflationary impact of the release of the rest of the frozen bank accounts, some adjustment in utility rates, and modest wage pressures. By 2004 and after it is not difficult to envision a process of inflation targeting that gradually reduces the rate to single digits by 2005 and lower thereafter. Further nominal appreciation of the peso seems likely to contribute to this outcome.

Although this baseline may appear optimistic, in fact it would be relatively unambitious as it would only take the economy back to where it stood in 1998 – albeit on a sounder fiscal and exchange-rate basis. Even to achieve especially the more favorable end of this growth range, however, and especially in order to ensure sustained growth in the longer term, it will be critical that decisive action be taken in the next administration on the major issues examined below.

### *B. Fiscal reform*

In view of Argentina's history, perhaps no other aspect of the Argentine economy will be as central to prospects for sustained growth as fiscal performance. The central challenge will be to achieve primary fiscal surpluses of 4 to 5 percent of GDP on an ongoing basis, to assure not only the servicing of restructured public debt but also to guard against recourse to monetary expansion and the "inflation tax" to finance uncovered expenditures in an environment in which net new borrowing will be minimal.

STRUCTURE OF GOVERNMENT FINANCE -- To analyze possible directions for fiscal reform, it is first important to consider the structure of spending and revenue (table 10). In broad terms, the central government has a large spending obligation on social security (about 6 percent of GDP in 2001), debt service (about 4 percent of GDP in 2001 before the default), and transfers to the provinces (about 5 percent of GDP). Social transfers (including Heads of Households) are also substantial, and at about 2.8 percent of GDP in 2002, exceeded the federal government wages (2.2 percent of GDP). Federal revenue has been around 19 percent of GDP, comprising about 13-14 percent of GDP in taxes, 3-4 percent in social security collections, and about 2 percent of GDP from such sources as rental of

property and income from government services. With almost three-fourths of federal spending representing entitlements (social security, provincial transfers) or interest, the scope for trimming discretionary spending is limited. Nonetheless, adjustment will be needed on both the revenue and spending sides if Argentina is to lay a strong foundation for fiscal sustainability in the future.

REVENUE ENFORCEMENT – Widespread tax evasion is one of the greatest shortcomings in the Argentine political economy, and it is difficult to see how fiscal sustainability can be secured until there is major progress in reducing it. Consider the value added tax. The VAT rate is 21 percent. Virtually all sectors of the economy are subject to it, in principle. Yet VAT revenue amounted to only 4.5 percent of GDP in 2002, down from a peak of about 6.8 percent of GDP in 1998 – the last year before the recession (table 11). To a considerable degree firms appear to consider payment of the VAT as a residual, to be observed when business is good and credit is available, but to be ignored when business is bad and credit has been cut off.

Table 10  
Structure of Federal Government Finances, 2001-02

(billion pesos and % GDP, cash basis)

	2001		2002	
	bn pesos	% GDP	bn pesos	% GDP
Revenue	51.13	19.01	55.73	17.81
Taxes	37.16	13.81	40.03	12.79
Soc. Sec. contrib.	9.64	3.58	9.71	3.10
Other	4.33	1.61	5.99	1.91
Expenditure	60.03	22.32	60.37	19.29
Salaries	6.54	2.43	6.97	2.23
Goods & services	2.24	0.83	2.54	0.81
Social security	16.62	6.18	16.54	5.28
Transfers to provinces	13.92	5.17	14.77	4.72
Transfers to universities	1.63	0.61	1.55	0.50
Social transfers	5.82	2.16	8.7	2.78
Interest	10.17	3.78	6.81	2.18
Capital expenditures	2.64	0.98	2.18	0.70
Other	0.45	0.17	0.31	0.10
Memorandum:				
overall surplus	-8.72	-3.24	-4.55	-1.45
primary surplus	1.46	0.54	2.26	0.72

Source: MECON (2003b).

Table 11  
Federal tax revenue as a percent of GDP

	VAT	Income	Checking	Import	Export	Worker contrib.	Employer contrib.	Other	Total
1995	6.32	2.42	0.00	0.68	0.01	2.17	2.93	1.81	16.35
1996	6.64	2.50	0.00	0.70	0.01	2.12	2.34	1.51	15.83
1997	6.77	2.85	0.00	0.83	0.00	2.18	2.46	1.48	16.57
1998	6.80	3.17	0.00	0.90	0.01	2.09	2.65	1.11	16.74
1999	6.42	3.26	0.00	0.79	0.01	2.17	2.47	1.70	16.80
2000	6.48	3.68	0.00	0.68	0.01	2.20	2.30	1.92	17.28
2001	5.52	3.76	1.09	0.57	0.02	2.14	2.24	1.57	16.90
2002	4.48	2.85	1.55	0.40	1.60	1.13	2.03	2.07	16.12

Source: MECON (2003b)

On the revenue side, it would seem that the single biggest thing the government could do to improve fiscal performance is to increase enforcement of the value added tax. Table 12 shows international revenue experience with the VAT.<sup>68</sup> The entry for Argentina refers, apparently, to 2000, and is considerably higher than last year's 4.5 percent of GDP. The main point, however, is that strong performances in VAT revenue tend to range in the vicinity of 8 to 9 percent of GDP. For example, for Brazil, Chile, Hungary, Israel, Norway, and Portugal, the (unweighted) average revenue collected is 8.8 percent of GDP, with an average standard VAT tax rate of 20.1 percent.<sup>69</sup> This would suggest that with vigorous enforcement, Argentina ought to be able to collect at least 8 percent of GDP with its 21 percent VAT rate. Intense campaigns to penalize evasion, including through jail sentences, would seem necessary for this purpose. The benefit could be large. A rise in VAT revenue from 4.5 percent of GDP last year to 8 percent would by itself contribute 3.5 percent of GDP to increasing the primary surplus. Moreover, revenue on this order is not unduly ambitious, considering that 6.8 percent of GDP was raised by the VAT as recently as 1998.

<sup>68</sup> The data in table 12 refer to 2000 or the most recent year available.

<sup>69</sup> Even where VAT collection is rigorous, the revenue as a percent of GDP is far below the tax rate. A major reason is that two large parts of the economy – government spending and investment – are typically exempted from the VAT, which is a tax on consumption. Internationally, an average "efficiency rate" stating the percent of GDP collected as a ratio of the VAT tax rate is 34 percent (which, for Argentina, would generate 7.1 percent of GDP at the VAT rate of 21 percent). Ebrill *et al* (2001), p. 40. For the countries listed in table 11, which are more germane comparators than many smaller and poorer countries included in the broader survey, the efficiency ratio is 37 percent, implying 7.8 percent of GDP revenue for Argentina.

Table 12  
International Experience with the VAT  
(2000 or most recent year available)

Country	Standard rate (%)	Other rates (%)	Revenue as % GDP
Argentina	21	10.5, 27	6.2
Belgium	21	1, 6, 12	6.9
Brazil	20.5	10, 12, 36	8.6
Chile	18		8.5
Czech Republic	22	5	7
France	20.6	2.1, 5.5	7.8
Germany	16	7	6.9
Hungary	25	12	8.1
Israel	17	6.5	10.6
Italy	19	4, 6, 16	5.4
Korea	10	2, 3.5	4.6
Mexico	15	10	3.2
Netherlands	17.5	6	6.9
Norway	23		8.9
Peru	18		6.3
Poland	22	7, 12	7.9
Portugal	17	5, 12	8
South Africa	14		5.9
Spain	16	4, 7	6.2
Sweden	25	6, 12, 21	7.2
Turkey	16	1, 8, 25, 40	6.5
United Kingdom	17.5	0	6.8
Average	18.7		7.0

Source: Ebrill, Keen, Bodin, and Summers (2001).

For its part, the income tax revenue also suggests widespread evasion. Here, however, the inflation of 2002 may have begun to contribute to indirect reform. Previously the threshold for income tax liability was so high that the great bulk of the population was not subject to the tax. The top rate of 35 percent applied only above 100,000 pesos. Both the minimum threshold and the top bracket will now apply to a larger portion of the population in view of the likely rise in nominal peso incomes following the 2002 inflation (although nominal wages remained stagnant last year). Here again conspicuous enforcement instances would seem salutary to collection.

Evasion is also a major problem in worker and employer contributions. Perhaps more than half of workers are not in the formal system, so their contributions and those of their employers are absent from the payroll revenue. The bulk of the self-employed are in the informal sector, and perhaps over 40 percent of salaried workers are also not in the system. As worker and employer contributions have amounted to about 4.5 percent of GDP (except for the weak 3.1 percent in 2002 with depression and high unemployment), and as aggressive enforcement of contributions would seem capable of raising contributions by perhaps one-half, some 2 percent of GDP in additional revenue might be raised from this source.

Strict enforcement of these taxes is all the more important because two recent sources of tax revenue are distortionary, and will need to be curtailed. These are the credit and debit tax (also known as the financial transfer tax) and the 20 percent tax on export earnings adopted last year. In 2002 each of these taxes raised about 1.6 percent of GDP in revenue. Each checking transaction in demand deposit accounts generates a tax of 0.6 percent on each side of the transaction. Although this tax has proven a capacity to revenue, and has been relied on significantly in Brazil and some other countries, it has the adverse side effect of encouraging the movement of transactions to outside the banking system. Any such migration is likely to be linked to a shift of even more activity into the black economy, where there will be a loss on other taxes. In part because of its adverse effect on an already weak banking system but also because its revenue should be judged net of induced losses in other tax collections, the credit-debit tax would seem to be a prime candidate for elimination as soon as possible.

For its part, the export tax will also need to be phased out as the real exchange rate appreciates back to a still competitive but no longer severely undervalued rate; otherwise exporters will lose incentive and the real depreciation of the exchange rate will fail to spur export growth. A related effect is that on domestic food prices. One reason the Duhalde government taxed exports appears to have been a concern about the impact on domestic food prices if there were no major wedge between international and domestic prices for grains, meat, and other agricultural goods, all important sectors in Argentine exports. It is unclear how seriously this “law of one price” concern should be taken, however, given considerable international experience suggesting ample scope for divorce between domestic and world prices when the exchange rate moves. In any event, this concern should be less relevant as agricultural output increases in response to the higher price incentive, and as the real value of the peso appreciates toward a less undervalued level.

EXPENDITURE DISCIPLINE – As suggested in the initial section of this study, it is difficult to attribute Argentina’s crisis to runaway increases in government spending. Primary spending of the consolidated government did rise from 20.6 percent of GDP in 1991 to 24.1 percent in 1994, but then stayed with a range of 23-25 percent from 1995 through 2001. The driving force of rising spending was the interest burden, which was as low as 1.4 percent of GDP in 1993 but reached 4.8 percent in 2001 (table 4 above).

Table 13

Government spending by function, 2002  
(percent of GDP)

Total	29.11
National	15.11
Provinces, Municipal	14.00
Government functions (a)	5.62
National	2.19
Provinces, Municipal	3.43
Social	19.48
National	10.37
Provinces, Municipal	9.11
Education	4.29
National	0.88
Provinces, Municipal	3.41
Health	4.44
National	2.22
Provinces, Municipal	2.22
Social security	7.03
National	5.54
Provinces, Municipal	1.48
Labor	1.52
National	1.44
Provinces, Municipal	0.08
Other	2.20
National	0.29
Provinces, Municipal	1.91
Economic services	1.39
National	0.43
Provincial, Municipal	0.96
Debt service	2.63
National	2.13
Provincial, Municipal	0.50

a. Administration, justice, defense.

Source: MECON (2003b)

Table 13 shows the areas of specialization of the federal government and the provinces and local governments.<sup>70</sup> The bulk of educational spending is at the provincial level (although the federal government spends substantial amounts on the universities; see table 12). Health services are equally split between the federal government and the provincial and local governments. Social security and labor support programs are mainly at the federal level.

The principal question about spending would appear not to be whether there was any major expansion in recent years, but whether the levels inherited from the past have been excessive in certain categories. To obtain a sense of where spending might be disproportionate, it is useful to compare the spending profile to those of other Latin American countries. Table 14 shows total, primary, and interest spending at each of the three levels of government (central, provincial, local) for Argentina, Brazil, Chile, and Mexico. Key distinctive features of Argentina include the following. First, the share of provincial and local spending in total primary spending is unusually high for Argentina, standing at about half (48 percent) of the total. This is considerably higher than in Brazil (41 percent) and far higher than in Chile (9 percent) and Mexico (32 percent). Brazil's former difficulties and recent successes in getting control of state and local spending are well known. The profiles in table 14 suggest this challenge is even greater for Argentina. This is especially true given the recurrent pattern in which the central government in Argentina assumes the debt incurred by the provinces.

A second pattern is the high share of interest in total spending. Whereas interest accounted for over 5 percent of GDP in Argentina in 2001 before falling to 2.6 percent on a cash basis in 2002 because of

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<sup>70</sup> An important caveat is in order concerning the spending estimates in table 13. Although these are the official government data, there appears to be a major gap between revenue data and spending data that is difficult to reconcile. Thus, as shown in table 10, federal revenue in 2002 was 17.8 percent of GDP, of which 16.1 percent of GDP was in taxes and social security contributions (table 11) and 1.9 percent was "other" (table 10). The Ministry of Economy reports the total cash deficit of the non-financial public sector at the federal level as 1.5 percent of GDP in 2002 (MECON, 2003d, p. 153). The provincial deficit in 2002 was 0.5 percent of GDP excluding interest (MECON, 2003c), and provincial and local interest payments (cash) were 0.5 percent of GDP (MECON, 2003d, p. 164). So the consolidated total deficit was 2.5 percent of GDP. Considering that total spending at all levels was 29.1 percent of GDP (table 13), with a total deficit of only 2.5 percent of GDP there should have been total revenue of 26.6 percent of GDP. As revenue at the federal level only accounted for 17.8 percent of GDP, this implies that provincial own-revenue (i.e. excluding revenue-sharing receipts) provided the remainder of 8.8 percent of GDP. But Cuevas (2003) places provincial own-revenue at only 3 percent of GDP. So there is an unexplained gap of 5.8 percent of GDP between spending and revenue at all levels. The likelihood is that spending is overstated, rather than that revenue is understated. In particular, IMF staff estimates reported in Krueger (2002) show a significantly lower level of consolidated spending than in the Ministry of Economy data. In table 4 above the IMF estimates place total spending in 2001 at 25.0 percent of GDP, whereas the Ministry of Economy data place the figure at 35.7 percent of GDP (table 14 below). The IMF data exclude spending at the municipal level, which is about 3 percent of GDP. Even after adjusting for this difference, the IMF spending estimates are about 7.7 percent of GDP lower than the government estimates. It is possible that the government estimates of consolidated spending double count revenue sharing in both federal and provincial spending. In particular, in the accounts presented by type of payment (e.g. wages, transfers), federal spending is reported at 18.6 percent of GDP, but 5.2 percent of GDP of the total is in "transfers to the public sector," mainly revenue sharing (MECON, 2003d). This would seem to leave spending at the federal level itself at only 13.4 percent of GDP, yet federal spending reported by function (table 13) stands at 15.1 percent of GDP. In any case, it should be kept in mind that the combined spending estimates for the federal, provincial, and local levels in tables 13 and 14 may be overstated.

the default on much of the debt, interest payments were only 2.7 percent of GDP for Mexico and 0.4 percent for Chile. Only Brazil shows a comparable interest burden, at 4.6 percent of GDP.

Table 14

Government spending in major Latin American economies  
(percent of GDP)

	Argentina		Brazil	Chile	Mexico
	2001	2002	1998	2000	1999 (b)
Total	35.7	29.1	45.5	24.0	22.9
Primary	30.4	26.5	40.9	23.5	20.3
Interest (b)	5.3	2.6	4.6	0.4	2.7
Central government	18.3	15.1	26.8	21.9	15.5
Primary	13.9	13.0	23.0	21.4	13.0
Interest	4.4	2.1	3.8	0.4	2.5
State/ provincial	14.5	11.6	13.6	b	6.3
Primary	13.6	11.2	12.9	b	6.2
Interest	0.9	0.5	0.7	b	0.1
Local	2.9	2.3	5.1	2.1	1.1
Primary	2.9	2.3	5.0	2.1	1.1
Interest	0.1	0.0	0.1	0.0	0.0

a. State and local: 1998.

b. Cash basis. Excludes arrears in Argentina in 2002.

Source: IMF (2001b); MECON (2003b)

Third, Argentina's fiscal burden (spending relative to GDP) is intermediate in the region, well below that of Brazil but considerably higher than that in Chile and Mexico. Given the much more favorable fiscal performance in Chile and Mexico than in Brazil over recent years, it would be reasonable to infer that some easing in the fiscal burden through curtailing expenditure would be appropriate in Argentina, rather than a further increase toward Brazilian levels.

Table 15 compares government spending by function in Argentina and Chile. These data by function are totals at the central, provincial, and local government levels. Chile is chosen as the comparator because the international data (IMF, 2001b) do not give the category detail at the provincial and local levels, but for Chile where government spending is organized solely at the central government and local government levels, the central government profile is a close approximation of the total.<sup>71</sup>

<sup>71</sup> The estimates for Chile in table 13 apply the central government category shares to total spending for central and local governments. Calculated from IMF (2001).

Table 15

Primary government spending by function, Argentina and Chile  
(% GDP)

	Argentina 2002	Chile 2000
Government functions	5.6	4.1
Education	4.3	4.2
Health	4.4	2.9
Social security	7.0	8.5
Other social	3.8	1.0
Economic services	1.4	2.8
Total	26.5	23.5

Source: MECON (2003b); IMF (2001b)

The comparisons in table 15 suggest that Argentina's spending on administration, justice, and defense ("government functions") is relatively high, and could be cut by about as one fourth to approximate relative levels in Chile. The estimates also suggest that spending on education and health in Argentina is not low, although the same may not be true for the quality of this spending. Social security spending is only moderately lower than in Chile, at about 7 percent of GDP compared to 8.5 percent. "Other social" spending is considerably higher in Argentina, however (3.8 percent of GDP versus 1.0 percent). A closer look at this grouping indicates that the difference does not arise in provision of water or housing services, but in "social assistance" (1.15 percent of GDP in Argentina) and "labor" (1.52 percent of GDP, of which 0.53 percent was in family allowances). The "labor" category comprised only 1.0 percent of GDP on employment programs and unemployment insurance, up from 0.37 percent in 2001 given the new spending in the Heads of Households program.

Overall the primary spending picture that emerges for Argentina is one of potential room for slimming down government expenditures in the areas of bureaucracy and some of the general social programs (outside of education and health). It could make sense to focus the latter more heavily on a genuine public works employment program requiring actual performance of public service work.

The broader picture, however, is that a combination of closer control of primary expenditures, a close attention to provincial expenses, and especially a concerted effort at collecting the taxes that are on the books should provide ample room for Argentina to increase its primary surplus. It is crucial to recognize, moreover, that without spending discipline, the benefits of greater tax enforcement could be

squandered by induced increases in government spending. This risk is especially present in provincial spending, because of the automatic revenue sharing provided by the central government. Tax enforcement efforts thus need to be accompanied by structural changes in provincial spending arrangements to ensure that potential improvement in fiscal performance from higher tax collections is not frustrated by increased provincial spending of the resulting shared revenue. Provincial finances are discussed below.

Finally, a key development in 2002 has improved the scope for achieving a primary surplus. During 2002 there was no increase in public sector salaries or in pensions, despite the cumulative inflation of 43 percent (December to December). The federal payroll amounted to 6.35 pesos in 2001 and 6.78 billion pesos in 2002, pensions fell slightly from 16.6 billion pesos in 2001 to 16.5 billion in 2002 (Moskovits and Fernandez, 2003). Their combined cost thus fell from 8.5 percent of GDP in 2001 to 7.4 percent in 2002. This de facto expenditure adjustment of about 1 percentage point of GDP was the main reason why the primary balance of the national government rose slightly in 2002 (from 0.5 to 0.7 percent of GDP) despite a decline in revenue resulting from the depression.

The January 2003 agreement with the IMF seeks a federal primary surplus this year of 2.1 percent of GDP, and a provincial primary surplus of 0.4 percent of GDP (MECON, 2003c). These targets seem feasible in light of the recovery and the likely boost in VAT and other revenues from both an increase in economic activity and the rise in prices. Recovery alone seems unlikely to boost the primary surplus to a desirable target of 4 percent of GDP by 2004, however. For example, using the elasticities relating the percent change in revenue and spending to GDP estimated by Hausmann and Velasco (2002) at 1.5 and 0.7, respectively, a 10 percent rise in real GDP from 2002 to 2004 would boost the primary surplus by only 1.3 percent of GDP.<sup>72</sup> Since a total increase of 4 percent of GDP would be needed for the federal and provincial primary surplus to rise from its combined level of zero last year, and since only about 1 percent of GDP of this upswing is to occur in provincial finances, the federal primary surplus would need to reach about 3.5 percent of GDP. This is 2.8 percent of GDP higher than last year's federal outcome, and 1.2 percent higher than the target for 2003. Only about half of the increment (1.3 percent of GDP) can be expected as the passive gain from a rebound in activity. An additional fiscal effort is thus needed, in both spending discipline and especially enforcement in revenue collection.

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<sup>72</sup> With real GDP at a benchmark of 100, and both spending and revenue at a benchmark of 18, then a 10 percent rise in real GDP boosts revenue to 20.7, spending to 19.26, and the primary surplus from zero to 1.44, which is 1.31 percent of the higher GDP (of 110).

The broad picture, nonetheless, is more encouraging than in recent years. The medium-term fiscal outlook benefits from the fact that there has been a real compression in primary spending, as a consequence of nominal stagnation (especially in public wages and pensions) last year in the face of high inflation; and from the fact that the economy is now in a phase of expansion rather than contraction. In the period 1999-2001 the problem was a need to make reductions in real primary spending in an environment of falling real GDP. Going forward the challenge is to limit the rise in real primary spending in an environment of rising real GDP, which should be a less daunting task.

### *B. Reforming provincial revenue sharing*

Argentina's prospects for fiscal sustainability will remain vulnerable until the persistent problem of fiscal conflict between the center and the provinces is resolved. This reform would seem most importantly to involve constitutional amendment requiring the provinces to maintain balanced budgets. Reform seems also likely to require a more flexible use of revenue sharing, with revisions that remove the perverse procyclical incentive for provinces to spend more automatically as revenue collected by the center increases.

There has been along history of revenue sharing from the center to the provinces. This process was further magnified in the 1994 constitution. Enacted in a period in which then-president Menem sought constitutional amendment to permit him to run for a second term of office through agreement with Radical leader Raul Alfonsin, the new constitution gave new revenue sharing benefits to the provinces in the face of pressure from the powerful provincial governors and the legislators they controlled. For its part, congress is subject to disproportionate influence by smaller provinces given their over-representation (through not only a fixed number of senators per province but even a floor number of deputies), which is one of the most extreme in the world.

The 1994 constitution provided that all taxes other than trade taxes must be revenue-shared.<sup>73</sup> It set the distributional shares at 42 percent for the center, 57 percent to provinces on pre-determined (and

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<sup>73</sup> The tax base subject to revenue-sharing is as follows (subsequent to the 1998 tax reform): 64 percent of income and profits taxes (after a deduction of 580 million pesos); 89 percent of the VAT; 90 percent of the personal assets tax; and 100 percent of excise and other taxes unless earmarked for specific purposes. The 1998 reform sought increased efficiency through reducing social security contributions, which are not considered "taxes" and are not subject to revenue sharing, and increasing income and other taxes, which are revenue shared. Although there was an initial annual set-aside from the revenue-sharing pool of about 2 billion pesos to compensate the federal government for this revenue loss, this was eliminated in May 2002 as part of the resolution of the federal-provincial conflict resulting from the failure of the federal government to deliver on the promised absolute floor of revenue sharing transfers during the crisis in 2001. The 2002 revision also made 30 percent of the financial transfers tax subject to sharing, even though this tax adopted in 2001 to help deal with the crisis was not initially subject to sharing (Cuevas, 2003, pp. 6-9).

highly redistributive, especially to the disadvantage of Buenos Aires city) share, and 1 percent to provinces in special funds. As nominal GDP began to fall in 1999-2001, the de la Rúa government adopted fiscal pacts that set an annual floor to revenue sent to the provinces even if tax revenues fell short (about \$16 billion annually, or about 6 percent of GDP). When by mid-2001 the central government was unable to honor this commitment, the rising strife between the government and the provincial governors became one of the key factors in the political unraveling that brought the collapse of the de la Rúa government. Moreover, in 2001 and through the first half of 2002, in the face of revenue shortfalls the provinces issued small-denomination bonds used as currency amounting to about 5 billion pesos (with Buenos Aires province accounting for about 40 percent).<sup>74</sup>

The provinces currently have major perverse fiscal incentives. Increases in national revenue automatically mean increased resources for them to spend (through revenue sharing), making provincial spending procyclical. The sharing of more than half of federal revenues also means that there is a large automatic leakage of this amount from any revenue effort that the central government undertakes. This leakage may even help explain why enforcement of the VAT and other taxes is so low, as the political calculus of the authorities may be comparing the full political cost of enforcement against only half of the increased revenue.

A second perverse incentive of the arrangement is that the pattern has been established that if the provinces run up large debts, the chances are good that the central government will assume responsibility for it, in part because such bailouts are a means by which the federal government can secure support within congress in view of the dependency of legislators on powerful provincial governors. The provinces thus have little disincentive to taking on more debt. As an example of lack of provincial fiscal discipline, in the 1999 elections then-provincial-governor Eduardo Duhalde boosted public employment in Buenos Aires province by 17 percent in one year, leaving the province with 57 percent of total provincial deficits in 1999 (in comparison with its 30 percent share in GDP; Tommasi, 2002).

There was some progress in provincial finances in 2002. Their combined primary spending fell by 1.5 billion pesos, or by 0.5 percent of GDP, in considerable part as a consequence of financial adjustment programs signed between the federal government and 14 provinces as part of the government's package of measures pursuant to an IMF agreement. These fiscal pacts also called for an end to the

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<sup>74</sup> Tommasi (2002).

emission of provincial small-denomination bonds in quasi-money, and provided that if a province resumed issuing this paper, future revenue-sharing funds would be applied to accelerated repayment of provincial debt to the federal government. Similarly, if the province fell short of its deficit target, there would be a proportional reduction in the revenue-sharing funds transferred (MECON, 2003c).

Needed reforms would seem to be along the following lines. First, absolute programmed levels of provincial receipts from shared revenue could be established over a multi-year period, probably indexed to prices. Then, to the extent that federal tax revenue exceeded expectations, part of the increment in revenue shared would be applied to repaying the provincial debt assumed by the national government, and the rest would go into a stabilization fund to be drawn upon during national recessions when the shared amount of revenue collected fell short of the agreed multi-year baseline. If instead the shared amount from revenue fell short of the planned multi-year path, provinces would have to settle for the actual amount raised. With a conservative baseline, shortfalls would be unlikely because the economy is starting from recession levels.

Second, legislative (or ideally constitutional) changes would make it illegal for a province to run fiscal deficits. This practice is common within the United States, where almost all states' laws require a balanced budget.<sup>75</sup> Third, the provinces would slim down excessive bureaucracies. For example, it seems unlikely that the increased responsibilities of Buenos Aires province have required the full amount of its actual expansion of its public employment, from only 178,000 workers in 1983 and 239,000 in 1989 to 320,000 in 1995 and 405,000 in 1999 (World Bank, 1990; Tommasi, 2002). Fourth, there would be a general revision of the sharing formula to arrive at a more equitable distribution among provinces, in light of the currently highly skewed distribution in favor of some of the smaller provinces.<sup>76</sup> This is especially the case because the current redistributive pattern appears to be relatively random in its equity impact, as there is no clear tendency for the highest transfers to go to the poorest provinces (Cuevas, 2003, p. 13).

#### *D. Exchange rate regime*

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<sup>75</sup> Among the 50 US states, most have constitutional and/or statutory requirements that the governor submit a balanced budget (44), that the legislature pass a balanced budget (40), and that a deficit cannot be carried over from one year to the next (38). NCSL (1996).

<sup>76</sup> Tommasi (2002) notes that whereas in aggregate the 22 provinces obtain 44 percent of their revenue from own-tax sources and 56 percent from federal revenue sharing, 15 of the provinces obtain only 30 percent of their revenue from own-tax sources. The larger provinces, in particular Buenos Aires (including Buenos Aires city), Santa Fe, Cordoba, and Mendoza, comprise 80 percent of the economy and 70 percent of the population, but receive a much smaller combined share of total shared federal revenue-sharing funds.

The experience of developing countries in general and Argentina's experience with the currency board in particular suggest that the choice of exchange rate regime can be a crucial determinant of economic performance in terms of growth, price stability, and sustainability of external debt. Whether or not the final stages of the Convertibility Plan could have been managed in a way that avoided the 3D collapse (and the evaluation above suggests that under a more stable political structure, that might have been possible), going forward there would seem to be little if any prospect that Argentina can return to a currency board for at least several years. Just as in 1990 the institutional memory of the floating exchange rate was one of a close tie to hyperinflation, in 2003 the institutional memory of the Convertibility Plan would seem inevitably tainted by the default, devaluation, and economic collapse. It seems reasonable, then, to rule out the adoption of a new currency board at a new exchange rate.

Instead, two principal options seem most relevant to Argentina now and for the next few years at least. The first is a regime of managed floating, ideally with careful attention to a target real exchange rate, and also within a framework of inflation targeting as the monetary rule. The second is dollarization – outright adoption of the dollar as the currency in circulation. Currently the odds are that the new Kirchner government will pursue a managed float, which is fortunate considering that the case is much stronger for floating than for dollarizing. Somewhat more likely than dollarization is some form of at least informal agreement with Brazil that in the two countries' managed floating regimes, both will seek to keep their currencies within some target range relative to the dollar, to avoid the extreme swings in their bilateral rates that occurred in the late 1990s.

FLOATING WITH TARGETING OF THE REAL EXCHANGE RATE AND INFLATION --Within the past few years several of the major Latin American economies have adopted a managed floating exchange rate regime within a framework of inflation targeting, including Chile (in 1990), Mexico (1995), Brazil (1999), Colombia (1999), and Peru (2002).<sup>77</sup> Other emerging market economies that also have this monetary and exchange rate regime include Czech Republic, Hungary, Israel, Korea, the Philippines, Poland, South Africa, and Thailand. This approach was pioneered by New Zealand in 1989 and adopted in the 1990s by Australia, Canada, Finland, Norway, Spain, Sweden, and the United Kingdom (see Bernanke *et al*, 1999).

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<sup>77</sup> Truman (2003).

Truman (2003) identifies four core elements of inflation targeting: the adoption of price stability as a principal goal of monetary policy; numerical targets for inflation; time horizons for their achievement; and an ongoing review process to evaluate whether the targets are being met.

The “Taylor Rule” is perhaps the most popular formulation of a monetary rule within a framework of inflation targeting (and has also been found to provide a good description of how central banks behave more generally). It provides that interest rates should be increased or decreased based on whether expected inflation exceeds or is below the target. In pure inflation targeting, the rule stops there. In most practical applications (including among most inflation-targeting countries), the interest rate decision is also influenced by whether the economy is operating above or below its full-employment potential.<sup>78</sup>

Inflation targeting with a Taylor or similar rule provides both a monetary “anchor” against inflation and, if implemented with attention to the level of activity, an instrument for moderating the business cycle. As such, it is primarily concerned with “internal balance” – maintaining growth and high employment with price stability. The exchange rate regime also needs to play a key role in achieving “external balance,” however. Namely, it should be such that the resulting real exchange rate is compatible with a moderate current account deficit that can be financed on a sustainable basis by prospective net capital inflows. The managed float thus would seem to need to keep in mind a second target, beyond internal equilibrium: a target real effective exchange rate against the principal trading partners for purposes of external equilibrium.<sup>79</sup>

There are at least three challenging complications in implementing a successful managed float along these lines in the Argentine context. The first is that inflation targeting works best where the monetary authority has established a track record that gives it strong credibility. The historical rounds of high inflation in Argentina, and the collapse of the currency board, mean that Argentina begins in a difficult position from this standpoint. The second is the lack of knowledge about the response parameters of the economy after severe shocks and institutional changes (for example, has the “velocity” relating

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<sup>78</sup> The general formulation is of the form:  $r = r^* + \alpha(Y - Y^*)/Y^* + \beta(\pi - \pi^*)$  where  $r$  is the nominal short-term interest rate,  $r^*$  is the nominal interest rate that is consistent with the target inflation rate plus the equilibrium real interest rate,  $Y$  is the level of real GDP,  $Y^*$  is the level of potential GDP,  $\pi$  is actual or projected inflation, and  $\pi^*$  is the target rate for inflation. Strict inflation targeting sets  $\alpha$  at zero, but in practice central banks tend to set  $\alpha$  in the range 0-0.5 and  $\beta$  in the range 1.5-2.0 (Blejer et al, 2001).

<sup>79</sup> In terms of the classic linkage of policy instruments to policy targets, there are three targets and three instruments. The targets are: real exchange rate (the proximate target, which reflects the underlying target of external equilibrium); low inflation; and full utilization of capacity (“full employment”). The instruments are: exchange rate announcement and intervention; monetary policy as reflected by interest rates and monetary aggregates; and fiscal policy, which adds a needed second instrument for achieving the two targets of internal balance (activity and price stability). Alternatively, if exchange intervention is seen as ineffective and fiscal policy is seen as too inflexible to be used

money demand to GDP changed). A third complication is the considerable ambiguity about the proper level for the real exchange rate, after the experience of an increasingly overvalued real rate followed by collapse to an undervalued one.

The annual rate of inflation in the twelve months ending April, 2003, was 19.4 percent for consumer prices and 32.7 percent for wholesale prices. For the six months ending April, however, the annual rate was down to only 6.6 percent for consumer prices, and was actually negative at a -7.4 percent annual rate for wholesale prices. If the pace of inflation in the past few months can be maintained, Argentina would seem to have an adequate starting point for adopting inflation targeting, at least from the standpoint of the initial pace of inflation. For example, inflation in the year prior to adoption of inflation targeting was 11 percent in Colombia and 12 percent in Poland (Truman, 2003). The critical question, then, is whether instead there will be another round of high inflation, as discussed above. If the deposit thaw, and perhaps more importantly, wage pressures or a move toward deficit spending were to precipitate a resurgence of inflation back to the range of 20 percent or higher, the initial conditions for adopting inflation targeting would deteriorate significantly.

For its part, the nominal exchange rate stopped its precipitous decline in mid-2002, when the peso reached as low as 3.86 to the dollar (June 25), and began a gradual but persistent rebound to 3.12 by mid-March, 2003 and to about 2.9 in late May (MECON, 2003). On a trade-weighted basis against Argentina's nine largest trading partners, and deflating by consumer prices, from the third quarter of 2002 to mid-March 2003 the real value of the peso rose 13.6 percent. On an index of 1993-95 = 100, after falling from a peak of 116.3 in the third quarter of 2001 to a trough of 38.2 in the second quarter of 2002, the real effective exchange rate rose to 49.7 in the third quarter of 2002 and rebounded further to 56.5 by March 2003. (The real rate did not change much from mid-March to late-May 2003, because the rise in this period of about 8 percent against the dollar and yen, and about 3 percent against the euro, was largely offset by a decline of about 7 percent against the Brazilian real.)

On this same index, the average real effective exchange rate stood for 111.6 for 2001 as a whole. If we accept the Perry-Serven estimate of 55 percent overvaluation in 2001, this would mean an equilibrium index of 72 ( $=111.6/1.55$ ). If a more moderate estimate of 30 percent is used for the overvaluation, the equilibrium index would be 85.8. This means that *the peso could rise another 25 to 50 percent before eliminating the undervaluation that occurred from the overshooting during the 2002*

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countercyclically, there remains only one instrument (monetary policy) and three targets (price stability, capacity utilization, and external competitiveness). The task then becomes identifying the proper weights to apply for each of the three objectives in setting monetary policy.

*depreciation.* Ideally this further correction would occur through nominal appreciation of the peso, rather than through domestic inflation above international levels. Thus, *if Argentine inflation were to equal international rates, the peso could strengthen to a range of 2.0-2.3 per dollar before removing the undervaluation hangover* from the 2002 economic collapse. Ironically, by March 2003 key officials in the Duhalde government appeared to be more worried that the peso would strengthen too rapidly than that it would remain too weak, considering the role of the depreciated peso in spurring production of import substitutes and especially the need for export tax revenue. By May, the central bank was seeking to increase the peso money base to purchase dollar reserves for the same reason. Appreciation of the peso adversely export tax revenues doubly, first by reducing the peso equivalent of the dollar tax revenue, and secondly by squeezing the feasible tax rate in light of the impact on competitiveness.

A reasonable framework for exchange rate and monetary policy could then run along the following lines. First, the central bank would set as its goal a forward-looking annual inflation rate of, say, 10 percent. If (say) the actual 3-month moving average of inflation is at an annual rate in excess of this target, interest rates would be increased. If the actual pace were below the target, interest rates could either be left alone and the inflation target made more ambitious, or interest rates could be reduced somewhat. An alternative formulation would use adjustments in monetary aggregate targets (such as the IMF's net foreign assets and net domestic assets), rather than in the interest rate, for the same purpose of adjusting policy in response to the inflation outlook.

Second, the central bank would establish some target for the exchange rate, such as the range just described. So long as the peso remained sharply depreciated from the target, the central bank would allow market forces to strengthen the peso, but would be willing to consider intervention to support the currency from falling even further below the target. If the trend in appreciation went too far (some in Argentina would say to a peso stronger than, say, 2.5 per dollar), on the other hand, the central bank would intervene in the other direction (purchasing dollars for reserves), to help revert further appreciation.

The estimates here should be considered as primarily illustrative. Although they are based on earlier estimates of the extent of overvaluation under the currency board, much has changed since then and the equilibrium level is not necessarily the same as before. In particular, access to capital markets is radically reduced, so the current account deficit that might have been sustainable before the crash may no longer be. Moreover, the 20 percent tax on exports adopted in April 2002 means that either this tax

would need to be eliminated or the peso would need to remain depreciated significantly below its earlier equilibrium level to provide the same real incentive to exports. The basic point, however, is that with appropriate corrections for these and other considerations, a managed floating exchange rate regime combined with inflation targeting along the lines set forth here would seem to be a viable approach to exchange-rate and monetary policy.<sup>80</sup>

DOLLARIZATION – A second alternative exchange rate arrangement would be for Argentina to adopt the dollar as its currency, just as Panama long ago and Ecuador more recently have done. In the final years of his administration, Menem frequently stated that if forced to do so by a crisis, Argentina would shift its currency to the dollar rather than devalue the peso. The option has thus been on the table before in Argentina, even though in the 2003 electoral campaign Menem himself moved away from this approach.

Dollarization may be considered from three aspects: political feasibility, economic feasibility, and economic desirability. In terms of political feasibility, it seems less than likely. There has typically been a strong sentiment of sovereignty in Argentina that has militated against adopting the dollar. Even the political space for doing so suggested by the earlier position of Mr. Menem seems to have been driven by the context of avoiding a devaluation of the peso. That objective is no longer relevant after the demise of the currency board.

With respect to economic feasibility, a central question is whether Argentina would have enough dollars in reserves to replace all currency with dollars, on the one hand, and stand ready to provide dollar currency to all holders of peso bank deposits seeking to convert, on the other. This question is related to whether the required dollars amount to just the money base (currency in circulation plus bank reserves with the central bank) or to a much broader money aggregate, such as money including demand deposits (M1) or even including time deposits (M2). If reserves are only sufficient to cover the currency in circulation, dollarization would imply a major risk that the central bank would be incapable of providing liquidity support in the event of a run on the banks.

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<sup>80</sup> There are important additional issues to designing such a regime. One is whether the exchange rate target should be announced. Another is whether there should be intervention bands around this target, and how “hard” they should be – i.e. should there be a firm commitment to intervene if the rate reaches one edge of the band or the other. At present the unusually large uncertainty about actual equilibrium levels would seem to suggest a “softer” target approach, both with regard to the specificity of the target announced and any commitment to intervene at particular bands around the target. The main point is that the economic authorities would take account of the desired level of the real exchange rate in actual implementation of the inflation-targeting monetary policy.

Argentina, of course, has not had enough dollars to cover broad aggregates; otherwise it would not have maintained a freeze on bank deposits since December 2001. International reserves amounted to 32.5 billion pesos at the end of January, 2003 (Central Bank, 2003), or \$10.1 billion. The monetary base (excluding the provincial quasi-moneys) stood at 29.6 billion pesos, so international reserves just barely covered the monetary base. However, these reserve figures referred to a gross concept, and in view of 10.6 billion SDR or \$14 billion owed to the IMF (IMF, 2003), Argentina's net reserves as defined by the IMF were less than zero, so in some meaningful economic sense it may be said that the gross reserves are not available for use in converting the peso monetary base into dollars. The shortfall would be even greater for broader money aggregates, as M2 (M1 plus saving and time deposits) amounted to 65 billion pesos at end-2002 (Banco Central, 2003b).<sup>81</sup>

The more fundamental question, however, is whether it would be economically desirable for Argentina to shift to the dollar as its currency. One classic consideration is the loss of "seignorage," which amounts to the loss associated with, in effect, making a loan to the US Treasury by holding dollars without collecting interest on them. This cost is too small to weigh heavily in the decision, however. Even using a normal US Treasury-bill interest rate (i.e. higher than the present low rate) of say 4 percent, the annual interest loss on \$10 billion amounts to only some \$400 million, or about 0.2 percent of a more "normal" GDP (i.e. at a significantly recovered exchange rate for the peso).

Far more important considerations concern whether the dollar would be the right currency for Argentina. Williamson (2000) emphasizes the following criteria, synthesized from the optimal currency area literature, for determining whether a country should consider adopting the dollar as its currency. First, the economy is small. Second, the economy is open. Third, trade is concentrated on the dollar bloc. Fourth, shocks to the economy are similar to those affecting the US economy. Fifth, there are extensive dollar liabilities. Williamson noted at the time (in 2000) that Argentina did not fit any of these criteria for dollarization except the one on dollar liabilities, and after "pesification" even that criterion is no longer met. The Argentine economy is far larger than those of, say, Panama and Ecuador. The economy is relatively closed, with exports of about 18 percent of GDP (in 2000) compared to approximately 90 percent for Central America and the Caribbean. Trade is not concentrated on the United States (only 14 percent) or even the Western Hemisphere as a whole (55 percent). Shocks to the Argentine economy do not resemble those to the US economy, so importing

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<sup>81</sup> Note, however, that M1 was slightly smaller than the monetary base, at 27.6 billion pesos.

the Federal Reserve's monetary policy would not be compatible with tailoring macropolicy to adjustment to shocks.

The principal argument for dollarization or a “hard peg” to the dollar has been the proposition that because of the “original sin” of a suspect domestic currency in which it is impossible to borrow internationally, a country will tend inevitably to have a risk premium in its borrowing rate that reflects the default risk associated with the mismatch between dollar liabilities and peso assets (Calvo, 1999; Hausmann, 1999). Calvo argues that by dollarizing, the country can eliminate this risk premium, lowering interest rates and spurring growth. Rojas-Suarez (2000) argues persuasively, however, that the high “country risk” premiums in Latin American borrowing rates have stemmed not from the default risk embedded in an inherent mismatch between dollar liabilities and local currency assets, but from “the current features of international capital markets, as well as the underlying fundamentals in each country.” By the former, she means the highly mobile international capital market which in the late 1990s was characterized by great volatility. She argues further that “the region needs more, rather than fewer, tools to manage financial risks,” and that to dollarize would remove a key tool – the use of the exchange rate as an adjustment mechanism.

Overall, it would seem that adopting the dollar as its currency would not be an attractive alternative for Argentina, primarily because its economic characteristics do not fit those most appropriate for countries that can benefit from dollarization. In particular, dollarization would fully lock in the same risk of exchange rate misalignment that became apparent under the somewhat weaker form of a hard peg – the currency board – which the author of the Convertibility Plan, Domingo Cavallo, sought in fact to remedy (albeit too late) by the mid-2001 shift toward a peg against the dollar and Euro jointly rather than just the dollar.

In terms of political economy, moreover, the support within Argentina for dollarization appears today to be far smaller than in the late 1990s. There are three main reasons. First, the enormous costs of failing to sustain the currency board have already been paid. The much-feared private and government bankruptcies stemming from devaluation in the face of dollar-peso mismatches between the liability and asset sides of the balance sheet have already occurred, so it is no longer possible to avoid them by “locking in” the peso-dollar parity by dollarizing. Second, some of the former advocates of the “hard peg” exchange rate have concluded that its presumed behavioral merits in terms of enforced discipline on government policies (especially fiscal) turned out to be far below expectations. Third, dollarizing at any time within the past year at rates in the range of 2.9-3.8 pesos per dollar would have made little

sense because the peso was so undervalued, and locking in such an exchange rate by dollarizing would have required a major additional round of inflation in domestic “dollar” prices to reestablish a more appropriate real exchange rate.

### *E. Trade policy*

The Argentine economy has traditionally had a low export base relative to GDP.<sup>82</sup> This has meant that it has tended to suffer in international comparisons on such creditworthiness indicators as external debt relative to exports.<sup>83</sup> More fundamentally, a small trade sector relative to GDP means that when an external adjustment of a given percent of GDP needs to be made (for example, because of a shock to international capital markets), the resulting proportionate increase in exports and/ or reduction in imports is especially high. This in turn means that the exchange rate depreciation will need to be larger, and/ or the slowdown in the economy and hence import demand more severe, than would be the case with a larger trade base relative to GDP.<sup>84</sup> Probably the most important characteristic of the right trade policy for Argentina, then, should be that it should foster sustained growth in exports and a rising share of exports in GDP.

History has shown that high protection against imports has the effect of discouraging export growth and leaving the economy with a small trade base relative to GDP. The high protection in Latin America in the 1960s and 1970s in the strategy of import substituting industrialization tended to be associated with stagnant export growth, in addition to entry increasingly into products for which domestic economic scale and technology were inadequate for international competitiveness. There is a straightforward reason for this outcome. In deciding whether to export or to produce for the domestic market, producers have a price incentive equal to the world price plus the tariff, for sales domestically,

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<sup>82</sup> Thus, in 1995-2001 merchandise exports averaged only 9 percent of GDP. In 2002 this ratio soared to 28 percent because of the implosion in dollar GDP associated with the sharp devaluation. However, as argued above, a reasonable benchmark for the dollar value of GDP is on the order of \$200 billion (more than twice the 2001 level), so the ratio of exports to GDP will likely return to only about 13 percent.

<sup>83</sup> In the late 1990s, some Argentine authorities tended to dismiss such comparisons by saying that Argentine exports were completely value added whereas Mexican exports, for example, had much higher import content; and that in any case with the currency board arrangement there was no meaningful distinction between external and domestic debt. These “special case” arguments look even less plausible with the benefit of hindsight.

<sup>84</sup> Suppose exports and imports are both low at 10 percent of GDP. Then suppose the trade balance needs to rise by 2 percent of GDP because of a shock to capital markets. This will require exports to rise by 1 percent of GDP and imports to fall by 1 percent of GDP. This in turn represents a 10 percent rise in exports and 10 percent fall in imports. If the elasticities of imports and exports with respect to the real exchange rate are both unity, this will require a 10 percent real depreciation of the exchange rate. If instead exports and imports are both relatively high at 40 percent of GDP, then the same 2 percent of GDP rise in the trade balance requires only a 2.5 percent rise in exports and 2.5 percent decline in imports. The economy with the higher trade share can achieve the adjustment with only a 2.5 percent real depreciation. If the exchange rate cannot be changed and all adjustment has to come from a cutback in import demand, and if the elasticity of imports with respect to GDP is, say, 2, then the external adjustment will require as much as a 10 percentage point reduction in the growth rate for one year for the economy with the smaller trade share (generating a 20 percent cutback in imports or 2 percent of GDP), but only a 2.5 percentage point reduction in growth for the economy with the higher trade share (yielding a 5 percent cutback in imports or 2 percent of GDP).

but equal only to the world price, for export sales. So a higher tariff structure tends to bias producers' decisions against exports and in favor of production oriented toward the domestic market.

Along with other major Latin American economies, by the 1980s Argentina had begun to turn away from high protection as an instrument of industrial policy. By the beginning of the 1990s the maximum tariff was already down to 25 percent. The turn toward a more open trade regime was consolidated with the formation of the Mercosur in the mid-1990s. The average common external tariff of Mercosur is approximately 13 percent (Olarreaga, Soloaga, and Winters, 1999). This is still substantial, but it is much lower than the levels typical of Argentina and much of Latin America in the 1960s, 1970s, and even the 1980s.

In the formation of Mercosur, there was a debate between the Argentine side, which sought low tariffs for capital goods, and the Brazilian side, which sought high tariffs for these same goods because of substantial domestic production (or aspirations to achieve domestic production). More generally, the structure of the common external tariff wound up conferring more protection to locally produced goods, such as textiles and automobiles, and lesser protection to productive inputs such as fertilizers and chemicals, construction inputs (cement), and obvious products lacking domestic competitiveness (aircraft). Table 16 reports those industries (at the 4-digit International Standard Industrial Classification level, which means about 80 categories) for which the Mercosur common external tariff is either 3 percentage points lower or 3 percentage points higher than the overall average tariff of 13 percent. Although the high-tariff cases are by no means egregious by Latin American historical standards, they leave considerable room for further liberalization, with several major sectors having a common external tariff on the order of 20 percent (i.e. 13 percent plus the deviation from the average reported in the table).

Diagnoses of the impact of Mercosur have been mixed. Yeats (1997) found that the most rapid growth in intra-Mercosur trade had been in capital-intensive goods. His estimates of revealed comparative advantage suggested that these goods were not ones in which Mercosur had a comparative advantage, and that it was the relatively high protection in the grouping's common external tariff that had diverted trade in these goods toward partners (mainly Argentine imports of capital goods from Brazil). In a broader study of regional trade agreements, Winters and Soloaga (1999) found that whereas trade liberalization in the Andean Group and Central American Common Market had increased both export and import propensities, in Mercosur these propensities moved in opposite directions and exports

performed worse than predicted in the 1990s. They inferred that macroeconomic influences on competitiveness had dominated the trade liberalization effects.

The macroeconomic cycles in Argentina and Brazil have indeed dominated regional trade, more than structural incentives from the Mercosur. When Brazil's currency became seriously overvalued following the introduction of the Real Plan in 1994, Argentine exports to Brazil rose rapidly. After Brazil's deep devaluation in early 1999, Argentine imports from Brazil surged. There were numerous and recurrent interventions to counter these shocks, such as Argentine export subsidies by 2000 following the Brazilian devaluation, and ongoing friction on such issues as whether safeguard protection could be applied to partner imports in light of the sharp exchange rate swings.

For the future, the most fundamental need is for both Argentina and Brazil to achieve greater macroeconomic stability and sustainability in real exchange rates. Brazil appears to have made considerable progress in this direction, especially as nervous markets have begun to settle down after the election of Lula and his demonstration of a strong commitment to balanced economic policies. As suggested above, Argentina's real exchange rate is currently in an undervalued phase, but can be expected to move back to a more sustainable equilibrium level.

Once the macroeconomic context has been more successfully stabilized on a sustained basis, the proper direction for trade policy would seem to be toward further opening of the economy. The logical vehicle for doing this would be joint negotiation within the Mercosur framework in both multilateral trade negotiations and free trade arrangements, most notably the prospective Free Trade Area of the Americas (FTAA). The challenge for FTAA negotiations will be to secure substantial liberalization in the US market on a list of products of particular interest to Mercosur. The preliminary indications are that the sensitive products the US congress has highlighted as needing congressional consultations in multilateral and regional negotiations are largely the same as those products of special interest to Mercosur exporters.<sup>85</sup>

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<sup>85</sup> Based on remarks by Brazil's Ambassador to the United States, Rubens A. Barbosa, at the World Times conference on "Latin America and the FTAA," Atlanta, 7 February 2003.

Table 16

Sectors in which MERCOSUR Common External Tariff exceeds or falls below the average by 3 percentage points or more

Difference from average common external tariff (percentage points)

Sector			
ISIC	Description		
A. High tariffs			B. Low tariffs
3117	Bakery products	3.5	3111 Slaughtering, preserving meat
3119	Sugar, choc. Confectionery	3.0	3115 Vegetable, animal oils & fats
3131	Distilling spirits	6.8	3116 Grain mill products
3132	Wine industries	4.7	3232 Tanneries
3134	Soft drinks	6.6	3311 Sawmills
3140	Tobacco	5.4	3319 Wood & cork products nec
3211	Spinning, weaving textiles	3.0	3420 Printing, publishing
3213	Made-up textiles exc. clothing	6.0	3511 Basic industrial chemicals
3213	Knitting mills	4.8	3512 Fertilizers, pesticides
3214	Carpets, rugs	5.5	3522 Drugs, medicines
3215	Cordage, rope	4.8	3530 Petroleum refineries
3220	Wearing apparel exc. footwear	6.7	3540 Products of petroleum, coal
3319	Furniture	4.7	3692 Cement, lime, plaster
3523	Soaps, cosmetics	3.5	3699 Non-metalic mineral prod. nec
3560	Plastic products	4.0	3720 Non-ferrous metals
3610	Pottery, china	3.8	3845 Aircraft
3811	Cutlery, hardware	4.2	
3812	Metal furniture	4.1	
3833	Electrical appliances	5.2	
3843	Motor vehicles	5.1	
3849	Other transport equipment	6.8	
3853	Watches, clocks	5.6	
3902	Musical instruments	3.6	
3903	Sporting goods	6.8	
3909	Manufactures nec	4.5	

Source: Olarreaga, Soloaga and Winters (1999)

Not only is US market access restrictive in such products as steel, sugar, tobacco, orange juice and textiles (Brazilian Embassy, 2001); in addition, US and European agricultural policies adversely affect the prime area of comparative advantage for the Mercosur countries. The presence of agricultural protection and subsidies in the United States, Europe, and Japan artificially reduces world agricultural prices by about 10 percent (Cline, 2003). A key challenge for Argentine trade policy, then, is to achieve further reduction in agricultural protection and subsidies in industrial countries. Joint negotiation with other Mercosur partners would seem the best means towards this end. The Mercosur could then pursue a path of gradual reduction of its own protection by reducing the average level of

the common external tariff and, especially, the tariff rates on the more highly protected product sectors.

“Industrial targeting” is a direction of trade policy that Argentina should probably avoid. In 2001 Minister of Economy Domingo Cavallo adopted a patchwork of “competitiveness plans” that sought to stimulate various sectors with no clear basis for identifying comparative advantage. These special tax incentive programs have now been rescinded, and appropriately so. The most recent research tends to suggest that even in cases most closely identified in the past with successful industrial targeting (including Korea and Japan), a close reading of the evidence provides little confirmation of effectiveness of such policies (Noland and Pack, 2003).

#### *F. Rules of the game for foreign direct investment*

Potentially one of the most serious consequences of the 3D economic collapse has been the resulting political shock to contract credibility for foreign investors. This has arisen from the breaking of contracts providing for dollar-based pricing of utility rates in the privatized utilities, and from arbitrary interventions in the banking sector where foreign firms had made large investments in the 1990s. Utility rates have generally remained frozen in peso terms since the end of 2001, despite the sharp decline in the value of the peso against the dollar and the major rise in consumer and wholesale prices.

Privatization was a success story of the 1990s. The privatization process raised \$23 billion in public sector capital revenue. The privatized utilities increased the amount and quality of service. For example, in telephones the number of lines in service rose from about 3 million before privatization to about 7 million after; and in water, the average delay in attending to claims fell from 180 days to 32 days (Nellis, 2003). The price of services also fell. In electricity, competition in the new system helped reduce the spot price from 49 cents per megawatt hour in 1992 to 23 cents in 2001 (Cont and Urbiztondo, 2002, p. 27). Although the privatization process reduced the number of jobs in the privatized sectors from 223,000 in 1997 to 73,000 in 1997 (or by 2 percent of the total labor force; Nellis, 2003), the overall effect was to spur economic growth and job expansion in other sectors.

Privatization in turn was a driving force in the expansion of foreign direct investment during the 1990s. The gross inflow of foreign direct investment rose from an annual average of \$913 million in 1986-90 to \$3.8 billion in 1991-95 and \$7.8 billion in 1996-98. After soaring to \$23.9 billion in 1999 with the purchase of the oil firm YPF by Spain’s Repsol, foreign direct investment remained high in

2000 at \$11.7 billion (IMF, 2003a). With the economic crisis, however, direct investment fell to only about \$3 billion in 2001, and collapsed further to near zero in 2002. Although the depression was likely the main reason, the perception of a major change in the rules of the game for foreign investors in a populist direction probably contributed to the collapse of inflows, and could continue to exert a negative influence for some time to come.

It is evident that the freeze in utility rates was part of a political decision to reallocate the costs of the devaluation. Law 25,561 of 7 January 2002 pesified dollar-based utility rates at 1 peso to the dollar, prohibited the indexation of the peso rates, and listed criteria for renegotiation, including impact on competitiveness, income distribution, service quality, investment plans, and profitability of the firms (Artana, 2002). Successive decrees in effect postponed the renegotiation process (Urbiztondo, 2002). Then by late 2002 and early 2003, as the government sought on four separate occasions to award increases of less than 10 percent in peso terms, even these were struck down by court decisions (for example, on grounds that, in plaintiff's cases, their salaries had not risen so the utility rates should not rise). This politically sensitive issue will have to be high on the agenda of the next government, and will likely require new legislation to overcome the impasse from court injunctions on rate increases.

It is of course likely that the utilities could not have imposed increases in their rates equal to the 250 percent or so rise in the peso price of the dollar even if they had been allowed to do so, because demand for their services would have collapsed in the face of such increases. It is also arguable that as the agreements were under Argentine law, the extreme circumstances and special legal authority for pesification more generally created a situation in which negotiation of the rate increases was warranted on some grounds other than simple application of the increase in the peso price of the dollar.

Artana (2002) outlined an approach to such a renegotiation, providing for rate increases that covered operating costs as well as a normal return on the December 2001 peso value of capital; quarterly revision of rates using indicators of input costs; postponement of expansion plans; and eventual compensation for transitional losses only through relaxation of investment performance commitments, reductions of penalties for quality shortfalls, or extension of concessions by up to two years, but not by greater market monopoly power or subsidies. He considered this approach superior to either a freeze in rates, which would be "equivalent to an expropriation;" or the dollarization of utility rates, which although it would be consistent with some of the contracts, would "collapse demand" and be "politically and socially unviable" (Artana, 2002).

It seems likely that foreign owners of the privatized utilities would be understanding of the need to take into account some relaxation of dollar-based rate agreements. The more serious problem would seem to be that the complete freeze, and even the small offer of about a 9 percent increase (or less for low-income households eligible for a “social tariff”), comprise derisory offers by a government acting almost solely from considerations of domestic political impact. The proximate problem is the utilities, but this short-term problem could escalate into a broader perception abroad of willingness of Argentine governments to impose what used to be called in Latin America the “obsolescing bargain” (Vernon, 1971), a process in which populist governments in effect reneged on prior agreements to confiscate sunk capital in direct foreign investment (especially in natural resource investments). If foreign investor perception were to crystalize into the view that Argentina has indeed returned to the days of the obsolescing bargain, the implications for future flows of direct investment would be severe. This in turn would be extremely costly for Argentina’s development prospects, because in the aftermath of default on external debt, and even with an amicable restructuring process, the nation will be unlikely to have access to large volumes of borrowing from abroad for some considerable time to come. This means that foreign direct investment will be all the more important as virtually the sole source of private capital inflows. The stakes are thus high for the next government to achieve what is considered by foreign utility firms to be a reasonable adjustment in utility rates. This would be the strongest possible signal the new government could send that the rules of the game for foreign direct investment are still fair.

#### *G. Labor market reform*

As noted in the initial section of this study, many analysts have concluded that the rigidities in Argentina’s labor market contributed to the difficulty of economic adjustment within the framework of the currency board. Important reforms remain to be carried out in making Argentina’s labor market more flexible, in order to achieve both greater employment growth and greater capacity of the economy to adjust to shocks.

The principal distortions that persist in the labor market include: a) high non-wage payroll contributions that drive up the cost of hiring workers; b) high severance pay; c) centralized collective bargaining; and d) other union-related rigidities. The “social wage” – contributions for health and pensions, training, family allowances, and so forth – remains one of the highest in the region, even though it has fallen from about 60 percent of the wage in the early 1990s to about 42 percent (Saavedra, 2003). This extremely high rate of contribution (which contrasts with about 16-18 percent

in the United States) makes the price of formal labor high for firms.<sup>86</sup> It is one of the primary reasons for the high degree of informality in the economy, in part because the workers themselves see little proximate value from the future social benefits promised and financed by the contributions.

Rigidity and high cost of “indemnifications” in worker dismissal has been another chronic distortion in the Argentine labor market, contributing to the reluctance of firms to hire new workers. There is mandatory severance pay equal to one month’s wage for each year of service, except in cases of dismissal for gross misconduct (which the employer must prove if challenged in litigation). Despite some easing of labor laws on short-term contracts in the mid-1990s, there was subsequent retightening along with legal risk that a contract might be interpreted as indefinite rather than short-term (Bour and Susmel, 2001, p. 530). Then in the face of the 3D economic collapse, in March 2002 the Duhalde government doubled the amounts of indemnities payable for dismissal, making the problem even worse. The government also decreed an increment of 150 pesos per month in salaries in the private sector, which also remains in force.

The other, union-related, rigidities concern the structure of collective bargaining and the mandatory nature of union control of certain benefits. Traditionally collective labor agreements have tended to be conducted at the level of the sectoral business association with the union in question, and then forced onto the entire sector rather than left to firm-by-firm negotiations. Although in practice by the mid-1990s the majority of labor agreements were at the firm level (Bour and Susmel, p. 527), this framework continues. An important part of worker benefits, health care, has also been under union control through the “obras sociales,” and attempts to reform this structure have made little progress (e.g. by allowing workers to choose among alternative union “obras sociales” but not allowing them to opt for private health plans).

Bour and Susmel (2001) propose a number of reforms for the labor regime. First, for indefinite-period labor contracts there would be an explicit six-month probation period, during which the employee could be dismissed without indemnity. Second, an explicit regime of short-term labor contracts of six months, renewable through a total of three years, would be introduced, with eligibility up to one-half of a firm’s labor force. There would be no labor contribution for severance, nor any severance indemnification under these contracts. Third, there would be a deregulation of the “obras sociales”

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<sup>86</sup> The only mandatory labor costs in the United States, apart from the minimum wage, are the 12.6 percent (employer and employee) contribution for social security, a 2.9 percent contribution for Medicare, and unemployment contributions that depend on the location and company experience. Most firms also provide some health insurance and pension benefits, but these are not required by law. In contrast, statutory labor charges in most European economies tend to be several percentage points higher than those in the United States.

health system. Fourth, collective bargaining would be decentralized to the level of the firm. Fifth, collective bargaining agreements would have fixed terms and, upon maturity, would cease to have legal force unless extended by agreement of both parties. Fifth, there would be a voucher system enabling the employer to discount from employer contributions a fixed amount (in 2001 they suggested 100 pesos per month) for workers hired from a pool of laborers registered as unemployed.

The existing rigidities in the labor market, which resemble but tend to exceed those in much of the rest of Latin America, exert ongoing pressure for firms to operate in the “informal” sector. Bour and Susmel (2001, p. 528) estimate that informal employment rose from 27 percent of the salaried labor force at the end of the 1980s to 39 percent in 2001, and the figure is up to an estimated 44 percent now.<sup>87</sup> Informality undermines the tax base of the economy, and does not even succeed very well in generating the benefits of labor flexibility because of the firm’s risks associated with being in the black economy. With increased flexibility and a reduction in the incidence of informality, there would be a sufficient boost in the tax and labor contribution base that the high rate of labor contributions could be reduced (in one of the few areas in which the “Laffer curve” is probably valid), generating a virtuous circle of further incorporation of labor into the formal sector.

#### *H. Political institutions*

It has been two decades since Argentina was ruled by military dictatorships. The first democratic regime, that of Raul Alfonsín, ended six months ahead of schedule in 1989, as he resigned in an atmosphere of social turmoil in the face of hyperinflation. After a decade of more normal succession, once again at end-2001 a sitting president was forced to resign, this time in the face of street riots and a score of deaths. As discussed earlier in this study, de la Rúa’s problems stemmed as much or more from his lack of support within his own party as from difficulties with the political opposition. Yet the willingness of the Argentine political establishment to eject a sitting president raises serious questions about the viability of the current political structure. This is especially so as, according to various reports, the Peronist governor of Buenos Aires played a role in helping instigate the street demonstrations that toppled the de la Rúa government (Cavallo, 2002, and Tommasi, 2002, as noted earlier).

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<sup>87</sup> Juan Luis Bour, by communication.

As presently structured the Argentine political system depends on a strong and effective executive branch. The president often issues decree laws, although in principle these are supposed to be confirmed subsequently by congress. When the president's party (or faction) does not have control of the congress, he tends to negotiate with the governors of the provinces to secure their support in inducing congressional representatives to go along with his program. The governors have great influence over the congress because the party sets the list of candidates for each election, the representatives are not primarily identified with specific geographical districts and so tend to have little in the way of a power base of their own, and there is typically a high turnover of representatives rather than a stable cadre of expert legislators.

In the case of the April 2003 presidential election, moreover, even the dominant Peronist party was fragmented, with three contesting candidates (former president Carlos Menem, president Duhalde's candidate Nestor Kirchner, and Adolfo Rodriguez Saa, president for one week at the end of December 2001). The other main traditional party, the Radical Civic Union, appears to be at least temporarily in severe demise. Its official candidate, Leopoldo Moreau, was far behind in the polls. Another prominent Radical, Ricardo Lopez Murphy (defense minister and, briefly, minister of economy for de la Rúa) formed his own party to compete in the elections. Finally, Elisa Carrió was another candidate from outside the established parties, on the left.

In some ways what appears to be developing is that the two main factions of the Peronist party, the neo-Liberal Menem wing and the neo-populist Duhalde/ Kirchner wing, are emerging as a quasi- two-party system, with neither "party" willing to give up the strong name-brand asset of Peronist (which, ironically, does not appear officially in the name of the Justicialist Party). Both factions are represented in congress and in the governorships of provinces. One reason Menem resigned in the second round of the presidential election may be that he feared a decisive defeat would undermine the position of his faction's members of congress. From this standpoint, Kirchner should be in a better position to govern than was de la Rúa, many of whose own Radical party members in congress were opposed to him (being from the Alfonsín faction).

The more fundamental point, however, is that if Argentina sometime in the next four years once again ousts its president through riots, the time will surely have come for a fundamental restructuring of the political system. One possibility would be to shift to a parliamentary regime (as suggested, for example, by Valenzeula and Linz, 1994) so that when and if opposition to current policies builds to an intensity capable of forcing a resignation, there is a more orderly process for change. A parliamentary

system would face difficulties of another type, namely the absence of well-established parties with well-defined ideologies and traditions, but it might have the salutary effect of forcing a more realistic politics of cooperation than characterized the final stages of the de la Rúa regime. Similarly, it might be desirable to change the system of selecting candidates for congress from the top-down “party list” approach at the provincial level to a system in which the representative is chosen in primaries of districts specifically represented by the congressional member.

Another institutional issue is whether the court system in Argentina is compatible with a predictable economy. There is little doubt that the collapse of the convertibility arrangement brought an onslaught of broken contracts and fiat decisions that undermined property rights. For example, the initial months after the devaluation and default witnessed a succession of bankruptcy laws that first broadly revoked creditor rights and then grudgingly restored them. It was an important step forward when congress (in part at the prodding of the IMF) revoked the law of “economic subversion” (MECON, 2003c, para. 31), which had proven to be a vague basis for jailing bankers and others somehow thought to be responsible for the crisis. For their part, the courts have often appeared to make literalist rulings that do not face up to the economic facts of life. The dictum that “difficult decisions make for bad law” may appropriately be paraphrased for Argentina to read “economic crises make for bad law” because the property rights literally interpreted add up to more resources than are available to the country after the crisis.<sup>88</sup>

In early June, newly elected president Nestor Kirchner called on congress to renew impeachment proceedings against the Supreme Court (*New York Times*, 6 June 2003). He charged that the court was “holding the country’s governability hostage” for “personal or institutional advantages.” Investigations under the impeachment effort, which had started in early 2002, had been ended in late 2002 under an agreement between the Menem and Duhalde factions of the Peronist party. Most of the existing court members were appointed by Menem and are considered highly loyal to him. In contrast, some of Kirchner’s remarks after taking office implied a possible reopening of prosecutions against military leaders associated with human rights abuses in the “dirty war” of the 1970s and early 1980s. Reviving this issue after Menem effectively gave them immunity in the early 1990s, would involve overturning amnesty laws that the Supreme Court reportedly has refrained from reviewing at the

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<sup>88</sup> In the specific case of the Supreme Court’s ruling in March 2003 redollarizing the deposits of San Luis Province, however, the argument can be made that, because the court allowed the government and the province 60 days to work out the modality of the redollarization and hence held open the possibility of a feasible precedent (e.g. based on issuing dollar bonds) rather than an infeasible one (requiring immediate payment out of reserves), the decision had some favorable effect by establishing that there are limits to arbitrary government intervention in property rights.

request of military officers. Kirchner's renewed attack on the court may also reflect concerns that it could soon rule that dollar bank deposits converted to pesos must be reinstated in dollars, as discussed above.

Argentine and foreign investors must see an attempt to impeach the Supreme Court with at best mixed feelings. On the one hand there is a reasonable concern that the court to some extent has already, and could in the future, issued rulings that make economic governance extremely difficult. It is not clear, moreover, whether explicit congressional passage of laws reinstating economic measures reversed by the court could prevail. On the other hand, some of the rulings have at least sent a signal that there are limits to executive arbitrariness in measures taken, and ousting the high court could be read as an adverse signal that Argentina has not yet returned to the rule of law.

More broadly, there is a strong need for the reestablishment of a fundamental sense of rule of law and predictability in property rights in Argentina. Otherwise the uncertainty premium will lead to underinvestment and sluggish growth or worse. Populist actions such as the asymmetric pesification and the freezing of utility rates despite prior contracts have contributed to an adverse international perception of property rights in Argentina.<sup>89</sup> Thus, the Heritage Foundation's 2003 Index of Economic Freedom ranks Argentina 68<sup>th</sup> out of 161 countries with a score of 2.95 on a scale of 1 (best) to 5 (worst), but the "property rights" score among the several considered in the ranking gives Argentina a grade of "4", a low level shared with such countries as Algeria, Mozambique, and Indonesia (O'Driscoll et al, 2003). This is a vertiginous drop from Argentina's ranking as recently as 2000, when it stood at 17<sup>th</sup> overall and scored a "2" on property rights, and it is a graphic indicator that Argentina will need to rebuild confidence both abroad and at home in the rule of law in economic matters.

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<sup>89</sup> Unequal treatment benefitting key political allies can be added to the list, most notably the "cultural heritage" carve-out in the bankruptcy legislation preventing foreign ownership of news media and thereby blocking collection of foreign debt owed by some major media interests.

## **VI. CONCLUSION**

Argentina has begun to emerge from the worst economic depression in its history. So far it has successfully avoided hyperinflation, the specter that for more than a decade haunted any discussion of ending the currency board arrangement. The central question now is whether the country can implement the economic reforms that are needed to achieve sustained growth in the future.

This study began with a recapitulation of the origins of Argentina's 3D collapse (default, devaluation, and depression). Economists will debate far into the future the relative importance of the various causes of the crisis. I conclude that inadequate fiscal performance, overvaluation under the currency board, and a series of external shocks were all important forces that combined to make the economy vulnerable. I emphasize, however, that political weaknesses provided the spark that ignited this inflammatory combination. While all would agree that the protracted recession had made the political environment substantially worse, it is not plausible to treat the political disarray as strictly endogenous and the economics as the sole determinant of the outcome. The contrast with Brazil's recent resurgence from a financial markets crisis on the back of a more functional political environment provides support to this interpretation.

The dynamics of the "political shock-multiple equilibrium" model not only help explain the collapse, but are also of prime importance to understanding the requirements for a more successful economy in the future. A cooperative political environment will be essential if Argentina is to carry out the economic reforms needed. The fiscal structure needs to be strengthened substantially. Tax collection needs to be enforced. The perverse structure of provincial revenue sharing needs to be reformed. Distortionary taxes (credit and debit tax, export tax) need to be phased out. Bloated bureaucracies, including especially at the provincial level, need to be slimmed down. These reforms will only be possible if the political classes close ranks to enable Argentina to return toward the realization of its strong economic potential as one of the most well-endowed emerging market economies in terms of human and physical resources.

Reestablishing reliable and equitable rules of the game will also be essential. Argentine negotiators will need to strike a debt restructuring deal with international creditors that is perceived as an honest effort to meet as much of Argentina's obligations as possible in a manner that does not discriminate against foreigners in favor of Argentine citizens. The new government will need to reconfirm with its own public, the international capital markets, and the multilateral agencies its commitment to market-

oriented policies that pursue long-term growth and stability rather than jeopardizing them for short-term gains from populist and interventionist measures.

If Argentina puts the political conflict of recent years behind it and moves toward political comity, if it moves toward the rule of law and reaffirmation of property rights, and if it pursues fiscal consolidation, there is every reason to expect that the economy can grow at rates of 3-5 percent over the next few years. This goal is modest, because even the upper end of this range would merely return real GDP to its 1998 level by 2006. The economy has already begun to recover, spurred by import substitution at the highly attractive exchange rate. To ensure that growth is achieved, however, it will be essential not only to move ahead on the fiscal reforms and debt restructuring, but also to return the financial system to real solvency and to renew Argentina's image as a promising place for foreign direct investors to expand their activities.

These are the fundamental issues. There are in addition numerous more tactical questions, such as whether to pursue a floating exchange rate based on inflation targeting, how to secure the greatest amount of trade liberalization in key foreign markets as part of the process of reducing Argentine (and Mercosur) protection, and how to reconfigure labor taxes and other features of the labor regime to achieve greater labor flexibility.

The election of Nestor Kirchner in May 2003 provides Argentina with the opportunity to enter a new era. It will be important that the new government seize the opportunity offered by the nascent recovery and stabilization of the economy to build the foundation for an extended period of growth. The prompt conclusion of an IMF agreement to replace the transitional arrangement would be an important early sign that the new government can begin to rebuild confidence in Argentina's policies and institutions and create an environment conducive to investment and growth. This study sets forth the most important elements of a strategy to restore growth, and they are recapitulated in the summary at the outset. If the analysis of this study helps sharpen the debate within Argentina and in international circles concerned with the Argentine economy in particular and emerging market crises more generally, its objective will have been accomplished.

## ANNEX A. CONDITIONS FOR FISCAL SUSTAINABILITY

Financial markets lose confidence in the government's ability to honor its debt if there is likely to be an ever-increasing ratio of public debt to GDP. Analysts have thus increasingly concentrated on whether it is reasonable to expect that this debt ratio can be held constant. There are four critical factors in this determination even when the debt is denominated in domestic currency: the initial level of public debt relative to GDP ( $d = D/Y$ , where  $D$  is public debt and  $Y$  is gross domestic product); the real interest rate payable on the debt ( $i^*$ ); the real growth rate of the economy ( $g^*$ ); and the ratio of the primary (non-interest) fiscal surplus to GDP ( $s_p = S_p/Y$ ) where  $S_p$  is the amount of the primary surplus. Essentially, the higher the initial debt ratio and the real interest rate, and the lower the growth rate of the economy, the higher the primary surplus rate must be to avoid an upward spiraling of the debt-to-GDP ratio.

When debt is substantially denominated in foreign currency, the prospect of depreciation of the currency must also be taken into account. If  $\phi$  is the share of public debt denoted in foreign currency (for simplicity, "dollars"), and  $\hat{r}$  is the rate of depreciation (defined as the proportionate increase in pesos per dollar), then depreciation will raise the peso value of public debt by the proportion  $\hat{r}\phi$ . Finally, the pace of domestic inflation ( $\hat{p}$ ) also turns out to make a difference if there is foreign currency debt.

The condition for fiscal sustainability is that the debt/ GDP ratio stabilize. This means that the ratio of newly acquired debt to the rise in GDP, or the "marginal" ratio of debt to GDP, must equal (or be less than) the existing ("average") ratio of debt to GDP. Letting  $t$  be the current year and  $t-1$  the previous year, and with " $\Delta$ " indicating "increase," the rise in nominal debt in the current year is equal to the nominal interest rate paid as applied to the previous year's debt; less the amount of the primary surplus; plus the increment in debt caused by exchange rate depreciation. Thus:

$$1) \Delta D = (i^* + \hat{p})D_{t-1} - s_p Y_t + \hat{r}\phi D_{t-1}$$

The increase in nominal GDP is the real growth rate plus inflation as applied to the previous year's GDP, or:

$$2) \Delta Y_t = (g^* + \hat{p})Y_{t-1}$$

The condition for stabilizing the debt/ GDP ratio is thus:

$$3) \frac{\Delta D}{\Delta Y} = \frac{(i^* + \hat{p})D_{t-1} - s_p Y_t + \hat{r}\phi D_{t-1}}{(g^* + \hat{p})Y_{t-1}} = \frac{D_{t-1}}{Y_{t-1}} = d$$

Considering that  $Y_t = Y_{t-1}(1+g^* + \hat{p})$ , and dividing the numerator and denominator of 3) by  $Y_{t-1}$ , this becomes:

$$4) \frac{(i^* + \hat{p})[D_{t-1} / Y_{t-1}] - s_p (1 + g^* + \hat{p}) - \hat{r}\phi [D_{t-1} / Y_{t-1}]}{(g^* + \hat{p})} = d$$

Substituting  $d$  for  $D_{t-1} / Y_{t-1}$  and rearranging, the required primary surplus for fiscal sustainability turns out to be:

$$5) s_p = d \frac{i^* - g^* + \hat{r}\phi}{1 + g^* + \hat{p}}$$

As expected, the necessary primary surplus must be a higher fraction of GDP if: the existing debt-to-GDP ratio ( $d$ ) is higher; the real interest rate ( $i^*$ ) is higher; the real growth rate ( $g^*$ ) is lower; the rate of depreciation of the currency ( $\hat{r}$ ) and share of debt denominated in dollars ( $\phi$ ) are higher; and, finally, inflation ( $\hat{p}$ ) is lower.

## ANNEX B. THE ANALYTICS OF RESTRUCTURING GOVERNMENT DEBT

The objective of market-friendly debt restructuring is to achieve a reduction in debt that is consistent with a sustainable amount of post-restructuring debt, on the one hand, and the maximum possible preservation of asset value for holders of the debt, on the other. The former objective is to avoid recurrent rounds of restructuring. The second objective is for the purpose of restoring market access as soon as possible by leaving a sense of goodwill among creditors.

The principal determinant of the sustainable amount of post-restructuring debt is the primary (non-interest) surplus that can realistically be expected to be achieved by the government on a sustained basis. The “haircut” reduction that needs to be made in claims on the government will depend on the primary surplus, on the one hand, and on the amount of “non-touchable” or “senior” debt, on the other. With no haircut on senior debt, the depth of the haircut on all other debt must be greater.

Another important determinant of the sustainable amount of debt is a judgment about the amortization rate on post-restructuring debt. An ambitious pace for paying off the debt means that more of the primary surplus must be devoted to repaying principal, so less is left to pay interest on the post-restructuring debt and the depth of the haircut must be greater.

Let  $a$  be the rate of amortization on post-restructuring debt. For example, if debt is to be paid off in equal installments over thirty years,  $a = 0.033$ . Let  $\lambda$  be the fraction of total debt that is declared senior and not subject to a reduction. For simplicity, assume the same interest rate  $r$  is paid on senior debt and the post-reduction junior debt. Let  $s$  be the primary surplus as a fraction of GDP. Let  $D$  be the initial debt stock,  $Y$  the level of GDP, and  $d$  the ratio of debt to GDP. The debt stock is divided into senior debt ( $D_S = \lambda D$ ) and junior debt ( $D_J = [1-\lambda]D$ ). Let  $\beta$  be the fraction of debt forgiven (depth of haircut) on the junior debt. Then we have, first, that the primary surplus must be equal to interest and amortization payments after the debt reduction, or:

$$\begin{aligned} 1) sY &= (a + r)D_S + (a + r)(1 - \beta)D_J \\ &= \lambda D(a + r) + (1 - \beta)(1 - \lambda)D(a + r) \end{aligned}$$

Dividing both sides by  $Y$  and rearranging, we have:

$$2) \frac{s}{a+r} = \lambda d + (1-\beta)(1-\lambda)d$$

After some manipulation, we obtain:

$$3) \beta = \frac{(a+r) - (s/d)}{(a+r)(1-\lambda)}$$

The depth of the haircut on junior debt must thus be greater, the greater is the interest rate to be paid; the amortization rate; the fraction of senior debt (as “1- $\lambda$ ” is in the denominator, a larger  $\lambda$  increases  $\beta$ ); the higher is the initial debt/GDP ratio (a higher  $d$  shrinks the amount being deducted in the final expression in the numerator); and the lower is the primary surplus (which, normalized by the debt/GDP ratio, is subtracted off in the numerator). Estimates of the haircut on junior debt under alternative parameter assumptions are shown in text table 8.

## **ANNEX C<sup>90</sup>. EVALUATING THE 2001 MEGASWAP**

The initial section of this study emphasizes the model of political shocks combined with multiple equilibria as the best way to understand Argentina's default, devaluation, and depression, while recognizing the contributing fiscal, exchange rate, and external factors. This diagnosis judges that there was still a good chance of avoiding the collapse as of mid-2001. One of the most controversial aspects of policy at that time, and hence of the retrospective evaluation of whether the collapse was avoidable, was the "megaswap" that restructured a large block of Argentine public debt on a market-friendly basis. Sharp critics of the swap argue that it seriously worsened an already unsustainable situation by piling much more burdensome debt on Argentina. My reading of the megaswap, to the contrary, is that it was an innovative endeavor that helped stretch out payments otherwise causing liquidity problems, and did so at only a modest incremental cost.

The megaswap completed at the beginning of June 2001 exchanged about \$30 billion, or about half of the government bonds eligible, for new bonds with maturities in 2006 and after and with various grace period and step-up interest rate features. The exchange was voluntary, although the greater scope for moral suasion on domestic holders such as pension funds meant that its subscription was primarily by residents (some \$22 billion). Importantly, the fiscal costs were limited, as the effective average interest rate on the new instruments was only modestly higher (about 11.7 percent compared to the original 10 percent on the bonds exchanged), despite by then a 16 percent secondary-market interest rate. Only the secondary-market value of a bond was counted in the value accepted for exchange, and the price of the new bond for purposes of the exchange was also at the discounted secondary market value.<sup>91</sup>

Consummating a large exchange without paying a sharply higher interest rate was possible first because of the moral suasion on domestic holders, and second because many foreign holders confronted with the disappearance of much of the outstanding stock of a given bond were inclined to exchange rather than be left holding an "orphan" bond with much less liquidity. In effect the megaswap comprised a positive-sum cooperative game of large holders who were able to overcome

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<sup>90</sup> This annex draws on Cline (2002).

<sup>91</sup> The most direct comparison between interest costs of the old and the new bonds may be made on about \$10 billion in straight-interest global bonds originally maturing in 2009-17 and 2019-30, exchanged for \$10.7 billion in global bonds due to mature in 2018 or 2031 (Ministry of Economy, 2001). The average interest on the original bonds was 11.2 percent, and on the exchange bonds, 12.1 percent. So there was an increase in the annual interest burden by about one-sixth, taking account of the increment in principal and interest. This

the “prisoners’ dilemma” problem of non-communication by virtue of the government’s cooperation with and organization of the leading domestic holding institutions.

The best way to examine whether the swap was favorable is to compare the cost of the swap against the potential macroeconomic gain from improved liquidity. The swap reduced payments due by \$8 billion through end-2002 and by \$16 billion through end-2005 (*Financial Times*, 5 June 2001).<sup>92</sup> There was a perception at the time that the increased liquidity gave Argentina much-needed breathing space.<sup>93</sup> Discounting at 10 percent, the swap increased the discounted present value of the debt by one-sixth, or by \$5 billion for the \$30 billion exchanged.<sup>94</sup> In 2002 alone, Argentina’s GDP will fall by about 15 percent, or \$45 billion, as a consequence of the default and devaluation. So it requires no more than a judgment that the megaswap reduced the probability of default-cum-devaluation by 11 percent to arrive at the conclusion that the operation was beneficial. This is a reasonable assumption, and this probabilistic cost-benefit approach leads me to conclude that the megaswap was favorable for Argentina.<sup>95</sup>

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increase was far less than implied by the secondary market rate of 16 percent, which would have imposed a 43 percent increase in interest costs ( $16/11.2 = 1.43$ ). The text figure of 11.7 percent applies the one-sixth increment to the full swap.

<sup>92</sup> Mussa (2002, p. 40) places the initial savings somewhat lower at \$12 billion. He also states that after 2005 the swap increased total payments by \$66 billion, but this calculation exaggerates by failing to take account of the additional payments that would have occurred from switching to longer maturities even at unchanged interest rates from the original bond terms.

<sup>93</sup> The *Financial Times* (5 June 2001) reported that “Argentina’s mammoth bond swap was given a good reception yesterday as international investors and analysts shared the view that the success of the Dollars 29.5 billion operation was a first step towards further reform of the economy to enable a resumption of economic growth.”

<sup>94</sup> This present value calculation is based on the \$10 billion fixed coupon swaps referred to in note 6.

<sup>95</sup> In contrast, Mussa (2002) criticizes the swap as unduly costly. He states that “... interest rates for the Argentine swap of 16 percent ... were not consistent with positive growth of the Argentine economy or with debt sustainability” and refers to the terms as “onerous” (p. 41). Unfortunately, this could give the false impression that the average interest rate on the replacement debt was 16 percent, whereas it was only 11.7 percent as noted in the text. Mussa has clarified in private communication that he did not mean to imply the average interest rate on the replacement debt was 16 percent. Instead, his analytical approach is to determine what discount rate was necessary to make the present value of the change in the stream of payments equal to zero. This discount rate, which is a very different thing from the new average interest rate, turns out to be 16 percent. Mussa does not clarify what discount rate he would have considered acceptable. As indicated in the text, I consider a more appropriate evaluation to be a cost-benefit comparison taking account of the reduced probability of default and depression at the macroeconomic level. The narrower focus on the internal rate of return on the swap itself is penny-wise and pound-foolish, as it completely omits the most important benefits: restoration of confidence and avoidance of economic collapse.

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