Policy Analysis

No. 445 July 16, 2002

Fixing Argentina

by Kurt Schuler

Executive Summary

Argentina's currency crisis and economic depression have been caused by the bad policies of its government—not by banks, speculators, the International Monetary Fund (despite the bad advice it has given), or other scapegoats. The De la Rúa and Duhalde governments have made several gigantic blunders, namely,

- increasing tax rates,
- freezing bank deposits,
- devaluing the peso, and
- forcibly converting dollar bank deposits and contracts into pesos ("pesofication").

At present, all property is potentially subject to government control or confiscation. There is little reason for anybody to produce, save, or invest in Argentina. The country is returning to the failed economic model that caused so much trouble in the 1980s and had to be jettisoned from 1989 to 1991.

Fixing Argentina's currency and economy requires reversing those blunders and returning to policies that respect private property and encourage the private saving, investment, and initiative that create economic growth. The main steps necessary in the short term are

- officially dollarize, converting all peso assets, liabilities, and prices into dollars;
- to the extent possible, reverse the damage done by pesofication of deposits;
- reconstruct the financial system; and
- drastically reduce tax rates.

Kurt Schuler (kurt_schuler@jec.senate.gov) is a senior economist at the Joint Economic Committee of the U.S. Congress. The views expressed here are those of the author, not necessarily those of the Joint Economic Committee or the U.S. government.

Under central banking the peso had depreciated against the dollar by a factor of about 10,000,000,000,000.

Introduction: The Failure to Understand Argentina's Crisis

Argentina was once one of the world's richest countries. Again and again, though, its people have chosen or at least tolerated leaders who have had no idea how wealth is created and preserved. Argentina's currency crisis and economic depression result from that disastrous failure of understanding.

The failure extends well beyond Argentina. The International Monetary Fund and the Group of Seven nations have given bad advice or have failed to give good advice. It was reported before the peso was floated that the IMF was advising either floating or dollarization (eliminating the peso and making the U.S. dollar Argentina's national currency). The IMF gave advice as if both choices were equally good, even though under central banking the peso had depreciated against the dollar by a factor of about 10,000,000,000,000. When asked about dollarization at a press conference on January 11, 2002, Anne Krueger, the IMF's first deputy managing director, said, "My understanding is that, at the moment, it is technically unfeasible."[1] In reality, dollarization is always technically feasible at some exchange rate. John Taylor, under secretary for international affairs at the U.S. Treasury, admitted in a congressional committee hearing that he thought dollarization would have been better than the freeze of deposits the De la Rúa government imposed in December 2001, but he had not communicated his opinion to the Argentine government. Argentines should be aware that they are largely on their own; judging from its public statements, the executive branch of the U.S. government is not prepared to offer substantial help through loans, a free-trade agreement, sharing seigniorage (profit) from issuing the dollar should Argentina dollarize, or even helpful hints.[2]

The failure of understanding extends to most prominent foreign economists who have written about Argentina. Their advice has constituted professional malpractice. Obsessed by monetary policy, few noted the crippling effects of Argentina's high tax rates, which discouraged production and encouraged tax evasion. They mistakenly blamed the peso's former exchange rate link of 1 per dollar for most of Argentina's economic problems. Most advised floating the peso, and quite a few proposed coupling devaluation with forced conversion of dollar bank deposits into pesos ("pesofication"). They were oblivious to the immense destruction of property rights that following their advice entailed. One test of an economist's advice is whether he would apply it at home. No foreign economist has volunteered to convert his own dollars into pesos at the disadvantageous rate imposed on Argentine bank depositors.

Argentina's government, the IMF, the Group of Seven, and most economists have offered nothing but a diet of ashes. Critics of the current policies must propose other options, not just complain about existing policies. Nobody has offered a set of alternative policies that is both comprehensive and beneficial, though a few economists have made valuable analyses of and suggestions concerning particular topics, some of which are incorporated here.[3] The Argentine government and most economists are opposed to the ideas proposed here, particularly dollarization, but the failure of the current policies is battering down resistance. The government of President Duhalde continues to march determinedly in the wrong direction, but the day will come when a new government and fresh ideas can allow a more prosperous Argentina to emerge.

What Caused the Crisis?

Tables 1 and 2 show the basic facts of Argentina's economy and economic crisis.[4] The conventional view of Argentina's crisis as it unfolded in 2001 was that

- Argentina's monetary system, locally known as "convertibility," was a currency board;
- the peso's exchange rate of 1 per dollar made the peso persistently overvalued; and

Table 1
Main Economic Indicators for Argentina, 1996–2001

	1996	1997	1998	1999	2000	2001
Gross domestic product (bn pesos)	272	292	298	283	284	271
Growth of real GDP per person (%)	4.2	6.3	0.8	-6.5	-0.6	-7.0
Inflation (consumer prices, %)	0.2	0.5	0.9	-1.2	-0.9	-1.1
Inflation (producer prices, %)	3.7	-1.1	-3.3	-4.1	-3.7	-5.6
Unemployment rate, October (%)	17.3	13.7	12.4	13.8	14.7	18.3
Exports of goods (bn US$)	23.8	26.37	26.44	23.3	26.3	26.7
Imports of goods (c.i.f., bn US$)	23.8	30.5	31.4	25.5	25.4	20.3
Current account balance (bn US$)	-6.9	-12.3	-14.6	-12.0	-8.9	-4.4
Monetary base, December (bn pesos)	14.1	15.0	16.4	16.5	15.1	16.9
Net foreign reserves, December (bn US$)	13.5	16.9	20.8	22.8	21.9	14.8
Peso bank deposits, December (bn)	25.9	32.4	34.4	33.7	31.9	18.6
Dollar bank deposits, December (bn)	28.3	36.9	42.5	47.2	51.9	47.6
Average money market rate, pesos (%)	6.23	6.63	6.81	6.99	8.15	24.90
Average money market rate, US$ (%)	5.91	6.39	6.55	6.07	7.53	12.76
Average lending rate, pesos (%)	10.51	9.24	10.64	11.04	11.09	28.6
Average lending rate, US$ (%)	9.12	7.84	8.95	9.07	9.67	17.5
Federal tax and nontax revenue (bn pesos)	47.7	55.4	56.7	58.5	56.6	51.1
Fed. spending and revenue sharing (bn pesos)	52.9	59.6	60.6	65.6	63.2	59.0
Total government spending (bn pesos)	83.2	88.9	92.6	96.7	96.0	94.5
Gross government debt (e.o.p., bn US$)	97	101	109	118	128	141[a]
Country risk premium (e.o.p., %)	4.94	4.61	7.07	5.33	7.73	43.72

Sources: Ministry of Economy, Secretariat of Finance, Undersecretariat of Financing, "Main Macroeconomic Indicators," www.mecon.gov.ar/download/financiamiento/newinf.xls; Banco Central de la República Argentina, *Información Monetaria y Financiera Mensual*, www.bcra.gov.ar; International Monetary Fund, *International Monetary Statistics;* Ministry of Economy, Secretariat of Economic Policy, "Información Económica," www2.mecon.gov.ar/infoeco/apendice6.xls (total government spending); and J. P. Morgan Emerging Markets Bond Index Plus (country risk premium).

Notes: c.i.f. = cost, insurance, and freight; e.o.p. = end of period. Amounts in dollars or pesos are in current units (nominal amounts for the year in question, not adjusted for inflation). Net foreign reserves are for the central bank. Curiously, there do not seem to be standardized figures for total government revenue.

[a]September.

- as a result, Argentina's exports suffered, triggering recession and default.

According to the conventional view, the way to end the recession was to allow the peso to float. However, Argentines had many of their bank deposits and loans in dollars precisely because they were afraid that floating would result in severe depreciation, so the conventional view advised pesofication.[5]

The government followed that advice. Argentines have already tasted its bitter fruits, including a rapidly depreciating peso. Knowing why the conventional view was so wrong is essential to a proper diagnosis for ending the crisis.[6]

Would Argentina's central bank make fewer mistakes than the Federal Reserve over the long run?

Table 2
Chronology of Important Economic Events in Argentina since 1999

December 10, 1999	Fernando De la Rúa succeeds Carlos Menem as president. Economy in recession since September 1998. Country risk premium is 6.10 percentage points.
January 1, 2000	Package of increases in tax rates takes effect. Tax revenue will be below forecast.
December 18	International Monetary Fund lends US$40 billion aid package to Argentina.
March 2001	Economy minister José Luis Machinea resigns March 2. Ricardo López Murphy appointed March 4, resigns March 19. Domingo Cavallo appointed March 20, unveils plan March 21 to impose financial transactions tax and increase tariffs.
April 17	Cavallo introduces bill to link peso to euro and dollar (enacted June 25).
April 25	De la Rúa replaces BCRA president Pedro Pou with Roque Maccarone.
June 3	Debt swap of US$29.5 billion.
June 15	Cavallo announces preferential exchange rate for exports (starts June 19).
July 11–26	Argentina's credit rating cut. Country risk rises above 13 percentage points.
July 30	Congress passes "zero deficit" law.
Aug. 21–Sept. 7	IMF increases Argentina's US$14 billion stand-by loan to US$22 billion.
October 14	Peronist victories in congressional midterm elections.
November 1	New measures, including debt swap for most of the US$132 billion public debt.
November 30	Offers to take part in local portion of debt swap exceed US$50 billion. Overnight interest rates in pesos average 689 percent because of fear of devaluation. Bank run.
December	Cavallo announces restrictions on deposit withdrawals and on transfer of funds abroad December 1 (effective December 3). IMF announces December 5 that it will not disburse US$1.3 billion in aid to Argentina this month; country risk premium exceeds 40 percentage points. Central bank imposes high reserve requirements on new deposits December 7 to discourage shifts of deposits within the banking system. General strike December 13. Riots and looting. Cavallo resigns December 19. De la Rúa resigns December 20. Three interim presidents (Ramón Puerta, Adolfo Rodríguez Saá, and Eduardo Camaño) December 20–January 1. Saá declares default on foreign debt December 23.
January 1, 2002	Eduardo Duhalde, chosen by congress, sworn in to complete De la Rúa's term.
January 6	Law of Public Emergency and Reform of the Exchange Rate Regime.
January 9	Peso devalued to 1.40 per dollar for certain transactions, floated for the rest. Pesofication of bank deposits at 1.40 peso per dollar (loans at 1.00).
February 11	Foreign exchange market fully reopens; peso falls to around 2 per dollar.
March 25	Retail selling rate of peso touches 4 per dollar before rebounding.
April 22–25	Bank holiday. Economy minister Jorge Remes Lenicov resigns April 23. Congress passes law reinforcing legal basis of deposit freeze April 25.

Source: Press reports.

Errors of the Conventional View

"Convertibility" was not an orthodox currency board. Few commentators on currency boards have distinguished between orthodox and unorthodox boards.[7] As I have stressed in writings with Steve Hanke dating back to 1991, the convertibility system was never an orthodox currency board.[8] Rather, it was a currency board–like system, which left the central bank (the Banco Central de la República Argentina, or BCRA) intact with important discretionary powers. An orthodox currency board has three major defining features: (1) a fixed exchange rate with an anchor currency, (2) full convertibility into the anchor currency at that exchange rate, and (3) reserves of 100 percent or slightly more of its monetary liabilities, held in foreign assets only. Together, those three features imply that an orthodox currency board has no room for discretion in monetary policy. The convertibility system at times lacked one, two, or all three of those features:

Exchange Rate. The exchange rate of 1 peso per dollar lasted from April 1991 until January 2002. However, upon becoming minister of the economy and finance in March 2001, Domingo Cavallo announced a plan to convert the exchange rate link from the U.S. dollar alone to a basket comprised half of the dollar and half of the euro. The law implementing the plan was passed in June. Cavallo's willingness to meddle with the exchange rate link caused people to question whether the other features of the convertibility system were equally insecure. Interbank interest rates in pesos immediately doubled and never returned to their former levels for any sustained period.[9]

Full Convertibility. When the convertibility system was introduced in April 1991, there were almost no exchange controls, and those that did exist were later eliminated. The exchange rate was a single rate. On June 19, 2001, the government began offering a preferential exchange rate for exports—a type of discrimination that is contrary to the spirit of an orthodox currency board. On December 1, the government announced a freeze on bank deposits (*corralito*), which remains in effect in modified form.[10]

Reserves. The Convertibility Law, which established the convertibility system, provided that the central bank should hold freely available foreign reserves of at least 100 percent of its monetary liabilities but allowed the central bank to count Argentine government bonds payable in foreign currency as up to one-third of those reserves. Those bonds were not "pure" foreign reserves. There was no maximum reserve ratio. Over the course of 2001, the central bank's ratio of pure foreign reserves to foreign liabilities varied from 193 percent on February 23 to 82 percent at year-end.[11] In an orthodox currency board system, reserves would have remained near 100 percent continuously.

Alleged Causes of the Crisis

Overvaluation. The peso was not persistently overvalued. There are three senses in which a currency can be overvalued. In the most precise and easily observed sense, a pegged or allegedly fixed exchange rate is overvalued if, at that rate, demand to sell the currency exceeds the willingness of the central bank to buy the currency. To the extent Argentina's central bank acted like an orthodox currency board and held foreign reserves equal to its monetary liabilities, overvaluation in this sense could not occur, because a peso was simply a kind of coatroom ticket to a dollar. At times during the life of the convertibility system, the central bank held pure foreign reserves (that is, not counting Argentine government bonds) that were below 100 percent, but it later reverted to reserves of 100 percent or more except at the end: the ratio fell below 100 percent on November 30, 2001, and remained below 100 percent until the peso was devalued in January 2002.

Another sense in which a currency can be overvalued is precise in theory but more difficult to determine in practice. In this sense, a currency is overvalued if it deviates from an ideal of "neutral money" and makes prices fall purely because of a lower than optimal supply of money and credit, not because of lower demand for the goods themselves. By pursuing a monetary policy from 1999 until partway through 2001 that many observers thought was too tight, the U.S. Federal Reserve System may have created this kind of overvaluation of the dollar and, by extension, of the peso. Would Argentina's central bank

The export sector was one of the few bright spots in the Argentine economy.

The main cause of the crisis was mishandled government finance, in particular government debt.

make fewer mistakes than the Federal Reserve over the long run, though? Abundant experience indicates that it would not.

In the final, loosest sense, a currency is said to be overvalued if, expressed in a common currency, some measure of prices has increased more in one country than another over a period. In making such measurements, the period used as the base and the way calculations are made are important. Consumer prices in Argentina rose about 30 percentage points more than they did in the United States from March 1991 (just before the convertibility system began) to the start of 2001. However, consumer prices in San Francisco also rose about 15 percentage points more than in Honolulu over the same period, yet nobody has proposed that San Francisco should issue its own currency and devalue it against the dollar. From mid-1992 onward, cumulative inflation in consumer prices was less in Argentina than in the United States. A survey of prices in 58 of the world's largest cities in 2000 found that for a basket of 111 goods and services, weighted by typical consumer habits—including three categories of house rent—Buenos Aires ranked 22nd.[12] Buenos Aires's place, in the middle third of the cities surveyed, corresponded roughly to estimates of Argentina's gross domestic product per person at the time. *The Economist*'s Big Mac index, which compares the prices of McDonald's hamburgers around the world, indicated that the peso was 2 percent undervalued relative to the dollar in early 2001.

Producer prices are more relevant than consumer prices as indicators of export competitiveness. Using March 1991 as the base, cumulative inflation in Argentina minus cumulative inflation in the United States peaked at nearly 15 percentage points in mid-1996. It fell below 2 percentage points by February 1999; from December 2000 until the end of the convertibility system, it was negative, indicating that the peso was undervalued relative to the dollar.[13] And although models estimating equilibrium exchange rates should be viewed with skepticism, a recent careful study has estimated that from 1993 to 1999 (the period for which the study made calculations), the peso was always within 6 percent of its so-called fundamental equilibrium real exchange rate.[14] Finally, the IMF calculated that the so-called multilateral unit labor cost–based real effective exchange rate had been generally falling since 1993, indicating increasing competitiveness.

It has been suggested that foreign financing of the Argentine government's debt created a large inflow of capital that pushed prices significantly higher than they otherwise would have been. That may be so, but it does not mean the peso was persistently overvalued in either of the two precise senses just discussed. The cause of high prices and the appropriate remedies (retrenchment or default by the government) were both separate from the exchange rate. Critics of the peso's rigid exchange rate with the dollar mistook high costs and trouble in government finances for overvaluation.[15] The peso is now undervalued by most measures, but Argentina remains a high-cost country for producing many goods because it lacks an efficient legal system, a tax code that encourages enterprise and compliance, flexible labor laws, and other institutions that are outside the sphere of monetary policy.[16] The massive violations of property rights the Duhalde government has made have increased those costs.

To say that the peso was not persistently overvalued under the convertibility system is not to say that it is possible to return to the old exchange rate of 1 peso per dollar. Unfortunately, the government's policies have destroyed wealth on a large scale and have started to cause inflation, so the institutional framework and the structure of prices in the economy are every day increasingly unlike what they were in 2001. Returning to the old exchange rate would require deflation to reverse the current inflation, compounding one error with another.

Exports. A strong peso did not crush exports. The convertibility system and other reforms under president Menem led to extensive and often painful changes to Argentina's economy as it adapted to greater openness to the outside world. Imports increased fast, with most imports being used for consumption or for services such as upgrading the antiquated telephone system. The pattern was for Argentina to have trade deficits during economic expansions and trade surpluses during recessions. Exports of goods increased every full year of the convertibility system (1992 to 2001) except 1999, when Brazil, Argentina's largest trading partner, suffered a currency crisis. Exports in 2001 barely exceeded those in 2000, but that was because the freeze of bank deposits in December 2001 killed trade generally. The export sector was one of the few bright spots in the Argentine economy. Claims that Argentina's exports fell after 1999 or that Argentina's trade deficit increased in the last few years are not based on an examination of the statistics, which are readily available. (However, since the peso was devalued in January exports have so far been lower than they were in 2001.)[17]

Growth in exports was not limited to commodities; exports of manufactured goods also increased through 2000. Nor does Brazil's January 1999 currency devaluation seem to have made Argentine exports permanently uncompetitive there. Exports to Brazil, including those of manufactured goods, increased in 2000 over 1999. (Statistics for 2001 are not yet available.) Brazil's devaluation was unfortunate for Argentine exporters, but the experience of a floating peso suggests that devaluing the peso to remain "competitive" with the Brazilian real in 1999 would have made matters worse for the economy as a whole.

Looking beyond trade in goods to the current account, which also includes trade in services, investment income, and transfers such as workers' remittances, Argentina had deficits every year of the convertibility system. The biggest factor behind the deficits was interest payments owed to foreign investors. Persistent current-account deficits are not inherently bad, nor do they necessarily indicate an overvalued currency or danger of a currency crisis, especially for a country that has capital-account convertibility (as Argentina did for almost the entire life of the convertibility system). The United States has had a current-account deficit every year since 1982, with the exception of the recession year 1991; it has also had a trade deficit every year since 1976.

True Causes of the Crisis

Menem's Debt. As we have seen, the conventional account of the crisis does not withstand examination. The main cause of the crisis was not the exchange rate but mishandled government finance, in particular government debt (not "foreign debt" in general). The problem began during the presidency of Carlos Menem. After enacting bold and generally beneficial reforms during his first term, Menem wasted most of his second term trying to gather support for an unconstitutional third term. Significant reforms occurred, but Menem avoided tackling the big problems of inflexible labor laws, inefficient mandatory health care organizations, and overstaffed government bureaucracies. Argentina was fortunate to have Menem during his first term and a bit of his second term. Despite problems that can be traced to his presidency, given the performance of his predecessors and successors, it is difficult to imagine better performance from other politicians who had realistic chances of being president. Had Menem succeeded in his quest for a third term, though, democracy in Argentina would have suffered a severe blow.

Under Menem, Argentina suffered the unfavorable external shocks of the East Asian currency crisis (which slowed investment in emerging markets generally) and Brazil's currency devaluation. Also, by some measures, the Federal Reserve System's monetary policy was too tight from 1999 until sometime in 2001. However, it is important to put those external shocks into perspective. Argentina's trade with Brazil (imports plus exports of goods, divided by two) was less than 2.5 percent of GDP until the recent devaluation of

Internal factors were far more important than external ones in creating Argentina's crisis.

The peso and the banking system remained quite solid until March 2001, when Domingo Cavallo was appointed minister of economy and finance.

the peso, and its total trade in goods has long been below 10 percent of GDP. As for the Federal Reserve's monetary policy, it is doubtful that Argentina would have done better under a floating exchange rate, such as it now has. Internal factors were far more important than external ones in creating Argentina's crisis.

Menem bequeathed to President Fernando De la Rúa a growing government debt. In the early years of Menem's presidency, economic growth and one-time revenues from privatization kept the federal budget in or near balance. Starting in 1994, the federal budget was in deficit continuously, even in years of good economic growth. New debt was added to old year after year, and debt plus interest grew much faster than the economy. At the end of 1994, the federal government's gross debt was about US$70 billion—not far above its level of five years earlier, when Menem became president. GDP had grown fast and was US$257 billion. By the third quarter of 2001, the debt was twice as large, at US$141 billion, while GDP was US$271 billion—only 5 percent bigger than 1994 in nominal terms and smaller in real terms per person.[18]

De la Rúa's Tax Increases. President De la Rúa did not create the debt problem, but his government responded to it incorrectly by enacting three large tax increases. The first, which took effect in January 2000, increased income tax rates for people earning more than 30,000 pesos a year; subjected retirement benefits of more than 24,000 pesos a year to tax; and increased the wealth tax (assets tax), beverage taxes, tax surcharges on automobiles, and the special tax on tobacco. The so-called Competitiveness Law imposed a financial transactions tax, which became effective in early April 2001. The rate was initially set at 0.25 percent and later raised to 0.4 percent. In August 2001, the government raised the financial transactions tax by decree to the legal maximum of 0.6 percent, where it remains.[19] (The government also cut spending, but attempts by economy minister Ricardo López Murphy to make deep cuts in March 2001 resulted in his being forced out of office after barely two weeks.)

The tax increases stifled the recovering economy. The financial transactions tax has a much higher rate than is evident at first glance because it is a "cascading" tax. In other words, because the tax is imposed on gross value rather than value added at each stage of production, a good can be subject to the tax multiple times as it moves from production to sale.[20] As the economy continued to shrink under a high tax burden, the government had increasing difficulty funding its debt, because potential lenders were afraid of an eventual default.

Cavallo's Meddling with the Peso. Despite problems with government debt, the peso and the banking system remained quite solid until March 2001, when Domingo Cavallo was appointed minister of economy and finance. Cavallo had previously expressed the opinion that the peso should eventually float, and he apparently viewed changing the anchor for the peso from the dollar to a basket of half euros and half dollars as a step in that direction. Interbank interest rates in pesos immediately doubled. A slow "silent run" on banks began as depositors who distrusted the government withdrew their funds. In another bad sign for the long-term stability of the peso, Pedro Pou, the independent-minded president of the central bank who preferred dollarization to devaluation, was ousted on a pretext in favor of the more pliable Roque Maccarone in April.

By June 2001 the original convertibility system was definitively finished. Congress approved changing the exchange rate link if and when the euro ever appreciated to 1 per dollar. More important, Cavallo announced a preferential exchange rate for exports—a dual exchange rate. This was contrary to the intent of both the original convertibility system and an orthodox currency board. Cavallo's measures showed that the government was quite willing to tamper with the convertibility system. In previous episodes when confidence in the peso had declined, the government had responded, sometimes after an agonizing delay, by reaffirming the link to the dollar and the commitment to a single exchange rate. By removing those cornerstones of the convertibility system, Cavallo left the edifice shaky.

The freeze on bank deposits imposed on December 1, in response to large withdrawals on November 30, was the final blow. Argentines remembered how high inflation during similar freezes in 1982 (engineered by Cavallo) and 1989 had robbed them of the real value of their savings. Cavallo and De la Rúa resigned in the face of widespread protests.

Duhalde's Destruction of Property Rights. The interregnum of three presidents between De la Rúa and Duhalde was notable mainly for the default on the foreign debt declared by then-president Adolfo Rodríguez Saá on December 23, 2001. Default was by then inevitable, given the disorganization of the government. However, the government could still have quarantined its own financial problems from the rest of the economy.[21] Instead, president Duhalde chose a course of contamination. His chief idea in economic policy has been to expel the dollar from the financial system. The Law of Public Emergency and Reform of the Exchange Rate Regime, passed on January 6, 2002, and the measures the government has since announced have amounted to massive destruction of property rights.[22] The measures include the following:

- Devaluation of the peso to 1.40 per dollar and later a floating exchange rate.
- Forced pesofication of dollar bank deposits at 1.40 pesos per dollar and of dollar loans at 1 peso per dollar.
- Forced pesofication of contracts in dollars at 1 peso per dollar.
- Seizure of the dollar reserves of banks.
- Exchange controls (restrictions on buying dollars and other foreign currencies).
- New taxes and regulations, introduced in uncoordinated fashion and revised daily.

In addition, president Duhalde and his first minister of economy, Jorge Remes Lenicov, sought but failed to obtain the support of Argentina's congress for a forced conversion of many bank deposits into government bonds. Remes Lenicov resigned on April 23 after it became clear that the congress would not pass the bill, at least not in its original form and not yet.

Despite the government's attempt to eliminate the dollar, dollars are more highly sought and the peso's exchange rate with the dollar is today the focus of more attention than at any time since early 1991, before the convertibility system was established.

A wave of defaults or liquidity problems at some of Argentina's largest companies began in March. Among the companies affected have been the utilities Metrogas, Telecom Argentina, Aguas Argentinas, and the banks Banco Galicia and Scotiabank Quilmes. The result will be the official or unofficial renationalization of utilities, the financial system, and perhaps other sectors of the economy. The Duhalde government's policies are returning Argentina to the failed economic model that caused so much trouble in the 1980s and had to be jettisoned between 1989 and 1991. What is needed now is to reestablish private property rights and protect them from a government that has little appreciation of their importance for creating and preserving wealth.

The measures the government has since announced have amounted to massive destruction of property rights.

Ending the Crisis: Dollarization

The most pressing problems Argentina needs to solve to restore economic growth concern its currency, its financial system, and its tax system. Because nobody trusts the currency or the fiscal system, people are not doing the buying, selling, saving, and investing necessary to generate growth and jobs. Because the tax system is complex and has high rates, it discourages honest effort and encourages evasion. There are many other aspects of the economy that need reform also, but the currency, financial system, and tax system are the most urgent. The reforms proposed here are a package that would be most beneficial if implemented together, but many of the individual recommendations are independent from others and would be beneficial on their own. I do not claim to have addressed all the details; there is much work that could usefully be done by researchers familiar with, say, the pension system or the administration of tax collection. Changing circumstances may change how the policies I propose are implemented. However, I think that to be most beneficial for Argentina, any plan of reform needs to include the main elements this paper describes.

Let us begin with the currency. The convertibility system, though imperfect, was a stabilizing force in Argentina's economy. The rapid depreciation of the peso under a floating exchange rate is the most visible sign of lack of confidence in the economy and the government. The peso has depreciated from 1 per dollar at the start of 2002 to about 3.70 per dollar as of early June. Dollarization—officially replacing the peso with the dollar—is the quickest and most effective step the government can take to restore confidence in the economy. Money is the most widely held form of property in society, and dollarization will start to reverse the destruction of private property rights that has been so disastrous to Argentina.

The Duhalde government's policies are returning Argentina to the failed economic model that caused so much trouble in the 1980s.

As of April 19, the last business day before a bank holiday was declared, Argentina's central bank had monetary liabilities (the "narrow" monetary base) of 20.4 billion pesos, of which 14.0 billion pesos were notes and coins in circulation. In addition, as discussed later, there were outstanding 2 billion pesos of national bonds and an estimated 2.9 billion pesos of provincial government bonds that are intended to circulate like notes. Adding them to the monetary liabilities of the central bank yields an "expanded" monetary base of 25.3 billion pesos. Bank deposits were 74.2 billion pesos.[23]

How many dollars does Argentina have and how many does it need to "support" these amounts? Table 3 lists some statistics useful in thinking about this question. Note that the weekly central bank balance sheet is from April 15. The central bank issues information about some individual items of its balance sheet daily. Other items in the table are from April 19.

How Many Dollars Does Argentina Have?

It has been claimed that Argentina lacks the dollars to dollarize.[24] At *some* exchange rate, though, there are always enough dollars for a monetary system to dollarize, even when confidence is initially low.

The central bank stated that it had US$12.3 billion in foreign reserves as of April 19. Are the central bank's numbers reliable? When challenged by Steve Hanke on this point in a letter of January 17 to the *Financial Times*, the IMF's chief press officer responded on February 1 by changing the subject and not saying whether the central bank's figures were reliable or unreliable.[25]

The central bank has seized the dollars formerly deposited with it by commercial banks or held in their vaults.[26] Almost all dollars in the financial system are now owned by the central bank. Commercial bank deposits of foreign currency at the central bank were US$15 million (47 million pesos) on April 19; those deposits peaked at US$6.6 billion on January 14.

The public has long held a considerable amount of dollar notes. A U.S. Treasury report of January 2000 estimated that Argentines hold US$25 billion of dollar notes—almost US$700 per person. That is more per person than Americans themselves hold, if estimates are correct that most dollar notes are held outside the United States. The Argentine economist Eduardo Levy Yeyati has suggested that holdings of dollar notes are much lower, perhaps US$7 billion.[27] Even if he is correct, at the current rate of exchange the value of dollar notes held by Argentines far exceeds bank reserves, which averaged 12.8 billion pesos in March.[28] In addition to dollar notes, the public holds foreign assets, which it might repatriate (though only in limited amounts at first).

Table 3
Key Statistics of the Argentine Financial System

Balance Sheet of the Central Bank (BCRA), April 15, 2002—Billions of Pesos

Assets		Liabilities	
Foreign reserves US$12.436	36.064	Peso notes and coins in circulation[a]	14.064
Government bonds	9.129	Deposits of banks in pesos[a]	6.382
Short-term loans to government	0.700	Bank liquidity fund[a]	0.209
Loans to banks, minus loss provision	10.893	Deposits of banks in other currencies	0.044
Quotas at IMF and other institutions	4.623	Government deposits	11.723
IMF funds onlent to govt. ~US$14	40.432	Other deposits	0.035
Other	0.475	Owed to IMF and other institutions	42.785
		BCRA securities issued	0.476
		Other (not specified)	5.326
		Provision for losses	1.141
		Capital	20.132
Total	102.316	Total	102.316

Some Major Balance Sheet Items of Financial Institutions, April 19, 2002—Billions of Pesos

Assets		Liabilities	
Peso loans[b]	51.308	Peso current etc. deposits[f]	32.688
Dollar loans[c]	20.938	Peso time deposits[f]	29.508
Peso vault cash[d]	1.515	Dollar current etc. deposits US$6.095	8.533
Peso deposits at BCRA[d]	6.194	Dollar time deposits US$2.468	3.455
Bank liquidity fund[d]	0.209		
Peso bonds	6.729		
Peso deposits at other banks	5.075		
Dollar vault cash	US$0.389		
Dollar bonds[e]	US$5.319		
Dollar deposits at other banks[e]	US$0.779		

Interest Rates for Loans in Pesos, April 19, 2002—Percent

Overnight interbank rate	95.8125	30-day interbank rate	102.9375

Sources: Banco Central de la República Argentina,www.bcra.gov.ar/pdfs/contad/econ0200.pdf, www.bcra.gov.ar/pdfs/estadistica/ bas2002.xlw, www.bcra.gov.ar/pdfs/estadistica/fin2002.xlw, www.bcra.gov.ar/pdfs/estadistica/dep2002.xlw, and www.bcra.gov.ar/pdfs/estadistica/bai2002.xlw.

[a]Items comprising monetary base: 20.655 billion pesos (20.413 billion pesos as of April 19). In addition, there were about 2 billion pesos of national government bonds (Lecops) and 2.9 billion pesos of provincial government bonds (Patacones, etc.) intended to circulate like money. April 15 is the most recent date currently available for the central bank's whole balance sheet.

[b]Includes some former dollar deposits pesofied at 1 peso per dollar; includes 11.797 billion of loans to public sector.

[c]Pesofied at 1 peso per dollar; principal is indexed; includes 13.185 billion of loans to public sector.

[d]Items included in bank reserves; reserves also include US$2 billion government bond.

[e]Unclear at what rate to convert these into pesos.

[f]Includes former dollar deposits pesofied at 1.40 pesos per dollar. Assets do not equal liabilities because some items are unlisted.

Money is the most widely held form of property in society.

How Many Dollars Does Argentina Need?

The amount of dollar reserves necessary to support dollarization depends on the exchange rate the government chooses, which is discussed below. It also depends on the particular form of dollarization Argentina establishes. Under the convertibility system, roughly two-thirds of the central bank's dollar reserves were held against peso notes and coins in circulation, and only about one-third was held against deposits that commercial banks use to settle their clearings. A dollarized system has two potential means of economizing on the actual use of dollars (Federal Reserve–issued notes, coins, and deposits) without endangering its fixed exchange rate to the dollar. One is to allow commercial banks to issue their own dollar-denominated notes. Such notes, like dollar-denominated bank deposits, would be redeemable in Federal Reserve–issued dollars, but if the public had sufficient confidence in them, actual redemptions would be small. This idea, which has many historical precedents, is discussed in detail later.

The other way a dollarized system can economize on the actual use of dollars is to avoid imposing reserve requirements on commercial banks. Banks hold a certain amount of reserves so they can pay their debts in a timely manner when they owe more than they are owed by others. Requiring them to hold more reserves than they need imposes a cost on them and increases the amount of dollar reserves required for dollarization. This point too is discussed in detail later. A corollary point is that deposits of commercial banks at the central bank, which are part of the monetary base, need not be converted into dollars, to the extent they are imposed as a tax on bank activity and are not actually accessible to banks. From an economic viewpoint, such reserves could simply be extinguished. Under Argentina's current circumstances, however, it would be wise to convert into dollars all bank reserves that are in the form of deposits at the central bank.

Peso bank deposits need not be exchanged for dollar reserves. The belief that they must be is the source of the idea that dollarization would require the government to have tens of billions of dollars in reserves on hand.[29] I am aware of no currency stabilization plan involving a truly fixed exchange rate, whether dollarization or a currency board, that has needed huge sums for such an exchange. Later sections discuss further what can be done about bank deposits.

Determining the Exchange Rate for Dollarization

Determining the appropriate exchange rate for dollarization involves the following steps.

1. Determine What Liabilities Need to Be Redeemed with Dollar Reserves. The expanded peso monetary base, 25.3 billion pesos as of April 19, seems an appropriate maximum estimate.

2. Assess the Financial Position of the Central Bank and the Government. As we have seen, the central bank says it has US$12.3 billion in foreign reserves. If all its reserves are not freely available, that information should be disclosed to the public. The central bank should publish a detailed description of its dollar reserves, indicating what amounts have been invested for which securities or in deposits at which banks located where. The government also has the possibility of borrowing money from the IMF to support dollarization, although that should not be necessary. As is discussed later, the IMF would quite probably lend money to support dollarization. Should it require tax increases or impose other conditions that would be harmful, however, Argentina should refuse the loan.

3a. (Ordinary Procedure) Announce That Dollarization Will Occur and Allow the Peso to Float Cleanly for no More Than One Week. A truly clean float implies removing controls on buying and selling foreign currencies, though it does not imply unfreezing bank deposits. To set an appropriate fixed exchange rate at which to convert peso prices to dollar prices, the best indicator to use is the market rate that will evolve once people know that the value of the peso will soon be fixed and that the dollar will then replace the peso. Demand for pesos may well increase, in which case the exchange rate will appreciate. The government should not try to manipulate the exchange rate to achieve any particular level; it should let market participants determine the level. Manipulating the exchange rate is costly. A highly overvalued exchange rate will price exports out of world markets and may create a recession, while a highly undervalued exchange rate will make imports expensive and prolong inflation. The exchange rate should float for a preestablished period not to exceed one week. The float should be "clean," that is, the central bank should not try to influence the exchange rate.

Many people think of the foreign reserves necessary for dollarization as a problem of stocks and think therefore that the exchange rate should be determined mechanically. So, if the central bank has US$10 billion in foreign reserves and the monetary base is 30 billion pesos, the exchange rate should be 3 pesos per dollar (or 5 pesos per dollar if one thinks "coverage" is needed for 20 billion pesos of bank deposits in addition to 30 billion pesos of the monetary base). But determining the exchange rate is not a matter of working backward from the stock of foreign reserves to some measure of the supply of money and credit; it is a matter of discovering the market rate that equilibrates flows. Before dollarization, the flows will be exchanges between pesos and dollars in the foreign-exchange market; after dollarization, the flows will be exchanges between bank deposits and the dollar monetary base. The stocks are not so important in themselves; what matters for the exchange rate is their adjustment over time.[30] Depending on circumstances, the market rate may evaluate the local currency as more valuable or less valuable than the mechanical calculation. (The tendency is for the market rate to evaluate the local currency as more valuable than the mechanical calculation does, because currency stabilization increases demand to hold local-currency assets, changing flows in the foreign-exchange market.) Comprehension of this point is one of the tests that distinguish people who understand dollarization well from those who do not.

Exchange controls on the use of the peso in foreign-exchange markets should be abolished when dollarization is announced. A later section discusses limits on withdrawals of bank deposits.

All the steps from 3b to the end should be simultaneous, or nearly so.

3b. (Panic Procedure) Remove Exchange Controls, but Omit the Period of Floating and Proceed Immediately to Step 4. The political and economic situation may be so bad that the exchange rate must be fixed immediately, without recourse to a short period of floating to learn from the market. The tendency of governments in this situation, which requires uneducated guesses, is to establish a highly depreciated rate so as to have a large margin of error. My opinion is that, should the government fix an exchange rate immediately, it should not fix a rate more depreciated than the market rate. As of mid-April, the market rate was roughly 3 pesos per dollar. Were the government to establish a fixed rate today, I would recommend a rate of 2 pesos per dollar, understand why the government might choose 2.50 or 3 pesos per dollar, but consider a rate of 4 pesos per dollar undervalued. However, a number of Argentines with whom I discussed this point think the rate would have to be considerably higher than the current market rate to equilibrate the large outflow of deposits they expect would follow if the deposit freeze were quickly removed.[31]

4. At the End of the Period of Floating (If There Has Been One), Declare a Fixed Exchange Rate with the Dollar and Announce That, Effective Immediately, the Dollar Is Legal Tender. If there has been a period of floating, the fixed rate should be somewhere within the range of market rates during the period, particularly toward the end of the period. Setting exchange rates is an art rather than a science, and there is no mechanical formula for making the tran-

Almost all dollars in the financial system are now owned by the central bank.

There is no mechanical formula for making the transition from a floating rate to an appropriate fixed rate.

sition from a floating rate to an appropriate fixed rate. If there is doubt about the appropriate rate, it is better to err on the side of an apparent slight undervaluation rather than an overvaluation compared with recent market rates, so as not to cause a slowdown in economic growth. Experience indicates that an economy will quickly adjust to an exchange rate that is approximately right. Again, a large deliberate overvaluation or undervaluation is undesirable because it will require unnecessarily large economic adjustments.[32]

The central bank will then be required to exchange the peso liabilities determined in step 1 for suitable dollar assets—some Federal Reserve notes and coins, but probably U.S. Treasury securities for the most part. The dollar will be declared "domestic" currency, with all the legal rights belonging to domestic currency.

4.5. Reconvert Deposits Originally in Dollars into Their Original Amounts in Dollars. Deposits that were originally in dollars but have been pesofied should be reconverted into their original dollar amounts, if they are still in the banking system. (Some deposits have leaked out of the system despite the freeze because their owners have won lawsuits enabling them to withdraw them.) A later section explains why this controversial idea would be beneficial and feasible. This step will not apply if the government has made a forced conversion of time deposits into long-term government bonds. Such a conversion would change a problem of bank finance, compounded by government meddling, into a problem of government finance.

5. Announce That, Effective Immediately, All Peso Assets and Liabilities (Such as Bank Deposits and Bank Loans) Are Dollar Assets and Liabilities at the Fixed Exchange Rate; Announce a Transition Period of No More Than 30 Days for Replacing Quotations of Wages and Prices in Local Currency with Quotations in Dollars. After the period of floating has ended and the exchange rate has been fixed, bank deposits in pesos will become deposits in dollars, while bank loans in pesos will become loans in dollars. Banks will charge no commission fees for the conversion.

During the transition period, wages can continue to be quoted optionally in pesos so that employers and banks have time to modify their bookkeeping and computer systems. Prices can also continue to be quoted optionally in pesos during the transition period, so as to spare merchants the trouble of repricing the goods on their shelves. After the transition period, wages and prices will cease to be quoted in pesos.

There will be a number of problems with contracts that were originally priced in dollars and pesofied, or that have recently been made in pesos with the expectation that the peso would continue to depreciate. Argentina has solved similar problems in previous currency stabilizations, and these are topics perhaps better addressed by lawyers than by economists.

6. Freeze the Central Bank's Total Liabilities and Dollarize the Liabilities Determined in Step 1. Once the central bank starts redeeming the peso monetary base for dollars, commercial banks should not be allowed to charge commission fees for converting pesos into dollars. Commercial banks will probably want to convert their peso reserves into dollar assets immediately, and that can be done, but exchanging the peso notes and coins in circulation for dollars will be slower. The central bank or the government should continue to accept peso notes and coins for a set period, say one year, though the bulk of exchanges will be made in the first 30 days. After 90 days peso notes should cease to be legal tender for hand-to-hand payments, and after one year the central bank should cease to be required to redeem them. Depending on the particulars of the next step, coins may remain in circulation, never to be redeemed.

7. Decide What to Do about Coins. Given sufficient time, arrangements can be made to have a supply of U.S. coins on hand to replace peso coins when dollarization occurs. If dollarization is begun hastily, though, the supply of U.S. coins may be insufficient. Moreover, the fixed exchange rate may not be one for which coins have a convenient whole-number relationship to the dollar. If so, coins, and only coins, can be devalued or revalued to a nearby whole-number equivalent that makes them decimal divisions of the dollar. Because coins are only a small portion of the monetary base, the overall effects will be small and the importance of this step will be correspondingly low.

In the dollarized systems of Panama, Ecuador, and El Salvador, the government or the agency that is called the central bank continues to issue coins. In Argentina, the wisest course is to deny the government or the central bank any role in issuing new coins. Coins still in the vault of the central bank may be issued, but no new coins should be minted. Argentina should use U.S. coins or privately issued coins, such as a syndicate of banks may decide to issue in common.

Converting Peso Interest Rates into Dollars

Interest rates in dollars will be much lower than rates in pesos. Argentina has experience with converting interest rates in a high-inflation currency to rates in a low-inflation currency (*desagio*). Ecuador's conversion scheme when it dollarized in 2000 was in fact inspired by similar experiences in Argentina. Conversion could be accomplished by establishing reference rates in pesos and dollars, then converting peso interest rates into dollar rates around a reference rate and preserving their position relative to the reference rate according to a factor of multiplication. For example, if the reference rate in pesos is 50 percent and the reference rate in dollars is 10 percent, a loan of 55 percent in pesos (1.1 times the peso reference rate) will become a loan of 11 percent in dollars (1.1 times the dollar reference rate). A loan of 40 percent in pesos (0.8 times the dollar reference rate) will become a loan of 8 percent in dollars (0.8 times the dollar reference rate). Obviously, the choice of reference rates is important, and the government should choose rates of the same type and maturity in both currencies (for example, the seven-day interbank interest rate in both pesos and dollars). If a local rate in dollars is not available or is distorted by special factors, an international market rate, such as LIBOR (the London Interbank Offered Rate), should be chosen and a suitable premium should be added to it.

Former dollar loans that were pesofied have their principal indexed according to the Coeficiente de Estabilización de Referencia (CER), which is intended to offer some protection from inflation for lenders.[33] The logical procedure for such loans would be to convert the principal, adjusted by the CER, into dollars at the uniform exchange rate that applies to all assets and liabilities. The application of the CER is still a subject of intense debate. The CER may be changed extensively by the time a monetary reform happens, so discussing it at length here is not worthwhile.

What If Additional Dollar Reserves Are Necessary?

To repeat, the exchange rate and its role in dollarization should be thought of in terms of flows, not stocks. It is possible that after the brief period of clean floating recommended above, the market exchange rate of the peso will be such that dollar reserves are less than the liabilities to be converted into dollar reserves. To cover the shortfall, the government has a number of options. One is to sell domestic assets in the portfolio of the central bank. Mechanical calculations that derive the exchange rate by dividing some measure of the money supply by the central bank's foreign reserves assume that the central bank's domestic assets are worthless.

Another way of obtaining dollar reserves is to borrow them from the IMF or another official foreign source. (Presumably, the government will not be able to borrow from the private sector at least until it renegotiates its debt.) Another is to reduce the amount of peso liabilities converted into dollar reserves, for example by accepting peso notes in payment of taxes and not redeeming them at the central bank. Still another option is to convert some of the peso liabilities into government bonds, although, given Argentina's historical experience, such bonds would not be widely desired.

The exchange rate and its role in dollarization should be thought of in terms of flows, not stocks.

Without a national currency, there is no good reason to keep the Banco Central de la República Argentina.

Liquidating the Financial Assets and Liabilities of the Central Bank

Without a national currency, there is no good reason to keep the Banco Central de la República Argentina in its present form. The central bank should be made to liquidate all its financial assets and liabilities. The deposits of financial institutions at the central bank can be returned to the owners or, at the owners' request, transferred to another bank. The other financial assets of the central bank can be transferred to accounts at other financial institutions—the government-owned Banco de la Nación Argentina, privately owned banks within Argentina, or banks abroad.

To discourage future governments from reintroducing the peso, the central bank's power to issue currency should be repealed. The Appendix to this paper suggests a legal formulation for this and some of the proposals in this paper related to the issuance of currency.

In the dollarized system of Ecuador, the Banco Central del Ecuador has persisted because the constitution mandates its existence, and passing a constitutional amendment to abolish the central bank would be difficult. Argentina's central bank exists only by statute law, not by constitutional law, so institutional reform should be easier than in Ecuador. The whole central bank should receive the name of the part of the organization within it that deals with financial supervision, the Superintendencia de Entidades Financieras y Cambiarias (Superintendency of Financial Institutions and Exchange Bureaus). The successor organization can continue to gather statistics and ensure compliance with prudential regulations such as minimum capital requirements. It can continue to occupy its fine building in the heart of Buenos Aires (its main nonfinancial asset). However, it would cease to make monetary policy. It would be like the Superintendency of Banks in the dollarized system of Panama.

A Short Reply to Objections to Dollarization

Under the convertibility system, advocates of a floating peso could contrast the very real imperfections of convertibility with the imagined perfection of floating. Now Argentina is learning that floating does not work in reality as it does on a classroom blackboard. There are many objections from "blackboard economics" that can be made against dollarization. In a previous paper, written before the peso was floated, Steve Hanke and I answered some of them.[34] Now, it suffices simply to answer the objections with two questions: If dollarization would be so bad, why do so many Argentines want dollars? If the peso is so good, why do people use it only under compulsion? Advocates of dollarization do not claim that it would be a perfect monetary system or that it would resolve all nonmonetary problems, only that it would work better than floating now does and that it would make solutions to some of the nonmonetary problems easier.

Opinion polls have consistently shown that a majority of Argentines do not want dollarization, but what people do is more revealing than what they say. It is clear that Argentines want dollars; witness the lines that form every day outside foreign-exchange bureaus. Most Argentines would like their country to have a stable, government-issued local currency, but Argentina's experience indicates that that is highly unlikely to occur. Appeals to "monetary sovereignty" as a justification for perpetuating central banking are misplaced, because sovereignty properly resides in the people and not the government. The people should be free to choose what currency they use, and the government should have no "right" to impose a currency of inferior quality on the people.[35]

Dollarization would permit Argentines to switch to another currency if they wished. Should the dollar become unstable, or should it simply be less suitable for finance and trade than the euro, the Brazilian real, or another currency, no law would compel continued use of the dollar. Hence, unlike the current system, dollarization would allow a peaceful exit into another currency if that were what Argentines wanted.

The Destruction and Reconstruction of the Financial System

Banks are not to blame for the deposit freeze that has made the public so angry. The freeze was imposed by the De la Rúa government and persists because the Duhalde government has made further blunders in monetary policy. Banks have been victims along with depositors. However, bankers maintained a cowardly silence while the government trampled on the rights of depositors. They thought silence would preserve them, but the government's policies have made them so weak that their survival is now in question.

Despite the deposit freeze that began in December, funds had been leaking out of the banking system, such as judges have ordered banks to pay individual depositors who had challenged the freeze in lawsuits. On April 19, Scotiabank Quilmes, Argentina's 11th largest bank in terms of deposits, halted most operations; under Argentine law, it has 30 days to receive fresh cash from its parent in Canada or close. Banco de Galicia y Buenos Aires, the fifth largest bank in terms of deposits and the second largest in terms of loans, is trying to reorganize.

In response to those problems, the government developed a "Plan Bonos" (Bond Plan) similar to the Bonex Plan of December 1989. The government sought approval of the Argentine congress for the plan during the week of April 22, but the congress has so far refused to approve the plan. Still, the plan is worth describing in some detail because president Duhalde may try to implement a version of it by decree. The plan would force holders of deposits that were in dollars as of February 3, and holders of time deposits in pesos, to exchange their deposits for government bonds. Holders of time deposits in pesos would receive bonds whose principal would be adjusted according to the CER; the interest rate would be 3 percent a year, paid quarterly starting February 3, 2002; and the principal supposedly would be repaid in 16 quarterly installments starting May 3, 2003, and ending May 3, 2007. Holders of dollar deposits would have 30 days to choose peso bonds or dollar bonds. For the peso bonds, dollars would be pesofied at 1.40 pesos per dollar. For the dollar bonds, the principal would be the original dollar value of deposits; the interest rate would be 2 percent a year, paid half-yearly starting August 3, 2002; and the principal supposedly would be repaid in eight annual installments starting February 3, 2005, and ending February 3, 2012. Bonds presumably would be more liquid than frozen bank deposits because people would be able to buy and sell them. Bonds issued under the original Bonex Plan paid no interest for two years, and at one point were worth only 18 percent of their face value, but depositors who held the bonds to maturity (10 years) received full principal plus interest. Bonds issued under the new plan would have less chance of being paid in full because government debt is much larger than it was in 1989; the proposed bonds might trade at perhaps 15 percent of face value initially.

Time deposits in pesos have already been forcibly rescheduled at 7 percent interest and are not included in the new plan.[36] However, under Plan Bonos, holders of demand deposits, which are all now in pesos, would have the option of using the deposits to buy a bond in dollars at 1.40 pesos per dollar; the interest rate would be LIBOR plus 1 percent, starting November 30, 2002; and the bonds would be paid off in installments starting May 31, 2004, and ending in 2005.

If implemented, Plan Bonos would change the financial system fundamentally, by shrinking private (nongovernment) bank deposits, which were about 61 billion pesos before devaluation, to about 30 billion pesos—at current exchange rates, roughly US$10 billion. Banks would acquire the new bonds by exchanging other types of government bonds they already hold. The effect would be to make banks more liquid, the government more indebted, and depositors

If dollarization would be so bad, why do so many Argentines want dollars?

If the peso is so good, why do people use it only under compulsion?

poorer, at least in the short term. The banking system would return to what it was in 1990: a largely government-owned sector used for transacting some kinds of payments, with little role in collecting savings or making investments. Were Plan Bonos implemented, the best things a future government could do to restore in some measure the property rights of depositors would be to give them priority over certain other bondholders (particularly foreign bondholders) and to accelerate repayment of the bonds to the extent economic growth permitted.

What Still Might Be

Even at this late date, it would still be possible to restore a great deal of confidence in the financial system if the government would reverse its blunders. The biggest steps it could take to restore confidence would be to dollarize, ensuring that the depreciation of the peso would cease, and to help depositors of dollars receive the full value of their deposits with more chance of success and sooner than under Plan Bonos. Those steps would signal that the government had begun to reverse its massive destruction of property rights.

Every Argentine I have spoken with has emphasized the depth of public anger at the banks and said that bank depositors will withdraw the majority of their funds, if permitted. I am much more optimistic that the banking system need not continue shrinking. Ecuadorians were almost as angry at their banks after the government imposed a freeze on deposits in March 1999. (Unlike the Argentine government, though, the government of Ecuador did not forcibly convert dollar deposits and loans into local currency, and dollar loans were not as common as they were in Argentina.) Most banks were insolvent, and the government had taken control of about two-thirds of the banking system. Even so, after it became clear in early 2000 that the government would indeed dollarize, bank deposits began to increase and continued to do so.[37] Like the question of determining the exchange rate for dollarization, the question of reconstructing the financial system is largely a matter of flows. I believe that in Argentina confidence can return despite the trauma of recent events. Banks will, however, have to absorb some short-term costs to reverse their very bad public image.

I have proposed that pesofication be reversed for former dollar deposits still in the banking system. Under current arrangements, banks would not be able to sustain large withdrawals of deposits immediately without some type of external help—from the parent offices of foreign banks, from the IMF, or from financial markets—that is highly unlikely to be forthcoming. To address the problem, I recommend three measures. The first two, discussed in more detail later, are to allow banks to issue dollar-denominated notes (paper money) and to allow a phased continuation of the present bank deposit freeze but with incentives for banks to end it.

The third measure is to recover from debtors some of the benefit they have enjoyed from pesofication. Even if banks do not lose deposits, they will be weak for a long time if they cannot somehow increase their assets to cover the increase in liabilities that would result from reversing pesofication. It is appropriate to ask debtors to give up some of the windfall gains they received from pesofication, given that those gains were a violation of property rights and that a growing economy will increase the capacity for repayment. I suggest that the nominal amounts of payments remain as they are now but that the maturity of loans be increased by a factor having some proportion to the windfall gain the depreciation of the peso has caused. Determining the particular proportion is both an economic and a political matter. If the deterioration of the economy continues, at some point recouping some of the windfall gains from debtors and restoring the original dollar values of pesofied deposits will become highly unlikely.

The government's destruction of property rights has reduced bank assets to such an extent that any realistic plan for deposits must include some diminution of their present value, whether by inflation or by delayed payment. (In principle, it would be feasible to allow immediate withdrawal of deposits without inflation if Argentina could obtain a big loan or guarantee to cover the outflow, but no loan will be forthcoming.) One idea that has circulated is to end restrictions on withdrawals by printing money to whatever extent is necessary to supply people who convert their deposits into peso notes. That path leads to hyperinflation. Depositors would benefit far more by waiting a while for their money and then receiving more in real value than they would in the hyperinflationary scenario.

Allow or Even Encourage "Offshorization"

Some legal protection is necessary to ensure that Argentina has a banking system that is used to accumulate savings, not just to make payments that cannot be made in cash. As some Argentine economists[38] have proposed since last year, bank deposits could be legally domiciled outside Argentina to preserve them from seizure by a future government, yet holders of those deposits could be given full access to the Argentine payment system without additional cost (because nothing in the current system would change except the legal domicile of deposits as recorded for book-entry purposes). Depositors might be permitted recourse to the Argentine legal system to settle certain kinds of disputes. For bank *loans*, "offshorization" would be more difficult, since many loans are made against collateral that is held in Argentina. Banks might be reluctant to have large mismatches between offshore deposits held by Argentines and onshore loans. Bankers and lawyers are better suited than economists to provide a detailed solution here, but economists can at least emphasize how offshorization could help in reconstructing the financial system.

Allow Solvent Banks to Issue Notes

Argentina has large potential bank reserves, but they are outside banks. As reserves, banks use the monetary base. Under dollarization, the monetary base would consist of notes and other monetary liabilities issued by the U.S. Federal Reserve System. As has been mentioned, the U.S. Treasury estimates that Argentines hold US$25 billion in dollar notes issued by the Federal Reserve—far more than the dollar value of the peso monetary base. In a dollarized system, those notes would constitute reserves if held inside banks. There is ample room for banks to gain increased reserves, if they can persuade the public to move its holdings of the monetary base from outside banks to inside banks.

A powerful way of moving the monetary base from outside banks to inside them would be to allow solvent banks to issue their own notes (paper money) denominated in dollars.[39] The notes should be liabilities of a part of the bank outside Argentina, so as to be in effect "offshore" and not readily subject to seizure as onshore deposits were.[40] At the demand of people holding bank-issued dollar notes, the notes would be payable in notes issued by the U.S. Federal Reserve or in some other external asset acceptable to persons redeeming notes. (Most demands for redemption would in fact be not from individuals but from other banks, which would exchange notes through the clearing system just as they now exchange checks and electronic transfers. As in the case of deposits, redemptions by other banks would be the factor tending to ensure that banks did not overissue notes.) People would always have the option of continuing to use dollar notes issued by the U.S. Federal Reserve. Competitive note issue by banks has a long history and is known to economists as "free banking."

Banks have been victims along with depositors.

Allowing Banks to Issue Notes Would Improve Bank Liquidity

If the public were unwilling to accept bank-issued notes, banks would be in no worse condition than they are now. But to the extent that the public was willing to accept bank-issued notes in exchange for Federal Reserve–issued notes, banks would increase their *supply* of reserves on hand. Bank-issued notes would also reduce banks' *demand* for reserves. In a monetary system that uses the dollar but in which banks are not allowed to issue notes, when depositors wish to exchange deposits for notes, banks must give them Federal Reserve notes. Banks call these reserves vault cash. When a depositor wishes to convert a $100 deposit into $100 of notes, his bank loses $100 of reserves. If the depositor were willing to accept bank-issued notes, converting deposits into notes would not result in any loss of reserves, any more than switching funds from a checking account to a certificate of deposit within the same bank results in a loss of reserves.

Banks would accumulate Federal Reserve–issued notes when people came to deposit them. Banks would put their own notes into circulation by paying out their own notes instead of Federal Reserve notes when depositors wished to convert deposits into notes. Again, depositors would always have the option of demanding Federal Reserve notes rather than bank-issued notes if they desired. If there were sufficient confidence in bank-issued notes, gradually the supply of Federal Reserve notes would be replaced by bank-issued dollar notes.

The seigniorage (profit) that the Argentine government could earn from noninflationary issues of notes was shrinking as notes in circulation declined; it was on the order of US$400 million a year toward the end of the convertibility system.[41] Under a system of note issue by banks, that profit would accrue to commercial banks rather than to the government. Ultimately, the profits from issuing notes would tend to be competed away and passed along to customers in the form of lower costs or better services. The great advantage of dollarization under free banking, in contrast to conventional dollarization, is that the seigniorage, or its equivalent in benefits to consumers, would accrue to banks and consumers in Argentina, not to the Federal Reserve. (To repeat, the U.S. Treasury has expressed opposition to the idea of sharing with other countries the seigniorage from Federal Reserve notes.)

Bank deposits could be legally domiciled outside Argentina to preserve them from seizure by a future government.

Bank-Issued Notes Are Nothing New

Allowing banks to issue their own notes might seem far-fetched or at least novel, but it is neither. Many financial firms already issue paper traveler's checks, which resemble currency although they cannot pass from hand to hand without having to be endorsed. Before the 20th century, commercial banks issued their own notes in most financially advanced countries—nearly 60 countries in all. Multiple brands of notes did not confuse people any more than multiple brands of traveler's checks, credit cards, or bank deposits now do. Governments took over note issuance from commercial banks not because the private sector was doing a bad job but because governments wanted the profits for themselves. The record of private issuance of notes was generally good.[42] In some countries bank failures caused losses to note holders, but the losses were small compared with the losses inflicted by the central banks that later took over note issuance.

In the 1880s Argentina was one of the countries that had note issuance by commercial banks. Argentina had a rather unhappy experience because it made a number of mistakes. One was that bank notes were redeemable in government-issued pesos, a depreciated currency with no fixed link to anything, rather than in an international unit such as gold or the pound sterling. Another mistake was that, as a condition for issuing notes, banks were required to hold specified Argentine government bonds. To buy the bonds, banks had to pay in gold. The government did not use the gold to reestablish a linked rate with gold for its own notes but to pay its foreign debt (which was denominated in gold or gold-linked currencies). Unreliable government-issued currency was the shaky foundation of the financial system of the era. The government's default on its foreign debt in 1890 triggered a currency and banking crisis.[43] The government responded by ending note issuance by banks and establishing the Caja de Conversión in 1891. In 1902 the Caja began to operate as a currency board, and continued to do so, providing Argentina with one of its few periods of monetary stability, until World War I broke out in 1914.

The United States was another country where restrictions on banks gave note issuance by banks an undeserved bad reputation. U.S. banks were prohibited from establishing branches across state lines or in most cases even within states. As a result, the banking system consisted of thousands of small and often weak banks, rather than the small number of larger, stronger banks that existed in Canada and other countries that did not restrict branch banking. Thousands of banks meant thousands of varieties of bank note brands and greater proportional losses to note holders from bank failures than occurred in Canada. In addition, before the Civil War banks chartered by states were often required to back the dollar notes they issued with low-quality bonds issued by the states. That was a formula for problems with banking and currency quality. Countries that did not make the regulatory mistakes that Argentina and the United States did had much happier experiences with free banking.[44]

Would the Public Accept Bank-Issued Notes?

The incentive for banks to issue notes is apparent: supplying notes to the public changes from being a cost, as it is now, to a source of profits. What incentive would the public have to use bank-issued notes?

Commercial banks are not protected by sovereign immunity as are the central banks of Argentina and other countries, so, unlike the case with the peso, if a commercial bank broke its promise to redeem one of its dollars for a U.S. dollar, the holder of the commercial bank note could sue the bank in the country where the notes were issued (which, as has been suggested, should be outside Argentina). In addition, competition would induce banks to maintain their redemption pledge. After all, if people thought there was a possibility that a bank might not fulfill its redemption pledge, they would switch to another brand of dollar-denominated bank notes. Consequently, incentives in the market and legal system would make the quality of the redemption pledge strong.

Dollar-denominated notes issued by banks could offer three features that could make them more attractive to the public than Federal Reserve notes. One would be a higher-quality supply. Federal Reserve notes in circulation in Argentina are often quite worn, and small denominations are scarce. The second feature bank-issued notes could offer would be design characteristics, such as Spanish words and local symbols, that would appeal to Argentines more readily than the design features of Federal Reserve notes. The third feature bank-issued notes could offer would be a rebate or lottery payment feature. Banks could offer cash back to merchants who agreed to accept and pay out their notes, much as credit card companies offer inducements for merchants to accept their credit cards. Competition tends to pass along the rebates from merchants to customers in the form of lower prices. The idea of a lottery payment, which has been suggested but never put into practice, is that bank notes would be like permanent lottery tickets. Now and then, banks would announce that whoever held a note with a winning serial number, drawn at random, would receive a special payment.[45] The lottery payment feature would be a kind of substitute for payment of interest on notes, since a note issuer does not know how long a particular person has held a note.

Banks would put their notes into circulation by paying them out to customers through automatic teller machines and over the counter. Historically, the public has readily accepted the notes of high-quality banks in free banking systems. In Scotland, which formerly had a free banking system, the Bank of Scotland, Clydesdale Bank, and the Royal Bank of Scotland still issue notes alongside the Bank of England, the central bank. In Northern Ireland, the (privately owned) Bank of Ireland, First Trust Bank, the Northern Bank, and the Ulster Bank issue notes alongside Bank of England notes. Customers accept bank-issued notes and rarely demand that the banks pay them Bank of England

Governments took over note issuance from commercial banks not because the private sector was doing a bad job but because governments wanted the profits for themselves.

Historically, the public has readily accepted the notes of high-quality banks in free banking systems.

notes instead. In Hong Kong, HSBC (the Hong Kong and Shanghai Banking Corporation), the Standard Chartered Bank, and the Bank of China issue separate brands of notes as the agents for the Hong Kong Monetary Authority.[46]

Banks might decide to issue individual brands of coins, presumably of similar weight and size as existing coins, or they might decide to form a syndicate to issue a single brand of coins for all members. As with notes, there are many historical precedents for private issuance of coins. U.S. coins would be legal tender and would circulate if banks did not wish to issue coins or if enough people preferred U.S. coins to bank-issued coins.

No Constitutional Obstacles

Unlike the case in some other countries, nothing in Argentina's constitution stipulates that it must have a central bank or a nationally issued currency. In fact, because the constitution has roots in the 19th century, when note issue by multiple banks was widespread around the world, the constitution contemplates the possibility of multiple issuers.

Article 75 of the constitution deals with the powers of the Argentine congress. Paragraph 6 gives the congress the power to "establecer y reglamentar un banco federal con facultad de emitir moneda, así como otros bancos nacionales" (establish and regulate both a federal bank with the ability to issue money, and other national [that is, federally chartered] banks). However, the constitution explicitly contemplates the possibility of multiple note issuers in article 126, which states that "las provincias . . . no pueden . . . acuñar moneda; ni establecer bancos con facultades de emitir billetes, sin autorización del Congreso Federal" (provinces may not coin money or establish note-issuing banks without the authorization of the Federal Congress). By implication, the federal government may itself authorize banks to issue notes, or it may authorize the provinces to charter private or government-owned banks that issue notes.

Paragraph 11 of article 75 gives the congress the power to "hacer sellar moneda, fijar su valor y el de las extranjeras" (have money coined, fix its value and that of foreign monies). Notice that the constitution leaves open the possibility that the congress may decide not to have money coined for the government.

Argentina's Law on Financial Institutions does not mention note issuance as a permitted power of commercial banks or other financial institutions. The Organic Law of the Central Bank gives the central bank power to issue notes but does not state that the power is a monopoly. It may be possible to give commercial banks the freedom to issue notes through administrative decisions, without changing any existing laws. As was mentioned above, though, it would be desirable to eliminate any potential role for the central bank as an issuer of currency, which would require amending the Organic Law of the Central Bank.[47]

Other Issues Related to the Financial System

Remove Interest-Rate Ceilings and Liquidity Requirements

On November 26, 2001, the central bank began setting a weekly reference rate for interest rates paid on bank deposits. Banks were heavily penalized for offering rates more than 1 percent above the reference rate. Bank deposits pay interest rates in single digits or low double digits, limited by decrees and regulations. Market levels for peso loans, evident in the interbank market, are 100 percent a year or more. Under dollarization, nominal rates of interest would fall substantially from their current market levels, and there would be no reason for interest-rate ceilings. The government should remove the ceilings as soon as it has chosen the exchange rate for dollarization.

Minimum reserve requirements for banks (technically called liquidity requirements) are currently up to 15 percent for the most widely held types of deposits. There is also a 75 percent requirement against new deposits first imposed on December 7, 2001, to discourage customers from shifting deposits among banks.[48] Under the convertibility system, requiring banks to hold extensive reserves was part of a regulatory strategy of keeping their assets (with the notable exception of credit to the government) highly liquid as a protection against volatility in financial markets. Most of the volatility, however, has been the result of potential or actual currency crises and the damage they cause to the economy. Dollarization would eliminate the peso as a source of currency crises. The government could immediately reduce minimum reserve requirements to the official U.S. level of 10 percent or even to the zero percent level of Panama's dollarized system.[49] Reducing reserve requirements would enable banks to lend more to Argentine businesses and individuals, helping to generate economic growth.

Capital requirements should be retained, because they have a clear connection to the security of deposits; they are not taxes imposed to benefit the government or banks. If the system becomes heavily "offshorized," as suggested earlier, the various kinds of banking regulation that now exist in Argentina will lose their practical importance.

Unfreeze Bank Deposits

Bank deposits peaked in February 2001 at the equivalent of almost US$90 billion (90 billion pesos). Uncertainty about the future of the peso and fear of a deposit freeze like those of 1982 and 1989 led to a steady decline in deposits from March onward. On Friday, November 30, deposits fell 2.1 billion pesos (almost 3 percent) in a day. In response, on December 1 the De la Rúa government imposed restrictions on withdrawing money from the banking system and on transferring funds out of Argentina. The regulations became effective on December 3 and remain in effect in modified form. Cash withdrawals from bank deposits are limited to 1,200 pesos a month. Transfers of funds out of the country are subject to the approval of the central bank.[50]

Plan Bonos would have completed the seizure of depositors' wealth by converting what were once secure private obligations of determinate value into government bonds of initially low and fluctuating value that might never be paid. The remaining deposits would have been of sufficiently little value that unfreezing them immediately would have been feasible despite the continuing lack of confidence in banks. At an exchange rate of 3 pesos per dollar, the central bank would have had dollar reserves sufficient to finance an outflow into dollars of all deposits remaining after implementation of Plan Bonos.

To repeat, Plan Bonos would have transformed a problem of bank finance into a problem of government finance. If deposits remain a problem of bank finance, I propose that the government-imposed deposit freeze end the day official dollarization begins but that banks be given the option to delay withdrawals in phases for up to three years. Depositors would be allowed to withdraw up to 25 percent of their deposits by the end of the first year, another 25 percent by the end of the second year, and the remaining 50 percent by the end of the third year. Banks that were afraid of large losses of reserves would be allowed to decide individually whether to retain restrictions on deposit withdrawals. The price they would be required to pay to depositors would be an interest-rate premium specified by law—for example, 2 percentage points a year more than the rate they pay for new one-year dollar deposits. Payment of the premium would cease when a bank unfroze all its deposits. For the future, banks might wish to include a similar "option clause" in their contracts with depositors allowing them to suspend conversion into the monetary base, in return for which they would pay a penalty rate of interest. A few free banking systems have had option clauses, and, although rarely used, they provided solvent but illiquid banks with a way to buy time in which to become more liquid.[51]

Nothing in Argentina's constitution stipulates that it must have a central bank or a nationally issued currency.

Cease Issuance of Government IOUs That Circulate like Notes

When provincial governments in Argentina have lacked funds to pay their employees, they have often issued IOUs that circulate like curren-

All government-owned banks should be privatized.

cy, sometimes at face value, sometimes at a discount. The most important notes of the 22 provinces that now issue IOUs are Patacones (officially, Bonos de Cancelación de Obligaciones de la Provincia de Buenos Aires). They are issued by the province of Buenos Aires, the most populous and economically important province.[52] To consolidate the provincial IOUs, the government has issued Letras de Cancelación de Obligaciones Provinciales (Lecops). An agreement of November 15 between the federal government and the provinces about revenue sharing allowed the federal government to pay money it currently owes the provinces and 40 percent of future federal government revenue sharing in Lecops. The provinces are allowed to use Lecops to pay their employees. Currently, there are 2 billion pesos of Lecops in circulation, 1.6 billion pesos of Patacones, almost 1.3 billion pesos of other provincial government IOUs, and a few million pesos of municipal IOUs, making a total of 4.9 billion pesos.[53] The IOUs circulate at as much as 96 percent of face value (for Patacones) to reportedly as little as 20 percent (for the Federales issued by the relatively small province of Entre Rios). There are also electronic counterparts to the IOUs within the banking system, so deposits in IOUs are credited in IOUs, or in pesos at a discount to face value.

Government IOUs that circulate as money have to a limited extent been useful in replacing credit that has evaporated as the economy has shrunk and the government has disrupted property rights. In many provinces they reportedly constitute the bulk of currency in day-to-day use. However, by promoting economic growth, the measures suggested here will reduce the budgetary justification for issuing IOUs that circulate like currency. They will also promote a revival of credit, though, as has been mentioned, reviving investment in Argentina may be much more difficult than reviving saving.

Sell Government-Owned Banks

The government has just proposed merging all government-owned banks into one big bank, to be called the Banco Federal Nacional. Apparently the government thinks that putting all the rotten eggs in one big basket would be better than having them in different baskets. The federal banks included in the merger would be the Banco de la Nación Argentina (Banco Nación), Argentina's largest bank, and the Banco de Inversión y Comercio Extranjero, a small investment bank. Provincial and local governments would be invited, though not required, to merge the 11 banks they own. The most significant are the Banco de la Provincia de Buenos Aires, owned by the government of Buenos Aires province, and the Banco de la Cuidad de Buenos Aires, owned by the autonomous municipal government of Buenos Aires. In combination, government-owned banks had about one-third of all bank assets, liabilities, and deposits at the end of 2001.[54]

Since it was established in 1891, Banco Nación has been entangled so closely in government finances that it has often been impossible to draw the line between the bank and the government. The same has been true of the other government-owned banks. All government-owned banks should be privatized. Today's government-owned banks are the survivors of a larger group that once existed, most of which failed or were taken over when the tequila crisis of 1995 exposed their accumulated years of bad management. Research on provincial banks that were privatized in the 1990s indicates that they reduced their bad loans, lowered their administrative costs, and reduced politically motivated loans to public enterprises.[55] Evidence from other countries also indicates that, as a recent World Bank study says, "Authorities in developing countries generally need to reduce their ownership role" in banks.[56]

Another reason for privatizing government-owned banks is that, if banks are allowed to issue notes, as proposed here, the special status of the proposed Banco Federal Nacional as a government-owned bank could make it a vehicle for reestablishing central banking. Argentina has had enough problems with central banking and there is no need to return to them.

Expected Effects of Financial Reforms

Dollarization and the reforms to the financial system proposed here would stimulate economic growth in the following ways:

- Eliminating the peso would eliminate currency risk.
- Allowing or encouraging "offshorization" would insulate depositors from future seizures of deposits by the Argentine government.
- Allowing banks to issue dollar-denominated notes would help them increase their *supply* of reserves on hand by "capturing" some of the Federal Reserve notes now held by Argentines and replacing them with bank-issued notes.
- Allowing banks to issue dollar-denominated notes would reduce banks' *demand* for reserves by reducing their need for Federal Reserve notes as vault cash.
- Eliminating reserve requirements would allow onshore banks to extend more credit on the basis of a given amount of reserves, if they thought it prudent.
- Total savings (deposits plus bank note issue) captured by local and offshore banks should rise, though investment will take longer to recover.

Government Finance

Currency Stabilization Precedes Rather Than Follows a Balanced Budget

According to the conventional view, Argentina's crisis began with an overvalued peso. The conventional view has paid almost no attention to Argentina's high tax rates and the drag they impose on economic growth. A correct view of the crisis must place tax rates squarely at the center. The tax increases of January 2000, April 2001, and August 2001 added to an already high tax burden and discouraged economic recovery. Dollarization can provide a quick return of confidence in the economy and give a short-term boost to economic growth, but without much lower tax rates, Argentina will be unable to achieve good long-term growth.

Having misdiagnosed what caused the crisis, the conventional view now misdiagnoses how to end it. The IMF has stressed that the federal and provincial governments must reduce their budget deficits before the IMF will lend money to stabilize the peso. In Argentina's current circumstances, though, currency stabilization is the mother rather than the daughter of a balanced budget. Real tax revenue has fallen because the unstable peso and the freeze on bank deposits impede trade. The currency must first be stabilized if the economy is to revive and generate the higher tax revenues necessary to eliminate the budget deficit. Argentina's recent experience has been that cutting spending is not by itself sufficient to balance the budget, and raising tax rates from their already high levels actually reduces tax revenue.

The conventional view has paid almost no attention to Argentina's high tax rates and the drag they impose on economic growth.

Maintaining budgetary discipline has been a persistent problem for Argentina, no matter what type of exchange rate it has had. No exchange rate system in itself guarantees budgetary discipline, and I know of no prominent advocate of dollarization who has claimed that dollarization would do so.[57] Dollarization would simply improve the chances of discipline. A formal debt rule would be desirable, but dollarization plus the inability of the federal and provincial governments to borrow in international markets for some years to come will provide an informal rule.

Federal-Provincial Relations

Budgetary relations between the federal government and provincial governments are complex, not because of the economics involved, but because of the politics. Historically, provincial governments that have encountered financial trouble have appealed to the federal government to rescue them with federal funds rather than fix their problems themselves. They have been able to do so because presidents have generally needed the political support of federal governors and the governors' allies in the congress.

Federal-provincial relations have been a

Without much lower tax rates, Argentina will be unable to achieve good long-term growth.

matter of great concern to the IMF and the Group of Seven nations, which have urged the federal government to enforce greater financial discipline on the provinces. Their concern is amply justified under Argentina's current monetary policy. Under dollarization, though, the problem would diminish. If the federal government could not print money to fund the provinces, both it and they would be subject to greater budgetary discipline (though, to repeat, no monetary system can guarantee budgetary discipline). Provincial governments would have more incentive to solve their own financial problems, as is the case with states and municipalities in the United States.

Another way of improving the incentive for provinces to solve their own financial problems would be to change the nature of federal revenue-sharing, or coparticipation, funds. The federal government could continue to collect taxes for the provinces but share less of that revenue in the general pool and instead grant provinces some power to impose surcharges. The federal government would distribute to each province the revenue raised by that province's surcharges. Efficient provincial governments would impose lower surcharges and be more popular with voters; inefficient governments would impose higher surcharges and risk losing power to opposition politicians promising lower spending and lower surcharges.[58]

Domestic and Foreign Debt

On December 23, 2001, then-president Adolfo Rodríguez Saá announced that the government would default on its *foreign* debt. Internationally, the effect of the default has so far not hurt other emerging markets.

Plan Bonos would have reduced the domestic debt the government stuffed into banks by, in effect, forcing it on depositors. Banks would have become financially stronger while the government and depositors would have become weaker. Whether or not something like Plan Bonos is adopted, it remains important for the government to pay its domestic debt. What the government would "save" from a default on the domestic debt, the Argentine economy as a whole would lose. Domestic creditors of the government should continue to receive priority over foreign creditors until the economy starts growing again and the foreign debt has been renegotiated. Unlike foreign creditors, many domestic creditors have been forced to hold government debt by regulations or informal pressure by the Argentine government. Foreign creditors knew they were making a risky investment by buying Argentine government debt. The IMF should continue its recent and commendable policy of not bailing out foreign creditors.

A growing economy offers the best chance for holders of government debt, whether foreign or domestic, to recoup their losses. It would be in their self-interest to support the policies suggested in this paper.

Cut Tax Rates Drastically

Table 4 shows the rates for the major federal and provincial taxes. Adding up the main federal taxes that apply to individuals makes apparent how heavy a burden they are for citizens who actually pay them, and helps explain why tax evasion is widespread. A comparison with the United States is instructive. U.S. state sales taxes range from zero to 9 percent (there is no federal sales tax); the top rate on federal income tax is 39.6 percent (state rates range from zero to 11 percent); the rates for Social Security and Medicare taxes total 15.3 percent of wages; and there are no export taxes or financial transactions tax.

As has been mentioned, the De la Rúa government imposed large tax increases that took effect in January 2000, April 2001, and August 2001. Toward the end of 2001 tax revenue fell sharply, especially in December, when the freeze on bank deposits began. The Duhalde government has proposed, announced, then in some cases modified new taxes. It is repeating the mistake of the De la Rúa government.[59] Argentina needs to move toward fewer and simpler taxes, not more and highly complex taxes. The government seems to have confused tax *rates* with tax *revenues*.[60] Although

Table 4
Major Taxes in Argentina in 2001

Tax	Rate(s) (%)	Revenue (bn pesos)	Remarks
		Federal	
Social security taxes	32.9	8.0	Employees pay 11%, including 5% (down from 11% before November 2001) to private pension funds; employers pay 21.9%. Ends at 57,600 pesos.
Value-added tax	21	15.4	Main rate 21%; special rates of 10.5% and 27%.
Income tax	9–35	10.1	Corporate rate is 35 percent; individual rates are 9–5 percent, with top rate starting at 120,000 pesos.
Fuel taxes	~50–60	3.4	Rates vary, and were rejiggered in 2001.
Financial transactions tax	0.6	2.9	Imposed in April 2001 at 0.25%, increased in August. Paid on both bank credits and debits.
Excise taxes	Various	0.5	Part of revenue shared with provinces.
Tariffs	0–35	1.7	Raised on many items March 2001.
All other taxes	Various	3.5	Includes personal assets tax of 0.5–0.75% starting at assets of 102,300 pesos and presumptive minimum tax of 1% starting at assets of 300,000 pesos. Export taxes imposed in 2002.
Total		45.5	(In addition, 4.0 billion pesos were collected and paid into workers' private pension accounts.)
		Provincial and Local	
Tax on gross sales	1.0–4.9	4.4	Averages 3%; many exemptions.
Property tax	Various	1.4	
Motor vehicle tax	Various	0.7	A common rate is 3%.
Stamp taxes	1	0.6	Most common rate is 1%.
All other revenue	Various	0.8	
Total of these taxes		7.8	Revenue for January–September 2001.

Sources: Administración Federal de Ingresos Públicos, www.afip.gov.ar/sistema/sistema.asp, www.afip.gov.ar/estadisticas/serie2001.htm; Fundación Invertir Argentina, www.invertir.com/taxation.html; Ministry of Economy, Secretariat of Finance, Undersecretariat of Financing, "Main Macroeconomic Indicators," www.mecon.gov.ar/download/financiamiento/newinf.xls; and Ministry of Economy, Secretaría de Hacienda, *Boletín Fiscal* and "Recursos Tributarios Provinciales," www.mecon.gov.ar/coord-pcias/anexo_presupuestario/ anexo4.htm, www.mecon.gov.ar/hacienda.

Notes: Revenue amounts are rounded and may not add up to totals. Capital gains tax for individuals and gift and estate taxes are zero, but real estate sales are subject to a 1.5 percent transfer tax. The provincial governments receive more than half their revenue from federal revenue sharing. Whereas Table 1 lists tax and nontax revenue, this table lists only tax revenue.

the analogy is not exact, it may help to think of government as "selling" its services for a "price" that is taxation. A higher price does not always result in higher revenues. Past a certain point, the number of buyers drops faster than the price rises, so revenue in fact falls. The solution for a seller who wants to increase his revenue is to reduce his prices.

Argentina's experience with higher tax rates yielding lower tax revenues strongly suggests

The IMF should continue its recent and commendable policy of not bailing out foreign creditors.

that tax rates are too high, and that the way to increase revenues is to reduce rates. For at least some taxes, Argentina seems to be on the wrong side of the Laffer curve.[61] High tax rates reduce revenues in two ways: by reducing the amount produced of the good being taxed by those who pay the tax, and by increasing the incentive to evade the tax for people who do not pay it. It has been estimated that Argentines evade the value-added tax, the government's biggest generator of revenue, in 40 percent of transactions.[62]

Lower tax rates would improve the long-term growth prospects of the Argentine economy. Lowering tax rates is a calculated risk, but raising tax rates has not worked well, so persisting with high tax rates is at least as risky.

The Duhalde government has expressed a desire to reduce tax rates, but so far it has not actually cut any rates. It can encourage sustained economic growth by making a commitment to cutting tax rates consistently for a number of years (potentially through 2007, if President Duhalde is still in office by next year and is reelected). A good model to imitate is Ireland, which has cut the rates on one or more of its important taxes almost every year since 1987.[63]

The government needs to begin with an immediate, dramatic tax reduction, which should include the following components:

- Cut the value-added tax from the current main rate of 21 percent to 15 percent. Eliminate the special rate of 27 percent.
- Combine the payroll tax (for social security and medical care) and the income tax into a flat-rate tax of 25 percent with no exemptions. (A flat-rate personal income tax of a sort already exists, but it applies only to nonresidents and the rate is 35 percent.)
- Eliminate the financial transactions tax (though if the banking system is substantially "offshorized," the tax will not apply to offshore transactions anyway).
- Eliminate the presumptive minimum tax, the personal assets tax, and recently imposed export taxes on agricultural goods.
- Eliminate all changes to the tax code since August 1, 2001, that have imposed new taxes or made the tax system more complex.
- Combine lower and simpler taxes with greater enforcement.

Further reductions would be desirable later. At present, tax rates are so high that they encourage massive evasion. Reducing tax rates now and continuing to reduce them in the future can significantly broaden the base of taxpayers. Over the next five years, the government should aim to reduce the value-added tax to 10 percent and the proposed flat tax to 20 percent.

It is instructive to compare the experience of Argentina with that of Ecuador over the last few years. Argentina's tax revenue has been falling, while Ecuador's tax revenue from sources other than oil has increased from the equivalent of US$1.5 billion in 1999, the last year before dollarization, to US$2.4 billion in 2001 and an expected $3 billion or so in 2002. In the first three months of 2002, federal tax revenues fell 16 percent in Argentina compared with the same period a year before; in Ecuador, nonoil tax revenues rose more than 35 percent.[64] Part of the increase in Ecuador's nonoil tax revenue reflects prices catching up to world levels after falling far behind in 1999. The increase remains impressive even so, for it has consistently exceeded forecasts. The underlying cause of the difference is that Ecuador's economy has been growing while Argentina's has been shrinking. Argentina's nominal tax revenues will soon begin rising, but it will be mainly because they are expressed in depreciating pesos; expressed in dollars, revenues are likely to continue shrinking.

Government Spending

Although there are government functions that are notoriously overstaffed (the bureaucracy of the congress, the top ranks of the military) or inefficient (universities), it has proved politically difficult to reduce their spending. The government should focus on increasing revenue rather than on cutting spending. An inefficient government in a growing economy is more tolerable than a highly efficient government in a shrinking economy. Real government spending can be restrained by not increasing the wages of government employees as fast as inflation. If inflation is 50 percent or more this year, as private-sector forecasts project, the reduction in real government spending from retaining existing nominal levels of spending will be considerable. For the future, one idea for making salary costs more flexible would be to index the wages of government employees to those of private-sector employees or to tax collections.[65]

It has been suggested that government spending should be the motor of economic growth, in the manner suggested by John Maynard Keynes during the depression of the 1930s. Without entering into an involved discussion of Keynes's ideas, it suffices to note that they were proposed for conditions of deflation. Argentina today has begun again to experience conditions of inflation. It is clear that under current conditions more government spending will lead to higher inflation but not higher growth—a combination familiar to Argentines from the 1980s.

Establish a More Transparent Fiscal Framework

In addition to reducing tax rates and eliminating some taxes, the government should introduce a new fiscal framework based on sound, transparent accounting. The government should produce an annual balance sheet and income statement, using a full accrual basis (which is more complete than the cash basis the government now uses) and applying generally accepted accounting principles. The balance sheet and the income statement should be audited by private accounting firms. This type of fiscal framework was introduced in New Zealand starting in 1989; among other things, it has discouraged corruption and promoted honesty in government finances.[66]

Remember Who Was Right

Finally, the government should entrust the implementation of major reforms to persons who were correct in their analysis of the events leading to the present situation: those who warned against floating the peso, protested the freeze of bank deposits, decried the government's massive destruction of property rights, and emphasized the need for reducing tax rates. The implementation of Ecuador's dollarization and other reforms of 2000 was hindered by the presence of officials in the central bank and ministry of economy who were known as strong opponents of dollarization. Argentina should not make the same mistake. There is a small but capable group of economists, lawyers, financiers, and other persons in Argentina who should be willing to help politicians smart enough to ask them.

Conclusion

Argentina and the IMF

Argentina's negotiations with the IMF have so far resulted in no new loans, in part because the IMF thinks there is no "quick fix" for Argentina, as its managing director, Horst Köhler, has claimed.[67] In reality, there is a quick fix, at least for the currency problem: dollarization. It could be done immediately, and it would establish a truly fixed exchange rate before eliminating pesos from circulation.

Ecuador in January 2000 was also in the midst of a depression, with a currency nobody trusted and a banking system far worse managed than that of Argentina. In desperation, on January 9, president Jamil Mahuad announced dollarization, which had been proposed for months by a number of prominent local economists and businesspeople, as well as by myself and a few other foreigners.[68] The next day the Ecuadorean sucre stabilized at the announced rate of 25,000 per U.S. dollar and remained there until sucres were eliminated from circulation. The interbank interest rate tumbled from 200 percent on January 7 to 20 percent by January 11. Money began flowing back into the banks, the economy started growing, and tax revenue rose. Those trends continue today.

The government seems to have confused tax rates with tax revenues.

Summary of Recommendations

Currency (for immediate action)

- Officially dollarize.
- Retire from circulation all notes of the Banco Central de la República Argentina (BCRA) and all deposits at the BCRA; replace them with dollar assets.
- Allow coins in circulation or already minted to continue, but require new dollar-denominated coins to be issued by the U.S. Federal Reserve System or by banks.
- Reform the central bank to strip it of all monetary policy functions.
- Allow banks to issue notes (paper money) denominated in dollars.
- Convert peso interest rates into dollars.

Financial system (for action immediately or soon)

- Allow or even encourage "offshorization" of the banking system.
- To the extent possible, reverse the damage from pesofication of deposits.
- Modify the deposit freeze to allow banks that wish to pay deposits to do so. Unfreeze all deposits within three years and make banks pay a penalty rate of interest on frozen deposits in the meantime.
- Remove minimum liquidity requirements immediately.
- Remove interest-rate ceilings immediately.
- Sell government-owned banks.

Government finance (for action immediately or soon)

- Reduce tax rates. It is possible that lower tax *rates* will quickly result in higher tax *revenues.* In the short term, cut the value-added tax to 15 percent; combine the payroll and income taxes into a flat-rate tax of 25 percent with no exemptions; abolish the financial transaction tax, presumptive minimum tax, and personal assets tax. In the longer term, reduce the value-added tax to 10 percent and reduce the personal and corporate income taxes to 20 percent.
- Introduce a transparent fiscal framework for the federal and provincial governments, including published balance sheets and income statements using an accrual basis (not the current cash basis); annual audits by outside firms; and adherence to generally accepted accounting principles.
- Make the provinces more responsible for their own tax revenues.
- Give priority to repaying domestic debt; repayment of foreign debt will have to wait until the economy begins growing again.

Expected results

- Lower interest rates.
- Rising bank liabilities (deposits, bank notes, etc.) and loans.
- More seigniorage (profit from issuing notes) retained by financial system.
- A return to economic growth, though sustaining growth will require continued effort.

Where was the IMF? Until the day before dollarization was announced, a key IMF official concerned with Ecuador, with whom I had a brief private correspondence, was critical of dollarization, even though every type of central banking measure had been tried and had failed. Although one or two members of the IMF staff (not working on Ecuador) had some knowledge of dollarization, the IMF as an institution did not. That state of affairs continues today.

After president Mahuad announced dollarization, the IMF quickly declared its support. The same would likely happen in Argentina. However, Argentina must be careful about accepting conditions that the IMF might wish to attach to loans. In Ecuador, the IMF pushed for an increase in the value-added tax from 12 percent to 15 percent. The government negotiated the rate down to 14 percent, but fortunately for Ecuador's taxpayers, the Constitutional Court declared the increase unconstitutional. The value-added tax has remained at 12 percent, and thanks to economic growth, revenue from it has exceeded projections. In addition to lacking an understanding of dollarization, the IMF as an institution lacks an appreciation of the Laffer curve. Argentina could implement the ideas outlined here with or without IMF assistance. Proceeding without the IMF would be better than accepting new loans tied to further tax increases or other conditions that would harm the economy.

Toward the Future

Argentines know that the peso does not work well and that its depreciation is the biggest single problem they face today. Dollarization is the essential first step for reestablishing private property rights and reviving the economy. Dollarization will provide a first positive jolt. It must be followed quickly with reforms to the financial system and taxes (see the accompanying box for a summary of proposals). Beyond that, there are many other steps Argentina could take to make its economy more efficient and more flexible so it grows faster.[69] Labor laws are notoriously inflexible. The health care system, dominated by monopolistic providers, is a mess. Most provincial governments are poorly run. Delivery of government services is in general poor. Corruption is still extensive. Tax collection is weak. The legal system is unreliable. All those things are well-known and have been subjects of numerous studies and recommendations. The problem is having the political willpower to make reforms and the determination to follow through.

Appendix: A Model Dollarization Statute

This model law suggests the main features desirable for a law on dollarization. An actual statute may need to be somewhat different to comply with legal technicalities.

* * *

In accord with article 75 of the constitution, this "Law on Dollarization" is enacted.

1. The Argentine peso is hereby eliminated as a unit of account and replaced by the United States dollar at a rate of ___ pesos = 1 dollar. Notes, coins, and other monetary liabilities of the Federal Reserve System of the United States shall be legal tender in Argentina.
2. All assets, liabilities, and prices denominated in pesos are hereby redenominated into dollars at the rate specified in paragraph 1. [If former dollar deposits are reconverted into their original amounts in dollars, an exception will have to be written for them.]
3. The government shall establish reference rates and procedures for converting peso interest rates into dollar interest rates.
4. The Banco Central de la República Argentina (BCRA) shall cease to be a central bank, and its monetary assets and liabilities shall be liquidated as speedily as possible. Its peso liabilities

Argentines evade the value-added tax, the government's biggest generator of revenue, in 40 percent of transactions.

Dollarization is the essential first step for reestablishing private property rights and reviving the economy.

shall be converted into dollars at the exchange rate specified in paragraph 1.

(a) The BCRA shall return all deposits by banks or the public to their holders within 90 days after this law becomes effective.

(b) The BCRA shall not issue any new notes or reissue old notes. It shall withdraw existing notes from circulation as quickly as possible. Ninety days after this law becomes effective, BCRA notes shall cease to be legal tender, though they may continue to be accepted by consenting parties. One year after this law becomes effective, the BCRA shall no longer be required to exchange its notes for dollars.

(c) The BCRA shall issue no coins beyond those already in its vaults when this law becomes effective. The government shall not mint new coins to replace old coins.

5. Solvent banks licensed to operate in Argentina may issue notes and coins denominated in U.S. dollars or other units of account and redeemable in those units. The notes shall not be subject to a circulation tax or value-added tax. Notes issued by banks shall not be forced tender.
6. No level of government shall issue additional notes intended to circulate like currency.
7. All restrictions on trading or setting prices in foreign currencies are hereby abolished. Consenting parties may use any currency they specify, for any amount they choose.
8. All compulsory government-imposed restrictions on withdrawals of bank deposits shall be eliminated when this law takes effect. Banks may delay withdrawals for up to three years, upon payment of a penalty rate of interest to depositors, according to terms decreed by the Executive Power.
9. Previously enacted legislation conflicting with this law is repealed.
10. This law becomes effective immediately.

Notes

I thank audiences at ESEADE in Buenos Aires on April 2-3, 2002, and other readers for comments on an earlier version of the paper. This paper was originally posted as a Cato Institute working paper on April 26, 2002, at www.cato.org and is based on work with Steve H. Hanke, in particular, our December 2001–January 2002 Cato Institute Web paper "How to Dollarize in Argentina Now." The present paper reflects the circumstances of April 2002, though I had the opportunity to make some minor updates in June.

Web sites that are temporarily unavailable directly or have had information removed from them may be viewed through the Internet Archive, www.archive.org.

1. Anne O. Krueger, "Transcript of a Press Briefing (Teleconference) on Argentina," January 11, 2002, www.imf.org/external/np/tr/2002/tr020111.htm.

2. On advice, see John B. Taylor, extemporaneous testimony before the Subcommittee on International Monetary Policy and Trade of the House Committee on Financial Services, Hearing on Argentina's Economic Meltdown—Causes and Remedies, February 6, 2002; on unwillingness to share seigniorage, see Taylor's testimony before the Joint Economic Committee of the U.S. Congress, Hearing on Reform of the IMF and World Bank, February 14, 2002.

3. Within Argentina, they include Martín Krause, Pedro Pou, and Gabriel Rubinstein. See Rubinstein's website, www.econline.com.ar, and his book *Dolarización: Argentina en la Aldea Global* (Buenos Aires: Nuevohacer Grupo Editor Latinoamericano, 1999). Outside Argentina, they include Charles Calomiris, Guillermo Calvo, and, to a limited extent, Adam Lerrick and Allan Meltzer. Other than work by myself and Steve Hanke, apparently the only comprehensive alternative to the policies of the government has been Plan Fénix, proposed in September 2001 and updated in April 2002 by economists from the Universidad de Buenos Aires whose ideas differ much from those proposed here; see www.econ.uba.ar/www/destacados/fenix.htm.

4. Argentina has an extensive underground economy not recorded in official statistics, but I am confident that the official statistics accurately reflect most trends in the economy, even if not precise *magnitudes*.

5. Economists in the United States who support the conventional view include Olivier Blanchard (Massachusetts Institute of Technology), "Argentina's Symbols Crash against Reality," *Nation* (Bangkok),

December 17, 2001; Michael Bordo and Ricardo Chang (Rutgers University), "Throw Away the Dollar Peg," *Financial Times*, June 7, 2001, p. 21; Martin Feldstein (Harvard University), "Argentina's Fall—Lessons from the Latest Financial Crisis," *Foreign Affairs*, March–April 2002, pp. 8–14; Ricardo Hausmann (Harvard University's Kennedy School of Government), "A Way Out for Argentina," *Financial Times*, October 30, 2001, p. 23; Paul Krugman (Princeton University), "Crying with Argentina," *New York Times*, January 1, 2002, p. A21; Allan Meltzer (Carnegie Mellon University), Remarks at the American Enterprise Institute conference "Who Lost Argentina?" Washington, February 5, 2002; Michael Mussa (Institute for International Economics), "Fantasy in Argentina," *Financial Times*, November 11, 2001, p. 23; Michael Mussa, "Argentina and the Fund: From Triumph to Tragedy," Paper for Institute for International Economics, March 25, 2002, www.iie.com/ papers/mussa0302-1.htm; Nouriel Roubini (New York University), "Should Argentina Dollarize or Float? The Pros and Cons of Alternative Exchange Rate Regimes and Their Implications for Domestic and Foreign Debt Restructuring/ Reduction," December 2, 2001, www.stern.nyu. edu/globalmacro; Martin Uribe (University of Pennsylvania), quoted in Jenalia Moreno, "Free Floating of Currency Cheered," *Houston Chronicle*, February 12, 2002, business section, p. 6; Thomas D. Willett (Claremont Graduate University), "Crying for Argentina," *Milken Institute Review*, 2d quarter 2002, pp. 50–59, www.milkeninstitute. org/poe.cfm?point =pub03; John Williamson (Institute for Interna-tional Economics), quoted in Bill Hieronymous, "IIE's John Williamson Comments on Argentina's Financial Crisis," Bloomberg news wire, December 31, 2001. Even Jeffrey Sachs (then of Harvard University), who has supported dollarization in Argentina, has claimed that the peso was overvalued and that floating might have benefits; see "A Crash Foretold," *Time International* (Latin America), January 14, 2002, p. 17. An example of how the government has echoed the conventional view is Eduardo Duhalde, "Rebuilding Argentina," *Washington Post*, April 22, 2002, p. A19.

6. Steve H. Hanke commented on Argentina's crisis as it unfolded in a number of articles, some of which are available at cato.org/current/argentina/ index.html and www.forbes.com/hanke.

7. Those who have failed to make the distinction include Eduardo Luis Curia, "Los años noventa y el currency *board:* del éxtasis a la frustración," in *La Economía Argentina Hoy*, ed. Marcelo Ramón Lascano (Buenos Aires: Editorial El Ateneo, 2001), pp. 141–59; Paul Krugman, "A Cross of Dollars," *New York Times*, November 7, 2001; Nouriel Roubini, "The Case against Currency Boards: Debunking 10 Myths about the Benefits of Currency Boards," 1998, www.stern.nyu.edu/~nroubini/asia/Currency BoardsRoubini.html; and most publications by staff of the IMF, such as Tomás J. T. Baliño and Charles Enoch, eds., *Currency Board Arrangements: Issues and Experiences*, IMF Occasional Paper 151 (Washington: International Monetary Fund, 1997).

8. Steve H. Hanke and Kurt Schuler, *¿Banco Central o Caja de Conversión?* (Buenos Aires: Fundación República, 1991); idem, "Argentina Should Abolish Its Central Bank," *Wall Street Journal*, October 25, 1991, p. A15; idem (with Lars Jonung), *Russian Currency and Finance: A Currency Board Approach to Reform* (London: Routledge, 1993), pp. 72–77; idem, *Currency Boards for Developing Countries: A Handbook* (San Francisco: International Center for Economic Growth, 1994), pp. 47–51; and idem, "A Monetary Constitution for Argentina: Rules for Dollarization," *Cato Journal* 18, no. 3 (Winter 1999): 405–19, www.cato.org/pubs/ journal/cj18n3/cj18n3-11.pdf.

9. Law 25.445, modifying Law 23.928 (the Converti-bility Law); and Banco Central de la República Argentina, www.bcra.gov.ar/pdfs/estadistica/bai2001. xlw. Information on Argentine economic laws can be found at Infoleg, a service of the Ministry of Economy, www. infoleg.mecon.gov.ar/default. htm.

10. Decree 803/2001; and Decree 1570/2001.

11. Banco Central de la República Argentina, www.bcra.gov.ar/pdfs/estadistica/bas2001.xlw, column F divided by column J.

12. UBS Switzerland, "Prices and Earnings around the Globe: An International Comparison of Purchasing Power," 2000, p. 6, www.ubs.com/ e/index/about/research/economicresearch.new-dialog.0007.Upload5.pdf/pl00e1o.pdf.

13. For U.S. price indexes, see U.S. Department of Labor, Bureau of Labor Statistics, http://data. bls.gov/cgi-bin/surveymost?bls. The producer price index is the unadjusted index for finished goods. For consumer price indexes of particular U.S. cities, see http://data.bls.gov/labjava/ out-side.jsp?survey=cu. For Argentine price indexes, see the Instituto Nacional de Estadística y Censos, www.indec.mecon.gov.ar/DEFAULT.HTM. The consumer price index is for greater Buenos Aires. One way to argue that the peso was overvalued would be to claim that the government chose a bad exchange rate at the start, but those who believe the overvaluation story claim instead that the peso became overvalued only later.

14. Kalin Hristov, Bulgarian National Bank, "FEER and Currency Boards: Evidence from the 90's," Paper presented at the Centre for Central Banking Studies (Bank of England) Conference on Exchange Rates, November 26, 2001, p. 25; and International Monetary Fund, *Third Review under*

the Stand-By Arrangement . . . , June 2001, p. 10, www.imf.org/external/pubsft/scv/2001/cr0190.pdf.

15. Shortly before writing this paper, I sent e-mail messages to three economists who had testified to a committee of the U.S. Congress that the peso was overvalued. I asked them according to what measure the peso was overvalued, using what base year, and according to whose calculations. Two did not respond; the third admitted that he had not investigated the subject for himself but had accepted estimates given to him by Argentina's central bank and Ministry of Economy in early or mid December 2001.

16. For comparisons of Argentina with other countries, see Simeon Djankov et al., "The Regulation of Entry," National Bureau of Economic Research working paper 7892, September 2000, p. 36, www.nber.org; James Gwartney and Robert Lawson with Charles Skipton and Walter Park, *Economic Freedom of the World Report 2001* (Vancouver: Fraser Institute, 2001), www.fraserinstitute.ca/publications/books/efw2001; and Gerald P. O'Driscoll Jr., Kim R. Holmes, and Mary Anastasia O'Grady, *2002 Index of Economic Freedom* (Washington: Heritage Foundation, 2002), www.heritage. org/index/2002; see also World Economic Forum, *Global Competitiveness Report (* New York: Oxford University Press, 2001); country rankings available at www.weforum.org/pdf/gcr/OverallCompetitivenessRankings.pdf.

17. In a paper dated March 2002, Martin Feldstein, one of the best-known economists in the United States, writes that Argentina has a "growing trade deficit," whereas in fact it had trade surpluses in 2000 and 2001. Martin Feldstein, "Economic and Financial Crises in Emerging Market Economies: Overview of Prevention and Management," National Bureau of Economic Research working paper 8837, March 2002, p. 8, www.nber.org. For the statistics, see the Instituto Nacional de Estadística y Censos, www.indec.mecon.gov.ar/DEFAULT.HTM.

18. Statistics from Ministry of the Economy, Secretariat of Finance, "Main Macroeconomic Indicators," www.mecon.gov.ar/download/financiamiento/newinf.xls. The federal government has recently assumed responsibility for some provincial debt.

19. Law 25.239; Law 25.413 (the Competitiveness Law); Decree 380/2001; and Decree 969/2001. The other key law of this period was Law 25.453 (the Zero Deficit Law).

20. To discourage evasion of the financial transaction tax, it was decreed that all payments greater than 1,000 pesos had to be made through the banking system to be recognized as legal. To understand the "cascading" nature of the financial transaction tax, suppose a single company cuts down trees, owns the mill that converts them into newsprint, prints newspapers, delivers the newspapers to newsstands in its own fleet of delivery trucks, and owns the newsstands. It can handle all the financial transaction on its own books, without resort to the banking system, so it pays no financial transactions tax. If a separate company handles each stage of production, it is likely that each company will make and receive payment through the banking system in a chain of payment that corresponds to the stages of production. The full amount of payment for the logs will in effect have been subject to the tax five times, once for each stage in the chain of payment.

21. Many economists believe that when a government encounters financial problems, the currency must suffer depreciation. That has been the general practice of national governments, but it is obviously not true for lower levels of government because they do not issue their own currencies, nor is it inevitable that national governments should depreciate their currencies rather than default on their debt or otherwise reorganize their finances.

22. Law 25.561; see also Decree 71/2002 and Ministry of Economy, Resolution 6/2002. Among other things, Law 25.561 suspended until December 2003 Law 25.466, which was supposed to guarantee the security of deposits.

23. Ministry of Economy, Secretariat of Finance, Undersecretariat of Financing, "Main Macroeconomic Indicators," www.mecon.gov.ar/download/financiamiento/newinf.xls; Banco Central de la República Argentina, *Información Monetaria y Financiera Mensual*, www.bcra.gov.ar; International Monetary Fund, *International Monetary Statistics;* Ministry of Economy, Secretariat of Economic Policy, "Información Económica," www2.mecon.gov.ar/infoeco/apendice6.xls (total government spending); J. P. Morgan Emerging Markets Bond Index Plus (country risk premium).

24. Allan Meltzer, Testimony before the Subcommittee on International Monetary Policy and Trade of the House Committee on Financial Services, Hearing on Argentina's Economic Meltdown—Causes and Remedies, Day 2, March 5, 2002.

25. Steve H. Hanke, "Questions the IMF Is Obliged to Answer," Letter, *Financial Times,* January 17, 2002, p. 10; Thomas Dawson, "Dollarisation in Argentina Cannot Be Counted on to Succeed," Letter, *Financial Times*, February 1, 2002, p. 12. A more recent comment on this issue is Gabriel Rubinstein, "Existen las reservas del BCRA?" March 26, 2002, www.econonline.com.ar. The BCRA issues a monthly statement giving some details about its foreign reserves,

"Reserves Internacionales/Liquididez en Moneda Extranjera," www.bcra.gov.ar/pdfs/contad/ temp0202.pdf.

26. Decree 214/2002; Banco Central de la República Argentina, Communicación "A" 3468, February 8, 2002, www.bcra.gov.ar/folio/A3468.pdf.

27. U.S. Department of the Treasury, *The Use and Counterfeiting of United States Currency Abroad,* January 2000, p. 19, www.federalreserve.gov/boarddocs/ RptCongress/conterfeit.pdf; Eduardo Levy Yeyati, "10 años de convertibilidad: la experiencia argentina," Universidad Torcuatro di Tella, p. 41, www.utdt. edu/~ely/Convertibilidad.pdf.

28. Banco Central de la República Argentina, *Información Monetaria y Financiera Mensual,* March 2002, www.bcra.gov.ar/pdfs/estadistica/bol0402.pdf.

29. One writer who has voiced concern about this matter, though acknowledging that the problem may be avoidable, is Gerardo Tresca, *El Espejismo de la Convertibilidad: La Economía Argentina en la Década del Noventa* (Buenos Aires: Ediciones Realidad Argentina, 2000), p. 228.

30. Theoretically, banks can gain all the reserves they need from inflows of deposits and need hold no initial reserves.

31. As a very rough guide to establishing a fixed exchange rate immediately, Gabriel Rubinstein's concepts of a "dollar of maximum confidence" and a "dollar of minimum" confidence are helpful. See his Website, www.econline.com.ar.

32. Why not try to return to the former exchange rate of 1 peso per dollar? Doing so would imply a deflation to reverse the inflation that has occurred since the peso was devalued. Other things being equal, it would also require the central bank to have much larger dollar reserves than it now does, so as to be able to convert the peso monetary base into dollars at a more appreciated exchange rate. Argentina is highly unlikely to obtain a loan of the scale necessary to boost the central bank's dollar reserves sufficiently.

33. Established by Decree 214/2002; see also Banco Central de la República Argentina, Communicación "A" 3507, March 13, 2002, www.bcra.gov.ar/folio/ a3507.pdf. For the CER itself, see Banco Central de la República Argentina, www.bcra.gov.ar/pdfs/ estadistica/cer2002.xlw.

34. Kurt Schuler and Steve H. Hanke, "How to Dollarize in Argentina Now," December 20, 2001, and January 2, 2002, pp. 31–333, users.erols. com/kurrency/argjdec01f. For sample objections from blackboard economics, see Eduardo Levy Yeyati and Franco Sturzenegger, "Dollarization: A Primer," Universidad Torcuatro DiTella, July 2001, www.utdt.edu/~fsturzen/CHAPTER1.pdf; Nouriel Roubini, "Should Argentina Dollarize or Float? The Pros and Cons of Alternative Exchange Rate Regimes and Their Implications for Domestic and Foreign Debt Restructuring/ Reduction," New York University, December 2, 2001, www. stern.nyu.edu/ globalmacro; *Journal of Money, Credit, and Banking* 33, no. 2, part 2 (May 2001); and *Journal of Policy Modeling* 23, no. 3 (April 2001).

35. See Kurt Schuler, "What Use Is Monetary Sovereignty?" August 2000, users.erols.com/kurrency/ monsov.htm.

36. Banco Central de la República Argentina, Communicación "A" 3467, February 8, 2002, www.bcra.gov.ar/folio/a3467.pdf.

37. For accounts of Ecuador's experience under dollarization so far, see Paul Beckerman, "Dollarization and Semi-Dollarization in Ecuador," World Bank Working Paper 2643, July 17, 2000, econ.worldbank.org/files/ 2322_wps2643.pdf; Carlos Julio Emanuel (Ecuador's minister of economy and finance), "La dolarización y el paso a la economía real," January 16, 2002, minfinanzas.ec-gov.net/docs/economia.doc; Franklin A. López, "Dollarization in Vulnerable Economies: The Lessons from Ecuador," University of New Orleans, April 2002, 150.108.69.10/public/m-union/ abstracts/ lopezpaper.pdf; and IMF information at www.imf. org/external/country/ECU/index.htm. For official statistics, see the Banco Central del Ecuador's weekly *Boletín de Coyuntura* www.bce.fin.ec/indicadores/ semanal/ bol_sem.htm.

38. Gabriel Rubinstein, and, I am told, economists from Universidad del CEMA.

39. I first discussed this idea in Kurt Schuler, "U-Turn Out of the Dead End: How to Solve Argentina's Debt, Currency, and Banking Problems," manuscript, August 16 and 27, 2001.

40. Banks with branches in the United States may even wish to issue notes there. Federally chartered banks in the United States have had the capacity to issue notes since 1994 (for the first time since 1935). One reason they have not issued notes is that they have been unaware that the law allows them to do so. See Kurt Schuler, "Note Issue by Banks: A Step toward Free Banking in the United States?" *Cato Journal* 20, no. 3 (Winter 2001): 453–65, www.cato.org/pubs/journal/ cj20n3/cj20n3-8.pdf. Bank-issued notes in the United States are subject to a tax of 1 percent a year under the United States Code, title 12, section 541.

41. It has been claimed that a reasonable estimate of the present value of seigniorage is 23.8 percent of GDP, although the value could be significantly higher or lower depending on various factors.

(The present value is the stream of future revenues, discounted more heavily the further in the future the revenues are.) See Eduardo Levy Yeyati, "10 años de convertibilidad: la experiencia argentina," manuscript, Universidad Torcuatro Di Tella, pp. 30, 69, www.utdt.edu/~ely/Convertibilidad.pdf.

42. Kevin Dowd, ed., *The Experience of Free Banking* (London: Routledge, 1992).

43. There are discussions of Argentina's experience in this period in John H. Williams, *Argentine Trade under Inconvertible Paper Currency, 1880–1900* (Cambridge, Mass.: Harvard University Press, 1920), chaps. 7–8; and Angel M. Quintero-Ramos, *A History of Money and Banking in Argentina* (Rio Piedras, Puerto Rico: University of Puerto Rico, 1965), chaps. 3–4.

44. See Dowd, *The Experience of Free Banking,* especially the chapter "US Banking in the 'Free Banking' Period"; Lawrence H. White, ed., *Free Banking,* 3 vols. (Aldershot, England: Edward Elgar, 1993).

45. J. Huston McCulloch, "Beyond the Historical Gold Standard," in *Alternative Monetary Regimes*, ed. Colin D. Campbell and William R. Dougan (Baltimore: Johns Hopkins University Press, 1986), pp. 74–75; and C. A. E. Goodhart, "How Can Non-Interest-Bearing Assets Co-Exist with Safe Interest-Bearing Assets?" *British Review of Economic Issues* 8, no. 19 (Autumn 1986): 5.

46. Scotland and Ireland had free banking in the 1700s and 1800s, and Hong Kong had it from 1845 to 1935. Today, banks that issue notes in Scotland, Northern Ireland, and Hong Kong do so under reserve requirements like those that apply to an orthodox currency board. See Bank of England, "Fact Sheet: Bank Notes," www.bankofengland.co.uk/banknotes/factnote.pdf; Hong Kong Monetary Authority, "Bank Notes in Hong Kong," www.info.gov.hk/hkma/eng/currency/notes_co/index.htm; Committee of Scottish Clearing Bankers, "History of Scottish Banknotes," www.scotbanks.org.uk/notes.htm; "Irish Paper Money," www.irishpapermoney.com/history/hist17n4.html; and Websites of the note-issuing banks. In Scotland, the Bank of Scotland is part of the HBOS Group; the Clydesdale Bank is part of the National Australia Bank group; and the Royal Bank of Scotland is part of the Royal Bank of Scotland group, which includes England's National Westminster Bank. In Northern Ireland, First Trust Bank is part of Allied Irish Banks, the Northern Bank is part of the National Australia Bank group, and the Ulster Bank is part of the Royal Bank of Scotland group.

47. Selected laws concerning the Argentine financial system are available on the Website of the central bank, www.bcra.gov.ar/publica/epub0001.asp.

48. Banco Central de la República Argentina, Communicación "A" 3387, December 7, 2001, www.bcra.gov.ar/folio/A3387.pdf, and Communicación "A" 3470, February 8, 2002, www.bcra.gov.ar/folio/A3470.pdf.

49. In the United States, the requirement of 10 percent applies to accounts that banking regulations define as transaction accounts. Nontransaction accounts have no reserve requirement. Over the last 10 years, "sweep" accounts that minimize funds in transaction accounts have enabled banks to reduce their overall ratio of reserves to total bank deposits. Although Panama has no reserve requirements, it does have liquidity requirements. Typically, an amount equal to 30 percent of deposits must be held in specified classes of assets. Panama, Decree-Law 9 of February 26, 1998, article 46, www. superbancos.gob.pa/law9.htm.

50. Decree 1570/2001; Banco Central de la República Argentina, Communicación "A" 3372, December 1, 2001, www.bcra.gov.ar/folio/ A3372.pdf.

51. See Kevin Dowd, *Laissez Faire Banking* (London: Routledge, 1993), pp. 25–113; a more skeptical view is found in Parth J. Shah, "The Option Clause in Free-Banking Theory and History: A Reappraisal," *Review of Austrian Economics* 10, no. 2 (1997): 1–25, www.mises.org/journals/rae/pdf/rae10_2_1.pdf.

52. See Province of Buenos Aires, Ministry of the Economy Website on Patacones, www.ec.gba.gov.ar/Financiamiento/Patacones.htm.

53. Oscar Martinez, "Negocian el apoyo del FMI para rescartar los bonos provinciales," March 30, and "Cada vez más bonos," April 21, 2002, *Clarín* (online edition), www.clarin.com.

54. Banco Central de la República Argentina, "PDF Publicación de Información Entidades Financieras," www.bcra.gov.ar/efpaginas/pubentfin.asp.

55. George R. G. Clarke and Robert Cull, "Why Privatize: The Case of Argentina's Public Provincial Banks," World Bank Research Working Paper 1972, September 1998, www.econ.worldbank.org/docs/703.pdf.

56. World Bank, *Finance for Growth: Policy Choices in a Volatile World* (Washington: World Bank, 2001), p. 124.

57. Frederic S. Mishkin and Miguel A. Savastano claim that "proponents of different strategies for the conduct of monetary policy [such as dollarization] often have a tendency to argue that their preferred

strategy will be a panacea that will help resolve hard problems such as fiscal dominance." However, they give no examples of anybody who has claimed that any particular strategy is a panacea. Frederic S. Mishkin and Miguel A. Savastano, "Monetary Policy Strategies for Latin America," National Bureau of Economics Working Paper 7617, March 2000, p. 58, www.nber.org.

58. On some other ideas for reforming budgetary relations between the federal government and the provinces, see Centro de Estudios Bonaerense, *CEB* (news) 2, no. 16 (April 2002), www.ceb.org.ar/ceb/sec_publicaciones/downloads/ceb_news_ 04_02.pdf.

59. Information on government revenues and spending can be found at the Website of the Ministry of Economy, Secretaría de Hacienda, www.mecon.gov.ar/hacienda. See especially the *Boletín Fiscal* and the "Resultado de las Cuentas del Sector Público No Financiero."

60. Notable exceptions have been Charles Calomiris and the economic consulting firms Polyconomics and InterMarket Forecasting, which have warned of the dangers of increasing tax rates in Argentina. See www.polyconomics.com and www.intermarketforecasting.com. To see the IMF's surprise that higher tax rates did not increase revenue proportionally, read its Argentina country reports at www.imf.org/external/country/ARG/index.htm.

61. It is also important to remember that the tax rates that maximize economic growth are lower than the rates that maximize government revenue. See Lawrence B. Lindsey, "Revenue Maximizing Taxation Is Not Optimal," Report, Office of the Chairman, Joint Economic Committee, U.S. Congress, July 1997, www.house.gov/jec/fiscal/tx-grwth/lindsey/lindsey.pdf.

62. Daniel Altman, "Reviving Argentina: The Trouble with Taxes," *New York Times,* January 1, 2002, p. C1.

63. On Ireland, see Fred McMahon, *Roads to Growth: How Lagging Economies Become Prosperous* (Halifax: Atlantic Institute for Market Studies, 2000), chap. 2, www.aims.ca/Publications/Growth/aimsch2.pdf.

64. Argentina, Ministry of Economy, Secretariat of Finance, Undersecretariat of Financing, "Main Macroeconomic Indicators," www.mecon.gov.ar/download/financiamiento/newinf.xls; and Ecuador, Servicio de Rentas Internas, www.sri.gov.ec/download/pdf/estadisticas2002.pdf.

65. As Guillermo Calvo suggested in remarks at the conference "Euro and Dollarization," Fordham University Graduate Business School, New York, April 6, 2002.

66. Robert O'Quinn and Nigel Ashford, "The Kiwi Effect: What Britain Can Learn from New Zealand," London, Adam Smith Institute, 1996, pp. 28–30, www.adamsmith.org.uk/policy/publications/pdf-files/kiwi-effect.pdf.

67. "There's no one, neither in Argentina, nor at the IMF nor in any other place who has a quick fix for a very, very complex situation." Quoted in Simon Gardner, "Argentina Wants Big Debt Cut, IMF Sees No Quick Fix," Reuters, March 21, 2002.

68. The Instituto Ecuatoriano de Economía Política translated two 1999 papers I wrote on dollarization in general ("Promoviendo la Dolarización Oficial in los Mercados Emergentes," available over the Internet only, and "Fundamentos de la Dolariza-ción," published as a pamphlet). The institute also published a study I wrote after dollarization was announced, suggesting the particular form dollarization should take ("Dolarización Oficial en Ecuador"). See www.his.com/~ieep/documen.htm. I first wrote on dollarization in Ecuador in "Por qué el sucre no es tan bueno como el dólar," *El Financiero* (Quayaquil), May 4, 1998, p. 15, and I visited Ecuador in July 1999 and January 2000 to give speeches on dollarization and discuss it with government officials and local economists and businesspeople.

69. Although I disagree with much of the IMF's advice on tax and currency matters, some possible economic reforms are discussed in IMF country reports on Argentina, www.imf.org/external/country/ARG/index.htm. World Bank documents on Argentina are available at www.worldbank.org.

Published by the Cato Institute, Policy Analysis is a regular series evaluating government policies and offering proposals for reform. Nothing in Policy Analysis should be construed as necessarily reflecting the views of the Cato Institute or as an attempt to aid or hinder the passage of any bill before congress. Contact the Cato Institute for reprint permission. Additional copies of Policy Analysis are $6.00 each ($3.00 each for five or more). To order, or for a complete listing of available studies, write the Cato Institute, 1000 Massachusetts Ave., N.W., Washington, D.C. 20001, call toll free 1-800-767-1241 (noon - 9 p.m. eastern time), fax (202) 842-3490, or visit our website at www.cato.org.