Volume Title: Capital Controls and Capital Flows in Emerging Economies: Policies, Practices and Consequences

Volume Author/Editor: Sebastian Edwards, editor

Volume Publisher: University of Chicago Press

Volume ISBN: 0-226-18497-8

Volume URL: http://www.nber.org/books/edwa06-1

Conference Date: December 16-18, 2004

Publication Date: May 2007

Title: International Borrowing and Macroeconomic Performance in Argentina

Author: Kathryn M. E. Dominguez, Linda L. Tesar

URL: http://www.nber.org/chapters/c0156

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International Borrowing and Macroeconomic Performance in Argentina

Kathryn M. E. Dominguez and Linda L. Tesar

7.1 Introduction

In the early 1990s Argentina was the darling of international capital markets and viewed by many as a model of reform for emerging markets. Early in his presidency, Carlos Menem embarked on a bold set of economic policies, including the adoption of a currency board that pegged the Argentine peso to the dollar, a sweeping privatization program for state-owned enterprises, an overhaul of the banking system, and privatization of the public pension system. The business press marveled over the rapid turnaround in the Argentine economy. Although there were some concerns about the appropriateness and sustainability of the dollar anchor and whether the fiscal reforms were more rhetoric than reality, the policies appeared to have conquered inflation and set the country on a course of steady economic growth.

By the end of the 1990s, however, Argentina's situation had dramatically changed. The country had weathered the financial crises in Mexico and Asia, and, despite the volatility of capital flows, Argentina's currency board remained intact and forecasts of future growth were relatively positive. The turning point for Argentina came with the Russian default in

Kathryn M. E. Dominguez is a professor of public policy and economics at the University of Michigan and a research associate of the National Bureau of Economic Research. Linda L. Tesar is a professor of economics at the University of Michigan and a research associate of the National Bureau of Economic Research.

We thank Ron Alquist for excellent research assistance. We are grateful for comments and suggestions from Nicolas Magud, Juan Carlos Hallak, Alan Taylor, Martin Feldstein, Barry Eichengreen, Charlie Calomiris, Sebastian Edwards, and an anonymous referee. The views expressed in this document are the authors' and do not necessarily reflect those of the National Bureau of Economic Research.

August 1998, which caused international investors to pull out of all emerging markets, seemingly with little regard for country-specific economic conditions. More bad luck followed in January 1999 when Brazil, Argentina's major trading partner, devalued its currency, further weakening the competitiveness of Argentine exports. Economic growth stalled, and unemployment remained high. Despite the lowering of world interest rates, which helped reduce the cost of external borrowing, the economy was teetering on the brink of default. In 2001 the economy spiraled downward, and depositors scrambled to pull their savings out of the banking system. In a desperate attempt to stave off disaster, the government imposed sweeping capital controls. By 2002, Argentina was in complete political and economic collapse. The currency board was abandoned, the exchange rate was devalued, and eight years of growth in gross domestic product (GDP) were lost.

Argentina's situation cannot be attributed solely to a run of bad luck. Policy decisions made during the 1990s—and, just as important, policy *in*decision—made the country vulnerable to the kinds of shocks that affected all emerging markets. The inability to bring fiscal policy under control, the incomplete reforms of the banking sector, and rigidities in the economy ultimately left the country with no good solutions. What the currency board required—constraints on fiscal policy and complete abdication of monetary policy—proved to be beyond the political capacity of the Argentine government.

Much has been written about what happened to Argentina, why the crisis happened when it did, and what might have been done to prevent it. Although views differ about the relative importance of the various factors leading up to the collapse, there is general consensus that peso-dollar convertibility was a double-edged sword: it effectively bought the country credibility and eradicated inflation, but at too high a price. Argentina's experience reveals two major problems with currency boards. The first is reflected in the relationship between the credibility of the currency board and capital flows. Argentina inadvertently entered into a vicious circle with financial markets, one in which it felt compelled to raise the exit costs from the currency board in order to maintain the regime's credibility. The Argentine government raised exit costs by issuing its own debt in dollars and by facilitating dollarization in the private sector (for example, by adopting prudential norms in the banking system that biased deposits and loans toward dollars rather than pesos). As exit costs mounted, financial markets became increasingly concerned about the dire implications of a devaluation, which in turn compelled the government to raise exit costs further.

A second, related issue has to do with the inescapable link between fiscal and monetary policy. In retrospect, it now seems clear that the lack of coordination between the fiscal policies of the central government and the provinces played a critical role in bringing about the failure of the currency board. By 1999, the economy was in a deep recession, with low growth and high unemployment, and required some sort of stimulus—either a loosening of monetary policy (i.e., a devaluation) or fiscal stimulus. But either spelled disaster. A devaluation would clearly undermine the currency board, and a rise in government debt would raise suspicions that it would eventually be monetized, further undermining the value of the peso. Ultimately, fears of a devaluation resulted in more dollarization and more strain on the banking sector. The added pressure of capital outflow, first by international investors and then by the withdrawal of deposits from the Argentine banking system, eventually tipped the scales.

The purpose of this paper is to provide an overview of the major economic events in Argentina from the adoption of the Convertibility Plan in 1991 to the collapse of the exchange rate regime in 2001. Section 7.2 reviews the key components of the Convertibility Plan and the responses of financial markets and the macroeconomy to the economic and financial reforms embodied in the plan. Section 7.3 describes the set of external shocks that buffeted the economy between 1994 and 1999. Section 7.4 reviews the set of policy decisions and reforms that took place over that period. Section 7.5 examines the unwinding of these reforms: the imposition of capital controls, channels used by Argentines to evade controls, and the consequent collapse of the Convertibility Plan and the economy in 2001. An epilogue follows in section 7.6, and a chronology of economic and political events in Argentina from 1989 through 2005 is provided in the appendix.

7.2 The Convertibility Plan

On July 9, 1989, Carlos Menem assumed the Argentine presidency in the first peaceful transfer of power from one democratically elected leader to another since 1928.[1] He assumed the office six months ahead of schedule, however, due to the social and economic crisis that engulfed the country. The Austral Plan, adopted in May 1985, had replaced the peso with a new currency, and prices, wages, and utility rates had been frozen in an attempt to stabilize inflation. Figure 7.1 shows monthly inflation and annual real GDP, two key barometers of the health of the Argentine economy over the 1980–2004 period. The Austral Plan had temporarily slowed inflation but did little to spur economic growth. During the period 1981–89, average real GDP growth was negative at –0.7 percent, and real income in 1989 had slid to 90 percent of its 1980 level.[2] In the spring of 1989, inflation spiraled out of control, and the Alfonsin government violently repressed mobs of angry rioters and looters.

After eighteen months in office, the Menem government, under the guid-

1. For a historical perspective on Argentina, see della Paolera and Taylor (2001, 2002, 2003b), Romero and Brennan (2002), Randall (1978), and Taylor (1998).

2. Growth in real GDP based on data from the IMF's *International Financial Statistics.*

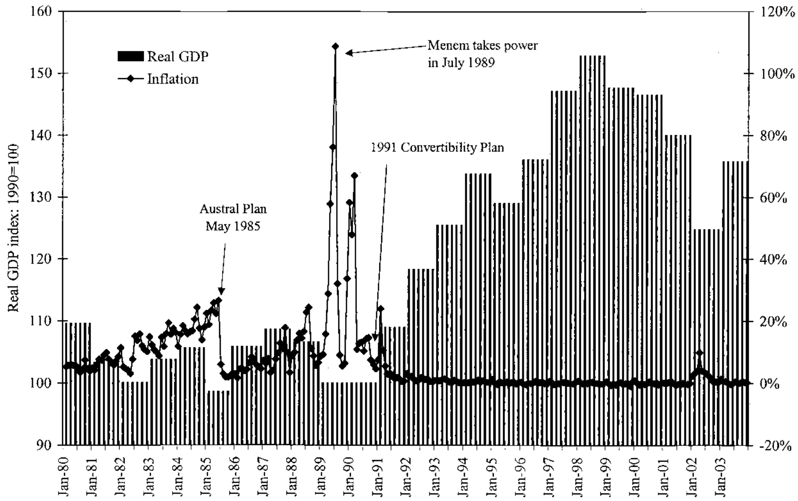

Fig. 7.1 Real GDP and inflation, 1980–2003
Source: IMF *International Financial Statistics.*

ance of Domingo Cavallo as minister of the economy, implemented far-reaching economic reforms. The capstone of the reform package was the Convertibility Plan, which was designed to eliminate Argentina's chronic inflation and restore credibility to the Argentine peso.[3] The plan pegged the peso at a one-to-one parity with the U.S. dollar and required that two-thirds of the monetary base be backed by international reserves. The remaining third could be backed by dollar-denominated Argentine central bank securities at market prices, but holdings of those securities could not expand by more than 10 percent per year.[4] The plan effectively converted the central bank into a currency board that could issue domestic currency only in exchange for foreign currency at a fixed rate. The government encouraged dollarization by making it legal to write contracts in foreign currencies and allowing foreign currencies to be used as an alternative means of payment. By 1994, over 60 percent of time deposits and 50 percent of loans to the private sector were denominated in dollars.

Until the 1990s, trade barriers and restrictions on international investment had insulated the country from international markets. Another important component of the plan was the reduction in tariffs and other barriers to trade in goods and the flow of capital. Restrictions on the entry of foreign banks were lifted. The banks faced high reserve requirements, and

3. See Cavallo and Cottani (1997) and Cavallo (2003).

4. See Pou (2000) for a detailed description of the Convertibility Plan and the central bank charter.

to minimize moral hazard, deposit insurance was eliminated. Effectively, monetary policy for Argentina was set by the U.S. Federal Reserve, and the Argentine central bank had very limited scope to operate as a lender of last resort. Implications of this new role for the central bank are discussed in more detail in section 7.4.2.

The Menem government also proceeded with the privatization of state-owned firms and the deregulation of a number of industries, particularly in the petroleum and gas, electricity, and communications sectors. According to a study by Galiani et al. (2005), privatization dramatically increased the profitability, sales, and efficiency of nonfinancial as well as financial firms. One of the negative consequences of the increase in efficiency, however, was employee layoffs. Galiani et al. (2005) estimate employment reductions of about 40 percent as a result of privatization. One of the positive benefits, and the likely motivator for the privatization program, was the revenue accrued by the central government. Some of the revenue from privatization was used to finance another of the Menem government's reforms: the transition from a pay-as-you-go social security system to privately managed retirement saving accounts.

An additional benefit of the privatization program was the jump start it provided to financial markets. Figure 7.2 shows the value of mergers and acquisitions of Argentine companies from 1990 through 2003. In the first mergers and acquisitions boom, in 1992, some $8 billion in assets changed hands, over 90 percent of which were in the electricity, gas, petroleum, and telecommunications industries. The second boom occurred in 1997–99, when a much larger fraction of Argentine assets was sold to foreign residents.

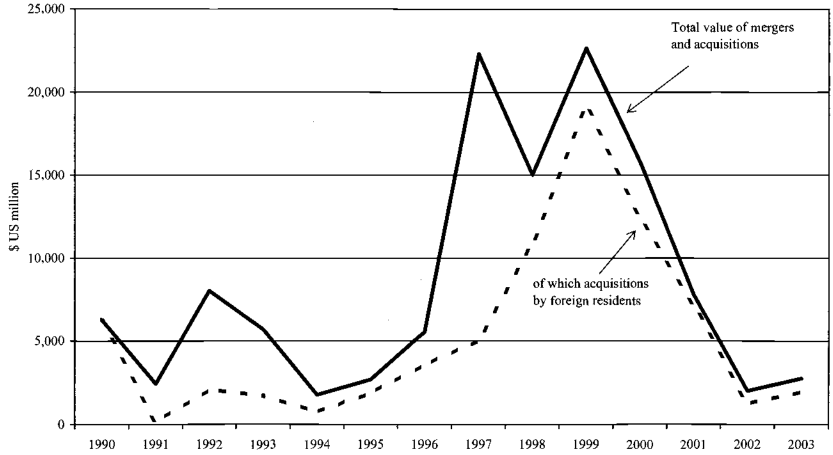

Fig. 7.2 Mergers and acquisitions in Argentina, 1990–2003

Source: Securities Data Corporation (SDC) Thompson's International Mergers and Acquisitions database.

The government also took some initial steps toward addressing the fiscal imbalances between the provincial and central government. Under the system of fiscal federalism in Argentina, the bulk of revenue is raised by the central government, while the provincial governments retain a large degree of autonomy in allocating expenditures. Expenditures are covered through a complicated system of intergovernmental transfers from the central government to the various provinces. Provincial governments also retained some authority to issue bonds, effectively backed by the central bank. In 1991–92, the Menem government was able to lower the transfer payments to the provinces to help cover the costs of the pension reform.[5]

The market response to the economic reforms was swift and dramatic. Table 7.1 provides summary statistics of Argentina's macroeconomic performance, government budget balance, and its balance of payments. GDP growth picked up in 1991 and continued at levels above those of the rest of Latin America through 1994. The currency board was effective in taming inflation—the mean level of inflation dropped from nearly 400 percent per annum to a little under 10 percent in 1991–94 to almost zero in 1995–98. The economic boom was fueled by increases in private consumption and investment.

The lifting of controls also had a positive effect on capital inflows and on financial markets. The U.S. investment position in Argentine equity rose from virtually nothing in the 1980s to around $5 billion by end 1994, roughly 14 percent of Argentine market capitalization. Figure 7.3 shows the volume of capital inflow by type (portfolio equity flows, long-term debt, short-term debt, and foreign direct investment [FDI]) into Argentina from 1986 through 2002. The country was effectively in financial autarky prior to the Menem reforms, with the exception of sovereign borrowing. That situation changed markedly in the 1990s. Capital inflows generally increased in the 1990s, with some ups and downs in the 1994–99 period. The cost of capital reflected in the Emerging Market Bond Index (EMBI) spread for Argentina hovered between 400 and 600 basis points from late 1993 through mid-1994.

The Convertibility Plan was far-reaching in scope and clearly had a positive impact on the economy. However, even at the time of its implementation, critics were quick to point out that it failed to grapple with some structural problems. First, the plan failed to consolidate the budget constraint for the central government and the provinces. Second, there were concerns that the banking reforms were not as deep as they needed to be given the lack of a national lender of last resort. Third, labor market rigidities slowed the economy's response to reforms. Fourth, the question remained whether pegging to the dollar was a feasible long-term anchor for the Argentine economy, particularly given that only a small share of

5. See Tommasi (2006).

Table 7.1 **Economic performance, 1990–2002**

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	1985–1990	1991–1994	1995–1998	1999–2002
National income accounts and macroeconomic indicators (1)																	
Real GDP	100.0	108.9	118.3	125.5	133.8	129.0	136.1	147.2	152.9	147.7	146.5	140.1	124.8	103.3	121.6	141.3	139.8
GDP growth (%)	0.1	8.5	8.3	5.9	6.4	–3.6	5.4	7.8	3.8	–3.4	–0.8	–4.5	–11.5	0.2	5.3	4.3	–4.1
Consumption growth (%)	0.8	14.4	10.6	–14.9	6.7	–4.9	5.3	9.0	3.4	–1.9	–2.0	–5.1	–22.3	0.4	0.6	4.5	–7.1
Investment growth (%)	–12.1	14.5	22.3	18.8	10.2	–13.5	6.2	14.7	6.7	–13.6	–11.5	–17.8	–28.5	–4.0	13.7	7.1	–13.5
Export growth (%)	–23.5	–19.6	–6.3	9.3	14.2	22.0	12.9	9.0	2.4	–9.4	9.8	1.2	76.1	–2.2	4.4	6.3	24.3
Import growth (%)	–36.9	37.9	39.6	17.1	18.6	–8.0	14.8	22.1	5.0	–14.9	–9.0	–16.6	11.1	–5.2	20.7	11.0	–1.6
Investment (% GDP)	14.0	14.6	16.7	19.1	19.9	17.9	18.1	19.4	19.9	18.0	16.2	14.2	12.0	17.0	17.6	18.8	15.1
Current account (% GDP)	2.3	–0.9	–3.1	–3.3	–4.1	–2.0	–2.5	–4.2	–4.9	–4.2	–3.2	–1.4	2.9	–1.4	–2.9	–3.4	–1.5
Unemployment rate (11)	9.2	6	7	9	12	16	16.56	13.41	12.1	13.48	14.65	18.06	17.5		8.5	14.5	15.9
Inflation, interest rates, and financial markets																	
CPI inflation (1)	318.4	99.9	22.2	10.1	4.1	3.3	0.2	0.5	0.9	–1.2	–0.9	–1.1	23.0	396.3	9.5	0.4	5.4
M3 growth (%) (2)						–4.4	18.2	23.8	9.8	2.3	4.3	–25.6				13.0	–7.1
Average EMBI+ index (3)				100.0	88.6	82.9	112.1	140.9	148.4	155.2	175.3	153.7	57.4		94.3	121.1	135.4
International Reserves (ARP millions) (4)					17,938	16.749	17.738	18,463	19,775	19,151	18,775	19,792	35,231		17,938	18,181	23,237
Real effective exchange rate (5)	100.0	35.6	39.5	76.3	103.1	105.1	112.4	122.5	133.1	148.5	167.0	129.6	44.8		63.6	118.3	122.5
Merval Index (6)	316.9	798.2	427.4	582.8	460.0	519.0	649.0	687.0	429.0	550.0	417.0	295.0	155.0		567.1	571.0	354.3
Peso (prime) loan rate (1)					10.1	17.8	10.5	9.2	10.6	11.0	11.1	27.7	51.7			12.1	25.4
Spread between peso and US$ interest rates (basis points) (1)		6,564.7	1,158.6	328.5	345.3	362.6	93.0	117.3	145.9	202.4	191.1	2,101.1	3,968.4		2,099.3	179.7	1,615.8
JPMorgan Sovereign Bond Spread (basis points) (3)								456.0	596.9	720.4	667.9	1,481.7	5,795.1			526.4	2,166.3

(continued)

Table 7.1 (continued)

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	1985–1990	1991–1994	1995–1998	1999–2002
Fiscal measures																	
Government deficit (% GDP) (1)	–0.3	–0.5	0.0	–0.6	–0.7	–0.6	–1.9	–1.5	–1.4	–2.9	–2.4	–3.3	–1.1	–2.1	–0.5	–1.3	–2.4
Public debt (% GDP) (2)	–9.4	–10.2	–11.5	–12.5	–12.4	–12.7	–11.9	–11.8	–12.4	–13.7	–13.5	–14.5	–11.6	–9.4	–11.6	–12.2	–13.3
External debt (US$ millions) (8)	62,233	65,406	68,345	64,718	75,139	98,802	111,380	128,410	141,550	145,290	145,880	136,710		58,030	68,402	120,036	142,627
Debt (% exports) (8)	373.7	405.4	385.3	341.1	327.9	336.0	338.9	352.2	379.4	426.6	377.6	373.7		535.9	365.0	351.6	392.7
Privatization revenue (ARP millions) (9)				523.3	732.9	1,171.2	374.9	21.5	96.3	2,579.1	144.7	60.2	4.5			416.0	697.1
IMF loans (US$ millions) (1)	–257.3	–589.8	–73.0	1,211.2	455.3	1,924.1	367.3	–37.6	–654.3	–826.5	773.1	9,334.9	–739.3	173.7	250.9	399.9	2,135.6
Banking-sector figures (10)																	
Lending to private sector/GDP (%)					17.5	18.1	18.8	20.5	22.4	23.0	21.8	18.7				20.0	21.2
Lending to public sector/GDP (%)					1.9	2.2	2.3	2.4	3.1	4.2	5.3	8.1				2.5	5.9
AARP deposits/GDP (%)					8.0	7.4	9.0	10.9	11.7	11.5	11.3	7.0	19.1			9.7	12.2
US$ deposits/GDP (%)					8.7	9.1	10.4	12.5	14.0	16.2	18.3	17.4	0.3			11.5	13.0

Sources and notes: (1) Della Paolera and Taylor (2003b), IMF (various issues); and authors' calculations; (2) Argentina Ministry of Economy and Production (average M3 growth for 1999–2002 is through 2001 only); (3) Data Resources International (average EMBI+ figures for 1991–94 include data from 1993–94 only; sovereign bond spread for 1995–98 includes data from 1997–98 only); (4) Central Bank of Argentina (figures for 1991–94 are from 1994 only); (5) Dubas, Lee, and Nelson (2004) (an increase indicates a peso appreciation); (6) Argentina Ministry of Economy and Production (index is in U.S. dollars; year-end figures); (7) Argentina Ministry of Economy and Production (1997–2002 data are provisional); (8) World Bank *Global Development Finance* (average for 1999–2002 includes data through 2001 only); (9) Argentina Secretariat of Treasury and Ministry of Economy and Production; (10) Central Bank of Argentina (year-end figures); (11) IMF (various issues).

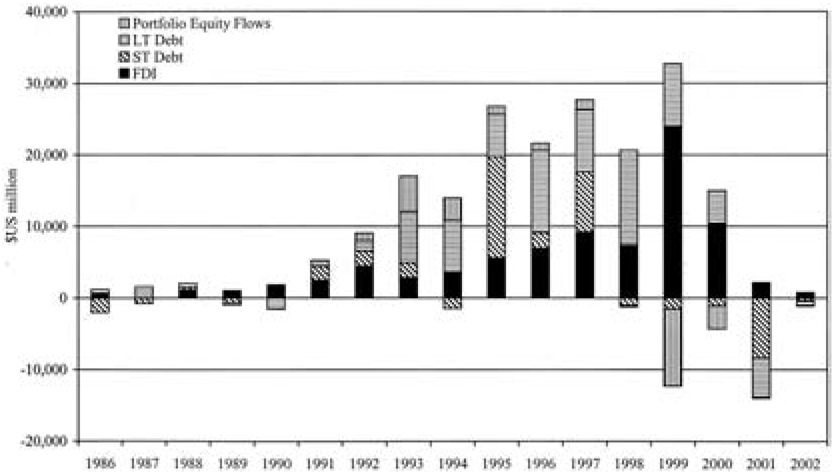

Fig. 7.3 Capital inflows to Argentina by type of flow, 1986–2002
Source: World Bank, *Global Development Finance.*

Argentine trade was with the United States. And finally, the plan, almost by design, did not specify an exit strategy from the peg, if it were found to be unsustainable in the long run. These issues would resurface precisely when the Argentine economy weakened and would contribute to the currency board's eventual collapse.[6]

7.3 External Shocks: Weathering the Storm, 1994–99

With hindsight it is easy to see that Argentina's boom in the early 1990s, with inflation under control and GDP growth on an upward path, was in fact on precarious footing. Like that of many other Latin American countries, the Argentine savings rate was low, and with Argentine government deficits rising, Argentina was especially dependent on foreign capital to finance new investments. Argentina's vulnerability to shifts in external capital flows was first apparent in the aftermath of the Tequila crisis, and this became especially worrisome by 1999, when Brazil devalued the real, and foreign capital again abruptly stopped flowing. The 1990s saw a number of "star" emerging markets falter, Argentina among them. The ultimate causes of the economic crises that shook Mexico in 1994, East Asia in 1997, Russia in 1998, and Brazil in 1999 are still under debate, but what is clear is that each of the crises took its toll on Argentina.

6. See, among others, Bleaney (2004), Calvo and Reinhart (2002), Edwards (2002), Feldstein (2002), Gurtner (2004), and Hausmann and Velasco (2002).

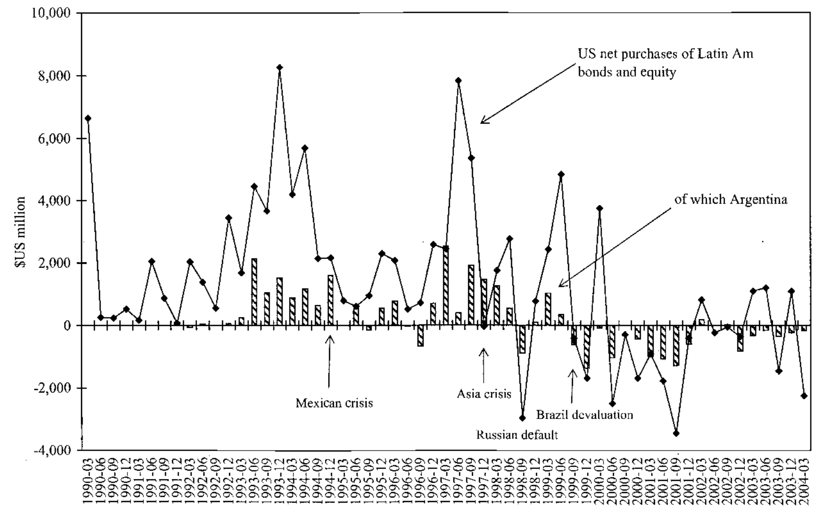

Fig. 7.4 Quarterly U.S. net purchases of bonds and equity in Latin America
Source: Treasury International Capital (TIC) system, U.S. Treasury Department.

7.3.1 The Tequila Financial Crises

The start of the so-called Tequila crisis is typically dated December 20, 1994, when the Mexican central bank was forced to widen its peso bands in reaction to massive capital outflows, leading to an immediate 15 percent devaluation of the peso relative to the dollar and further reserve outflows. Two days later the peso was officially allowed to float, and it continued to lose value while peso interest rates sharply increased. The peso depreciations led to concern that the Mexican government would default on Tesobonos (short-term government bonds denominated in pesos but indexed to the dollar) and Mexican banks would fail (due to the large and growing proportion of nonperforming floating interest rate loans).

These fears led to a chaotic exit of foreign and domestic investors, not only from Mexico, but from most of Latin America.[7] Figure 7.4 shows U.S. net purchases of Latin American stocks and bonds, as well as net purchases of Argentine securities. Two things stand out from the figure. First, U.S. net purchases are highly correlated across Latin American countries. Second, U.S. net purchases, which reflect a large fraction of total flows to

7. On February 1, 1995, the IMF approved an external aid package for Mexico (which included \$20 billion from the United States, \$18 billion from the IMF, \$10 billion from the Bank of International Settlements and \$2 billion from commercial banks) which restored investor confidence in the Mexican government's ability to honor the Tesobono contracts. Mexico announced a stringent austerity package in early March, and by July it reentered international capital markets and sold \$11 billion in two-year dollar-denominated notes at 11 percent, an interest rate well below the rates of 20+ percent on Tesobonos sold in January 1995.

Fig. 7.5 Emerging Market Bond Index spreads, 1992–2001
Source: JPMorgan (http://www.jpmorgan.com/MarketDataInd/EMBI/).

this region, are highly volatile and are responsive to financial crises in Latin America as well as in other regions. The Tequila crisis led to a fall in Brady bond prices and stock exchange indexes in most Latin American countries. Figure 7.5 shows the increase in the EMBI spread, which jumped to nearly 2,000 basis points.

Argentina and Brazil were particularly hard hit by the exit of international investors from Latin America. The Argentine Merval index fell 33 percent between December 1, 1994, and January 10, 1995, and Argentine banks experienced significant peso deposit withdrawals and substitutions from peso to dollar accounts.[8] Total (peso and dollar) deposits had increased dramatically in Argentina between March 1991 and November 1994 as Argentines became more confident about the viability of the new economic regime. At the end of 1994 the value of peso deposits in Argentina was just 9 percent lower than the value of dollar deposits. During the Tequila crisis, total deposits in the Argentine banking system fell for the first time since the establishment of the Convertibility Plan, with the decline falling disproportionately on peso deposits. After the Tequila crisis, the dollarization of deposits steadily increased, so that by 2001 over 80 percent of time deposits were denominated in dollars.[9] A further indication of the impact of the Tequila crisis on the Argentine banking system is apparent in M3 (currency in pesos and deposits of pesos and dollars) growth, which fell by 4.4 percent in 1995. Peso prime loan rates rose from 10.1 in

8. See De La Torre, Levy Yeyati, and Schmukler (2003) for a detailed description of the reactions of Argentine depositors and the banking sector to the Tequila crisis.

9. Demand deposits remained largely denominated in pesos, while approximately 40 percent of savings deposits were dollarized in the 1990s. The large increase in deposit dollarization occurred in time deposits, which were already 60 percent dollarized in 1992.

1994 to 17.8 percent in 1995, and spreads between the peso interest rate and dollar interest rate widened by over 50 basis points. Argentine central bank international reserves fell by 18 percent in the first six months of 1995.

The Argentine government responded to the deterioration of its financial markets by putting in place a number of banking-sector reforms.[10] On December 28, 1994, it reduced reserve requirements on dollar deposits in order to provide more liquidity to the banking system. In mid-January reserve requirements on peso deposits were also lowered. A special security fund managed by Banco Nacion (the largest government bank), made up of five private institutions and two public banks and funded with reserve requirements, was set up to assist institutions that suffered high deposit withdrawals. (Recall that the Argentine central bank could not serve as a lender of last resort under the convertibility law.) In February 1995 the Trust Fund for Provincial Development was set up to help support the provincial banks. In March a similar Trust Fund for Bank Capitalization was established, and changes were made to the central bank charter to allow it to use repurchases and rediscounts to help troubled banks. In the same month, Argentina entered into new loan agreements with the International Monetary Fund (IMF), the World Bank, and the Inter-American Development Bank and issued new bonds (for a total of $7 billion) to increase international reserves and to fund the trust funds. In April a deposit insurance network was put in place, which covered up to $20,000 per person (later raised to $30,000) for certain bank deposits.

In the midst of the aftershocks of the Tequila crisis, President Menem won reelection in May 1995, and the run on Argentina's banks ended. Argentina's recovery from 1995 to 1996 was remarkably swift. GDP growth rallied from –3.6 percent in 1995 to 5.4 percent in 1996, led by investment and exports. However, this new growth did little to improve the fiscal situation; the government deficit as a percentage of GDP remained stable at 1.3 percent over this period, and the ratio of external debt to exports stayed at just under 340 percent (see table 7.1).

While the Tequila crisis and its implications for capital flows were clearly unlucky for Argentina, the crisis was followed by some good luck in the form of U.S. and Brazilian policy spillovers. The Federal Reserve shifted toward more expansionary monetary policy in early 1995, leading to a fall in U.S. interest rates and a sharp depreciation in the U.S. dollar, in turn improving Argentine competitiveness in world markets. At the same time Brazil, Argentina's main trading partner, experienced a rise in the value of the real, further strengthening Argentina's relative position. These good external shocks allowed Argentina to recover much more quickly than

10. See Dabos and Gomez-Mera (1998) for a detailed description of the post–Tequila crisis banking reforms.

many had anticipated, and perhaps lulled Argentine policymakers and investors into a false sense of security. Mussa (2002) goes so far as to suggest that "were it not for the substantial improvements in bank soundness and for the external good luck, the Convertibility Plan might not have survived the Tequila crisis" (p. 21).

7.3.2 The Asian Crisis

There is little evidence of spillover from the Asian crisis to Latin America until October 1997 after the attack on the Hong Kong dollar. International bond issues from Latin America declined to less than $4 billion in the fourth quarter of 1997, compared to $20 billion during the previous quarter. Figure 7.4 shows that U.S. net purchases of stocks and bonds in Latin America plummeted from a peak of $8 billion in the summer of 1997 to zero in the fourth quarter. U.S. net purchases in Argentina, however, remained positive. Stock indexes fell throughout the emerging markets, with Brazil being the hardest hit, apparently because of its large current account deficit and overvalued currency. At the same time, Argentina was considered doubly vulnerable because of its fixed exchange rate and its dependence on Brazil as a trading partner. Portfolio equity flows to Argentina fell 380 percent, and FDI flows fell by 23 percent between 1997 and 1998, although the net flow of long-term debt increased by 47 percent. Overall, net capital flows to Argentina over this period actually rose by 5 percent, because the sharp decline in portfolio and FDI investment was outweighed by the increase in long-term debt, which accounted for a larger share of the total. The Argentine government's only policy reaction to the Asian crisis was the introduction of the "antibubble" rule, which increased the capital requirement for new mortgage loans when a nationwide real estate price index surpassed certain thresholds.

7.3.3 The Russian Default

Just as emerging markets were beginning to recover from the Asian crisis, news that Russia would default on its sovereign bonds in August 1998 sent markets reeling once again. Few investors imagined that Russia would not be bailed out, and investors quickly realized that if Russia was to default, other vulnerable emerging markets would likely follow. The news from Russia was a disaster for stock market investors in Argentina, as the Merval plummeted 40 percent between August and September 1998. Private capital inflows to Argentina, which had already slowed in the aftermath of the Asian crisis, now turned negative in the fourth quarter of 1998. From July to August 1998, the spread on Argentine sovereign bonds almost tripled. Throughout the fall, the spread remained about 400 basis points higher than the spread that prevailed in July 1998, and this, in turn, led domestic peso and dollar interest rates to rise sharply.

Calvo, Izquierdo, and Talvi (2003) suggest that the dramatic stop in international capital flows to emerging markets that followed Russia's partial foreign debt repudiation provides strong evidence in favor of contagion-based (and against traditional fiscal-based) explanations for financial flows. Countries that had little or no financial or trading ties to Russia, such as Argentina and Brazil, found that their access to external capital had suddenly been cut off.

7.3.4 Brazilian Devaluation

While Argentina was badly affected by the general exit of investors from emerging markets, Brazil—already hard hit by the Asian crisis—was dealt a knockout blow.[11] On January 13, 1999, Gustavo Franco, the governor of the Brazilian central bank, resigned; and the government announced a widening of the fluctuation band for the real. This was tantamount to a devaluation of the real of 8 percent. The financial reaction in Argentina to the Brazilian devaluation was immediate. Argentine interest rates rose sharply, the Merval plummeted, and Argentina was effectively shut out of global financial markets.

Many observers, at least with hindsight, date the beginning of the Argentine economic crisis in 2001 to the Brazilian devaluation (which, in turn, may have been set off by the Russian default). Brazil was Argentina's major trading partner, and the combination of Brazil's economic woes, which would surely reduce its import demand from Argentina, and the exit of international capital flows from the region had serious implications for Argentina.

Returning to figure 7.3, we see that that short-term lending and portfolio equity flows to Argentina—whose trend had generally been rising throughout the 1990s, with short-term reversals after the Mexican and Asian crises—sharply plummeted in 1999. Total capital flows into Argentina remained positive, primarily because of an unprecedented inflow of FDI. Interestingly, 64 percent of the inflow of FDI in that year is due to the acquisition of a single company, YPF, by Repsol, a Spanish company (see figure 7.6). Netting out the YPF transaction, capital inflows would have remained positive in 1999 but would drop to $5 billion from $20 billion.

In a series of papers Guillermo Calvo and various coauthors make the case that severe capital flow reversals, such as that experienced by Argentina in 1999–2000, can be triggers of subsequent economic crisis.[12] Further, Calvo suggests that three factors in particular exacerbate an econ-

11. While portfolio flows to all emerging market countries fell dramatically after the Russia default, FDI flows were less uniform. Noteworthy in this regard is the fact that FDI flows to Brazil rose substantially in dollar terms from mid-1998 to mid-2001. Calvo, Izquierdo, and Talvi (2003) suggest that it was in part these FDI flows that allowed Brazil to recover so quickly from the Russian crisis–induced sudden stop. Other factors in Brazil's favor were the facts that its public debt was only partially dollarized and that substantial fiscal retrenchment was politically feasible.

12. See, for example, Calvo (1998), Calvo, Izquierdo, and Talvi (2003), and Calvo, Izquierdo, and Mejia (2004).

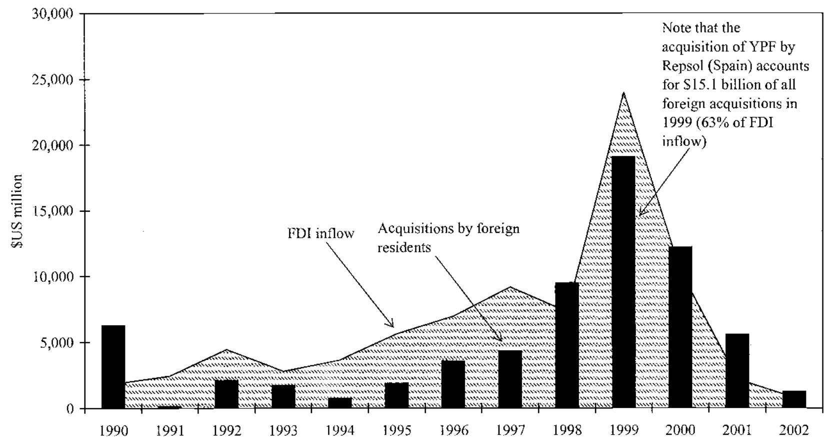

Fig. 7.6 FDI inflow and foreign acquisitions of Argentine companies

Source: FDI data from Global Development Finance, World Bank. Mergers and acquisitions data from SDC Thompson's International Mergers and Acquisitions database.

omy's vulnerability to "sudden stops":[13] the pre-stop level of indebtedness, the degree of domestic liability dollarization, and the dependence on financing from abroad to pay for imports. Calvo, Izquierdo, and Talvi (2003) argue that the Argentine economy in the 1990s had just the characteristics that would lead it to be hard hit in the advent of a sudden stop. Calvo, Izquierdo, and Mejía (2004) date Argentina's sudden stop as starting in May 1999.

The sudden-stop literature suggests that it is the capital flows (or lack thereof) themselves that are pivotal. In theory, a sudden stop in capital flows could arise from external factors, such as contagion or margin calls that arise from economic crises that are unrelated to the country in question.[14] Internal factors can either mitigate or magnify the effects of the sudden stop on the economy. In countries like Argentina, with a small share of tradable goods output relative to domestic absorption of tradable goods, a sudden stop in capital flows requires a sharp increase in the equilibrium real exchange rate to transform the current account deficit into a surplus.[15]

13. Calvo, Izquierdo, and Mejia (2004) define a sudden stop as a sharp decline in capital flows that meets the following three criteria: (a) it contains at least one observation where the year-on-year fall in capital flows lies at least 2 standard deviations below its sample mean; (b) it ends once the annual change in capital flows exceeds 1 standard deviation below its sample mean; and (c) the start is determined by the first time the annual change in capital flows falls 1 standard deviation below the mean.

14. For a further discussion of the potential role of margin calls in sudden stops see Mendoza and Smith (2002).

15. Calvo, Izquierdo, and Talvi (2003) calculate that Argentina would have needed to depreciate its equilibrium real exchange rate by a whopping 46 percent in 1998 in order to bring its current account into balance.

If the country also has large financial currency denomination mismatches (for example, liability dollarization), the real depreciation will in turn lead to a weakening of corporate—and, in the case of Argentina, government—balance sheets.[16]

Argentina's experience immediately following the Russian default closely follows the sudden-stop logic. With the falloff in capital inflows, investors and (perhaps most important) official creditors realized that the sustainability of Argentina's fiscal situation, though still not dramatically different from what it had been a year previous, was precarious. Calvo, Izquierdo, and Talvi (2003) estimate that "once all the elements triggered by the sudden stop are factored in (valuation effects, interest rate increases, growth slowdown, and emergence of contingent liabilities from the private sector), the primary fiscal balance needed to regain sustainability would have exceeded 3% of GDP" in 1998 (p. 32). The political economy implications of this for the Menem government, which was in its final year, were dire.

7.3.5 Reduction in World Interest Rates

Argentina was on the brink of economic collapse in early 1999, but just as had been the case after the Tequila crisis, Argentina was dealt a positive shock in the second half of 1999 that allowed it to make another surprising, even if temporary, recovery.

In this case Argentina's rescue came from an unusual source: conditions in European financial markets. As European governments strove to meet the Mastricht criteria in the run-up to the establishment of the euro, interest rates—which had been relatively high in a number of European countries—converged downward. This sent investors seeking higher yields to alternative markets. Argentina recognized this potential market niche and successfully floated (high-yield) sovereign debt denominated in euros during this period. As Mussa (2002) points out, "the success of Argentina in floating substantial amounts of sovereign debt in global credit markets during much of 1999 and the first half of 2000 testifies both to the special conditions in those markets and to Argentine authorities' particularly deft management of public debt" (p. 25).

16. Calvo, Izquierdo, and Talvi (2003) estimate that Argentina had an extremely high degree of public-sector debt mismatch in 1998. Their calculation for Argentina was 0.01 on a 1–0 scale with 1 representing a perfect match and zero representing the highest degree of mismatch. Given this level of currency mismatch, the authors indicate that had there been a real depreciation of 46 percent (the amount needed to balance the current account), Argentina would have had a debt-GDP ratio of just under 50 percent assuming no increase in interest rates and no fall in growth rates. If the contingent liabilities of the public sector that arose out of the (also highly dollarized) corporate and banking sectors are included, the debt-GDP ratio rises to well over 50 percent.

Government policy can, in principle, offset the negative effects of a sudden stop–induced real appreciation on corporate balance sheets by providing the private sector with additional collateral. Korea, with the help of the IMF, was able to mitigate the effects of the Asian crisis–induced sudden stop in this manner.

7.4 Internal Policy Mistakes

At the same time that Argentina was buffeted, in both positive and negative directions, by external shocks, internal policies had a major influence on the economy. The role of fiscal policy in the lead-up to Argentina's economic collapse is perhaps the most controversial. Mussa (2002) and the IMF (2003, 2004) emphasize failure in fiscal policy as the root cause of the crisis. Others suggest that fiscal policy was either less crucial or, in some views, irrelevant. Another area of controversy is the role of the banking sector in the ultimate collapse of the economy, and in particular the currency mismatches between dollar deposits and peso-denominated assets.

7.4.1 Untamed Fiscal Policy

Out of context, Argentina's fiscal numbers do not suggest much reason for concern. In 1993 public debt was 28 percent of GDP, inflation was under control, and GDP growth could arguably have been expected to continue at 6–7 percent. It was in this seemingly robust fiscal environment that the Argentine government decided to privatize its social security system, which produced an extra annual bill equal to 1.5 percent of GDP (roughly $2 billion based on GDP in 1995), although in the long run the privatization was expected to save the government money. Other privatization efforts in the period 1993–98 resulted in $2.9 billion in nonrecurring revenues. By 1998 the Argentine public debt had risen to $112 billion (the ratio of public debt to GDP had risen to 37 percent), which in a broader context might still be considered moderate.

Mussa (2002) points out, however, that this rise in public debt should have been worrisome because it occurred during a period of relatively high economic growth, it included a number of one-off revenue increases due to privatizations, and it would have looked worse but for the fact that Brady bond restructuring in 1993 involved substantial back-loading of interest payments, and "a good deal of public sector borrowing was not included in the budget" (Mussa 2002, p. 16).[17] An assessment of the Argentine fiscal situation is further complicated by the role of provincial government spending, which is not subject to a balanced-budget rule. While provincial expenditures generally totaled less than 12 percent of GDP per year, the system of Argentine fiscal federalism provided little incentive for provinces to reduce spending.[18]

17. Perry and Serven (2003) show that if an equilibrium real exchange rate (rather than the one-for-one peso-dollar rate) is used in the calculation, the public-sector debt-GDP ratio in 2001 rises by 24 percent.

18. Expenditures in the provinces rose steadily in the late 1990s, while transfers from the central government remained fixed as a constant proportion of tax revenue, which led to widening provincial deficits. See Cuevas (2003) for a discussion of reforming intergovernmental transfers.

Reinhart, Rogoff, and Savastano (2003) describe Argentina, which has defaulted on its debts five times since 1820, as a "serial defaulter." They show that serial defaulters can develop debt intolerance, where the risk of default begins to skyrocket at debt levels that might be quite manageable for countries with less checkered credit records. Argentina appears, in their calculations, to hit debt intolerance at debt-GDP ratios of only 25–30 percent, so that alarm bells should have been ringing well before 1998.

It is also worth remembering that Argentina's public debt during the 1990s was almost entirely denominated in foreign currencies, reflecting its limited ability to issue long-term debt in its own currency, itself a reflection of the fact that the convertibility regime encouraged dollar-denominated debt.[19] As with other emerging market economies, Argentina could borrow only at sizable spreads over U.S. treasuries, and a negative shift in market sentiment generally resulted in higher interest rates, creating potentially explosive debt dynamics even at relatively modest levels of debt.[20]

At the same time that debt-GDP ratios should have sounded alarms (and, indeed, seem not to have sounded alarms at the IMF until it was too late), Argentina's debt-export ratio should also have provided cause for concern. One of the costs of the currency board was a chronic overvaluation of the peso. Figure 7.7 shows that in the period 1991–93 the real effective peso exchange rate appreciated by almost 25 percent.[21] Between 1996 and 1997 the world price of Argentina's commodity exports fell by 20 percent, followed by a further decline of equal size in 1998.[22] By the end of 1998 Argentina's debt-export ratio was at 379 percent, and debt service payments alone absorbed the majority of annual export earnings. In 1999, in the wake of the Brazilian devaluation, export growth fell by over 9 percent, and the debt-export ratio rose to 427 percent.

Finally, the Convertibility Plan did not stop the Argentine government

19. The Argentine government did not issue peso-denominated debt, both because peso debt was more expensive (peso interest rates were always higher than dollar interest rates) and to avoid the appearance of hedging against the collapse of the Convertibility Plan. Eichengreen, Hausmann, and Panizza (2003) suggest that the difficulty emerging market economies face in issuing debt in local currency can be traced to one of two (similar though distinct) phenomena: original sin or debt intolerance. Original sin implies that the problem arises externally, with the structure of global portfolios and international financial markets, while debt intolerance implies that the problem arises internally, with weak institutions. In either case, the authors term the consequence of these problems "currency mismatches." See also Bordo, Meissner, and Redish (2004) and Rigobon (2002).

20. See, for example, Caballero and Krishnamurthy (2003), Cespedes, Chang, and Velasco (2004) and Galiani, Levy Yeyati, and Schargrodsky (2003).

21. See Dubas, Lee, and Mark (2005).

22. Another aspect of Argentina's trade patterns that increased its vulnerability was the fact that Mercosur, established in 1991 (which created a free-trade zone among Argentina, Brazil, Paraguay, Uruguay, Chile, and Bolivia), probably led to trade diversion and a less diversified trade market. Argentina went from trading around 20 percent with Mercosur partners in 1991 to 45 percent in 1998 (with the bulk of exports going to Brazil).

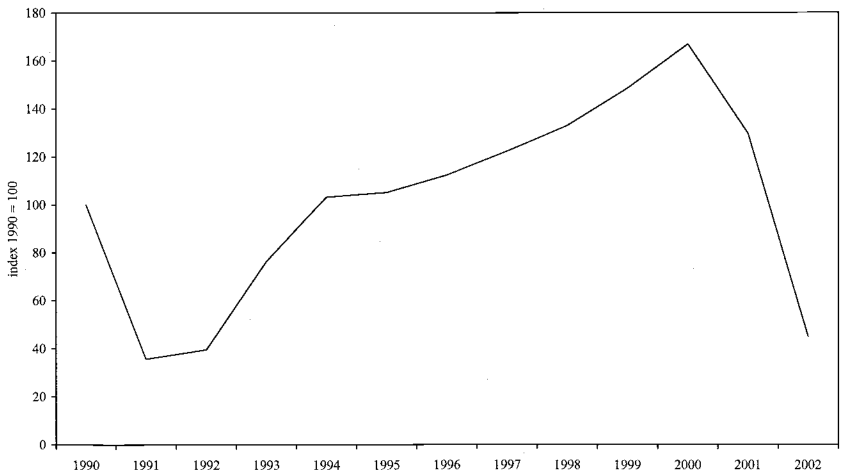

Fig. 7.7 Argentine real effective exchange rate

Source: Dubas, Lee, and Nelson (2004).

Note: An increase indicates a peso appreciation relative to a trade-weighted basket of currencies.

from attempting to monetize its debts. Once foreign capital had been exhausted, the Argentine government, though unable to directly print pesos, did the next best thing by issuing small-denomination federal bonds redeemable for federal tax payments. These bonds were called "lecop" (for *letras de cancelación de obligaciones provinciales*) and were considered quasi-money. Many of the provinces followed the federal government's lead and printed their own versions of quasi-money to pay for fiscal deficits. For example, the province of Buenos Aires issued "Patacón," and Córdoba issued "Lecor." In December 2001 quasi-monies issued by the federal government and the provinces exceeded 24 percent of pesos in circulation.

7.4.2 The Role of the Banks

The convertibility regime required an especially strong banking and financial system because restrictions on monetary policy prevented the central bank from acting as a lender of last resort through money creation.[23] In the aftermath of the Tequila crisis, when banks experienced massive deposit outflows, the Argentine government put in place a number of banking reforms to strengthen domestic banks, at the same time encouraging

23. There was a proviso in the Convertibility Plan law that allowed up to one-third of international reserves to be made up of internationally traded, dollar-denominated Argentine sovereign bonds, valued at market prices. This allowed a very limited "lender of last resort" role since the central bank could provide the banking system with pesos in exchange for sovereign Argentine bonds (rather than dollars).

foreign banking institutions to enter the Argentine market.[24] By the end of the 1990s, Argentina was considered a model for other emerging market economies in the area of banking supervision and prudential policy. Banking system assets doubled from only 20 percent of GDP in 1991 to 40 percent of GDP in 1999.

At the same time that the Argentine government was instituting important banking-sector reforms, it was also saddling its banks (and especially public banks) with public-sector debt. Banking system exposure to the public sector rose from about 10 percent of total assets in 1995 to more than 20 percent by 2001. In April 2001 alone the government placed $2 billion of its debts with banks in Argentina, at the same time that the central bank charter was amended in order to allow unlimited lender-of-last-resort liquidity with the backing of government securities.[25] The IMF (2003) was concerned by this growing exposure, and writes that in the 1990s the Argentine "banking system was vulnerable to three forms of shocks, all of which eventually materialized: economic downturn, devaluation of the exchange rate, and default by the public sector."

Under the currency board the Argentine banking system was heavily exposed to a devaluation of the peso against the U.S. dollar.[26] While most bank assets and liabilities were matched in terms of their currency of denomination, many dollar-denominated bank loans went to Argentine companies and households that had earnings in pesos. A large devaluation would make repayment of those loans difficult.[27]

Wealthy Argentine residents have long kept bank accounts outside of Argentina in case of economic crisis. It is estimated that Argentines held over $100 billion abroad in the 1990s, which suggests that they considered the risk of crisis (and presumably expropriation) to be substantial. Related to this is the fact that credit from the banking system to the private sector, which is generally low in Latin America, was particularly so in Argentina, where bank loans to the private sector were only 23 percent of GDP at their peak in 1999.

24. Foreign-owned banks presumably contribute to a strengthening of the banking system, because they are less tied to the domestic economy (and politics). In 1994 only 15 percent of total Argentine banking system assets were held in foreign banks; this increased to 55 percent in 1998 and 73 percent in 2000 (De La Torre, Levy Yeyati, and Schmukler 2003, p. 50). In the midst of the Argentine crisis, however, foreign banks reacted to the increased financial risk by reducing their exposure, so their presence did little to improve the situation.

25. This amendment, ironically put in place by Domingo Cavallo, effectively dismantled the money-issuance rule under the Convertibility Plan. Cavallo had hoped that renewing the central bank's ability to serve as a lender of last resort would encourage banks to extend credit, but it seemed to have only further weakened the credibility of the banking system.

26. It is worth noting, however, that prior to the imposition of capital controls in 2001 dollarization in the banking system was concentrated in longer-term bank deposits and loans. Demand deposits (which were presumably used for transaction purposes) were largely denominated in pesos throughout this period.

27. See De Nicolo, Honohan, and Ize (2003) and della Paolera and Taylor (2003a) for further discussion of the dollarization of the banking system.

7.5 The Unwinding of Reforms

In December 1999, Fernando de la Rua was elected president and inherited a public debt in excess of $100 billion. The new government made the decision to tighten fiscal policy with a series of tax increases, in the hope that this would further reassure investors and help to lower interest rates. But the tax increases only served to push a recovering economy back into recession. The country teetered on the edge of default throughout 2000, but once again a good external shock in early 2001 steadied the Argentine economy. U.S. monetary policy loosened, leading to lower U.S. interest rates and a weaker dollar. This in turn resulted in lower spreads on Argentina's bonds over U.S. treasuries and gave a boost to Argentina's exports.

De la Rua's contractionary fiscal policy received the endorsement of the IMF. In March 2000, a three-year standby arrangement for $7.2 billion was agreed to, and in January 2001 this was augmented by $13.7 billion. At the same time, additional financing of $39 billion was arranged from official and private sources. In September 2001, the IMF increased its loans to Argentina by $22 billion, with up to $3 billion to be used in support of a possible debt-restructuring operation.

However, it was too little and already too late. Argentines had begun to shift from peso to dollar deposits starting in February 2001, and this trend sharply increased during the fall of 2001, when outright withdrawals of deposits were observed throughout the banking sector. De la Torre, Levy Yeyati, and Schmukler (2003) document that by November 2001, forty-seven of the top fifty banks had suffered major withdrawals. Between July and November 2001, Argentines withdrew over $15 billion from banks: on November 30, 2001, alone, banks saw withdrawals of $1.3 billion.

On December 3, 2001, in a desperate effort to prevent further massive capital outflows and to halt the run on banks, the government imposed a set of draconian financial controls. The capital control regime, termed the *Corralito* (literally, "little corral," but also "playpen"), limited withdrawals from bank accounts to 250 pesos per week per account, but depositors could access their accounts to transfer funds within the banking system.[28] Wire transfers required central bank approval, foreign currency futures transactions were prohibited, and in effect all investors, foreign and domestic, were prohibited from transferring funds abroad. Depositors could exchange dollars for government bonds, but few chose to do so. The restrictions were announced as temporary measures that would remain in place until the danger of the speculative attack had

28. Perhaps unsurprisingly, there was a sudden increase in the number of new bank accounts in early December. The government promptly changed the regulations so that the deposit limits applied per person rather than per account. According to the press, some 500,000 accounts were opened in the two days following the imposition of bank restrictions.

passed.[29] The scheduled program review by the IMF was not completed, and IMF support of Argentina was effectively withdrawn. (A detailed time line of the economic and political events that occurred during the *Corralito* is provided in the appendix.)

On December 19, the ministers in President de la Rua's cabinet resigned, and the following day the president himself resigned.[30] Ramon Puerta assumed the presidency in the interim as Argentine country risk skyrocketed (see figure 7.5, where the EMBI spread for Argentina rises from 4,000 in November to just under 10,000 at the end of December 2001). Foreign exchange trading was suspended on December 21. A new interim president, Rodriguez Saa, was named on December 23. Saa promptly declared a moratorium on the country's $155 billion public foreign currency debt, making it the largest sovereign debt default in history. Saa resigned after just one week, and President Eduardo Duhalde assumed power on December 30.

In January the Argentine peso was officially devalued, and all bank deposits and debts were "pesofied." Dollar deposits were converted at 1.4 pesos to the dollar, while dollar loans were subject to one-to-one conversions, effectively imposing the bulk of the costs of pesofication on the banks rather than depositors. The situation of the banks was made worse by the fact that they remained exposed to foreign exchange risk on foreign liabilities, which were not pesofied. Gutierrez and Montes-Negret (2004) estimate that the banking system had a negative net worth of at least $32 billion in January 2002. To compensate the banks, the government issued new bonds called BODENs, which to date are illiquid (and their economic value is contingent on future debt restructuring and the government's fiscal sustainability).

Given the political and economic chaos, the payment system ceased to function. Citizens took to the streets in protest of the economic conditions, and the foreign banks became a focus for their rage. The number of reported bankruptcies by firms and individuals reached record proportions. Growth in real GDP, consumption, and investment turned sharply negative, and the current account deficit as a percentage of GDP swung from –1.4 percent in 2001 to 2.9 percent in 2002.

The one market in Argentina that did not collapse amid the economic crisis was the stock market. Indeed, the Argentine stock market expanded by 50 percent immediately following the imposition of capital controls. One potential explanation of the stock market boom in Argentina is that investors viewed the likely devaluation of the peso as beneficial for firms,

29. Some of the original withdrawal limits were eventually modified, although the main restrictions on capital outflow remained in place until December 2, 2002 (exactly one year after they were first introduced).

30. The resigning cabinet ministers included Domingo Cavallo, who had left public office in 1996 and returned to the position of economic minister with the de la Rua administration.

although in other countries such crises are generally harmful. A more plausible explanation is that the idiosyncratic reaction of the Argentine stock market was due largely to the specific restrictions in the *Corralito* that allowed investors to use their frozen bank deposits to purchase Argentine stocks, and inadvertently provided a legal mechanism for avoiding the capital controls through the purchase of Argentine stocks that were cross-listed in the United States, termed American depository receipts (ADRs).[31]

Auguste et al. (2006) document how the ADR loophole worked in practice. Under the *Corralito,* Argentine residents were allowed to use bank deposits in excess of the $1,000 monthly ceiling to purchase Argentine stocks. If a stock happened to be cross-listed in the United States, those shares could be legally converted from Argentine shares into ADRs. The ADRs could then be sold in the United States and the dollar proceeds deposited in a U.S. account. Under normal circumstances an ADR sale would result in Argentina experiencing a capital inflow, as U.S. residents have acquired claims on Argentine firms. Under the *Corralito,* however, the capital inflows did not occur, and the dollars and/or shares remained outside of Argentina. In effect, the ADR loophole allowed Argentines to transfer monies abroad, but the transactions did not result directly in a fall in Argentina's international reserves (or a fall in Argentine bank deposits). ADR conversions, however, did reduce the number of (underlying) shares available on the local stock exchange in Buenos Aires, La Bolsa.

Auguste et al. (2006) examine local share prices relative to their corresponding ADRs over the period when capital controls were in place. They find that Argentine investors were willing to pay a substantial price to move their deposits out of Argentina through ADR conversions. At their peak, some ADRs were trading at a discount of in excess of 40 cents on the dollar.

The existence of ADRs not only allowed Argentines to circumvent the capital controls put in place by the government during the economic crisis in 2001, but they also provided a shadow foreign exchange market during a period when the official foreign exchange market was closed. Auguste et al. (2006) estimate that the average expected devaluation of the peso implicit in ADR prices in January 2002 did a good job predicting the magnitude of the official devaluation, which was 40 percent.

Transaction data can be used to estimate the volume of wealth transfer from Argentina to the United States via ADRs. The most accurate measure would be to use the volume of ADR conversions that occurred after the imposition of the *Corralito.* The New York Stock Exchange collects the number of ADR conversions on a quarterly basis, which unfortunately

31. See Levy Yeyati, Schmukler, and van Horen (2003) for a further discussion of the stock market boom during the *Corralito.*

makes it impossible to back out the number of conversions during the peak period of December 2001 and January 2002. The data suggest that between the end of December 2001 and the end of March 2002, approximately 26 million shares of Argentine stock were converted to ADRs. Since we do not know in which month those shares were converted, and because share prices changed dramatically in this period, it is difficult to assign a value to this flow.

An alternative measure of the volume of wealth transfer is the post-*Corralito* cumulated volume of sales of Argentine ADRs in New York, under the assumption that all ADR sales reflect cashing out by Argentine investors. This figure comes to $835 million.[32] This is likely to be an underestimate of the volume of outflow, since many investors may simply hold the stock rather than sell at depressed prices. Another measure is the cumulated volume of purchases of local stocks with associated ADRs in Buenos Aires over this period. Under the assumption that all these purchases are intended for ADR conversion, the value of wealth transfer comes to $3.4 billion. This is probably an overestimate, since Argentines may have had other reasons for purchasing these stocks besides ADR convertibility.

On the one hand, a capital flow of even $3.4 billion is small given the magnitude of the crisis and the desire of Argentines to find a way to move wealth abroad. On the other hand, the fact that the volume is small is consistent with the fact that, unlike many unofficial channels for capital outflow, the value of the ADR loophole was priced by the market. It appears that the increase in local share prices effectively choked off the flow. This may have been why, in the midst of all of the other events taking place during the *Corralito,* the government did not appear to be much concerned about closing the ADR loophole.

ADRs were not the only legal means by which Argentines could circumvent the *Corralito.* CEDEARs (certificados de depositos Argentinos) are shares of non-Argentine firms (mostly U.S. firms) that are cross-listed on the Argentine exchange and sold for pesos. Before the imposition of the *Corralito* Argentine investors should have preferred to hold foreign stocks directly (and in dollars) rather than as a CEDEAR in pesos, especially given that they had to pay high conversion fees for the CEDEARs. However, after the imposition of the *Corralito* we might have expected Argentine demand for CEDEARs to have increased because underlying CEDEAR assets are denominated in dollars (although CEDEARs are priced in pesos), and because holding shares of non-Argentine firms would serve as a better means of hedging against the looming economic crisis. The supply of CEDEARs, however, did not immediately pick up, in large part because Argentine brokers were initially not able to send dollars abroad to buy the underlying stocks and convert them to CEDEARs, and

32. This is the cumulated sum between December 1, 2001, and May 31, 2002.

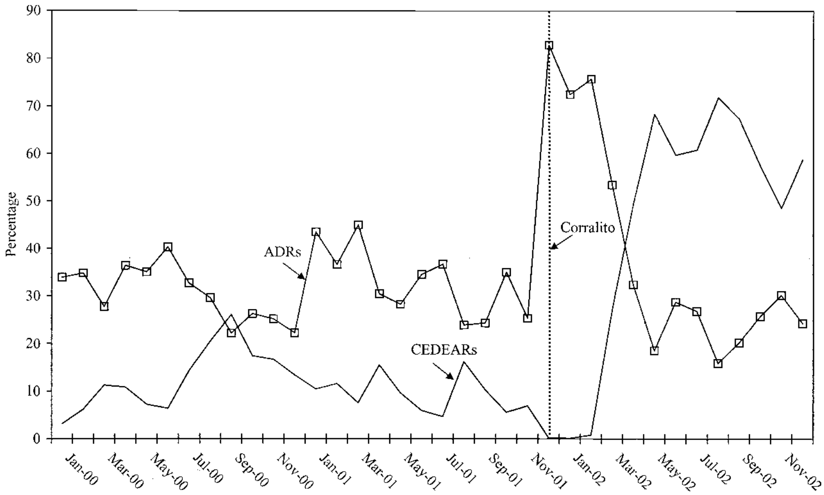

Fig. 7.8 Trading volume in ADRs and in CEDEARs as a percentage of total trading volume

Source: Bolsar (http://www.bolsar.com).

there was little incentive for investors outside of Argentina to convert U.S. stocks into peso-denominated CEDEARs before the devaluation.[33]

Figure 7.8 indicates that starting in late February 2002, however, liquidity in CEDEAR stocks gradually increased (just as trading in ADRs starts to fall off). Discussions with brokers in Argentina suggest that the increase in CEDEAR liquidity came from two sources. First, using operations called "via cable," brokers bought foreign bank checks that allowed them to purchase the underlying U.S. shares, convert these into CEDEARs, and then sell the CEDEARs (at a premium) in Argentina for pesos.[34] Second, mutual funds, pension funds, and other institutional investors are required to hold assets rated above BBB, and at this time all Argentine stocks and bonds were below the minimum ranking, forcing these funds to purchase non-Argentine securities. Since the *Corralito* disallowed direct purchases of foreign assets, CEDEARs were among the few assets that they could acquire.

Once liquidity in the CEDEAR market was established, investors had an alternative means of escaping the *Corralito,* by purchasing CEDEARs in Argentina for pesos, converting them back to the underlying dollar de-

33. Traders had little incentive to convert U.S. stocks into CEDEARs prior to the devaluation, both because of peso value uncertainty and because the *Corralito* restricted repatriation of any peso returns.

34. Another way that CEDEARs may have been created is through a practice termed prereleasing, where the depositary bank lends out the underlying securities that make up the CEDEAR to brokers in the market. The brokers then sell the CEDEARs to investors who pay in pesos and then request that the broker convert the CEDEARs back into the underlying U.S. shares (and sell them in New York for dollars).

nominated stocks, and selling them in New York for dollars (that then were deposited in dollar accounts).[35] The transaction costs of CEDEAR conversion are similar to those in the ADR market, and the increased demand for CEDEARs in Argentina led to similar price spreads on CEDEARs in Argentina relative to the underlying prices of the stocks in New York. Before the *Corralito,* the mean CEDEAR discount was approximately zero, but during the period March 2002 through September 2002 the average discount increased to 3.3 percent (excluding transaction costs) with a maximum increase of 13 percent.[36]

There is clear indication that the Argentine government understood that CEDEARs were serving a purpose similar to that of ADRs in allowing investors to transfer funds (legally) outside of Argentina. On March 25, 2002, a report in the official central bank press communication suggests that the government considered adopting new measures to avoid capital outflows using ADR and CEDEAR transactions. However, no restrictions were imposed at that time. In September 2002, regulations were changed that increased the cost and difficulty of CEDEAR conversions.[37] CEDEAR discounts increased substantially after September 2002, which reflects the increased costs associated with shifting capital abroad through this mechanism.

Argentina appears to be a unique case in which a country with a significant number of cross-listed stocks and relatively well-integrated financial markets subsequently attempted to close its financial borders. The unusual set of circumstances in Argentina gave cross-listed shares (ADRs and CEDEARs) a new, and previously unstudied, role as a mechanism for capital flight. Further, the Argentine case suggests that, once having established ADRs and other kinds of contractual arrangements across markets, it may be difficult if not impossible to reverse the process of capital market integration with (even draconian) capital controls.

7.6 Epilogue

The *Corralito,* which officially ended on December 2, 2002, with its abrogation of individual and corporate property rights, resulted in a massive

35. Investors also purchased (in pesos) dollar-denominated Argentine government bonds (specifically Global 2008s) and resold them in New York (for dollars) for similar reasons. It is interesting to note that the two most frequently traded CEDEARs in the post-*Corralito* period, Lockheed and Avon, were rarely traded before the capital controls were imposed. The apparent reason for this shift in preference is that they both have low conversion ratios and high dollar prices (for the underlying shares) in the United States, which in turn meant that these securities sold at high prices in pesos in Argentina. Higher nominal peso prices meant that fewer of these CEDEARs had to be acquired to transfer a given amount of funds (and with fewer transactions, investors incur lower conversion costs).

36. Liquidity for many of the CEDEARs in Buenos Aires remained low even after March 2002. In our calculations we include the 15 most frequently traded CEDEARs (out of the 216 listed CEDEARs), and we calculate the discount for each of the CEDEARs only on the days when there was a closing price in both markets. The index is then the average of the daily premia.

37. See the entry for September 2002 in the appendix.

redistribution of wealth between depositors, lenders, and financial institutions. Not surprisingly, the question of who owed what to whom became a matter for the courts and left the economy in a state of limbo. The courts issued a number of injunctions to savers who demanded that their dollar deposits be paid at the market exchange rate rather than the rate decreed by the government of 1.4 pesos to the dollar, plus inflation. Honoring these injunctions cost the banks an extra 7 billion pesos. The Supreme Court finally ruled in October 2004 that the pesofication of dollar deposits that took place in 2001 was legal, relieving the banks of large potential losses from further injunctions.[38] As a consequence of this recent history, most bank deposits in Argentina are short term, which in turn limits the scope for banks to lend long term. In early 2004, credit to the private sector amounted to only 8 percent of GDP.

In May 2003 Nestor Kirchner, a populist nationalist, was sworn in as president on a pointedly anti-IMF platform. In September, a day after Argentina missed a $2.9 billion payment to the IMF (the single largest nonpayment of a loan in the IMF's history), Argentina signed a three-year agreement with the IMF, which included a fiscal target of a primary surplus of 3 percent of GDP in the first year (coincidentally, exactly the number Calvo, Izquierdo, and Talvi [2003] calculated as needed in 1998 to regain sustainability). In return the IMF agreed to lend Argentina $12.5 billion, the amount that was due to the IMF over the period 2003–6.[39] In 2005 Argentine GDP finally surpassed its previous precrisis peak. In the summer of 2005 Argentina suspended its agreement with the IMF and introduced a massive debt swap that involved an exchange for new bonds worth roughly 35 cents on the dollar.[40] In December 2005 Kirchner said his government would repay early its entire $98.8 billion debt to the IMF in order to be free of "further IMF restraint on Argentina's policies."[41]

38. The Supreme Court approved the conversion of fixed-term savings in dollars to pesos—known as "pesofication"—by five to one on October 26, 2004. The president of the court, Enrique Petracchi, abstained from voting because his savings were caught in the freeze on bank accounts when the crisis broke out.

39. The IMF's lending to Argentina makes up roughly 15 percent of its total loans, giving Argentina quite a bit of leverage.

40. In September 2003 the Kirchner government made an offer to bondholders that involved writing down 75 percent of the value of the defaulted debt, nonpayment of interest arrears, and the issuance of new low-interest bonds, amounting to a cut of up to 90 percent in the net present value of the bonds. The Argentine Bondholders' Committee made a counteroffer that accepted a write-off of 35 percent in the nominal value of the defaulted debt and required payment of overdue interest payments. The 2005 agreement is virtually identical to the terms of this counteroffer.

41. See the *Economist* (2005) for further description of the current economic and political situation in Argentina.

Appendix

Argentina's Financial Market Event Time Line

1989	
July 9	Carlos Menem assumes the Argentine presidency in the first peaceful transfer of power from one democratically elected leader to another since 1928.
November	New Foreign Investment Regime put into place. All legal limits on foreign investment abolished. Capital gains and dividends can now be repatriated freely. No need for previous approval of transactions. No legal limits regarding type or nature of foreign investment. Introduction of a free exchange rate regime. Bekaert and Harvey identify this as the official liberalization date.
December	The exchange system is again unified for all dealings under a free-floating rate and the currency unit depreciated. Dual export rates still exist.
1990	
March	Currency made fully convertible. Foreign portfolio investment by Argentine residents now possible.
November	Menem extends value added tax to services, implements tax on fixed assets.
1991	
March 22	Export taxes are eliminated, abolishing the dual export rates.
April 1	Argentina's Congress enacts the Convertibility Law, which legally adopts the currency board guaranteeing the convertibility of peso currency to dollars at a one-to-one fixed rate and limiting the printing of pesos to only an amount necessary to purchase dollars in the foreign exchange market. Effectively, each peso in circulation is backed by a U.S. dollar, and monetary policy is forcibly constrained to uphold that promise.
August	Law protecting dollar-denominated deposits enacted.
October	Argentina Fund begins. This fund marks the first time U.S. investors can invest in a mutual fund that represents a broad part of the market. Deregulation decree reforms domestic industry, external trade, and capital markets. The deregulation decree eliminates capital gains taxes for foreigners.
1992	Argentina enjoys strong economic growth, and the currency board is considered highly successful.

January	Austral replaced by peso. All transactions in currency can now be made on the free market at free negotiated rates.
July	Moody's upgrades Argentina's sovereign debt rating from B3 to B1.
1993	The economy soars, at an annual growth rate above 5.5 percent, as inflation subsides and the government embarks on an ambitious program of deregulation, lowering trade barriers and privatizing state-owned enterprises including oil, telephones, and power.
March	Social security reform (announcement of creation of private pension fund system to begin operation in future). Argentina's Comission de Valores stipulates that only financial intermediary firms belonging to self-regulating organizations can participate in public offering of securities. This move attempts to cut down on insider trading on the Buenos Aires exchange.
April 7	Swaps of bonds for eligible debts agreed to under the Brady Plan by Argentina and foreign creditor banks begins to take place in accordance with the debt and debt service reduction operations.
May	Import tariffs on capital goods abolished and a 15 percent tax reimbursement to capital goods producers established.
August	Standard & Poor's (S&P) assigns first-time rating of BB– to sovereign debt.
1994	
March 28	Swaps of bonds for eligible debts agreed to under the Brady Plan by Argentina and foreign creditor banks are completed.
August	First T-bill auction in twenty years held.
December 20	Mexican peso devaluation followed by a withdrawal of foreign investors from Latin American countries, leading to banking crises: eight banks are suspended and three banks collapse. Events weaken position of wholesale banks that have significant inventories of government securities on which they are incurring capital losses due to the increase in interest rates. Nonfinancial firms are affected as well. Central bank provides emergency liquidity assistance.
December 28	Reserve requirements reduced on dollar deposits in order to provide more liquidity to the banking system.
1995	Following Mexico's December 1994 peso devaluation, capital flows out of emerging markets. Argentina's GDP declines by 2.8 percent.

January 1	The Treaty of Asuncion (1991), establishing the Southern Core Common Market (Mercosur), becomes effective.
January 15	Reserve requirements on peso deposits lowered and a special security fund managed by Banco Nacion set up to assist institutions that suffered high deposit withdrawals.
February	Trust Fund for Provincial Development set up to help support provincial banks.
March	Tax of 3 percent reimposed on all imports, with the exception of capital goods, fuel, and goods produced in the paper, computer, and telecommunications sectors. All goods imported from the member countries of Mercosur are also exempt. Trust Fund for Bank Capitalization established; changes made to the central bank charter to allow it to use repurchase agreements and rediscounts to help troubled banks. New loan agreements made with the IMF, World Bank, and IBD; issuance of new bonds to increase international reserves and fund the trust funds.
April	A limited system of deposit insurance is introduced in response to the banking crisis. Provincial sales tax considered in exchange for lower social security contributions.
May	New rules for bank reserve requirements implemented. President Menem is reelected after convincing Congress to change electoral laws that prohibit a second term.
August	Bank reserve requirement for checking and savings accounts lowered from 33 percent to 30 percent; the 2 percent reserve requirement for time deposits eliminated.
1996	The central bank announces the creation of a $6 billion emergency fund to strengthen the banking sector. Labor reform allows companies to reduce payroll expenses by firing workers without severance pay.
July 26	Finance Minister Domingo Cavallo is dismissed.
August	Tax increases on fuel and public transportation. Government announces plans to increase personal asset tax on holdings over $100,000 to 1 percent.
September	Economic hardship leads to a general strike.
1997	Removal of most entry barriers and branching restrictions of the banking sector.
April	S&P raises sovereign debt rating to BB and upgrades thirteen private companies to investment grade.
July	East Asian financial crisis begins.
1998	Argentina enters prolonged recession in third quarter; unemployment begins to rise.
February	The IMF approves a three-year $2.8 billion line of credit to support Argentina's economic reform program. The

	major tax package would reduce by 50 percent the value added tax (VAT) on basic consumer goods. The top corporate tax rate would rise to 35 percent from 33 percent and reduce by 10 percent the social security contributions by employees.
August	Russia announces a partial default on its sovereign bonds.
1999	
January 13	Brazil devalues its currency.
September	The Argentine Congress passes the Fiscal Responsibility Law, committing to large reductions in both federal and provincial government spending.
October 24	Fernando de la Rua of the Radical Civic Union (UCR), the opposition coalition candidate, running on a platform to end corruption (under Menem) and the recession, defeats Peronist candidate Eduardo Duhalde for president. De la Rua inherits $114 billion public debt.
December 10	De la Rua is inaugurated president of Argentina and shortly thereafter seeks assistance from the IMF.
2000	Strikes and fuel tax protests. Beef exports slump after an outbreak of foot-and-mouth disease. Soy exports suffer from concerns over the use of genetically modified varieties.
March 10	The IMF agrees to three-year $7.2 billion standby arrangement with Argentina conditioned on a strict fiscal adjustment and the assumption of 3.5 percent GDP growth in 2000 (actual growth was 0.5 percent).
May 29	The government announces $1 billion in budget cuts in hopes that fiscal responsibility will bring renewed confidence to economy.
December 18	The de la Rua government announces a $40 billion multilateral assistance package organized by IMF.
2001	
January 12	Argentina's continued poor economic performance prompts the IMF to augment the March 10, 2000, agreement by $7.0 billion as part of a $40 billion assistance package involving the Inter-American Development Bank, the World Bank, Spain, and private lenders. The agreement assumes that GDP will grow at a rate of 2.5 percent in 2001 (versus actual decline of 5.0 percent).
March 19	Domingo Cavallo, minister of economy under Menem and architect of the currency board ten years earlier, replaces Ricardo Lopez Murphy, who resigns as minister of economy.

March 26–28	Risk rating agencies lower Argentina's long-term sovereign rating (S&P from BB to B+ and Moody's from B1 to B2).
March 28	Minister Cavallo secures "emergency powers" from Congress. Cavallo announces economic program comprising a tax on bank transactions, changes in other taxes and tariffs, and sectoral "competitiveness plans."
April	Central bank reduces liquidity requirements and allows banks to include government securities up to 2 billion pesos among liquidity requirements.
May 8	S&P lowers Argentina's long-term sovereign rating further from B+ to B.
June 3	Authorities announce the completion of the "megaswap." Government bonds with a face value of $29.5 billion are voluntarily exchanged for longer-term instruments.
June 15	Minister Cavallo announces package of tax and trade measures, including a trade compensation mechanism for exporters and importers of nonenergy goods.
June 16–17	The de la Rua government announces a $29.5 billion voluntary debt restructuring in which short-term debt is exchanged for new debt with longer maturities and higher interest rates.
June 19	The peso exchange rate for merchandise trade is priced at a fifty-fifty dollar-euro peg, effectively allowing a 7 percent devaluation for foreign trade in hopes of improving Argentina's international competitiveness. Many analysts raise concerns over the effects on the credibility of the convertibility regime.
July	Much of the country is brought to a standstill by a general strike in protest against proposed government spending cuts. Risk rating agencies lower Argentina's long-term sovereign rating further (S&P from B to B– and Moody's first from B2 to B3 and then from B3 to Caa1).
July 10	Government pays yield of 14.1 percent to place $827 million of ninety-day paper.
July 11	Minister Cavallo announces drastic program of fiscal adjustment aimed at eliminating the federal government deficit from August 2001 onward (the "zero-deficit plan").
July 30	Senate approves the zero-deficit plan (lower house of Congress had approved it on July 20).
August 21	IMF announces likely $8 billion augmentation of Argentina's standby credit.

September 7	IMF approves augmentation of standby credit to about $21.6 billion and completes Fourth Review.
September 20	The central bank activates the contingent repurchase facility with international banks, boosting gross reserves by about $1.2 billion ($500 million was disbursed in October).
October 9–12	Risk rating agencies lower Argentina's long-term sovereign rating further (S&P from B– to CCC and Moody's from Caa1 to Caa3).
October 16	Preset date for Congressional elections. The Peronist opposition takes control of both houses of Parliament. Cavallo and financial markets (erroneously) expect that a fiscal deal can be worked out after the elections (on the 17th).
October 28	Minister Cavallo starts negotiations with the IMF and the U.S. Treasury to purchase collateral for new Argentine bonds to be issued in an exchange for the nearly $100 billion of local and external debt.
October 29	Cavallo defines the debt exchange operation as voluntary. The old debt would exchange for bonds paying 7 percent per year and be guaranteed by tax revenues. The IMF and U.S. Treasury require compliance with a zero deficit and an agreement with the provinces on tax revenue sharing before any kind of financial support is given.
October 30	S&P lowers Argentina's long-term sovereign rating from CCC+ to CC.
November 1	The authorities announce a new fiscal package, including a new batch of competitiveness plans, the rebate of VAT payments on debit card transactions, a temporary reduction in employee social security contributions, a corporate debt restructuring scheme, and a tax amnesty that writes off interest and penalty obligations accrued through the end of September 2001.
November 6	S&P lowers Argentina's long-term sovereign rating from CC to SD (selective default). Argentina conducts a second debt swap, exchanging $60 billion of bonds with an average interest rate of 11–12 percent for extended maturity notes carrying only a 7 percent interest rate. International bond rating agencies consider it an effective default.
November 19	The IMF announces it will not make any new disbursements without being satisfied that Argentina has secured the goals previously designated.

November 23	The central bank introduces an effective cap on bank deposits, by imposing a 100 percent liquidity requirement on deposits paying an interest rate more than 1 percentage point above average of all local banks.
November 30	End of a debt swap with local banks and pension funds for more than $55 billion (over a total public debt of $160 billion). The authorities announce completion of the local leg of the debt restructuring. Government bonds with a face value of $41 billion at the federal level and $10 billion at the provincial level are "voluntarily" exchanged.
December	Economy Minister Cavallo announces sweeping restrictions to halt an exodus of bank deposits. The IMF stops $1.3 billion in aid.
December 2	The government announces temporary capital control regime (termed *Corralito*) involving bank withdrawal limits and limits on dollar transfers abroad as a last-ditch effort to fend off a devaluation and prevent a major banking crisis. Withdrawals are limited to 250 pesos (dollars) per week per account. Depositors, however, may still access funds for larger purchases through checks or debit cards and transfer their money among banks. Holders of deposits may also exchange them for federal bonds (BODENs) maturing in 2005, 2007, or 2012 in a Canje exchange. No limits are placed on domestic payments made with checks, credits, debit cards, and electronic MEP (*metodo electronico de pagos*) payments.
December 3	The capital control measures announced on December 2 come into full effect through Decree 1570-01 on December 3: • Wire transfers suspended except with prior central bank approval. • Cash withdrawals from the banking system limited to $1,000 per month. • Argentine financial institutions prohibited from foreign currency futures transactions. • Argentine financial institutions prohibited from issuing new bank loans denominated in Argentine pesos. All new loans must be issued in U.S. dollars, and existing peso loans must be converted to U.S. dollar loans at a one-to-one rate. • Foreign investors trading in the Argentine Securities Market subject to repatriation restrictions. Funds related to securities transactions must remain in the

	country until government approval is obtained or the measure is officially revoked.
December 5	The IMF withholds $1.24 billion loan installment, citing Argentina's repeated inability to meet fiscal targets.
December 7	Argentina announces it can no longer guarantee payment on foreign debt.
December 10	The central bank imposes a 98 percent reserve requirement on deposit increases after December 1, 2001, aimed at limiting flight to quality within the system.
December 13	A twenty-four-hour general strike is held in protest at curbs on bank withdrawals, delayed pension payouts, and other measures. Phase one of the government debt exchange is completed.
December 19	State of emergency is declared to stop protests against Minister Cavallo's economic policies. The lower house of Congress repeals the special legislative powers granted to Cavallo.
December 20	President De la Rua and Minister Cavallo resign after days of riots and protests that leave over twenty demonstrators dead. A banking holiday is declared for December 21, extended through December 26. Moody's lowers Argentina ratings to Ca from Caa3. Ramon Puerta becomes interim president. Country risk reaches 4,618 points. Global (sovereign) bond yields reach their historical maximum of 49 percent annual return in dollars.
December 21	The official Foreign Exchange Rate market is closed.
December 23	Rodriguez Saa becomes the new interim president for sixty days. He declares the suspension of external debt payments for at least sixty days, totaling $166 billion in federal and provincial debt.
December 24	The government announces that a new fiat currency (i.e., without foreign currency backing) will be created (the argentino).
December 26	The liquidity standards for banks are relaxed. Rodriguez Saa announces a new economic plan based on (a) suspension of payments on public debt, (b) new job creation program, and (c) creation of new currency (the argentino) to begin circulating in January 2002 and not to be convertible to the U.S. dollar.
December 30	President Saa resigns after his emergency policies are rejected by the Peronist governors.
2002	
January 1	Congress elects Peronist Senator Eduardo Duhalde as caretaker president.

January 3	Senator Duhalde is sworn in as president with a mandate to conclude the remaining period of the de la Rua presidency; President Duhalde announces the end of convertibility and the introduction of a dual foreign exchange regime.
January 4	Leak reported in the financial press suggests that a 40 percent devaluation is imminent.
January 5	The Argentine stock market is closed.
January 6	The Argentine Congress votes to establish the Law of Economic Emergency and abolish the Convertibility Law. After the Argentine Congress passes necessary legislation, President Duhalde announces the end of the currency board and a plan to devalue the peso by 29 percent (to 1.4 to the dollar) for major foreign commercial transactions, with a floating rate for all other transactions. Other elements of economic plan include converting all debts up to $100,000 to pesos (passing on devaluation cost to creditors), capital and bank account controls, a new tax on oil to compensate creditors for the losses that will ensue, renegotiation of public debt, and a balanced budget.
January 7	The new minister of finance, Lenicov, announces the devaluation of the peso and the establishment of a new dual foreign exchange rate regime, to be implemented on January 9, 2002.
January 10	Government announces it will guarantee dollar deposits, but to curtail bank runs, the $1,000 (1,500 peso) limit on monthly withdrawals is maintained and all checking and savings accounts with balances exceeding $10,000 and $3,000, respectively, will be converted to certificates of deposit and remain frozen for at least one year. Smaller deposits have the option of earlier withdrawal by moving to peso-denominated accounts at the 1.4 exchange rate.
January 11	After several delays, the exchange rate market reopens, and the new dual exchange rate system is put in place: • 1 Argentinean peso = 1 U.S. dollar parity (Convertibility Plan) is abolished. • All debts (capital and interest) in Argentine currency with financial entities—converted into U.S. dollars according to Decree 1570-01—will be reconverted into the original currency (pesos). • The official, fixed conversion rate of 1 U.S. dollar = 1.4 pesos is relevant for foreign trade operations. The free

or floating rate is relevant for all other transactions and freely determined by the market.

January 16 The IMF approves request for one-year extension of $936 million payment due January 17, keeping Argentina from falling into arrears.

January 17 Argentine stock market reopens. The government announces that dollar-denominated loans exceeding $100,000 will be converted to pesos at 1.4 for fixed rate, deepening the balance sheet mismatch of banks.

January 19–20 Duhalde reverses his decision to guarantee dollar deposits, which will be converted to pesos at some undefined devalued exchange rate.

January 21 The government announces the easing of bank withdrawal restrictions:

- Up to 7,000 pesos can be withdrawn from term deposits in pesos (transferring that money to a checking account)
- Up to $5,000 can be withdrawn from term deposits in dollars (transferring that money to a checking account at the official exchange rate, 1.4).
- Up to $5,000 in a savings account can be pesofied at the official exchange rate.

January 23 The Argentine Senate passes bankruptcy law that would use capital controls to restrict foreign private debt payments through December 2003.

January 24 Utility tariffs are frozen indefinitely.

January 30 Argentina's Chamber of Deputies passes controversial bankruptcy law, stripping it of the Senate provision prohibiting foreign debt payments, but other capital controls remain in effect. The law retains language allowing conversion of dollar-denominated debt below $100,000 to pesos at one-to-one rate (benefitting debtors) and suspending creditor action on loan debt defaults for 180 days.

February 3 Lenicov announces an asymmetric pesofication and the end of the dual exchange rate regime:

- All dollar deposits are pesofied at 1.4 pesos per dollar.
- Corporate and consumer debts are also pesofied, but at the exchange rate prevailing during the Convertibility Plan period. Both deposits and credit will be indexed to inflation.
- The dual exchange rate regime is replaced by a unified floating exchange rate determined by market forces.

	• The right is granted to withdraw wage and pension income from the *Corralito* without any amount restrictions (before, workers could only extract up to 1,500 pesos). *Corralon* starts, which freezes bank term deposits (holders of term deposits have the option to convert them into CEDROs or BODENs maturing in 2007 or 2012 in a Canje exchange).
February 4	The government decrees the unification of the exchange rate regime and the asymmetric pesofication of bank balance sheets (assets at one-to-one rate and liabilities at 1.4 pesos to dollar). The official foreign exchange market is closed.
February 11	The central bank establishes a new unified free foreign exchange market, which replaces the two markets—official and free—implemented in January. The exchange rate market reopens, and the floating dollar exchange rate reaches 2.1 pesos, well below the devaluation expectations built into asset prices.
February 27	The federal government and the provincial governors reach agreement on a temporary revenue-sharing arrangement that abolishes the minimum floor on transfers to the provinces in exchange for (a) the broadening of the coparticipation base to include the financial transactions tax, and (b) better terms for their debt servicing. The provinces commit to reducing fiscal deficits by 60 percent in 2002 and achieving balance in 2003.
March 5	Export taxes of 10 percent and 5 percent are imposed on primary products and process agricultural and industrial products, respectively.
March 8	The pesofication of government debt under Argentine law is decreed.
March 13	A voluntary bond swap (Swap I) is decreed authorizing the exchange of reprogrammed time deposits for government bonds. The decree also authorizes issuance of bonds to banks in compensation for the asymmetric pesofication of their balance sheets.
March 25	The peso exchange rate reaches a peak of 4 pesos per dollar. To contain the depreciation of the currency, the authorities intervene heavily in the foreign exchange market ($800 million in March), tighten access to central bank liquidity assistance (a matching dollar from the parent now being requested as a condition for assistance to foreign banks), and introduce a variety of exchange regulations affecting banks, foreign exchange bureaus, and ex-

	porters. Thirteen new regulations are issued on March 25 alone, bringing the total for the month of March to about fifty.
March 26	The central bank announces new measures related to foreign exchange transactions and ADR-CEDEAR conversions aimed at improving the functioning of the foreign currency market and regulating the buying and selling of foreign currency by order and for the account of the central bank. The press communication also mentions that there will be coordination between the Comision Nacional de Valores (CNV) and the Bolsa de Comercio de Buenos Aires (BCBA) in order to adopt new measures to regulate capital outflows via ADR and CEDEAR transactions.
April	Banking and foreign exchange activity suspended; Duhalde says the financial system may collapse.
April 9	Export taxes on agricultural primary products increased to 20–23.5 percent.
April 19	The central banks suspends Scotiabank Quilmes for thirty days. A bank holiday is declared until Congress approves a solution to the problem of judicial injunctions (amparos) releasing bank deposits. The authorities begin working on a plan (the so-called BONEX II plan) to convert reprogrammed time deposits into government bonds.
April 20	Economy Minister Remes Lenicov presents to congress the BONEX II plan; the draft law is rejected, and Minister Remes resigns.
April 23	President Duhalde reaches agreement with provincial governors on a fourteen-point Federal-Provincial Pact.
April 25	Congress approves the Ley Tapón to ease pressure from the amparos. The law modifies court procedures and states that depositors can only access funds once the judicial process is over; in the meantime funds are deposited in an escrow account.
May 6	Congress approves the February Federal-Provincial Pact.
May 15	Congress approves law that reverses the most harmful provisions of the January emergency law and makes limited improvements to the insolvency law.
May 30	The Economic Subversion Law is repealed.
May 31	In order to tighten control over the sale of export receipts, the central bank announces that dollar export revenues in excess of $1 million will have to be sold directly to the central bank. Buenos Aires and the federal government sign

	full-fledged text of bilateral agreement. Agreement on the annexes (quarterly fiscal targets and calendar for disbursement) is reached in June.
June 1	President Duhalde signs the Options Plan on reprogrammed deposits, a revised version of former Minister Remes's BONEX II Plan, giving depositors the option to exchange deposits into bonds.
June 18	The minimum level of export proceeds that should be surrendered to the central bank lowered from \$1 million to \$500,000.
July	Duhalde calls early elections for March 2003, later put back to April, to try to win public support for the government's handling of the economic crisis.
July 9	In response to a class action suit lodged by the country's ombudsman on behalf of all depositors, a federal court declares the deposit freeze and pesofication unconstitutional.
July 24	The government issued a decree suspending court-ordered withdrawals of frozen bank deposits for 120 business days.
July 25	The decree suspending deposit withdrawals obtained through court orders is declared partially unconstitutional by a federal judge.
July 26	Following a demand by the national ombudsman, a judge rules unconstitutional the government decree suspending lawsuits on December's bank curbs for 120 business days.
July 29	A panel of monetary policy experts makes public several proposals to resolve the country's financial crisis, including a monetary policy anchor, an independent central bank, the ending of peso-printing deficit financing, and an end to the use of quasi-currencies by the provinces. The report calls for a floating exchange rate and urges Argentina to stop using international reserves to support the peso.
August 15	Congress approves a bill extending for ninety days (through mid-November 2002) the provision that suspends certain kinds of creditor-initiated nonbankruptcy law enforcement actions. Congress also approves a bill extending for sixty days (through end September 2002) the application of price indexation to loans.
August 22	The Supreme Court declares unconstitutional the 13 percent salary cut for federal government workers and pensioners, implemented from July 2001.

August 26	The government issues a resolution to allow the issuance of bank compensation bonds for the asymmetric pesofication.
August 28	A federal court establishes that parent banks should be fully responsible for the liabilities of subsidiaries in Argentina.
September	The central bank passes a very restrictive regulation (circular 3723) that mandates that every stock be traded in its underlying currency. After intense opposition from the financial community, the central bank rescinds 3723 and instead passes a resolution (circular 3727) that forbids "contra cable" operations. These operations allow brokers to sell stocks purchased in Buenos Aires instantaneously in New York (or any foreign market) using the Merval as a clearinghouse. Under 3727 it is still possible for investors in Argentina to convert CEDEARs and sell them in New York, but this new restriction significantly increases the transaction costs of doing so.
September 3	The government introduces new exchange controls in an attempt to boost international reserves and defend the peso: • The limit for exporters' foreign exchange surrender to the central bank is reduced from \$500,000 to \$200,000. • The minimum maturity of external debt contracted by private nonfinancial entities is set to ninety days. • Exchange bureaus are required to deposit with the central bank foreign exchange holdings exceeding \$1.5 million on a daily basis. • The net dollar positions held by exchange dealers operating on behalf of the central bank are reduced by an average 40 percent.
September 5	The federal administrative dispute chamber, an appellate court, rules that the decrees establishing the *Corralito* and pesofication were unconstitutional. The ruling applies to only one case, but it opens the door for further similar rulings.
September 9	Further tightening of foreign exchange controls: prior authorization from the central bank is required for dollar purchases exceeding \$100,000 for portfolio and other financial investments abroad, as well as for the purchase of foreign banknotes.
September 13	The Federal Court of Appeals declares the *Corralito,* pesofication, and the 120 days' suspension of executions

	against the *Corralito* unconstitutional; the decision allows depositors to claim their deposits in court immediately. The 2003 budget is submitted to Congress.
September 17	The government issues a decree that extends the negotiation period for utility tariffs for another 120 days with the possibility of a further 60-day extension.
September 20	The government launches a second swap of bonds for frozen deposits and announces the easing of restrictions on frozen time deposits of up to 7,000 pesos.
October 31	The monthly cash withdrawal limit on the *Corralito* raised to 2,000 pesos from 1,200 pesos.
November	Argentina defaults on an $800 million debt repayment to the World Bank, having failed to resecure IMF aid. The World Bank says it will not consider new loans for the country.
November 11	After discussions with the government, the banks announce a voluntary seventy-five-day stay on foreclosures.
November 14	The government fails to fully meet an $809 million World Bank debt payment; only $79.2 million in interest is paid. President Duhalde signs a decree lowering the VAT rate by 2 percentage points.
November 15	A lower court suspends the public hearings designed to grant a tariff increase to the privatized utility companies.
November 18	President Duhalde signs a twelve-point agreement with provincial governors and some key legislators over the new election timetable and the government's economic policies.
November 21	The Senate approves President Duhalde's plans for delaying the presidential election by a month to April. The first round of presidential elections is scheduled to be held on April 27, 2003, and will be followed by a second round on May 10 if necessary.
November 22	The government announces that it will lift the remaining *Corralito* restrictions on sight accounts effective December 2. Term deposits (the corralon) remain frozen. Minister Lavagna submits a draft decree to President Duhalde lifting the tariff rates on electricity and natural gas. On average, electricity rates will rise 9.0 percent and natural gas 7.2 percent.
November 27	An executive decree is issued authorizing court-imposed stay on foreclosures for thirty business days, during which time mediation is required.
December 2	*Corralito* rescinded.
December 9	The resignation of Central Bank President Pignanelli is accepted by President Duhalde.

December 10	President Duhalde appoints Alfonso Prat Gay to be central bank president. Legislation eliminating the ability of the executive to grant tax amnesties becomes effective.
December 11	A court order reverses the decreed increases in electricity and gas tariffs.
2003	
March 9	The Supreme Court rules that conversion to pesos was illegal. According to the central bank, approximately \$8,760 million is at stake.
May	Nestor Kirchner sworn in as president. Former President Carlos Menem gains most votes in first round of elections but pulls out before second round.
September 10	Argentine finance officials reach an agreement with the IMF for a three-year \$12.6 billion standby credit. Under the terms of the new arrangement, the government pledges to raise the consolidated primary fiscal surplus from 2.5 percent of GDP this year to 3.0 percent next year.
2004	
April 9	Argentina decides to make a \$3.1 billion payment to the IMF, a retreat from a vow by Buenos Aires that it would not pay up unless the IMF signaled that it would approve an upcoming report on Argentina's economic progress as part of the 2003 accord.
July 2	Argentina files a shelf registration statement with the U.S. Securities and Exchange Commission, completing the documentation needed to seek regulatory approval in the United States for a debt exchange to restructure some \$100 billion in defaulted debt.
August	Argentina suspends its agreement with the IMF but continues to repay its debts as they come in.
October 26	The Supreme Court rules that the conversion of fixed-term savings in dollars to pesos—known as pesofication—was legal, relieving the banks of large potential losses from further injunctions.
2005	
February	A majority of Republic of Argentina bondholders surrender their claims in exchange for new bonds worth roughly thirty-five cents on the dollar.
December	Kirchner says his government will repay its entire \$9.8 billion debt to the IMF early—before the end of 2005.

Sources: Ambito Financiero (http://www.ambitoweb.com), *La Nacion* (http://www.lanacion.com.architecture), *Clarin* (http://www.clarin.com), Pictet (http://www.pictet.com), BBC News (http://www.news.bbc.co.uk), IMF (2003), and Bekaert and Harvey (2003).

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Comment Nicolas Magud

This paper does a stupendous job of describing in a detailed but concise way the reforms that took place in Argentina during the 1990s. It then draws on this description to narrate the incredibly fast unfolding of the reforms that occurred during the first years of the 2000s, emphasizing the capital controls episode that took place during December 2001–December 2002, known as the "corralito." Let me succinctly provide a summary of the paper, along with some comments on the facts and implemented (or not) policies, as well as the authors' explanation of them.

During the 1990s Argentina moved from being a hyperinflationary country to being the darling of international capital markets, to return later—by the end of the 1990s and the early 2000s—to being the spoiled one once again. The authors thoroughly describe the set of reforms put into place during these years. They then ask the question: was it bad luck, or bad policies? And they answer that both were responsible for the observed facts. I definitely agree with them, but I will disagree in some of the bad, or should I say *missing,* policies prior to the fall of the convertibility plan, and after the capital controls in which it ended.

The authors correctly ascertain that the currency board is partly guilty because, as they say, it is a double-edged sword: it buys low inflation and credibility, but at a potentially very high price (should you not accompany it with the corresponding fiscal soundness). For the convertibility plan to be effective (i.e., credible), it required increasing escape clause costs. This generated an increasing degree of liability dollarization (dollar-denominated debts), facilitating the dollarization of the private sector, and leaving the economy with a question: what if the exchange rate depreciates? In a sense, these high escape clause costs were just necessary for the convertibility plan to be successful.

A related question is why the peso was anchored to the dollar, given that Argentina's share of trade with the United States is small compared to Brazil and the EU. And for this I have a nonacademic explanation. The

Nicolas Magud is an assistant professor of economics at the University of Oregon.

representative Argentine agent saves in dollars, no matter what (at least, it used to until recently). Let me offer support—loosely speaking—by way of a personal anecdote, since I am from Argentina. When I was young, my father taught me that if I was ever able to save any money, I should *never* deposit that money into a savings or checking account. I should go to the exchange market, buy dollars, and put those dollars into a safe box. Clearly, this is not an academic explanation, but it works as a good example of Argentine thinking. As of the early 1990s the representative Argentine saved in dollars, so the convertibility plan was nothing but an exchange rate–based stabilization plan using the currency that Argentines used as a store of value as the anchor of the system.

But, again, the fiscal part of the story is crucial to an understanding of the path of events in Argentina. The country historically experienced a lack of coordination between the national government and provincial governments. Traditionally, most provincial governments spend as much as they can (many of them mainly in public servants), and then they require more funds to keep on operating.[1]

On top of this, the second half of the 1990s experienced another phenomenon, but of a political rather than an economic nature. During these years, Eduardo Duhalde, the governor of Buenos Aires, wanted to run for president in the 1999 election. For this purpose, he started spending big to gain political support among voters, many times spending money on white elephants. At the same time, President Carlos Menem wanted to get a third presidency—despite its being unconstitutional—and in order to secure the support of most of the other provinces, he also started to spend big. At the same time, he did not want to appear fiscally irresponsible. In table 7.1 of the paper, we can observe that the national government fiscal balance was apparently under control. But, interestingly, the provincial fiscal accounts were experiencing high deficits.

Related to the fiscal problem, some commentators argued that, in response to the mounting recession in 1999, expansionary fiscal policy could have been used as countercyclical policy. But there is also good empirical evidence documenting the expansionary effects of contractionary fiscal policy (see Alesina and Perotti 1997, among others). A highly indebted country (which is an idiosyncratic measure, as documented by Reinhart and Rogoff 2004), can reduce domestic market interest rates by reducing its fiscal deficit and consequently its financing needs: demand for credit decreases, thus increasing investment (see Magud 2002). In this case, a possible mistake of President Fernando de la Rua's government was not to implement contractionary fiscal policy during 1999–2000, but rather not to

1. It is commonly remarked that many times the job of a provincial finance minister is to try to spend as much as possible and, when funds run out, call Buenos Aires to ask the national government for more money.

do as much as necessary for it to be expansionary (if private investors perceive the fiscal consolidation as being insufficient, investment does not "take off"). Furthermore, given that the country was just getting out of a recession, it could have been more expansionary to reduce public expenditures instead of increasing taxes, so as not to reduce the private-sector demand for goods and services (which is the exact point made by Alesina and Perotti). Also, reducing public expenditures reduces the demand for nontradable goods—public expenditures are mostly in nontradables—and thus helps depreciate the real exchange rate, boosting net exports.

Other criticisms of the convertibility plan were that it failed to (1) consolidate the budget constraint of central and provincial governments, (2) provide deep banking system regulations, and (3) reduce labor market rigidities. It was also blamed for lacking an exit strategy, and there also existed doubts about its long-run feasibility. All these points are valid, but it is worth mentioning that this is asking one instrument to perform many activities at the same time. And we know that that does not work. The sole objective of the convertibility plan was to reduce high inflation rates, which it did. There were, as the paper thoroughly documents, many other parallel reforms to account for these other problems. As the facts showed, some of these reforms were not as successful as expected. And, once more, the lack of an exit strategy is a tricky point. Had one existed, credibility issues could have been raised that would probably have undermined most of the inflation reduction effects that the convertibility plan brought about.

As stated above, the authors claim that Argentina's problems were both the existence of external shocks and the lack of adaptive policies. I definitely agree with them. But I will claim that the lack of adaptive policies was more important during the second half of the 1990s than after 1999, as the authors highlight. And for this purpose I will first refer to table 7.1 in the paper. We can observe that Argentina's external debt increased throughout the 1990s (which relates to the "debt intolerance" in Reinhart, Rogoff, and Savastano 2003). During the first half of the decade, we can attribute this in part to the recognition of previously floating debt—trade credit that the government was not paying and that the government put in written terms to enhance the credibility of the plan—and to the privatization of the social security system, which is expansionary for any economy that is not dynamically inefficient, like Argentina. Also, de Pablo (2005) shows that once the floating debt is included, during the first half of the 1990s the debt level actually decreases, contrary to what most people think!

But more can be extracted from table 7.1 in the paper. Looking at the real effective exchange rate series, a continuous appreciation is observed (see also figure 7.7 in the paper), especially during the late 1990s—and particularly when external shocks took place: 1997–2000. Wasn't this a good opportunity to reduce government expenditures, thus contributing to increased sustainability of the fiscal sector, as well as reducing pressures on the real exchange rate appreciation? However, what we see is that the fiscal imbalance increased instead of decreasing during these years (despite a growing economy during 1991–98, so it was not taxes—at least those directly due to a markedly lower revenue—that was driving the deficit). And here both the central government and the provinces are to blame. Although it is a counterfactual, these years could have been very good times to perform a sharp fiscal adjustment, especially during 1996 and 1997, when the economy growth rate was still high (and in 1998, although it was not as big, the growth rate was still decent).

The 1990s brought a very good thing to the Argentine economy: an increase in the debt maturity profile. As of September 1999, of an external debt of $118.8 billion, 97 percent was long term. However, 8.7 percent of that long-term debt was due in 2000! (See figure 7C.1.) Furthermore, the amortization schedule of Argentina's public debt included heavy payments during 2000–2005, as can be seen in figure 7C.2. So, in a sense, the bomb was already there.

And then came the Duhalde administration (January 2002), probably the worst of all of them, and deserving more attention than it attracted in this paper. Capital controls were imposed by late 2001, originally for ninety days only. But these controls enabled people to make transactions through the banking system. The Duhalde administration not only made the capital controls regime last longer than originally planned (if it was such a bad thing, why didn't his administration levy it right away?); it also did not allow transactions to use money through the banking sector. All in all, it just

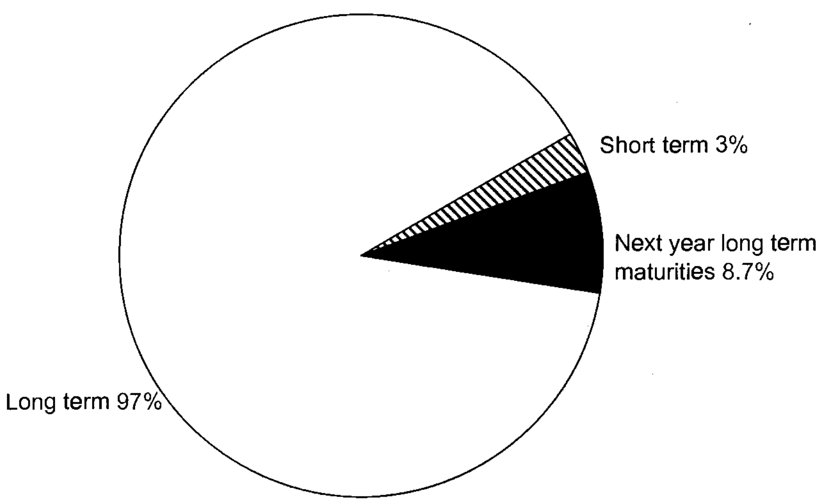

Fig. 7C.1 Maturity structure of Argentine public debt as of September 30, 1999: $118.8 billion

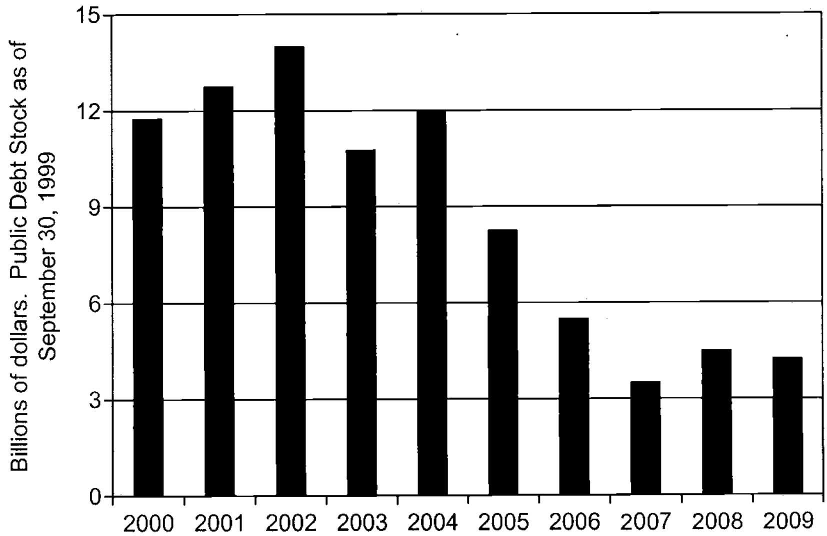

Fig. 7C.2 Public debt: Amortization schedule

made the capital controls more stringent than under president de la Rua's government.

Moreover, the short-lived government of Rodriguez Saa (which only lasted for the final week of December 2001) defaulted on its sovereign debt. So when the Duhalde administration devalued the currency, there was not a marked increase in exports, simply because there was no credit to finance export operations. On top of this, taxes on exports were raised, curbing a sharp increase in exports (so what was the devaluation for?). Furthermore, the way out of convertibility was astonishingly disordered, as the authors document in their appendix. First, the currency was devalued to 1.4 pesos per dollar, there were multiple exchange rates, and then the exchange rate was allowed to float, in just a couple of months, generating speculative behavior. *Clarin,* one of the most important newspapers in the country, reported in early 2002 in an interview with Finance Minister Remes Lenicov that those were days of a trial-and-error policy (no wonder the finance minister did not last long in office). During those days, it was commonly observed that the government was thinking of implementing some measures, which were made public, but many times after a couple of meetings, they were not. This raised many time inconsistency problems at the time.

The experience in Argentina during 1991–2004 is a clear case of policy reversals. It shows how even deep reforms can be rapidly undone, and it demonstrates the consequences that they bring. During 2002, the government claimed that its policy was against the financial system—which accounted for everything that happened in Argentina in the late 1990s, according to the administration's message—and for the "productive" sector. The government pushed a "buy Argentine" policy: consumers should buy domestically produced goods regardless of their price.

On the other hand, the 2002–3 administration was just a transition one, not elected by popular vote. One of its duties, then, should have been to put the country in order to facilitate the task of the following elected president. That was not observed. There seemed not to be any plan during this administration. For instance, nothing was done in regard to debt restructuring after the sovereign default. It was still not finished by the end of 2004, even though the finance minister was the same one who took office in early 2002, after Remes Lenicov left (and even though international interest rates were rising).

The newly elected government (which took office in May 2003) also contributed to undoing all the market-oriented reforms of the 1990s, leading the economy toward a populist path. Current economic policies lean toward a state-led economy, trying to move the economy away from the experience of the 1990s, probably reducing Argentina's long-term growth and—to be optimistic—just stabilizing it in the bad equilibrium. A process of re-statization of firms is underway, which is even absorbing firms that were never state owned before! But, contrary to their pledge, public debt is still in the banking system, and international borrowing has not stopped. Moreover, despite high tax revenues—the direct consequence of an artificially depreciated exchange rate and high export taxes—government expenditures are rising (and for 2007 this can be expected to increase further if the president aims at maintaining power, either through his reelection or if one of his close aides retains the presidency). The latter circumstance is also related to a debt swap that the Argentine government carried out in early 2006, through which it reduced its indebtedness to the IMF, issuing bonds that pay a higher interest rate, as the authors mention—as if this would reduce the need for fiscal adjustment! Coupled with a monetary expansion to keep the exchange rate undervalued and lack of sufficient investment—many times resulting from a government's failure to respect contracts—this raises concerns about the inflation rate starting to pick up again. The inflation rate for 2005 actually rose above 12 percent—compared to an estimated rate of 8 percent in the federal budget. As of the time of this writing, February 2006, the prospects seem the same for this year; I would be tempted to say that the president is comfortable with an inflation rate in the 10–15 percent range, as far as this makes the economy grow in case he is looking to remain in power somehow. But from there to a new high inflation process, things may turn kind of dangerous—not to mention that it is not clear how accountable to Congress the government is for spending revenues above what was forecast. So far the government has used light price controls against inflation. Eventually, we know, if investment does not increase, the latter will prove useless or even worse, given that they might generate some repressed inflation. In a sense, being forward looking, it looks like this government prefers big booms and recession instead of smooth growth—which does not sound very welfare improving.

To wrap up, I think that the paper does a superb job of describing the facts during the 1991–2001 period. A future task will be to analyze in more detail what happened after that, and what the short-run and long-run effects were of the convertibility plan and the corralito (the capital controls episode). More could be said on the missing fiscal adjustment and lack of corrective policies after the convertibility plan was ended, especially after the corralito. And a final message from the Argentina experience can be extracted by paraphrasing George Santayana: Those who do not learn from the past are doomed to repeat it. Let's hope we learned from this experience.

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