

HOW TO DOLLARIZE IN ARGENTINA

By Kurt Schuler and Steve H. Hanke

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SUMMARY

The policies Argentina has followed have led its economy into a dead end. Uncertainty about the future of the peso has become the biggest immediate obstacle to economic growth. The peso is widely distrusted and, especially under current circumstances, has no prospect of becoming credible in the near or medium term. Official dollarization can help Argentina return to economic growth. This study explains how Argentina should dollarize. The proposal has the following main components:

- Officially replace the peso with the U.S. dollar at an exchange rate of 1 peso = 1 dollar.
- Eliminate the central bank as a body issuing currency. Transfer its financial assets to other bodies.
- Allow banks to issue notes (paper money). Bank notes would not be forced tender; as with bank-issued traveler's checks, people would have the choice of accepting them or not.
- Remove exchange controls soon after dollarization, which should be feasible because dollarization would increase confidence in the banking system.

Although this study focuses on monetary reform, it also discusses complementary changes in government finance. A summary of recommendations can be found on page 40.

Kurt Schuler is a Senior Economist at the Joint Economic Committee of the U.S. Congress in Washington. The views expressed here are personal, and are not necessarily those of the committee. Steve H. Hanke is Professor of Applied Economics at The Johns Hopkins University in Baltimore, Chairman of the Friedberg Mercantile Group, Inc. in New York, and a Senior Fellow at the Cato Institute in Washington, D.C. For further information, contact Steve Hanke by e-mail at hanke@jhu.edu or by telephone at (410) 516-7183.

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1. A DIAGNOSIS OF ARGENTINA'S CURRENT PROBLEMS

Argentina is in a downward economic spiral that has the potential to end in political chaos and further economic misery. The current situation is mainly the result of policy blunders by the Argentine government that have reduced incentives to produce new wealth and made people concerned that the government might confiscate a large part of existing wealth. Better policies can help Argentina end its long recession and restore the economy to growth. This study discusses some of the policies necessary to restore growth. It emphasizes currency and banking problems, since they have become the biggest immediate obstacle to economic growth, but it also contains some discussion of problems of government finance, which form the background to the currency and banking problems.

Before proceeding to a prescription of policies to help solve Argentina's current problems, it is essential to understand how they arose.¹

The current crisis is primarily one of government finance. Table 1 gives statistics of Argentina's economic deterioration over the last several years. At the end of 1994, the gross debt of Argentina's federal government was about 70 billion dollars and GDP was 257 billion dollars. Today the debt is almost 90 percent bigger, at 132 billion dollars (according to the last data released, which are for June), while GDP is 289 billion—only 12 percent bigger than 1994 in nominal terms, and no bigger in real terms per person. Important characteristics of the debt are that approximately two-thirds is external debt; nearly 37 percent carries a floating interest rate; and 70 percent is in dollars, 20 percent in euros, 5 percent in yen, and only 4 percent in pesos.² Provincial governments also issue debt, and a few, notably the Province of Buenos Aires, have issued some debt internationally. Total public debt in Argentina is 155 billion dollars.

Argentina is experiencing a debt crisis because potential lenders are afraid that the trends of the last several years will continue, making the government unable to repay its debt. If the government will be unable to repay then, lenders think, why lend to it now? Moreover, there is fear that the current government will repeat mistakes that Argentine governments in similar trouble have made repeatedly since the 1800s.

The government has stifled growth over the last several years by increasing important tax rates. Within the last two years, Argentina has had three major packages of tax increases, which took effect in January 2000, April 2001, and August 2001. Over the longer term, Argentina replaced many nuisance taxes that yielded small amounts of revenue with a smaller number of more comprehensive taxes. In the current system, though, tax rates are too high to allow for rapid economic growth. Section 8 discusses Argentina's tax situation further.

Government financial problems have spilled over to the economy as a whole. Concerns about the government debt have spilled over to the economy as a whole, particularly the financial system, because of lack of compartmentalization. The entire financial system is subject to contagion by the government's financial problems. Table 2 below lists the most important economic events that have led to Argentina's current troubles.

Table 1. Main economic indicators for Argentina, 1996-2001

	1996	1997	1998	1999	2000	2001*
GDP (billions of current pesos)	272	292	298	283	284	289
Growth of real GDP per person (%)	4.2	6.3	0.8	-6.5	-0.6	-2.8
Inflation (consumer prices, %)	0.2	0.5	0.9	-1.2	-1.0	-1.6
Inflation (producer prices, %)	3.7	-1.1	-3.3	-4.1	-3.7	-6.9
Unemployment rate, October (%)	17.3	13.7	12.4	13.8	14.7	18.3
Exports (bn dollars)	23.8	26.37	26.44	23.3	26.3	22.6a
Imports (c.i.f., bn dollars)	23.8	30.5	31.4	25.5	25.4	18.0a
Monetary base, e.o.p. (bn pesos)	14.1	15.0	16.4	16.5	15.1	16.9
Net foreign reserves, e.o.p. (bn dollars)	13.5	16.9	20.8	22.8	21.9	15.1
Peso bank deposits, e.o.p. (bn)			34.4	33.7	31.9	18.2
Dollar bank deposits, e.o.p. (bn)			42.5	47.2	51.9	47.8
Money market rate, pesos (%)	6.23	6.63	6.81	6.99	8.15	NA
Money market rate, dollars (%)	5.91	6.39	6.55	6.07	7.53	12.0
Lending rate, pesos (%)	10.51	9.24	10.64	11.04	11.09	NA
Lending rate, dollars (%)	9.12	7.84	8.95	9.07	9.67	23.3
Government revenue (bn pesos)	35.5	41.9	42.9	41.1	43.3	44.3f
Government spending (bn pesos)	41.1	46.2	47.1	49.2	49.2e	48.8f
Gross government debt, e.o.p. (bn dollars)	97	101	109	118	128	132b
Country risk premium, e.o.p. (%)	4.94	4.61	7.07	5.33	7.73	41.59

Notes: *Latest information or forecast available, from a variety of dates. a = January-October; b = June; c.i.f. = carriage, insurance, and freight; = forecast; e.o.p. = end of period; f = forecast; NA = not available or not applicable. 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. Government is the federal government only.

Sources: International Monetary Fund, *International Financial Statistics* CD-ROM, November 2001; Instituto Nacional de Estadística y Censo, <<http://indec.mecon.gov.ar>>; Ministry of Economy, <<http://www.mecon.gov.ar>>; Banco Central de la República Argentina, *Información Monetaria y Financiera Mensual*, at <<http://www.bcra.gov.ar>>; J. P. Morgan Emerging Markets Bond Index Plus (country risk premium).

The currency has been the main pathway of contagion from the financial problems of the government to the financial system and from there to the rest of the economy. The peso is now trading at a 1.3 or more per dollar outside of Argentina.³ Worry that the government may devalue the peso has made Argentines concerned about the security of their bank deposits. People are afraid that the steps announced on December 1 will be extended to forced conversion of dollar deposits into pesos and a seizure of deposits such as happened in 1989 (the BONEX plan) and 1982 (the first Cavallo plan). During both episodes, rapid depreciation of the currency greatly reduced the real value of deposits before they were unfrozen.

Another factor that has made Argentines concerned about the security of their bank deposits is that banks have a large exposure to the government. As of September, privately owned banks, which have roughly three-quarters of the assets of the banking system, had total assets of 97 billion pesos, of which 10 billion were government securities and 7 billion were loans to the public sector.⁴ The capital of the private banks was 12 billion pesos and the reserve ratio for the banking system as a whole was 20.3 percent. Two debt exchanges, on June 1 and November 30, have increased the average maturity of government debt. J.P. Morgan has estimated total exposure of the banking sector to the federal and provincial governments at 30.7 billion pesos, 180 percent of total banking sector equity.⁵ (For the three largest banks, the ratio rises to 340 percent; for full branches of foreign banks, exposure should be estimated in relation to the size of the whole bank, not just its business in Argentina.)

Internal rather than external factors are mainly to blame. Argentina has suffered from two unfavorable external factors in the last few years. Their effects on Argentina's economy have been significant, but less important than internal factors—in particular, the policies the Argentine government has chosen.

The first unfavorable external factor has been that since Brazil's currency crisis of January 1999 the *real* has depreciated from 1.21 per dollar and peso to as much as 2.87 before bouncing back to its current level of around 2.40. Prices in Brazil have not risen as fast as the exchange rate has depreciated, leaving Brazil with a cost advantage over Argentina.

Although Brazil is Argentina's largest trading partner, it is important to put trade with Brazil and with the rest of the world in perspective. The trade sector in Argentina (imports plus exports of goods, divided by two) was 9 percent of GDP last year. That is smaller than the trade sector in the United States (10 percent of GDP). Argentina's trade with Brazil is less than one-quarter of all its foreign trade. Argentina has suffered somewhat from the depreciation of the *real*, but if the economy were growing the effects would cause little general dissatisfaction. The devaluation of the Mexican peso in December 1994 gave Mexico a cost advantage over the United States, but because the U.S. economy was growing, Americans did not respond with calls to make the dollar depreciate.

Table 2. Chronology of important economic events in Argentina since 1999

December 10, 1999	Fernando de la Rúa (Alliance coalition) succeeds Carlos Menem (Peronist) as president. Economy in recession since September 1998. Argentina's country risk premium is 6.10 percentage points above yield on comparable U.S. Treasuries.
January 1, 2000	Package of increases in tax rates take effect. Tax revenue will be below forecast.
December 18, 2000	IMF leads a US\$40 billion financial aid package to Argentina.
March 2001	Economy Minister José Luis Machinea resigns March 2. Ricardo López Murphy appointed March 4, resigns March 19 after Frepaso officials resign to protest proposed budget cuts. Domingo Cavallo appointed March 20, unveils plan March 21 to impose financial transactions tax and increase tariffs.
April 17	Cavallo sends a bill to Congress to eventually link the peso to a 50-50 average of the euro and the dollar (published as law June 25).
April 25	President de la Rúa replaces central bank president Pedro Pou with Roque Maccarone over allegations about money laundering
June 3	Government says it swapped \$29.477 billion of debt to defer costs.
June 15	Cavallo announces preferential exchange rate for exports (starts June 19).
July 11-26	Three rating agencies slash Argentina's credit ratings. Country risk premium rises above 13 percentage points.
July 30	Responding to lower than expected tax revenues, Congress passes "zero deficit" law, which includes increasing the financial transactions tax.
August 21	IMF head agrees to recommend an increase of \$8 billion to Argentina's \$14 billion stand-by loan agreement (approved September 7).
October 14	Opposition Peronists overtake ruling Alliance as largest group in Chamber of Deputies and retain control of Senate in mid-term elections.
November 1	De la Rúa and Cavallo give details of new measures, including a debt swap for most of the \$132 billion public debt.
November 30	Offers to take part in local portion of debt swap exceed \$50 billion. Overnight interest rates average 689 percent on fears of devaluation.
December 1	Cavallo announces restrictions on deposit withdrawals and on transfer of funds abroad. Measures take effect December 3.
December 5	IMF announces it will not disburse \$1.3 billion in aid to Argentina this month. Country risk premium exceeds 40 percentage points.
December 7	Central bank imposes high reserve requirements on new deposits to discourage shifts of deposits within the banking system.
December 13	General strike protesting recent economic policies.
December 19-20	Riots and looting; state of emergency declared; Cavallo resigns, then de la Rúa.
Source: Press reports, particularly Reuters newswire article "Chronology—Events Leading to Argentina's Cash Crisis," December 6, 2001.	

The second unfavorable external factor has been that by many indications, monetary policy in the United States has been somewhat deflationary since 1999, when the Federal Reserve System raised interest rates before beginning the current cycle of reductions. The target rate for Federal funds peaked at 6.5 percent from May to December 2000. Since January 2001 the Federal Reserve has steadily reduced the target rate for Federal funds to its current level of 1.75 percent, the lowest in 40 years. The current rate seems low enough to permit an expansion of the dollar monetary base sufficient to end deflation. Moreover, particular features of the dollarization proposal here, explained in Section 4, would have an anti-deflationary effect.

Argentina appears to have suffered more from the Federal Reserve's monetary policy than the United States has. Again, though, it is important to put matters in perspective. The United States and other countries that use the dollar or are linked to the dollar, such as Hong Kong and Panama, grew in 2000 with the same monetary policy under which Argentina's economy shrank. (This year, with the United States in a recession, the world situation is different.) The Federal Reserve has made mistakes, but over the long term its record has been much better than that of the great majority of central banks, including the Banco Central de la República Argentina (BCRA).

Encourage growth by “quarantining” the government’s financial problems. Resolving the government's financial problems will be troublesome. It now appears too late to avoid a true default. However, an environment of economic growth can minimize the effects of the looming default. The policies of the de la Rúa government have so far discouraged growth. By raising tax rates and intensifying doubt about the stability of the peso, the government has discouraged Argentines and foreigners alike from believing in and investing in the future of Argentina.

Encouraging growth requires “quarantining” the government's financial problems, that is, stopping them from spreading to the rest of the economy. In the sphere of currency, quarantining the government's financial problems requires officially dollarizing, to end fears that the government will devalue the peso as a way of transferring resources from the public to itself. In the sphere of banking, it requires moving quickly to end the restrictions on withdrawals the government imposed on December 1, to restore confidence that the government will not immobilize people's savings. In the sphere of taxation, it requires cutting tax rates and making a commitment to further cuts in future years, to encourage effort and tax compliance. (In the sphere of government finance, the risk of default still remains, of course; the point of “quarantining” is to limit the potential damage.)

The de facto conversion of peso deposits into dollar deposits announced on December 1 has had some quarantining effect. In the interbank lending market, a sensitive barometer of changes in confidence, the overnight interest rate for has fallen from a peak of 689 percent (in pesos) on November 30, 2001 to just above 9 percent (in dollars) on December 19. The overnight rate in dollars reached a peak of 137.4 percent on November 30. The conversion from pesos to dollars is not “pure” evidence of the benefits of partial dollarization, because it was accompanied by restrictions on withdrawals, but it is hard to imagine an equally steep fall in interest rates occurring if the restriction on withdrawals had been the only measure enacted.

Dollarization is the best option in the monetary sphere. In the monetary sphere, quarantining the government's financial problems requires officially dollarizing, which we have been recommending for almost three years.⁶ The other options for monetary policy all have important defects. Those that propose to retain the peso are especially defective because the peso is widely distrusted, and under current circumstances it has no prospect of becoming credible in the near or medium term.

Retaining the convertibility system—Although we are the best-known advocates of orthodox currency boards, we have been critical of the convertibility system from the beginning. As we have repeatedly stressed, the convertibility system has never been an orthodox currency board. Rather, it was a currency board-like system, which left Argentina's central bank intact with important discretionary powers. For example, the central bank was initially allowed to hold true foreign reserves of as little as 66-2/3 percent of its monetary liabilities, rather than 100 percent like an orthodox currency board. (Today the minimum ratio is supposed to be 90 percent,⁷ but the central bank has recently breached it.) The central bank had substantial independent capacity to influence the money supply through open-market operations, rather than having to make the monetary base mirror movements in reserves as happens with an orthodox currency board.⁸ We initially proposed to make the convertibility system an orthodox currency board system. When it became apparent that the Argentine government was unwilling to do so, we supported dollarization and explained how it could be achieved.⁹

The great majority of commentators on currency boards have failed to distinguish between orthodox and unorthodox boards.¹⁰ As a result, most have interpreted speculative attacks on the convertibility system as arising from its new currency board-like features rather than its continuing central banking features. But it has been precisely when the central bank or the Argentine government has taken steps that created doubt about their commitment to currency board orthodoxy that speculative attacks have intensified. Examples include early 1995, when the central bank allowed the ratio of foreign reserves to fall to below 90 percent of monetary liabilities, and June 2001, when a special exchange rate was established for exports. In contrast, when the government and central bank took steps to move the system in a more orthodox direction, speculative attacks diminished. Examples include rescuing banks by floating a government bond issue rather than by lending through the central bank in March 1995, and threatening to dollarize rather than devalue in January 1999.¹¹

The government's frequent meddling with the convertibility system this year has meant that credibility cannot quickly be restored by changing the convertibility system into an orthodox currency board. The situation requires a drastic change to send a signal to the Argentine people and to international financial markets.

Adopting a currency other than the dollar—Rather than replace the peso with the dollar, Argentina could replace it with another currency. Brazil is Argentina's largest trading partner, but the Brazilian *real* has little credibility. A few people have suggested that Argentina go on the gold standard.¹² The case for gold is in general much more respectable than most economists think. However, no country is currently on the gold standard and the financial "network" of gold is small compared to that of the dollar, so gold would offer no beneficial "network effects" in terms of Argentina's relation with world financial markets. Moreover, historical experience indicates that a gold standard is typically not durable unless enforced by an orthodox currency

board or a system where currency is issued purely privately, with no government participation. Argentina has been unwilling to make the convertibility system into an orthodox currency board, so there is no reason to think that would change under a gold standard.

The only plausible alternative to the dollar is the euro. Argentina could convert pesos into euros at the current exchange rate, or it could choose a rate that represented a devaluation, such as one peso per euro (compared with the current rate of about 1.1 pesos per euro). The prevalence of dollar-denominated loans would cause problems, though, especially in the case of a devaluation. A number of businesses and individuals whose have loans in dollars but revenue mainly in pesos would go bankrupt. It would be possible to address the problem by making a forced conversion of dollar loans and deposits into euro loans and deposits. A forced conversion, however, would send the message that bank deposits in Argentina are subject to arbitrary seizure. The only people untouched by forced conversion would be those who hold dollar notes or bank deposits abroad. It would be hard to restore confidence and persuade depositors that they should keep funds in the Argentine banking system.

Floating the peso—Floating the peso in effect means devaluing it. The idea of floating has attracted more and more supporters as Argentina's situation has worsened. The big question about floating is, can anybody trust a floating peso? The history of independent monetary policy in Argentina is not just bad; it is one of the worst in the world, especially in recent years. Inflation was never below 90 percent a year from 1975 until the convertibility system was established. (Officially, the exchange rate was pegged until 1979, though the rate was adjusted frequently; the exchange rate was officially floating from 1979 until the convertibility system began in April 1991.) Over a still longer period, from the time the BCRA was established in 1935 until the convertibility system began in 1991, the peso depreciated against the dollar by a factor of 3,000,000,000,000.

About the best Argentina could hope for with a floating rate would be to imitate the performance of Brazil since its currency crisis of January 1999. The *real* today is worth only about half as many dollars as it was three years ago. It does not have real credibility and will not have it for years, so real (inflation-adjusted) interest rates are high: the central bank's discount rate is 19.05 percent, compared to inflation of about 8 percent.¹³ The *real* is not a fully convertible currency; exchange controls severely limit the ability of Brazilians to hold foreign-currency assets.

Indonesia in 1998 illustrates what could happen to Argentina in the worst case. After the Asian currency crisis began in Thailand in July 1997, Indonesia moved from a loosely pegged exchange rate with the U.S. dollar to a floating rate on August 14. Indonesia floated to prevent a speculative attack rather than because it had to. Its economy seemed to be in good shape and the IMF expressed support for the choice of a floating rate.¹⁴ The Indonesian rupiah, however, depreciated from about 2,600 per dollar in August 1997 to around 15,000 in January and June-July 1998 before recovering some. The depreciation caused a general loss of confidence in the economy, which shrank 14 percent in 1998; led to a series of bankruptcies among corporations and banks with debts in dollars; led to a doubling of the government debt as the government incurred costs rescuing the bankrupt entities; and fostered deadly riots and other political unrest that made the president resign. Today Indonesia has still not recovered from the recession of 1998 and the exchange rate of the rupiah is about 10,000 per dollar.

Floating would create the same problems that have just been described in connection with devaluing the peso to one euro and then “euroizing.” In fact, the problems would be even worse. As happened in Indonesia in 1998, floating could lead to a currency catastrophe (rather than just the severe problems that exist now), widespread bankruptcies, the collapse and renationalization of the banking system, a depression (rather than just the recession that exists now), a huge increase in government debt, and even more political upheaval than Argentina has already experienced in the last few days. It is likely that under a floating exchange rate, Argentina’s experience would be somewhere between that of Brazil and Indonesia. But why risk suffering what Indonesia did when the option of dollarization would prevent a currency meltdown and the chain of events a meltdown would trigger?

It has been suggested that Argentina might dollarize after first devaluing. The next section explains why dollarizing at the main official exchange rate of 1 peso = 1 dollar is both feasible and desirable.

2. PRINCIPLES FOR DOLLARIZING: KEEP 1 PESO = 1 DOLLAR

Problems with the credibility of the peso accelerated beginning June 19, when Argentina introduced a special commercial rate for importers and exporters.¹⁵ A few days later, a law was approved that would link the peso to a 50-50 basket of the dollar and euro, instead of to the dollar alone, if and when the value of the euro appreciates to one dollar or more.¹⁶

The effect of these changes was to intensify doubt that the peso was really as good as the dollar. They made the convertibility system even less like an orthodox currency board than it was before. The only quick way to end doubts about the value of the peso is to cease issuing pesos and convert pesos outstanding into dollars at an exchange rate of 1 peso = 1 dollar. Ending the existence of the peso implies ending the commercial rate.

The peso is not overvalued. Many people think the peso is overvalued¹⁷ and therefore should be floated. There are two senses in which the peso could be overvalued. In the more precise sense, it would be overvalued if at the existing exchange rate, demand to sell pesos exceeds the willingness of the central bank to buy pesos. To the extent that the central bank acts like an orthodox currency board and holds foreign reserves equal to its monetary liabilities, overvaluation in this sense cannot occur, because a peso is simply a kind of ticket to a dollar. To the extent it is a ticket, and the central bank has not “overbooked” by reducing foreign reserves below 100 percent of its monetary liabilities, the peso can no more be overvalued in relation to the U.S. dollar than a U.S. dollar in California can be overvalued in relation to a U.S. dollar in New York. Currently the BCRA holds “pure” foreign reserves (that is, not counting Argentine government bonds) that are slightly less than the legal minimum of 90 percent. The ratio has only fallen below 100 percent most recently since November 30.

The other sense in which the peso could be overvalued is that its anchor currency, the dollar, could be experiencing deflation because the dollar monetary base is not growing as fast as noninflationary demand for the base. As we have remarked, the Federal Reserve appears to have been too tight with monetary policy from 1999 until quite recently. However, the important question does not concern the Federal Reserve’s behavior at the moment, but whether with a floating exchange rate the BCRA would make fewer mistakes over the long run than the Federal Reserve has made and would make. Argentina established the convertibility system precisely because its mistakes under a floating exchange rate and other forms of independent monetary policy had been disastrous.

A classic sign of overvaluation is that exports decline. Argentina’s exports have increased every year for the past decade except 1999, when Brazil, its largest trading partner, suffered a currency crisis. Exports during the first ten months of 2001 are about 4 percent ahead of exports during the same period in 2000.¹⁸ The export sector has been one of the few bright spots in the Argentine economy; if the rest of the economy had been growing as fast as the export sector during the last two years, Argentina would not be in a recession and the government would not be facing severe financial problems.

Another classic sign of overvaluation is persistent deflation. Consumer prices in Argentina will fall this year for the third year in a row, while producer prices will fall for the fifth

year in a row. Again, though, to the extent that the central bank acts like an orthodox currency board and holds foreign reserves equal to its monetary liabilities, the peso cannot be overvalued against the dollar in the strict sense. To the extent the central bank is persistently unorthodox, overvaluation can occur, but in our opinion, the effects of the BCRA's deviations from currency board orthodoxy have affected financial markets more the result of a signaling effect, creating uncertainty about the future stability of the peso, than the result of the actual operations involved. In the looser sense of overvaluation that we have discussed, the peso could be overvalued against currencies other than the dollar. The steps the Federal Reserve has taken to make monetary policy looser should help return the dollar closer to what many observers would consider to be an equilibrium value.

It is often claimed, on the basis of taxi rides from the airport or other casual impressions, that prices are high in Buenos Aires, and that high prices are evidence that the peso is significantly overvalued against the dollar.¹⁹ A survey of prices in 58 of the world's largest cities find that for a basket of 111 goods and services, weighted by typical consumer habits—including three categories of house rent—Buenos Aires ranks 22nd, about midway between the most expensive city, Tokyo, and the least expensive, Bombay. The survey also found that those taxi rides that are allegedly so expensive cost about 8 percent less than in Rio de Janeiro.²⁰

Estimates of equilibrium exchange rates calculated from statistical modeling by economists should likewise be treated with great skepticism. Like other forms of economic forecasting, their record is spotty. For what it is worth, though, 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.²¹

The way to competitiveness is by measures other than devaluation. The grain of truth in concern that the peso is overvalued is that Argentina is a high-cost country for producing many goods. However, if devaluation alone could make a country competitive, Argentina should have been one of the world's most competitive countries in the 1980s, when the currency was depreciating rapidly. Devaluation can give exporters a temporary cost advantage, but making a country competitive over the long term requires an efficient and honest legal system, a tax code that encourages enterprise and compliance, flexible labor laws, and other institutions that are outside of monetary policy. Argentina made great progress in these areas in the early 1990s, but has done little since then. In some areas, notably tax policy, it has even retrogressed, and burdensome regulations continue to tie the economy up in red tape, making it relatively inflexible and hindering competitiveness.²²

It is instructive to compare Argentina with Hong Kong. The Hong Kong dollar has been linked to the U.S. dollar by a currency board or currency board-like system since 1983, yet Hong Kong has remained one of the most competitive economies in the world.²³ Hong Kong has institutions that foster flexible prices without the high degree of pain that has resulted from falling prices in Argentina. To the extent that Argentina is a high-cost producer and lacks competitiveness, it is because Argentina has failed to adopt the type of market-friendly institutions that are in place in Hong Kong.

Table 3. Key statistics of the Argentine financial system, December 17, 2001

Central bank (BCRA)—amounts in billions of pesos or dollars			
<i>Assets</i>		<i>Liabilities</i>	
“Pure” foreign reserves	15.305	Peso notes and coins held by public*	8.191
Argentine government bonds**	4.493	Peso notes and coins held by banks*	1.641
Reserves against government deposits	0.098	Peso deposits of customers*	1.253
Rediscounts to banks**	4.179	Dollar deposits of customers*	6.359
Net of repurchase agreements**	4.880	Other*	0.091
		Government deposits	0.098
*Items comprising monetary base = 17.535 billion pesos.			
**Domestic assets that could be sold to acquire dollars = 13.552 billion pesos.			
Foreign reserve coverage of monetary base = 87.3% (legally required minimum is 90%).			
Financial institutions—amounts in billions of pesos or dollars			
<i>Assets</i>		<i>Liabilities</i>	
Loans to private sector in pesos	15.800	Peso deposits	17.916
Loans to private sector in dollars	35.226	Dollar deposits	47.998
Loans to government	19.618		
Peso vault cash**	1.641		
Dollar vault cash**	0.831		
Peso deposits at central bank**	1.253		
Dollar deposits at central bank**	6.359		
Dollar reserves held abroad**	0.307		
Government bond of 2002**	2.000		
Other reserves**	0.091		
**Items the central bank counts as comprising bank reserves = 12.841 billion pesos.			
Ratio of bank reserves to deposits = 18.9%.			
Interest rates for loans in dollars—percent***			
Overnight interbank rate	9.2		
Prime rate	23.3		
***No separate market for peso loans has existed since December 1, 2001.			
<i>Note:</i> Some assets and liabilities are unlisted, hence assets may not equal liabilities.			
<i>Source:</i> Banco Central de la República Argentina, <i>Informe Monetario Diario</i> , December 18 and 19, 2001, at < http://www.bcra.gov.ar >. For a full balance sheet of the central bank, see its weekly statement at < http://www.bcra.gov.ar/pdfs/contad/econ0200.pdf >.			

During the early years of the convertibility system, observers sometimes claimed that the peso was overvalued because inflation in Argentina, as measured by the consumer price index, exceeded inflation in the United States. Over the three years 1992 to 1994, consumer prices increased a total of only 9 percent in the United States, versus 44 percent in Argentina. Despite predictions that the peso would have to be devalued, it did not happen. Economic reforms kept Argentina competitive by enabling labor productivity to increase. Rather than repeat its disastrous quest of the 1980s for competitiveness through inflation, Argentina should do as it did in early 1990s, and seek competitiveness through reforms that reduce the role of government in areas where it has hindered economic growth.

Devaluing the peso would cause remaining confidence to evaporate. Any exchange rate other than 1 peso = 1 dollar would create widespread disruptions. Devaluing the peso would hurt borrowers by bankrupting many people who have borrowed in dollars. Making a forced conversion of dollar loans into pesos would hurt bank depositors and other lenders by devaluing their loans. A forced conversion would be the third such event in 20 years. The lesson people would learn from it is that they should never again keep their savings within the reach of the Argentine government. Advocates of floating exchange rates have not sufficiently considered the damaging effects that loss of credibility in the financial system would have for the future growth of Argentina's economy. A floating exchange rate is highly likely to shrink the real supply of credit in Argentina, as it did in Ecuador before that country dollarized in 2000.

The central bank has sufficient reserves for dollarization at 1 peso = 1 dollar. There are two misconceptions about the reserves necessary for dollarization. The first misconception is that dollarization requires reserves beyond those necessary to cover the monetary base (the monetary liabilities of the central bank). That is not correct. Like a currency board system, dollarization requires at most sufficient reserves only to cover the monetary liabilities of the central bank. The monetary liabilities of the central bank are the monetary base, or M0. It is not necessary for a dollarized system to have sufficient foreign reserves to cover broader measures of the money supply such as M1 or M2. From the standpoint of bank credit, the key component of the monetary base is the reserves banks hold to meet deficits in the clearing system (when they owe other banks more than other banks owe them). Rather than increasing the reserves bank need to hold, dollarization, especially in the form proposed in this study, is likely to *reduce* them. Section 4 explains why.

The second misconception is that Argentina now lacks sufficient reserves to cover the monetary base. Table 3 gives some key statistics for the central bank and the rest of the financial system. Although it is true that the "pure" foreign reserves of the central bank were only 15.3 billion pesos on December 17, versus a monetary base of 17.5 billion pesos, the central bank also has domestic assets of almost 13.6 billion pesos, valued at current market prices. It holds domestic assets—Argentine government bonds, loans to the financial system, and repurchase agreements (repos)—because it is not an orthodox currency board. To eliminate the gap in foreign reserves, the central bank could sell some of its domestic assets for dollars.

Some pesos have been lost and destroyed; others are held by collectors of notes and coins, who will never redeem them. It has been estimated in European countries that are replacing local-currency notes and coins with euro notes and coins beginning in January 2002

that up to 5 percent of the old currency will not be redeemed.²⁴ The same proportion in Argentina would amount to about 400 million pesos.

Beyond selling domestic assets, there are other steps that could be taken should selling the domestic reserves become insufficient to raise the necessary foreign reserves. One is to allow the existing stock of coins issued by the central bank to continue after dollarization without any foreign-reserve backing, as is the case with coins issued by the Panamanian government. Such a step would correspondingly reduce the amount of foreign reserves necessary for dollarization, by around 575 million dollars. The next section proposes allowing the existing stock of coins to continue to circulate, but freezing it and terminating the central bank as an issuer of coins.

Even if the combined foreign and domestic assets of the central bank were to fall below 100 percent of the monetary base, it would still be possible to dollarize at 1 peso = 1 dollar. Discussion of the steps involved would not be productive now, but should the situation arise, we will write further to describe them.

3. PRINCIPLES FOR DOLLARIZING: REFORM THE CENTRAL BANK

Liquidate the financial assets and liabilities of the central bank. Officially dollarizing means eliminating the peso as currency in circulation and as a unit of account. 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 could have already ceased issuing pesos at any time by an administrative decision, calling in all its peso monetary liabilities and giving everyone who holds them the equivalent value in dollars. That it has not done so indicates the need under dollarization to make far-reaching reforms to the organization, reforms that may involve no change in staff but would change the responsibilities of the central bank.

The BCRA 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, much as Argentine banks hold some of their liquidity requirements as deposits with the New York branch of the privately owned Deutsche Bank. The other financial assets of the central bank can be transferred to accounts at other financial institutions—the Banco de la Nación Argentina (a government-owned bank), privately owned banks within Argentina, or banks abroad.

To discourage future governments from reintroducing the peso, the peso should be abolished as legal tender, all contracts in pesos should be redenominated in dollars (easy, given the one-to-one exchange rate), and the central bank's power to issue currency should be repealed.²⁵ The Appendix suggests a legal formulation for this and some of the other proposals related to 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 have been difficult. The BCRA exists only by statute law, not by constitutional law, so institutional reform should be easier than in Ecuador. The whole BCRA should receive the name of the part of the organization that deals with financial supervision, the Superintendencia de Entidades Financieras y Cambiarias (Superintendency of Financial Institutions and Exchange Bureaus). The 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.

What to do about coins. Officially dollarized countries have varying practices regarding coins. Some, such as the British Virgin Islands (which use the dollar) do not issue their own coins. Others, such as Panama, issue their own coins but do not hold any specific reserves of foreign assets against coins in circulation. Still others, including Ecuador, hold reserves of foreign assets equal to the amount of coins in circulation—in effect, an orthodox currency board that applies only to coins.

In Argentina, coins in circulation were 575 million pesos at the end of 2000, the last date for which published statistics seem to exist.²⁶ To remove as far as possible the temptation for the government to resume issuing currency, it should not issue coins, whether unbacked like Panama or backed by foreign reserves like Ecuador. However, the existing supply of coins should remain in circulation, and the government should have the power to issue a small additional amount of coins to reduce the stock that have been minted but are not in circulation. The limit for government-issued coins should be 700 million pesos. Upon reaching the ceiling, the government should issue no new coins nor replace old coins. People can use coins issued by the U.S. government or perhaps by banks, to complement the bank-issued notes that Section 4 recommends.

Remove interest-rate ceilings and liquidity requirements. On November 26, 2001, the central bank began setting a weekly reference rate for deposits in dollars and pesos, based on average market rates for deposits of 30 to 59 days. Banks are hit with a minimum reserve requirement of 100 percent for offering interest rates exceeding 1 percentage point above the reference rate for fixed-term time deposits, or more than half the reference rate for checking, savings, and other demand deposits. The effect is to prevent banks from lending any of the funds they gain by offering higher interest rates.²⁷ The measures of December 1, 2001 limit the amount of interest banks can pay on peso deposits to the rate they paid on dollar deposits.²⁸ The effect has been to eliminate the market for peso loans, since the only reason to lend pesos rather than dollars was to earn a higher rate of interest as compensation for perceived risk of devaluation. Under dollarization there would be no need for interest-rate ceilings. Ecuador imposed them when it dollarized as a political measure, but as elementary economics teaches, interest-rate ceilings prevent some borrowers from obtaining loans even though they could put the loans to more highly valued uses than borrowers who are only willing to pay a lower rate. Besides, interest rates should fall substantially once dollarization resolves uncertainty about the peso and fear that bank deposits would be redenominated in pesos as a prelude to devaluation.

Banks in Argentina must hold reserves ranging from 15 to 21 percent against the most widely held deposits. (Technically, what would be called reserve requirements in the United States are called liquidity requirements, because the organic law of the central bank prohibits paying interest on “reserves.”) The central bank has on occasion reduced required reserve ratios temporarily during periods of strain on the banking system, including recently. Currently, reserve requirements are 15 to 16 percent for demand deposits, 21 percent for old time deposits, and 75 percent for new time deposits.

Requiring banks to hold extensive reserves is part of a regulatory strategy of keeping their assets (with the notable exception of credit to the government) highly liquid. High liquidity is justified by Argentina’s experience of great volatility in the banking system. Most of the volatility has been the result of potential or actual currency crises and the damage they cause to the economy. Replacing the peso with the dollar would eliminate currency crises with the peso. The government would not need to worry as much about volatility in the banking system. It could immediately reduce required reserves to the official U.S. level of 10 percent or even to the zero percent level of Panama’s dollarized system.²⁹ Reducing reserve requirements would enable banks to lend more to Argentine businesses and individuals, helping to generate economic growth.

Reducing or eliminating liquidity requirements includes eliminating the 75 percent requirements against new deposits imposed on December 7, 2001 to discourage customers from shifting deposits among banks. They are in effect a kind of internal exchange control, and are discussed further in Section 5.

4. PRINCIPLES FOR DOLLARIZING: ALLOW BANKS TO ISSUE NOTES³⁰

Argentina has large potential bank reserves, but they are outside banks. Argentina's banking system has proved to be hardy in the current recession. Extensive foreign ownership and foreign branch banks, regulations that require a high level of capital, and prompt action to close insolvent banks have made the banking system much stronger than it was when the tequila crisis hit in 1995. Even so, the system is now under considerable stress. Table 3 above showed key statistics of the Argentine financial system as of December 17. All the key figures have deteriorated over the course of 2001. Bank deposits peaked at 84.9 billion pesos in February; peso notes and coins in circulation peaked at 14.4 billion in January; bank reserves (technically known as liquidity requirements) have fallen from 18.7 billion pesos (22.1 percent of deposits) in February to 12.5 billion pesos (18.9 percent of deposits) as of December 17.³¹

The decline in bank deposits and reserves has put pressure on the banks to raise interest rates and reduce their lending. Loans are now about 7 billion pesos below their high of 77.8 billion pesos in December 2000. Argentina's prime rate in dollars, currently around 23 percent, compares with a prime rate of 5 percent in the United States and commercial lending rates of about 10 percent in the fully dollarized monetary system of Panama, and 15 percent in the fully dollarized monetary system of Ecuador (which has poorer protection of creditors' rights than Panama, plus problems in the banking system dating from before dollarization).

Banks rely on reserves (or on interest rates in the interbank market, which reflect the overall scarcity of reserves) as a signal to judge whether they should expand or contract credit. When bank reserves are scarce, they contract credit. When they think their reserves are higher than necessary, they expand credit. Provided that banks have any confidence in the future, reversing Argentina's recent trend of declining bank reserves would therefore lead to an expansion of bank credit and lower interest rates, enabling businesses to undertake projects that are not profitable in today's very high-interest rate environment. More business activity would create jobs and spur economic growth.

As reserves, banks use the local monetary base. In the monetary system of most countries, the monetary base (also known as high-powered money or M0) consists only of monetary liabilities of the local central bank. In Argentina the situation is somewhat different. The one-to-one exchange rate between the peso and dollar, plus the legality of using dollars in many kinds of payments, give Argentina a "bimonetary" financial system, in which the dollar circulates alongside the peso. So, besides the peso monetary base, dollar notes (paper money) in circulation are in effect a potential supplementary monetary base. In a fully dollarized monetary system, the monetary base would consist solely of notes and other monetary liabilities issued by the U.S. Federal Reserve System.

As of December 17, the peso monetary base was 17.5 billion pesos, of which the public held 8.2 billion pesos in the form of notes and coins. Since dollar notes circulate from hand to hand without being traced, it is impossible to know precisely how many dollar notes Argentines hold. However, the available evidence suggests that holdings of dollar notes are substantial. The U.S. Treasury estimated in January 2000 that holdings of dollar notes in Argentina were perhaps 25 billion dollars or more.³² That seems plausible, because it makes the proportion of dollar notes

to the peso monetary base roughly similar to the proportion of dollar deposits to peso deposits today. Peso notes and deposit transfers predominate as the medium of small payments, whereas dollar notes and deposits predominate as stores of value against currency devaluation and other risks.

Allowing banks to issue dollar notes would improve bank liquidity. Adding the known amount of peso notes (which would be replaced by dollar notes in a dollarized system) plus the probable amount of dollar notes held by the Argentine public gives the total monetary base held by the public outside of banks. That amount is about 33 billion pesos (= 33 billion dollars)—almost three times the current level of bank reserves. 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. Doing so shifts that part of the monetary base from potential to actual bank reserves.

One way of moving the monetary base from outside banks to inside them is to encourage the public to deposit its Federal Reserve-issued dollar notes. The public would use fewer notes and more deposit transfers, such as checks, in payment. The government is currently trying such a policy, as a way of reducing tax evasion. Unfortunately, the policy seems to be hurting the economy, because small transactions through bank accounts are often less convenient than transactions in cash.

Another way of moving the monetary base from outside banks to inside them would be to *allow banks in Argentina to issue their own notes (paper money), denominated in dollars*. Bank-issued notes would be denominated in dollars, not pesos. Denominating notes in dollars would eliminate fears of a devaluation. 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. Bank-issued notes would be much like bank-issued traveler's checks. People would accept the notes if they had confidence in the issuer and reject them if they lacked confidence. They 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 (in Spanish, *banca libre*).

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 where 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-dollar deposit into 100 dollars of notes, his bank loses 100 dollars of reserves. If depositors 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) for the Argentine government from issuing notes is on the order of 400 million pesos a year, though it has been shrinking as the peso note issue shrinks.³³ 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 remain in Argentina and not go to the Federal Reserve.

Allowing banks to issue dollar-denominated notes and repealing the central bank's power to issue pesos would have a powerful effect in making monetary policy "looser," by reducing interest rates. Monetary policy is much "looser" in the United States, Panama, and Ecuador than in Argentina because the perceived risk of devaluation is absent. In Argentina, the measures proposed here would make monetary policy "looser" through the following channels:

- Eliminating the peso would eliminate currency risk.
- Eliminating reserve requirements would allow banks to extend more credit on the basis of a given amount of reserves, if they thought it prudent.
- 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.
- The boost to confidence that would result from eliminating the peso could lead depositors to bring back the deposits that have flowed out of Argentina's banking system in recent months. A similar thing happened in Ecuador after it dollarized in 2000.

To the extent that generally falling prices in Argentina result from U.S. monetary policy, rather than domestic policies that discourage growth, the measures proposed here would be strongly anti-deflationary.

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 travelers 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 of the time—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.³⁴ In some countries bank failures caused losses to note holders, but the losses were small compared to the losses inflicted by the central banks that later took over note issuance.

Argentina was one of the countries that had note issuance by commercial banks, in the 1880s. 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 re-establish a linked rate into 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.³⁵ 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 the First World War broke out in 1914.

The United States was another country where restrictions on banks gave note issuance by banks an undeserved black eye. 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, banks chartered by states were often required to back the dollar notes they issued with low-quality bonds issued by the states. This 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 experience.³⁶

Banks would be able to induce the public to 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. But what incentive would the public have to use bank-issued notes?

In contrast to peso notes issued by the BCRA, a great advantage of bank-issued notes would be lower perceived risk. Bank-issued notes denominated in dollars would be much less subject to fears about devaluation. For one thing, commercial banks are not protected by sovereign immunity like the central bank. Consequently, 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 addition, competitive market forces would push banks to maintain their redemption pledge. After all, if people thought there was a possibility of one bank not fulfilling 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 under free banking even stronger than under a currency board system.

Foreign banks that have subsidiaries rather than full branches in Argentina could improve the appeal of their notes by making them liabilities of the whole bank rather than of their Argentine subsidiaries alone.³⁷ Making notes liabilities of the whole bank might also help the

banks by making the notes an international currency usable in other officially dollarized countries and anywhere else people want to hold dollar-denominated notes.³⁸

Dollar-denominated notes issued by banks could offer three features that could make them more attractive for the public than Federal Reserve notes. One is a higher-quality supply. Federal Reserve notes in circulation in Argentina are often more worn than usual, and small denominations are scarce. The second feature bank-issued notes could offer is 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 is a rebate or lottery payment feature. Banks could offer cash back to merchants who agree 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.³⁹ The lottery payment feature would be a kind of substitute for payment of interest on notes, since unlike deposits a note issuer does not know how long a particular person has held a note.

Banks would get 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 today, the Bank of Scotland and the Royal Bank of Scotland issue notes alongside the Bank of England, the central bank. In Northern Ireland, Allied Irish Banks, the (privately owned) Bank of Ireland, 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 notes instead. In Hong Kong, HSBC (the Hongkong 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.⁴⁰

Common questions about how a system of bank-issued notes would work. Extensive historical experience indicates allowing Argentine banks to issue notes under similar regulations that now concern their taking of deposits would not cause any particular problems. Again, people now accept multiple brands of traveler's checks and bank debit and credit cards in payment. Allowing banks to issue their own notes would simply be an extension of the competition that already exists in other spheres. Argentines already accept both BCRA-issued peso notes and Federal Reserve-issued dollar notes, so some degree of competition already exists for notes.

The workings of a system of note issuance by banks have been the subject of considerable theoretical and historical research.⁴¹ There is no need to repeat the findings of that research here, except to reply briefly to a few commonly asked questions. The answers also apply to coins, should banks decide to issue them in competition with U.S. coins.

Who would issue notes? Any bank could try to issue notes, but whether it would succeed would depend on its success in gaining public acceptance. Competitive issuance of notes, like competition for bank deposits, is a costly business. Banks cannot just print notes and expect them

to circulate. Gaining public acceptance would require banks to ensure that the public was aware of the notes, had confidence in them, and could use the notes conveniently. That would require advertising campaigns, ensuring a reputation for prompt redemption in Federal Reserve notes or other suitable assets, and perhaps opening more branches to issue notes and accept them for redemption. A well-run note issue can be profitable for competing commercial banking, but it is not the bonanza that a monopolist such as a central bank can enjoy.

The historical experience of free banking systems has been that note issuance, like deposit business, has been dominated by the largest banks. Small banks need not issue notes if they cannot achieve the necessary economies of scale. Instead, they can make arrangements to use the notes of one or more issuing banks in return for a share of profits. Banks that do not issue notes would always have the option of paying customers only with Federal Reserve notes instead of bank-issued notes. Alternatively, banks that are small or face other disadvantages in competing against the market leaders may wish to form consortiums backed by the financial strength of all the members, rather like consortiums to issue credit cards.

What would happen to note holders if banks failed? Bank notes, like bank deposits, would be a general claim on the assets of failed banks. In some countries where banks have issued notes, local laws have required banks to hold special reserves against notes or have given notes priority over deposits as claims to the assets of a failed bank. There is no particular reason why notes should have priority. Should people not trust bank-issued notes, they would have the option of using Federal Reserve-issued notes.

Historically, bank failures that caused big losses to note holders and depositors were infrequent in monetary systems where banks issued their own notes and did not face burdensome regulatory restrictions.⁴² One of the supposed advantages of central banking is that a central bank can act as a “lender of last resort” to rescue commercial banks. But central bank rescues are not free, and in practice, they have encouraged bad banking practices and have been enormously costly for taxpayers around the world. Argentina holds the record for the costliest banking system failure on record, as a percentage of GDP: failures from 1980-82 caused losses of an estimated 55 percent of GDP, much of which was paid by taxpayers. In contrast, under the convertibility scheme, which greatly reduced the central bank’s capacity to rescue commercial banks, Argentina’s 1995 banking problems are estimated to have cost only 1.6 percent of GDP.⁴³ By creating an open-ended liability for taxpayers, the capability of central banks to act as lender of last resort has generally led to less stable rather than more stable banking.

How stable would the system be? The large-scale changes resulting from the tequila crisis in 1995 made Argentina’s banking system much more stable by closing weak government-owned banks and a few small privately owned banks not well suited to the changing times. Within the last year, the system has withstood stresses that would have made many banking systems elsewhere crack. Banks such as Citibank, Deutsche Bank, and HSBC are in better financial condition than the Argentine government, so the public would be likely to find them more trustworthy than the government as issuers of currency. Were banks allowed to issue their own notes, changes in the public’s demand to hold notes (as opposed to deposits) could be satisfied by increasing the supply of bank-issued notes. Bank reserves would remain unchanged. In contrast, under the current system, a change in the public’s demand to hold notes changes

bank reserves because notes are “high-powered money.” The current system is less stable in that sense than a system of bank-issued notes would be.

Would fraud and counterfeiting be big problems? By fraud, we mean banks established with the intent of swindling the public, by issuing notes and then running away with the assets. Counterfeiting does not appear to be a big problem now in Argentina. If banks issued their own notes, it would likely be even less of a problem, because competitively issued notes tend to return to the counter of the issuer for inspection more often than monopoly-issued notes (particularly Federal Reserve notes, in Argentina’s case, since Argentina is a long distance from the United States). Counterfeits are more readily traced to the source the shorter the time they circulate before passing through the hands of a bank teller or a bank note-sorting machine. The existence of multiple brands of notes in Hong Kong, Scotland, and Northern Ireland does not seem to increase problems with counterfeiting compared to countries where only central bank notes circulate widely.

What would limit the system’s ability to inflate? Some people think that bank-issued notes would enable banks to create inflation without limit. This misconception arises because people are unaware of the difference between notes issued in monopoly fashion by a central bank and notes issued competitively by commercial banks. Notes issued by a central bank are forced tender, that is, people in the country that has the central bank are required to accept them in payment. Forced tender laws deprive people of the choice of using better currencies, requiring use of the local currency no matter how much inflation it suffers. Moreover, central banks cannot be sued for devaluing. Notes issued by commercial banks would not be forced tender, so if banks did not keep their promise to redeem them in dollars they would be subject both to loss of market share and lawsuits. The means by which banks would be held to their promise is the clearing system. Banks would present the notes of rival banks for payment through the clearing system, just as they now do with checks and as they have done historically in systems of note issue by banks.⁴⁴

Would an influx of bank reserves cause a burst of high inflation? If bank-issued notes were to increase bank reserves substantially by displacing Federal Reserve-issued notes from circulation in Argentina, increased reserves would encourage banks to expand credit. Argentina’s generally falling prices would probably change to rising prices. Inflation should remain well in single digits, though, because the dollar is a low-inflation currency and Argentina is substantially though not perfectly integrated into world financial markets. The foreign banks that play a large role in the Argentine banking system seek the most profitable opportunities worldwide. They can easily lend anywhere, not just in Argentina, so a doubling of their reserves in Argentina would not mean they would double loans there. Even for Argentine banks, lending opportunities in the domestic market compete with lending opportunities abroad, such as buying foreign bonds.

Would the current loss of confidence in banks continue under dollarization? The experience of Ecuador, discussed in the next section, offers encouraging evidence that that official dollarization would quickly help restore confidence in banks.

5. PRINCIPLES FOR DOLLARIZING: REMOVE EXCHANGE CONTROLS SOON

Exchange controls reflect problems with the peso. Argentina has had exchange controls for several months now. As has been mentioned, on June 19, 2001, the government established a commercial rate applying to foreign trade. The commercial rate favors exporters and handicaps importers. It has given no obvious spur to exports, which have continued to expand at about the same pace as before.

On Saturday, December 1, the government imposed restrictions on withdrawing money from the banking system and on transferring funds out of Argentina. The regulations became effective on December 3, the first business day after they were announced. The regulations limit cash withdrawals from bank deposits to 1,000 a month or 250 dollars a week. Later, the government later announced that it would permit an additional one-time monthly withdrawal of up to 1,000 dollars, and on December 17 it announced an increase in the monthly limit to 1,500 for December. Transfers of funds out of the country are subject to the approval of the central bank. To reduce tax evasion, the regulations require all payments exceeding 1,000 pesos to be made by electronic funds transfer, rather than in cash.⁴⁵

The aim of the regulations of December 1 was to stem the withdrawals of cash that were occurring because of fears of devaluation and a deposit freeze, as well as the interest-rate ceiling imposed on peso deposits. Under the regulations, people could still shift funds from one bank to another within the Argentine banking system. On December 7, the central bank issued a regulation to discourage such shifts of funds, out of fear that they would weaken some banks. New time deposits are subject to a reserve requirement of 75 percent.⁴⁶ In combination, the regulations of December 1 and December 11 go halfway toward the type of complete freeze on deposits that previous governments imposed in 1982 and 1989. A freeze is far more harmful than restricting withdrawals because a freeze immobilizes funds completely.

Argentina's recent experience with exchange controls is only the latest of many historical episodes. Like previous episodes, this one will end badly if the government continues with its current policies. If people do not think they can trust the government to keep its hands off their bank deposits, they will transfer their money under their mattresses in cash, to foreign banks, or into other assets such as stocks or real estate. The Merval stock index rose 20 percent in the first week of December as people sought to transfer money from bank accounts into the potentially more liquid stock market.⁴⁷

Exchange controls are not necessary where confidence is present. Argentina did not have and did not need exchange controls until recently because there was sufficient confidence in the currency and the banks to make them superfluous. It has been claimed⁴⁸ that Argentina would need to retain exchange controls for a long period no matter what monetary arrangements it chooses, but that is not the case. The reforms proposed here would make it possible to remove exchange controls soon—as soon as the end of the 90-day period for which they are now imposed, if the government move quickly to implement reforms.

Eliminating the peso and replacing it with the dollar at 1 peso = 1 dollar would reassure bank depositors that the government would not devalue their deposits. Allowing banks to issue

notes would conserve reserves by enabling them to pay out their own notes to the extent the public trusts banks. There is no way to determine with much accuracy what part of the current demand for notes can be satisfied by bank-issued notes and what part can only be satisfied by Federal Reserve notes. However, the historical experience of free banking systems indicates that in general, most of the demand for notes can be satisfied by bank-issued notes.

The experience of Ecuador under dollarization offers encouragement. Ecuador floated the exchange rate of its currency, the sucre, in January 1999 after the Brazilian currency crisis provoked a speculative attack against the loosely pegged rate.⁴⁹ The sucre began depreciating quickly, and Ecuadoreans withdrew money from the country's commercial banks. The central bank could have rescued them by printing large amounts of sucres, but that would have accelerated inflation. Instead, the government responded in March by freezing many bank deposits and taking control of insolvent banks with about two-thirds of all deposits. Because Ecuadoreans lacked confidence in the sucre, they still tried to reduce their bank deposits. Inflation and withdrawals reduced deposits from the equivalent of 3.6 billion dollars at the end of 1998 to 2.5 billion dollars at the end of 1999. Interest rates spiked near the end of the year: the rate on short-term central bank securities rose from 60 percent on November 17 to 150 percent on November 23 and was still at around that level at the end of the year. The sucre depreciated from roughly 7,000 to 20,000 per dollar in 1999, and during the first week of January 2001 it depreciated from 21,000 per dollar to as much as 28,000 before recovering somewhat. In addition to its currency problems, Ecuador defaulted on its foreign debt on September 30, 2000.

On January 9, 2000, Ecuador's president announced the intention to establish official dollarization at a rate of 25,000 sucres per dollar. The dollarization proposal became law on March 13. In April, deposits started returning to the banking system, even to the insolvent banks the government had taken control of. Total deposits at financial institutions bottomed out at 2.3 billion dollars in March 2000; as Table 4 shows, by November 2001 they were 3.3 billion dollars. Demand deposits, which are the most sensitive to expectations, were 700 million dollars in December 1999 and bottomed out in January 2000 at 650 million dollars; by November 2001 they were almost 1.7 billion dollars. The government has unfrozen deposits in stages; the main purpose of the freeze was to prevent withdrawals from banks now owned by the government.⁵⁰ The government has also renegotiated its foreign debt.

If the Argentine government or banks are afraid of mass withdrawals and unusually high demand for the monetary base, banks can be allowed to make individual decisions about when to resume conversion of deposits into the dollar monetary base. (To the extent that the public would accept bank-issued notes, there would be no problem with resuming conversion of deposits into notes, and that is an important reason for allowing banks to issue notes.) After the current 90-day period, banks could be allowed to continue to suspend conversion for a further 90 days provided they pay an interest-rate premium to depositors—for example, interest rates of 3 percentage points a year more than they were paying before. Payment of the premium would cease when a bank resumed conversion of deposits into the dollar monetary base. For the future, banks may 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

Table 4. Main economic indicators for Ecuador, 1998-2001

	1998	1999	2000	2001*
Exchange rate, e.o.p. (sucres per dollar)	6,825	20,243	25,000	NA
GDP (billions of dollars)	19.7	13.8	13.6	17.8e
Growth of real GDP per person (%)	-1.6	-9.0	0.4	2.7e
Inflation (consumer prices, %)	43.4	60.7	91.0	24.6
Inflation (producer prices, %)	26.8	186.9	64.9	-3.3
Unemployment rate, e.o.p. (%)	11.5	15.1a	10.3a	9.5a
Exports (billions of dollars)	4.2	4.5	4.9	4.5b
Imports (c.i.f., bn dollars)	4.5	2.7	3.4	4.7b
Monetary base, e.o.p. (bn dollars)	0.834	0.770	0.261c	0.174c
Net foreign reserves, e.o.p. (bn dollars)	1.965	0.809	0.990	1.038
Sucre bank deposits, e.o.p. (bn dollars)	2.203	0.972	NA	NA
Dollar bank deposits, e.o.p. (bn)	1.42d	1.527d	2.894	3.308
Money market rate, e.o.p. (%)	48.5	151	4.4	2.0
Lending rate, sucres, e.o.p. (%)	60.53	72.63	NA	NA
Lending rate, dollars, e.o.p. (%)	16.11	16.61	14.52	14.66
Government revenue (bn dollars)	3.28	2.71	3.06	3.93f
Government spending (bn dollars)	3.22	2.80	2.97	3.93f
Government debt (bn dollars)	13.1	13.8	13.1	11.2
Country risk premium, e.o.p. (%)	16.31	33.53	14.15	12.42

Notes: *Latest information or forecast available, from a variety of dates. a = Guayaquil and Quito; b = latest monthly year-over-year figure; c = portion of monetary base issued by Ecuador's central bank has shrunk to coins alone because of dollarization; c.i.f. = carriage, insurance, and freight; d = our choice from various issues of the *Boletín de Coyuntura*, which for some reason show widely varying numbers here; e.o.p. = end of period; f = official forecast; NA = not available or not applicable. Amounts in dollars or sucres are in current units (nominal amounts for the year in question, not adjusted for inflation). Net foreign reserves are for the central bank. Government is the national government only. Dollarization at an exchange rate of 25,000 sucres per dollar was announced on January 9, 2000 and became law on March 13.

Source: Banco Central del Ecuador, mainly various issues of the *Boletín de Coyuntura*, at <<http://www.bec.fin.ec>>; Ministry of Economy and Finance, <<http://minfinanzas.ec-gov.net/>>; International Monetary Fund, *International Financial Statistics*, October 2001; J. P. Morgan Emerging Markets Bond Index Plus (country risk premium).

6. PRINCIPLES FOR DOLLARIZING: OTHER ISSUES

Cease issuance of government IOUs that circulate like notes. When short of funds to pay workers, provincial governments in Argentina have long issued IOUs that circulate like currency, sometimes at face value, sometimes at a discount. The recently issued IOUs of the Province of Buenos Aires, the most populous and economically important province, are called Patacones (technically, Bonos de Cancelación de Obligaciones de la Provincia de Buenos Aires).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, which like the federal government are in financial difficulty, are allowed to use Lecops to pay their employees, some of whom have not been paid in months. The total of Lecops and provincial government IOUs in circulation is about 2.5 billion pesos. In the past, government IOUs have tended to lose value against regular currency over time.

The danger of government IOUs that circulate like currency is that they will become de facto additions to the money supply and put pressure on the government to devalue the peso so as to be able to redeem the Lecops in pesos at face value. The Lecops should be retired. The economic growth that dollarization and other measures can help bring about can reduce the need for the federal and provincial governments to issue IOUs that circulate like currency.

Sell the Banco de la Nación Argentina. The previous steps can be undertaken immediately. A step that would take more time would be to sell the government-owned Banco de la Nación Argentina (Banco Nación for short), the country's largest bank. It has 14.5 percent of all deposits in the banking system. From the time 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. Selling Banco Nación would both make the financial system more efficient and improve the government budget by generating revenue from privatization. Research on the provincial banks that were privatized in the 1990s indicates that they have greatly reduced their nonperforming loans, lowered their administrative costs, and reduced politically motivated loans to public enterprises. Hence they are much stronger and less likely to impose a burden on taxpayers than they were before privatization.⁵³ 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.⁵⁴

Another reason for selling Banco Nación is that if banks are allowed to issue notes, as proposed here, Banco Nación's special status as a government-owned bank could make it a vehicle for re-establishing central banking. Argentina has had enough problems with central banking and there is no need to return to them.

There are 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...[n]o 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 states 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 role for the central bank as an issuer of currency, which would require amending the Organic Law of the Central Bank.⁵⁵

7. SOME OBJECTIONS TO DOLLARIZATION

This study has already addressed many of the objections to official dollarization, but there are a few other often-made objections that deserve to be answered.⁵⁶

Argentina does not meet certain preconditions for dollarization. As was the case in debate about currency boards in the early 1990s, it has been claimed that dollarization involves a number of preconditions, such as more confidence in the financial system or better government finances. As was the case with the earlier debate on currency boards, experience has showed this argument to be wrong. When they established currency board-like systems in the 1990s, Argentina, Estonia, Lithuania, and Bulgaria faced many problems: all had high inflation and weak banking systems, and most had negative economic growth and substantial problems with government finance. In all cases, stabilizing the currency helped resolve those problems, though for Argentina problems have since re-emerged for reasons already discussed.⁵⁷ Similarly, as has been mentioned, Ecuador was a mess when it dollarized in 2000. Most of its bank deposits were frozen, the economy was in a recession, and the political situation was chaotic (Ecuador has had nine governments in the last seven years). Under dollarization, Ecuador has resolved or at least made progress with all those problems.

Argentina is outside the dollar's optimum currency area. It has been claimed that dollarization is undesirable because Argentina does not form an "optimum currency area" with the United States. An optimum currency area is, roughly speaking, an area in which the benefits of using a common currency outweigh the costs. Unfortunately, economists disagree about how to define optimum currency areas in practice, though they generally agree that an optimum currency area exists where there is a large country that has a dominant currency and where considerable trade, labor, and investment flow between it and its smaller neighbors. The flaw with the theory of optimum currency areas is that economists presume to determine costs and benefits for consumers, rather than acknowledging that it is the evaluations of consumers that determine the costs and benefits economists must consider. If Argentines prefer to hold dollars (and they do), it indicates that for them Argentina is part of an optimum currency area with the United States, no matter what economists may think.

Competition among currencies, as among other goods, is the proper way to determine optimum areas of service.⁵⁸ Nothing in the form of dollarization this study proposes would prevent Argentines from using currencies other than the dollar, or prevent banks from issuing notes denominated in other currencies. In contrast, proposals to establish a floating rate for the peso would require exchange controls and other legal privileges whose purpose would be to prevent the Argentine people from using the dollar and to force upon them an inferior currency they would not use under free competition among currencies.

The theory of optimum currency area is of some use insofar as it highlights the problems that can arise when neighboring countries have radically different exchange rate policies. Official dollarization would work better in Argentina if Brazil were also dollarized, because then Argentine businesses would not have to worry about exchange rate risk when trading with Brazil. However, since the *real* is not a stable currency and Brazil seems unlikely to become officially dollarized, Argentina is left with options that all involve difficulties. The options

include floating, fixing to a basket of currencies, or using the euro or the *real* instead of the dollar. Establishing official dollarization seems the best of the available choices.

Argentina is too big for dollarization. Argentina, whose GDP is 289 billion dollars, is a much larger economy than Ecuador (18 billion dollars) or El Salvador (14 billion dollars). Argentina would be the largest dollarized country. However, Argentina's economy is less than 3 percent the size of the U.S. economy. Nine U.S. states have larger economies than Argentina.⁵⁹ Argentina's economy is about the same size as the economies of Georgia, Massachusetts, or Michigan, which nobody would suggest should break away from the dollar. Comparing the economy to those of other countries rather than U.S. states, it is about the same size as Belgium, and considerably smaller than the Netherlands, both of which have abandoned the option of an independent national monetary policy by joining the European Central Bank.

The Argentine economy is too inflexible for dollarization. It has also been claimed that wages and other costs of production in Argentina are highly resistant to reductions, and that therefore the economy is too inflexible for dollarization. Over the last few years, the consumer price index and especially the producer price index have fallen persistently; critics of dollarization interpret the combination of falling prices and recession as evidence that the peso has been overvalued. As we have explained, we do not think the peso is overvalued, and therefore we do not think further reductions in wages would be necessary under dollarization to make Argentina more competitive. The deflation that Argentina has experienced has been partly the result of the Federal Reserve's monetary policy, but mainly of the Argentine government's economic policies. We would expect the falling prices that characterize the recession would become stable or gently rising prices in an expansion under dollarization.

Dollarization would encourage Argentina to extend what it started to do in the early 1990s: liberalize its economy and make it more flexible, like Hong Kong. In addition, dollarization would push the government towards a complete fiscal reform, something that has been repeatedly promised but never delivered.

Dollarization would not reduce country risk. Critics of dollarization have claimed that it does not reduce country risk, because country risk is independent of the monetary system. They ignore that money is the most widely held form of property in society. Dollarization would strengthen property rights in money by eliminating the opportunity for the central bank to create high inflation. In Ecuador, which dollarized in 2000, the country risk premium (as measured by the interest-rate spread of Ecuadorean government debt over U.S. Treasury debt) has fallen from 33.53 percentage points at the end of 1999 to 12.42 percentage points today. Dollarization does not deserve all the credit, but was the key reform in a package that helped the economy turn from recession to growth.⁶⁰ The turnaround made Ecuador's foreign debt, on which the government had defaulted, a more attractive investment. Dollarization combined with other reforms can have a similar effect in Argentina.

It is also important not to confuse country risk, as measured by the government's borrowing rate, with the rates at which the private sector can borrow. Governments are typically the lowest-risk borrowers in their own currencies because almost all have the option of ordering the central bank to print money for them. The credit rating of the government in its own

currency therefore imposes a “sovereign ceiling” on the credit ratings of other borrowers in that currency. In foreign currencies, however, the same principle does not apply. Credit rating agencies have recognized this fact by allowing ratings for the private sector in dollarized countries to be higher than the ratings for governments of dollarized countries. Ever since Ecuador dollarized in March 2000, the interest rate for short-term loans among banks (currently about 2 percent) has been far lower than the rate at which the government could borrow in international markets, as measured by its country risk premium. Even in Argentina, interest rates in dollars for borrowers with good reputations or good collateral imply much lower risk than the country risk of the government.

The dollar may become an unstable currency. From time to time the Federal Reserve has managed the dollar poorly, not just making the errors of judgment in relatively small matters to which all central banks are subject, but making easily avoidable gross errors that were quite costly to the U.S. economy. The last such period was in the mid and late 1970s, when the Federal Reserve allowed inflation to rise above 10 percent a year. As has been mentioned, though, in the same period Argentina was routinely suffering inflation above 100 percent a year.

The Federal Reserve learned from its mistakes of the 1970s and has not repeated them since. But if it does, dollarization in the form proposed here would allow Argentines to replace the dollar with any other foreign currency that is mutually acceptable in transactions. They can switch to the euro, the yen, even gold or wheat if they wish. Dollarization offers Argentines more freedom of choice in currency than floating. Even advocates of floating think it would have to be supported at least initially by exchange controls as a way of trying to avoid an extreme initial depreciation (known to economists as overshooting).⁶¹ A number of the East Asian countries, Russia, Brazil, and Turkey tried to support their newly floating exchange rates with exchange controls after their currency crises of the last several years. There were no conspicuous successes; in all cases, the exchange rate depreciated considerably. Exchange controls have been notably successful only in helping to preserve pegged rates in Malaysia and China.⁶²

Dollarization undermines national sovereignty. Many people identify a national currency with national sovereignty. They think that eliminating the peso would therefore reduce Argentina’s national sovereignty. Observe, however, that unlike dollarization in Ecuador and El Salvador, which has replaced currencies issued by national central banks with dollars issued by the Federal Reserve, allowing banks to issue notes would enable them to replace both pesos issued by the BCRA and dollars issued by the Federal Reserve. Argentina would retain a locally issued currency, but banks rather than the government would be the issuer. Argentina would also lose the peso as an official unit of account, but individual Argentines would be free to use any unit of account that is mutually acceptable. If they wish to devise a unit that performs as badly over the long term as the peso has, they can do so, though they would not be able to compel anybody to use it.

The important questions about sovereignty are, who is sovereign and to what purpose? There is no value in sovereignty if it is merely a cover that permits a ruling elite to impoverish other citizens. Sovereignty does not belong only to governments; it belongs to individuals, by virtue of their dignity as human beings. Our proposal would expand individual sovereignty by eliminating monopoly features of Argentina’s monetary system that have impeded prosperity.⁶³

8. GOVERNMENT FINANCE

This study has focused on monetary reform. However, because the financial problems of the Argentine government are so much connected to its mistakes in tax policy, it is important to sketch some reforms that should be made to the tax system. The tax system has not received nearly as much attention nationally or internationally as the monetary system, and there seem to be no comprehensive ideas for reforming it to reduce the drag it imposes on economic growth.

A debt default is likely. The government's financial situation has become so bad so quickly that there is a strong likelihood true debt default, beyond what one might call the "elegant default" that recently happened through a semi-compulsory refinancing of locally held government debt.

A true default has the possibility to create problems for Argentina's financial system and for other emerging markets (though there are encouraging signs that Brazil and other countries are decoupling from Argentina in the perception of international investors). Recall that the exposure of Argentine banks to the government is estimated to be 180 percent of capital. A carelessly executed default could bankrupt many banks, particularly the three largest. What the government would "save" from a default, it would lose from having to rescue the banks as a result of the public outcry that would likely develop. Argentina has a privately operated deposit insurance fund, Seguros de Depósito S.A. (Sedesa), established in 1995 as a result of Argentina's economic problems of that year. Currently the fund has only \$242 million, which would be insufficient to cover the failure of any large bank.⁶⁴ From 1992 to April 1995 Argentina officially had no deposit insurance, but the federal government still bailed out depositors of the banks (mainly owned by provincial governments) that failed in early 1995. The government would have an equally hard time resisting a bailout today.

The solution, or more accurately the lesser among evils, would be to treat banks more favorably than other creditors in case of a default. It would not be favoritism on the part of the government: it would be self-interest. Allowing the banks to go bankrupt because they had lent to the government and then bailing them out would require converting dollar deposits into pesos; printing pesos in massive amounts (thereby creating high inflation) to provide a limited bailout; and freezing the remaining bank deposits, whose real value would then be eaten away by inflation. Similar policies created severe economic problems in 1982 and 1989; there is no need to repeat them.

A danger of a debt default is that the market for Argentine government debt would become illiquid, so that holders of debt who wish to sell it would incur much greater losses than they would in a liquid market. Sellers would have to pay a large liquidity penalty in addition to the risk penalty they would pay anyway. Adam Lerrick and Allan Meltzer, of Carnegie-Mellon University, have recently offered a proposal for the IMF to ensure an orderly market.⁶⁵ They suggest that the IMF establish a floor price for government debt. In the case of Argentina, the floor price might be, say, 40 percent of the original value of the debt. The market would remain liquid because the floor price would enable desperate sellers always to find a buyer—the IMF. The IMF would then become legally what it is already in practice in many countries: a bill collector. But the IMF would not expect to receive the original value for the debt; rather, it

would expect the floor price plus interest going forward. The defaulting government would have a lower burden of debt repayment and be more able to repay the IMF and other creditors.

The higher the IMF set the floor price, the more of a government's debt it would probably end up buying and the lower would be the reduction in the burden of debt; the lower the floor price, the greater the chance of an illiquid market. (A floor price of 10 percent of the original value would be meaningless because in the great majority of cases, holders of debt would rather endure illiquidity than sell at such a low price.)

Although the Lerrick-Meltzer proposal could be quite beneficial for Argentina, it is beyond the control of the Argentine government, unlike dollarization and other measures this study recommends. The government can undertake dollarization; it cannot undertake an IMF lending facility.

Tax rates should be cut drastically. Table 5 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 is no financial transactions tax.

With the apparent encouragement of the IMF, the Argentine government has raised many tax rates over the last few years in an attempt to increase government revenue. Economy minister José Luis Machinea implemented one package of rate increases, which took effect at the start of 2001. Economy minister Domingo Cavallo implemented another package soon after he took office in March 2001, and again as part of the "zero-deficit" measures approved in July. The results have been dismal. Rates have risen higher and higher, while tax collections have fallen lower and lower because the economy is shrinking. The government seems to have confused tax *rates* with tax *revenues*.⁶⁶ Although the analogy is not exact, it may help to think of government as "selling" its services for a "price" that is taxation. As is the case for sellers of everything from automobiles to zippers, a higher price does not always mean 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 of higher tax *rates* yielding lower tax *revenues* strongly suggests that tax rates are too high, and that the way to increase revenues is to reduce rates. (As economists would say, Argentina seems to be on the wrong side of the Laffer curve for at least some taxes.⁶⁷) 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.

Table 5. Major taxes in Argentina

<i>Tax</i>	<i>Rate(s) (%)</i>	<i>Revenue (bn pesos)</i>	<i>Remarks</i>
Federal			
Social security taxes	32.9	6.4*	Employees pay 11%, including 5% (down from 11% before November 2001) to private pension funds; employers pay 21.9%.
Value-added tax	21	11.9	Main rate 21% (was 15% several years ago); special rates of 10.5% and 27%.
Income tax	9-35	8.0	Corporate rate is 35 percent; individual rates are 9-35 percent, with top rate starting at 120,000 pesos.
Fuel taxes	~50-60	2.5	Rates vary, and were rejiggered in 2001.
Financial transactions tax	0.6	1.9	Imposed in April 2001 at 0.4%, increased in August. Paid on both bank credits and debits.
Excise taxes	various	1.3	Part of revenue shared with provinces.
Tariffs	0-35	1.3	Raised on many items March 2001.
Personal assets tax	0.5, 0.75	0.5	Bottom rate starts at total assets of 102,300 pesos; top rate starts at 300,000 pesos.
Presumptive minimum tax	1	0.4	Starts at assets of 300,000 pesos.
All other revenue	various	5.9	
<i>Total (including nontax) revenue</i>		<u>40.1</u>	<i>Revenue for national nonfinancial sector, cash basis, January-September 2001. See notes.</i>
Provincial and local			
Tax on gross sales	1.0 - 4.9	3.0	Averages 3%; many exemptions.
Property tax	various	1.0	
Motor vehicle tax	various	0.5	A common rate is 3%.
Stamp taxes	1	0.4	Most common rate is 1%.
All other revenue	various	0.5	
<i>Total revenue</i>		<u>5.4</u>	<i>Revenue for January-June 2001. See notes.</i>
<p><i>Notes:</i> *Plus 3.3 billion pesos to private pension accounts. 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 considerable federal revenue sharing (about 12 billion pesos over nine months). <i>Sources:</i> Fundación Invertir Argentina, <http://www.invertir.com/taxation.html>; Ministry of Economy, Secretaría de Hacienda, <i>Boletín Fiscal</i> and other sources, <http://www.mecon.gov.ar/hacienda/>; Administración Federal de Ingresos Públicos, <http://www.afip.gov.ar/sistema/sistema.asp>.</p>			

Lower tax rates would improve the long-term growth prospects of the Argentine economy and should help the government finance its longer-term debt more readily once Argentina's creditors see that the economy is starting to improve. Yes, lowering tax rates is a calculated risk, especially given the government's plan to operate on a "zero-deficit" basis, but raising tax rates has not worked well, so persisting with the course the government has followed so far is at least as risky.

The government has expressed a desire to reduce tax rates, but so far it has not actually cut any rates. The government can help generating sustained growth by making a commitment to cutting tax rates consistently for a number of years. A good model to imitate is Ireland, which has cut the rates on one or more of its important taxes almost every year since 1987.⁶⁸

The government needs to begin with a dramatic tax reduction. We suggest the following steps:

- Cut the value-added tax from the current rate of 21 percent to 15 percent.
- Cut social security taxes from the current rate of 32.9 percent to 25 percent.
- Replace personal income tax brackets of 9 percent (starting at 10,000 pesos of taxable income) to 35 percent with a flat-rate tax of 20 percent above a basic exemption of 20,000 dollars. (Argentina already has a flat-rate personal income tax, but it applies only to nonresidents and the rate is 35 percent.)
- Eliminate the financial transaction tax, the presumptive minimum tax, and the personal assets tax.

Further reductions beyond these 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.

The experience of other countries offers hope for Argentina. Russia in August 2000 passed a law replacing income tax rates of 12 to 30 percent with a flat-rate tax of 13 percent, reducing social security taxes from 39.5 percent to 35.6 percent, and reducing turnover (gross sales) taxes from 4 percent to 1 percent. (Some local taxes were increased to compensate for the reduction in the inefficient turnover taxes.) Revenues are now expected to be at least 26 percent higher in 2001 than in the original budget projection.⁶⁹ The IMF wanted fewer reductions in tax rates.⁷⁰

Ecuador has made smaller tax reforms, eliminating a number of nuisance taxes. There, dollarization rather than tax reform seems to have given the biggest boost to growth. In the first ten months of 2001, tax collections in Ecuador have been 47 percent higher than for the same period in 2000, and about one-third higher than originally projected. Revenue from the value-added tax is running 64 percent higher than last year.⁷¹ Ecuador imposed a financial transactions tax like Argentina's at the start of 1999. The tax (initially 1 percent, later 0.8 percent) contributed to withdrawals of deposits from the banking system that year. Rapid growth in revenue allowed the government to eliminate the tax in 2001. The IMF advised Ecuador to retain the financial transaction tax and to increase the value-added tax from 12 percent to 14 percent. Ecuador's government increased the value-added tax in mid 2001, but the increase was declared invalid two months later by the constitutional court, so it has remained at 12 percent since. The result of not

listening to the IMF's tax advice is that in 2001, Ecuador will have the highest rate of economic growth among the Latin American countries for which the IMF makes projections.⁷²

Russia and Ecuador are both oil exporters, and benefited in early 2001 from high prices for oil, but their economic growth and growth in tax revenue have been broadly based, and not limited to the oil sector. Russia made a big tax reform without dollarizing, while Ecuador dollarized but made a much smaller tax reform than Russia. Combining a big tax reform with dollarization would give Argentina's economy dynamism from two sources.

Government spending. After resisting attempts to reduce government spending earlier this year, the federal government and provincial governments are buckling down. On December 17, 2001, economy minister Cavallo announced that the government would reduce spending to 39.6 billion pesos in 2002 versus a projected 48.8 billion pesos in 2001. It remains to be seen how faithfully the provincial governments will honor their agreement with the federal government to control spending. There is a long history of the federal government buying political support from powerful provincial leaders by bailing out provincial governments.

Especially in Argentina's present circumstances, extra government spending does not encourage an economic expansion because each additional peso of spending has to come from higher tax rates or more borrowing at high interest rates. Every peso (or dollar) that the government spends is one that a private citizen cannot spend. In the private sector, people have to provide something that other people are willing to pay for. Businesses cannot force customers to deal with them; customers can go to competitors or, if they wish, refuse to buy what the businesses are selling. Because customers, workers, and businesses in the private sector can choose whether or not to buy and sell from one another, the presumption is that they make deals only to the extent they think the deals will be mutually beneficial. Unlike businesses, government can force people to deal with it, and part with some of their earnings through taxes. The presumption that exists with private-sector activity, that it is mutually beneficial to the parties involved, does not exist for compulsory payment of taxes. The presumption is in fact the opposite, namely, that some people would rather not pay taxes because they do not think they get enough personal benefit from government activities. Proposals to increase government spending should therefore be examined very skeptically.⁷³ That said, further reductions in spending will not help the economy unless they are used to reduce tax rates.

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 income statement should be audited by private accounting firms. This type of fiscal framework was introduced in New Zealand starting in 1989 and has, among other things, discouraged corruption and promoted honesty in government finances.⁷⁴

9. CONCLUSION

Dollarization would work best accompanied by other economic reforms. Table 6, which summarizes the recommendations of this study, mentions reforms to government finance that would be beneficial. There are many other steps Argentina could take to make its economy more efficient and more flexible so it grows faster.⁷⁵ Labor laws are notoriously inflexible. The health care system, dominated by monopolistic providers, is a mess. Most of the provincial governments are poorly run. The delivery of government services is in general poor. Corruption is still extensive. Tax collection is weak. All these things are well known and have been the subject of many studies and recommendations. The problem is having the political willpower to make reforms and the determination to follow through with them.

Although dollarization is not a panacea (and we have never seen anybody claim that it is⁷⁶), it is an excellent first step. Argentina's experience with the convertibility system was that despite its flaws, for a long time the system had a highly beneficial effect on the economy and politics. A reliable currency gave Argentines confidence that they could plan for the long term and focus on producing efficiently rather than on following the currency market. Other countries have had similarly good experience with far-reaching and credible monetary reforms. Dollarization would correct the weaknesses of the convertibility system and help restore the financial system and the economy to health. No monetary system can guarantee economic growth, but dollarization would improve the odds for achieving economic growth.

Argentina's choice is not whether to dollarize; it is in which form dollarization will be implemented. Under the current monetary policy or under floating, the economy will continue with its creeping unofficial dollarization because nobody trusts the peso. Official dollarization would immediately end the problems that have bedeviled the peso. Official dollarization is the logical culmination of the convertibility system. We would expect official dollarization in the form this study has proposed to produce the following results:

- Interest rates would fall. Short-term rates have fallen recently, but long-term rates remain high because of uncertainty about government policy toward the currency and bank deposits.
- Exchange controls and restrictions on bank deposits could be quickly removed.
- Bank liabilities (deposits, bank notes, etc.) and bank lending would increase, reversing current trends.
- The current level of seigniorage (the revenue from issuing notes and coins) would be retained in the Argentine financial system and probably increased, as the public switched some of its holdings of Federal Reserve-issued notes to bank-issued notes.
- Dollarization and bank-issued notes would end the monetary causes of deflation; cutting tax rates would end its main nonmonetary cause.
- Dollarization would be a spur to economic growth, though without other reforms, especially to the tax system, sustained rapid growth is unlikely.

To remain concise and readable, the study has covered only the main practical points about dollarization. It has not discussed many of the purely academic objections to

dollarization,⁷⁷ nor has it described in exhaustive detail how to solve every little practical problem that may arise. The important points are that official dollarization is feasible, it would be beneficial, and it can be accomplished quickly.

Table 6. Summary of recommendations

Currency

- Officially dollarize at 1 peso = 1 dollar.
- End the separate commercial rate that applies to imports and exports.
- 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 the existing stock of coins to continue in circulation plus any supplement up to a maximum of 700 million pesos, but require new dollar-denominated coins beyond that 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.

Financial system

- Remove interest-rate ceilings and liquidity requirements.
- Remove exchange controls soon.
- Remove liquidity requirements.
- Sell the Banco de la Nación Argentina.

Government finance

- Reduce tax rates. It is possible that lower tax *rates* will quickly result in higher tax *revenues*. Cut the value-added tax to 15 percent, introduce a flat-rate personal income tax of 20 percent, cut social security taxes to 25 percent, and abolish the financial transaction tax, the presumptive minimum tax, and the personal assets tax.
- The IMF could adopt the Lerrick-Meltzer proposal to ensure a liquid market for Argentine government debt should the government default.
- Introduce a transparent fiscal framework.

Expected results

- Lower interest rates, particularly longer-term rates.
- Exchange controls and restrictions on bank deposits could be quickly removed.
- Rising bank liabilities (deposits, bank notes, etc.) and loans.
- More seigniorage (profit from issuing notes) retained by financial system.
- An end to deflation, both in its monetary and tax-induced aspects.
- Higher economic growth, though sustaining growth will require continuing work on taxes and regulation.

APPENDIX: A MODEL DOLLARIZATION STATUTE

(This model law is meant to suggest the main features that are 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 1 peso = 1 dollar. Notes, coins, and other monetary liabilities of the Federal Reserve System of the United States shall be legal tender in Argentina.

2. The Banco Central de la República Argentina (BCRA) shall convert all its peso deposit liabilities into dollar liabilities at a rate of 1 peso = 1 dollar when this law becomes effective. The BCRA shall return all deposits by banks or the public to their holders within one month after this law becomes effective.

3. The BCRA may not reissue peso notes. It shall withdraw existing notes from circulation as quickly as possible and exchange them for dollars at a rate of 1 peso = 1 dollar. One year after this law becomes effective, peso notes shall cease to be legal tender and the BCRA shall no longer be required to exchange them for dollars.

4. The BCRA shall issue no coins beyond those already in its vaults when this law becomes effective. The maximum for Argentine government coins in circulation shall be 700 million dollars. The government shall not mint new coins to replace old coins.

5. Banks licensed to operate in Argentina may issue notes and coins denominated in U.S. dollars or other units of account. The notes shall not be subject to a circulation tax or value-added tax. Notes issued by bank shall not be forced tender.

6. Neither the federal government nor the provincial or local governments shall issue notes intended to circulate like currency.

7. All foreign-exchange controls shall be abolished within 60 days after this law becomes effective. Consenting parties may use any currency they specify, for any amount they choose.

8. The President may appoint a committee of experts on technical issues connected with this law.

9. Previously enacted legislation conflicting with this law is repealed.

10. This law becomes effective immediately.

NOTES

Information from Web sites that is temporarily unavailable directly or has been removed may be viewed through the Internet Archive, <<http://www.archive.org>>.

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- ¹ For a diagnosis of Argentina's downward spiral, see the following articles by Steve H. Hanke: "The Confidence Question," *Forbes*, September 18, 2000; "Argentina's Boom and Bust," *Forbes*, April 16, 2001; "An Exit Strategy for Argentina," *Forbes*, August 20, 2001; and "The Hoodwinkers," *Forbes*, November 26, 2001; and "Who's Killing the Peso in Buenos Aires?" *Wall Street Journal*, November 30, 2001, p. A15. The *Forbes* articles are available at <www.forbes.com/hanke>.
- ² Information on the economy is from the Ministry of the Economy, <<http://www.mecon.gov.ar/progeco/dsbb.htm>>. Information on government debt is from Ministry of the Economy, Undersecretariat of Financing, <<http://www.mecon.gov.ar/financing/indicein.htm>>.
- ³ Charles Roth, "Market's View of Argentina's Peso Far from 1:1," Dow Jones Newswires article, December 11, 2001.
- ⁴ Banco Central de la República Argentina, *Información Monetaria y Financiera Mensual*, November 2001, <<http://www.bcra.gov.ar/pdfs/estadistica/bol1201.pdf>>.
- ⁵ "What Happens to Argentine Banks in a Worst-Case Scenario?" *Emerging Markets Today* (J. P. Morgan), November 5, 2001, pp. 6-8.
- ⁶ Steve H. Hanke and Kurt Schuler, "A Monetary Constitution for Argentina: Rules for Dollarization," *Cato Journal*, vol. 28, no. 3, Winter 1999, pp. 405-19, <<http://www.cato.org/pubs/journal/cj18n3/cj18n3-11.pdf>>. For general information on dollarization, including some of our previous work on Argentina, see the Web site of Kurt Schuler, <<http://www.dollarization.org>> or <<http://users.com/kurrency>>, which includes a bibliography containing some writings in English and Spanish on dollarization in Argentina and elsewhere. Perhaps the most notable contribution in Spanish is Gabriel E. Rubenstein, *Dolarización: Argentina en la aldea global*, Buenos Aires: Nuevohacer Grupo Editor Latinoamericano, 1999.
- ⁷ See the updated version of the Convertibility Law (Law 23.928) at <<http://www.bcra.gov.ar/pdfs/marco/Ley%20de%20convertibilidad.PDF>>.
- ⁸ A recent comparison of sterilized intervention in currency board-like and other monetary systems shows Argentina as having a sterilization coefficient of 0.73 over the period studied. A coefficient of zero represents no sterilization; there is not upper limit to the coefficient, though it exceeds 1 only in 2 of the 19 countries studied. In comparison, Estonia, which also has a currency board-like system, had a sterilization coefficient of 0.09. George Fane, *Capital Mobility, Exchange Rates and Economic Crises*, Cheltenham, England: Edward Elgar, 2000, p. 142.
- ⁹ See the following publications by Steve H. Hanke and Kurt Schuler: *¿Banco central o caja de conversión?*, Buenos Aires: Fundación República, 1991; "Argentina Should Abolish Its Central Bank," *Wall Street Journal*, October 25, 1991, p. A15; *Russian Currency and Finance: A Currency Board Approach to Reform* (written with Lars Jonung), London: Routledge, 1993, pp. 72-7; *Currency Boards for Developing Countries: A Handbook*, San Francisco: International Center for Economic Growth, 1994, pp. 47-51; "Currency Board-Like Systems Are Not Currency Boards," *Transition* (World Bank newsletter), July-August 1994, p. 13; and "A Monetary Constitution for Argentina: Rules for Dollarization," *Cato Journal*, vol. 18, no. 3, Winter 1999, pp. 405-19.
- ¹⁰ Examples include Paul Krugman, "A Cross of Dollars," *New York Times*, November 7, 2001; and most publications by staff of the IMF, such as Tomás J. T. Baliño and Charles Enoch, editors, *Currency Board Arrangements: Issues and Experiences*, IMF Occasional Paper No. 151, Washington, D.C.: International Monetary Fund, 1997.
- ¹¹ Those who would interpret the problems of the convertibility system as proof that currency boards are unworkable are wrong for three reasons. First, the system has never been an orthodox currency board. Second, orthodox currency boards have an excellent historical record of preserving monetary stability (see Kurt Schuler, "Currency Boards," Ph.D. dissertation, George Mason University, 1992, <<http://users.erols.com/kurrency/webdiss1.htm>>). Third, where a broad range of experience exists, generalizations about monetary systems must not be based on one or two particular cases. The policies of Argentina's central bank had disastrous effects on the economy in the 1980s, but nobody has argued as a result that central banks in general are unworkable. For all its flaws, the convertibility system must be viewed within the context of Argentina's monetary history, which has been highly troubled for most of the last 150 years.

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- ¹² Mike Churchill, "The Fatal Flaw in Argentina's Currency Board," Polyconomics, Inc., December 4, 2001, <<http://polyconomics.com/showarticle.asp?articleid=1760>>.
- ¹³ Data on the Brazilian central bank's discount rate (Selic) can be found at the Web site of the Banco Central do Brasil, <<http://www.bcb.gov.br/sddsi/sddsi.htm>>; data on consumer prices (IPCA) can be found at the Web site of the Instituto Brasileiro de Geografia e Estatística, <http://www.ibge.gov.br/english/estatistica/indicadores/precos/inpc_ipca/inpc102001.shtm>.
- ¹⁴ International Monetary Fund, "IMF Welcomes Indonesia's Exchange Rate Action," news brief 97/18, August 14, <<http://www.imf.org/external/np/sec/nb/1997/nb9718.htm>>.
- ¹⁵ The formula for the commercial rate is: $(1 + \text{dollars per euro}) / 2$. Oil imports can be made at 1 peso per dollar.
- ¹⁶ Law 25.445, published in the *Boletín Oficial* on June 25, 2001.
- ¹⁷ The opinion that the peso is overvalued is so widespread that it is routinely reported as fact, as in Richard Lapper and Thomas Catán, "Country's Early Currency Success Has Turned to Dust," *Financial Times* (U.S. edition), December 13, 2001, p. 4.
- ¹⁸ Tom Darin Liskey, "Argentina Final Oct. Trade Surplus \$605M Vs. \$587M Prelim," Dow Jones News Service newswire, December 7, 2001.
- ¹⁹ 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," manuscript, December 2, 2001, p. 14, available at <<http://www.stern.nyu.edu/globalmacro/>>. Roubini claims that according to several different measures, the peso is overvalued by around 20 percent, but, as is typical of his writing on currency boards, he provides no citations to support his claim.
- ²⁰ UBS, "Prices and Earnings Around the Globe: An International Comparison of Purchasing Power," Zurich: UBS Switzerland, 2000, pp. 6, 19, <http://www.ubs.com/e/index/about/research/economicresearch_newdialog.0007.Upload5.pdf/pl00e1_o.pdf>. The main airport for Buenos Aires is far from the center of the city, which explains why taxi rides from the airport are expensive.
- ²¹ Kalin Hristov, "FEER and Currency Boards: Evidence From the 90's," unpublished manuscript, Bulgarian National Bank, presented at the Centre for Central Banking Studies (Bank of England) Conference on Exchange Rates, November 26, 2001, p. 25.
- ²² Simeon Djankov, Rafael La Porta, Florencio Lopez-de-Silanes, and Andrei Shleifer, "The Regulation of Entry," National Bureau of Economic Research Working Paper 7892, September 2000, at <<http://www.nber.org/>>.
- ²³ Hong Kong consistently ranks high in surveys of economic freedom and competitiveness. It is first of 123 countries (Argentina is 11th) in James Gwartney and Robert Lawson with Charles Skipton and Walter Park, *Economic Freedom of the World Report 2001*, Vancouver: Fraser Institute, 2001, <http://www.fraserinstitute.ca/publications/books/efw_2001/>. Hong Kong is 13th of 75 countries (Argentina is 54th) in the World Economic Forum *Global Competitiveness Report*, New York: Oxford University Press, 2001 (country rankings available at <http://www.weforum.org/pdf/gcr/Overall_Competitiveness_Rankings.pdf>).
- ²⁴ Ed Crooks, "E15bn Legacy Currency Windfall Expected," *Financial Times* (U.S. edition), December 20, 2001, p. 9.
- ²⁵ An alternative course would be to allow the central bank to continue issuing notes in competition with commercial banks. However, if Argentina's history is a guide, the government would be more tempted to meddle with the monetary system in ways that are harmful to the economy, as long as the central bank continues to exist.
- ²⁶ Banco Central de la República Argentina, *Estados Contables al 31.12.2000*, Nota 3.10, <<http://www.bcra.gov.ar/pdfs/balance/notas1C01.PDF>>.
- ²⁷ Banco Central de la República Argentina, Comunicación "A" 3358, November 11, 2001, <<http://www.bcra.gov.ar/folio/A3358.pdf>>.
- ²⁸ Decree 1570/2001, <<http://infoleg.mecon.gov.ar/txtnorma/texactdto1570-2001.htm>>.
- ²⁹ In the United States, the requirement of 10 percent applies to accounts that banking regulations define as transaction accounts. Nontransaction accounts have not reserve requirement. Over the last ten years, "sweep" accounts that minimize funds in nontransaction 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, <<http://www.superbancos.gob.pa/law9.htm>>.
- ³⁰ This section expands slightly on Steve H. Hanke, "A Dollarization/Free-Banking Blueprint for Argentina," *Friedberg's Commodity and Currency Comments*, December 3, 2001, <<http://users.erols.com/kurrency/hanke.pdf>>, also published as "Argentine Endgame: Couple Dollarization with

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- Free Banking,” *Cato Foreign Policy Briefing No. 67*, December 4, 2001, <<http://www.cato.org/pubs/fpbriefs/fpb67.pdf>>. That paper elaborates on 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, <<http://users.erols.com/kurrency/arguturn.htm>>. Note issue by banks has also been proposed by George Selgin, “Let Private Money Spark a Recovery in Argentina,” *Wall Street Journal*, August 17, 2001, p. A9.
- ³¹ Monthly figures come from the central bank’s *Información monetaria y financiera mensual* and *Informe monetaria diario*, available at its Web site, <<http://www.bcra.gov.ar>>, and are averages of daily figures.
- ³² U.S. Treasury Department, *The Use and Counterfeiting of United States Currency Abroad*, January 2000, p.19, <<http://www.federalreserve.gov/boarddocs/RptCongress/counterfeit.pdf>>.
- ³³ This rough estimate of the value of seigniorage uses as its interest rate the money market rate in the United States, not the rate in Argentina, which has been far higher for much of 2001.
- ³⁴ Kevin Dowd, editor, *The Experience of Free Banking*, London: Routledge, 1992.
- ³⁵ There is a discussion of Argentina’s experience in this period in John H. Williams, *Argentine Trade Under Inconvertible Paper Currency, 1880-1900*, Cambridge: Massachusetts: Harvard University Press, 1920, chapters 7-8; and Angel M. Quintero-Ramos, *A History of Money and Banking in Argentina*, Rio Piedras, Puerto Rico: University of Puerto Rico, 1965, chapters 3-4.
- ³⁶ See Kevin Dowd, editor, *The Experience of Free Banking*, London: Routledge, 1992 (especially Dowd’s chapter “US Banking in the ‘Free Banking’ Period”); and Lawrence H. White, editor, *Free Banking*, 3 volumes, Aldershot, England: Edward Elgar, 1993.
- ³⁷ Large foreign banks that have subsidiaries in Argentina include BBVA, Deutsche Bank, and HSBC. Large foreign banks that have full branches in Argentina include Banco do Brasil, Bank of America, Citibank, FleetBoston Financial, ING, J. P. Morgan Chase & Co., and Lloyds TSB.
- ³⁸ 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 the law allowed them to do so. See Kurt Schuler, “Note Issue by Banks: A Step toward Free Banking in the United States?” *Cato Journal*, vol. 20, no. 3 (Winter 2001), pp. 453-65, <<http://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. See United States Code, title 12, section 541.
- ³⁹ J. Huston McCulloch, “Beyond the Historical Gold Standard,” in Colin D. Campbell and William R. Dougan, editors, *Alternative Monetary Regimes*, Baltimore: Johns Hopkins University Press, 1986, pp. 74-5, and C. A. E. Goodhart, “How Can Non-Interest-Bearing Assets Co-Exist with Safe Interest-Bearing Assets?” *British Review of Economic Issues*, vol. 8, no. 19, Autumn 1986, p. 5.
- ⁴⁰ The Scottish and Irish monetary systems had free banking in the 1700s and 1800s, and Hong Kong had free banking from 1845 to 1935. Today, banks that issue notes in Scotland, Northern Ireland, and Hong Kong do so under reserve requirements like those applying to an orthodox currency board. See Bank of England, “Fact Sheet: Bank Notes,” <<http://www.bankofengland.co.uk/banknotes/factnote.pdf>>; and Hong Kong Monetary Authority, “Bank Notes in Hong Kong” Web page, <http://www.info.gov.hk/hkma/eng/currency/notes_co/index.htm>. In Scotland, the Bank of Scotland is part of HBOS 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, the Northern Bank is a part of the National Australia Bank group and the Ulster Bank is part of the Royal Bank of Scotland group.
- ⁴¹ For a guide to research on free banking, see George A. Selgin and Lawrence H. White, “How Would the Invisible Hand Handle Money?” *Journal of Economic Literature*, vol. 32, no. 4, December 1994, pp. 1718-49. Online, see the Web sites of Selgin, <<http://www.terry.uga.edu/~selgin/>>, and White, <<http://www.umsl.edu/~whitelh/links.html>>. Selgin has proposed that banks in Hong Kong, whose monetary system is somewhat like that of Argentina, be allowed to issue notes. George A. Selgin, “A Free Banking Approach to Reforming Hong Kong’s Monetary System,” *Asian Monetary Monitor*, vol. 12, no. 1, January-February 1988, pp. 14-24.
- ⁴² See the essays in Kevin Dowd, editor, *The Experience of Free Banking*, London: Routledge, 1992.
- ⁴³ Gerard Caprio, Jr., and Daniela Klingebiel, “Episodes of Systemic and Borderline Financial Crises,” World Bank paper, October 1999, p. 8.
- ⁴⁴ For an explanation of how the money supply works in under a system of bank-issued notes, see George A. Selgin, *The Theory of Free Banking: Money Supply Under Competitive Note Issue*, Totowa, New Jersey: Rowman and Littlefield, 1988.
- ⁴⁵ Decree 1570/2001 and Banco Central de la República Argentina, Comunicación “A” 3372, December 1, 2001, <<http://www.bcra.gov.ar/folio/A3372.pdf>>.

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- ⁴⁶ Banco Central de la República Argentina, Comunicación “A” 3387, December 7, 2001, <<http://www.bcra.gov.ar/folio/A3387.pdf>>.
- ⁴⁷ Mercado de Valores de Buenos Aires, <<http://www.merval.sba.com.ar/>>.
- ⁴⁸ 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,” manuscript, December 2, 2001, p. 18.
- ⁴⁹ Officially the exchange rate was termed a managed float, but in practice it worked like a loose peg.
- ⁵⁰ 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, <http://econ.worldbank.org/files/2322_wps2643.pdf>; Franklin A. Lopez, “Dollarization in Vulnerable Economies: The Lessons from Ecuador,” unpublished paper, University of New Orleans, November 2000; and IMF country information on Ecuador, at <<http://www.imf.org/external/country/ECU/index.htm>>. Kurt Schuler is also writing a paper on Ecuador.
- ⁵¹ See Kevin Dowd, *Laissez Faire Banking*, London: Routledge, 1993, pp. 25-113; a more skeptical view is Parth J. Shah, “The Option Clause in Free-Banking Theory and History: A Reappraisal,” *Review of Austrian Economics*, vol. 10, no. 2, 1997, pp. 1-25, <http://www.mises.org/journals/rae/pdf/rae10_2_1.pdf>.
- ⁵² See Province of Buenos Aires, Ministry of the Economy Web site, <<http://www.ec.gba.gov.ar/Financiamiento/Patacones.htm>>.
- ⁵³ George R. G. Clarke and Robert Cull, “Why Privatize? The Case of Argentina’s Public Provincial Banks,” World Bank Research Working Paper 1972, <<http://econ.worldbank.org/docs/703.pdf>>.
- ⁵⁴ World Bank, *Finance for Growth: Policy Choices in a Volatile World*, Washington: World Bank, 2001, p. 124.
- ⁵⁵ Selected laws concerning the Argentine financial system are available on the Web site of the central bank at <<http://www.bcra.gov.ar/publica/epub0001.asp>>.
- ⁵⁶ For a recent compilation of many of the arguments against dollarization, see 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,” manuscript, December 2, 2001. Unlike some other critics of dollarization, Roubini views the Argentine economy as having shown surprising flexibility of prices.
- ⁵⁷ Steve H. Hanke, “Currency Boards,” *Annals of the American Academy of Political and Social Science*, no. 579, January 2002, pp. 87-105.
- ⁵⁸ Lawrence H. White, “Fix or Float? The International Monetary Dilemma,” in Lawrence H. White, *Competition and Currency: Essays on Free Banking and Money*, New York: New York University Press, 1989, pp. 137-47.
- ⁵⁹ The states are California, Florida, Illinois, Michigan, New Jersey, New York, Ohio, Pennsylvania, and Texas. See U.S. Department of Commerce, Bureau of Economic Analysis, “Gross State Product Data,” <<http://www.bea.doc.gov/bea/regional/gsp/>>.
- ⁶⁰ Dollarization was the headline reform of the so-called Ley Trolebús (Omnibus Law), a large package of reforms that became effective in March 2000. The official name of the law was the Ley Para la Transformación Económica del Ecuador. For the text, see <<http://users.erols.com/kurrency/ectroleley.htm>>.
- ⁶¹ 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,” manuscript, December 2, 2001, pp. 10-11.
- ⁶² The three basic types of exchange rates are fixed, floating, and pegged. Under a fixed exchange rate, a currency is maintained constant in terms of an anchor currency. The monetary authority, if any, has no discretionary power to control the monetary base, which changes only in response to changes in demand by the public. Dollarized countries have fixed rates. Under a floating exchange rate, the monetary authority controls the monetary base, but the exchange rate is not maintained constant in terms of any anchor currency. The U.S. dollar is an example of a currency that floats fairly “cleanly,” without the Federal Reserve and Treasury intervening frequently to influence its exchange rate by buying or selling foreign currency. Under a pegged exchange rate, which is between the extremes of fixed and floating rates, the monetary authority controls both the exchange rate and the monetary base. The “harder” the peg, the less often the monetary authority varies the exchange rate. Many of the problems of the convertibility system result from its being perceived as, and operating like, a pegged exchange rate rather than a fixed rate. See Steve H. Hanke, “How to Establish Monetary Stability in Asia,” *Cato Journal*, vol. 17, no. 3, Winter 1998, pp. 295-301, <<http://www.cato.org/pubs/journal/cj17n3-9.html>>, and Kurt Schuler, “The Problem with Pegged Exchange Rates,” *Kyklos*, vol. 52, no. 1, 1999, pp. 83-102.

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- ⁶³ For more on the relationship between the currency and sovereignty, see Kurt Schuler, “What Use Is Monetary Sovereignty?” forthcoming in James W. Dean, Steven Gliberman, and Thomas D. Willett, editors, *Dollarization of the Americas*, New York: Oxford University Press, <<http://users.erols.com/kurrency/monsov.htm>>.
- ⁶⁴ Seguro de Depósitos Sociedad Anónima, <<http://www.sedesa.com.ar>>.
- ⁶⁵ Adam Lerrick and Allan Meltzer, “Blueprint for an International Lender of Last Resort,” manuscript, Carnegie-Mellon University, October 22, 2001. For an earlier version, see <<http://www.house.gov/jec/imf/gailliot.pdf>>.
- ⁶⁶ Two exceptions have been the economic consulting firms Polyconomics and InterMarket Forecasting, which have warned of the dangers of increasing tax rates in Argentina. See <<http://www.polyconomics.com>> and <<http://www.intermarketforecasting.com>>. To see the IMF’s surprise that higher tax rates did not increase revenue proportionally, read its Argentina country reports at <<http://www.imf.org/external/country/ARG/index.htm>>.
- ⁶⁷ 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, <<http://www.house.gov/jec/fiscal/tx-grwth/lindsey/lindsey.pdf>>.
- ⁶⁸ Ireland’s experience is summarized in Fred McMahon, *Roads to Growth: How Lagging Economies Become Prosperous*, Halifax: Atlantic Institute for Market Studies, 2000, chapter 2, <<http://www.aims.ca/Publications/Growth/aimsch2.pdf>>.
- ⁶⁹ Ian Cochrane, Xenia Tsibizova, and Niina Pautola, “Tax Reform in Russia—Update,” *Russian Economic Trends*, 11 August 2000, pp. 3-6, <<http://www.hhs.se/site/ret/update/aug00/aug00.pdf>>; *Russian Economic Trends*, 15 November 2001, p. 5, <http://www.blackwellpublishers.co.uk/ruet/pdfs/e2001_11.pdf>.
- ⁷⁰ “The [IMF] staff, however, are concerned that compromises to ensure the passage of this [tax] legislation in the Duma are turning out to be excessively costly. The revenue loss should be strictly limited to ensure that fiscal sustainability is not threatened in the event of a downturn and given the uncertain costs of structural reform.” International Monetary Fund, “Russian Federation: Report on Post-Program Monitoring Discussions,” May 17, 2001, pp. 18-19, <<http://www.imf.org/external/pubs/ft/scr/2001/cr01102.pdf>>.
- ⁷¹ Ecuador, Servicio de Rentas Internas, <<http://www.sri.gov.ec>>.
- ⁷² International Monetary Fund, *World Economic Outlook*, December 2001, Washington: International Monetary Fund, 2001, p. 46, <<http://www.imf.org/external/pubs/ft/weo/2001/03/pdf/chapter3.pdf>>.
- ⁷³ For a simple explanation of the cost of government spending, see Kurt Schuler, “The Hidden Costs of Government Spending,” staff report, Joint Economic Committee, U.S. Congress, December 2001, <<http://www.house.gov/jec/hidden.pdf>>.
- ⁷⁴ Robert O’Quinn, and Nigel Ashford, “The Kiwi Effect: What Britain Can Learn from New Zealand,” London: Adam Smith Institute, 1996, pp. 28-30, <<http://www.adamsmith.org.uk/policy/publications/pdf-files/kiwi-effect.pdf>>.
- ⁷⁵ Some possible reforms are discussed in IMF country reports on Argentina, which can be seen through <<http://www.imf.org/external/country/ARG/index.htm>>. World Bank documents on Argentina are also available online through its Web site, <<http://www.worldbank.org>>.
- ⁷⁶ Critics of dollarization often remark that it is not a panacea, as if to give the impression that advocates think it is. Writing about dollarization and other monetary systems in Latin America, two specialists in monetary economics have gone a little further than argument by innuendo, writing that “Proponents of different strategies for the conduct of monetary policy often have a tendency to argue that their preferred strategy will be a panacea that will help resolve hard problems such as fiscal dominance.” Frederic S. Mishkin and Miguel A. Savastano, “Monetary Policy Strategies for Latin America,” National Bureau of Economics Working Paper 7617, March 2000, p. 58, available at <<http://www.nber.org>>. They give no examples of anybody who has claimed that any particular strategy is a panacea.
- ⁷⁷ For recent examples of the genre, see the *Journal of Money, Credit, and Banking*, vol. 33, no. 2, part 2, May 2001, and the *Journal of Policy Modeling*, vol. 23, no. 3, April 2001. We suspect that given a choice, all the critics of dollarization would rather be paid in dollars than in the pesos of Argentina or any other country.