Econ Journal Watch,
Volume 2, Number 2,
August 2005, pp 234-278.

INTELLECTUAL TYRANNY OF THE STATUS QUO

Ignorance and Influence: U.S. Economists on Argentina's Depression of 1998-2002

KURT SCHULER*

Abstract, Keywords, JEL Codes

ECONOMISTS CAN BE HAZARDOUS TO YOUR WEALTH

IN LATE 1998, ARGENTINA ENTERED AN ECONOMIC DECLINE that was to last until 2002. The decline deepened after Brazil, Argentina's largest trading partner, devalued its currency substantially in January 1999. Argentina could not devalue under the monetary system it then had, known locally as "convertibility;" the system maintained an exchange rate of one Argentine peso per U.S. dollar. As time passed, what started as a recession turned into a depression. At the end of 2001, a political upheaval resulted. In the space of two weeks Argentina had five presidents, one of whom defaulted on the government's foreign debt. Eduardo Duhalde, the last of the five presidents, came to power at the start of 2002. He made extensive changes in economic policy, including devaluing the peso, abandoning the "convertibility" system, and "pesifying" dollar assets and liabilities (forcibly

* U.S. Treasury Department.
I did most of the research and writing of this article before assuming my current job. It expresses my personal views, which are not likely those of the U.S. Treasury Department. I thank Matt Sekerke for research assistance at an early stage, and Steve H. Hanke and Martín Krause for comments.

converting them into pesos at rates involving substantial losses for creditors). Argentina's economy declined further, suffering its two worst quarters on record. It finally hit bottom around August 2002. From 1998 to 2002, Argentina's real gross domestic product fell 18 percent.[1]

There was no shortage of advice about how to reverse Argentina's decline. The advice of economists in the United States particularly merits attention. The United States has the most prominent economists, the most renowned graduate programs in economics, and the most powerful national bureaucracy in international financial matters. It is also home to the three international financial institutions that have the most influence in Argentina: the International Monetary Fund (IMF), World Bank, and Inter-American Development Bank. Economists in the United States hence had more chance to influence policy in Argentina than their counterparts anywhere, except perhaps in Argentina itself. There arose a consensus, bridging the usual ideological divides, about what had caused Argentina's problems and how to overcome them; indeed, the consensus among economists reached beyond the United States and was nearly worldwide. Economists whose work in other areas I admire failed to do the research necessary for understanding Argentina's situation accurately. As a result, their analysis was faulty. When Argentina followed the main recommendations of the consensus, the economy's rate of decline accelerated.

Commentators on Argentina's crisis have suggested a number of causes for it. A nearly exhaustive list is: (1) the effect of the convertibility system on the real exchange rate, competitiveness, and willingness to issue dollar-denominated debt (bearing in mind that most observers considered the convertibility system to be a currency board); (2) external shocks, such as the reduced inflow of foreign capital; (3) budget deficits and their effect on the sustainability of the government debt; (4) inflexible labor markets; (5) three big tax increases the Argentine government imposed from January 2000 to August 2001; (6) mistakes by the IMF; and (7) political blunders by the Argentine government that reduced confidence in the economy, such as by upsetting established property rights. Almost all commentators agreed that the convertibility system lacked credibility by the last several months of its existence. Recommendations for replacing the system fell into two major groups. A majority favored a floating exchange rate, heavily managed if necessary and possibly supported by extensive exchange controls and forced conversion of dollar assets into pesos. A significant minority favored

[1] For longer accounts of these events, see Daseking and others (2004) and Schuler (2003).

official dollarization at one peso per dollar, at least before the government devalued in early 2002. A few remaining commentators held intermediate positions, such as favoring dollarization combined with a one-shot devaluation.

I will examine economists' views and the supporting evidence on four questions that were central to analysis of what caused Argentina's crisis and what might have cured it:

1. Was the convertibility system a currency board?
2. Was the peso overvalued, at least from 1999 onward?
3. Were Argentina's exports uncompetitive?
4. Was dollarization technically possible in late 2001 to early 2002?

The consensus on all questions was "yes." I will argue that only on the fourth question and possibly on the second was the consensus correct. Mistaken impressions that the convertibility system was a currency board and that Argentina's exports were uncompetitive made the case for abandoning the exchange-rate link to the dollar seem much stronger than it really was.

This study is not an explanation of why Argentina's crisis occurred and how it might have been avoided; I have already written on those topics elsewhere (including Hanke and Schuler 1999b, 2002; Schuler 2001b, 2003; Schuler and Hanke 2001/2002). Instead, the focus is on what U.S. economists said about the crisis and whether they knew what they were talking about. Business publications monitor how accurately forecasters predict the numbers in preliminary releases of macroeconomic statistics. Thorough reviews of the qualitative analysis of economists on important policy issues, though, are rare.[2] A review of what U.S. economists said about Argentina shows that many failed to define key terms in their arguments; most ignored readily available data that contradicted the consensus view about Argentina's economy; and nearly all neglected to examine the legal and statistical material, available for free online, necessary for understanding how Argentina's monetary system worked. The episode is important because it raises the question of whether the public can trust

[2] Terence Hutchison (1977, 98-143) and Alan Walters (1993) surveyed the opinions of their fellow British economists on two crises of the pound sterling. The Argentine historian Ricardo Salvatore (2002) made a short survey of some views on Argentina among U.S. economists.

economists who claim expertise on controversial issues of economic policy. I hope that the failures I catalog will goad more economists to do serious research and thinking before commenting on matters that can affect the well-being of millions of people.

Table 1: Views of 100 U.S. Economists on Argentina

1a. Was Argentina's monetary system a currency board?
1b. Did the economist offer a definition of a currency board?
2a. Was the peso overvalued, at least from 1999 onward?
2b. Did the economist offer a definition of overvaluation?
3a. Were Argentina's exports uncompetitive?
3b. Did the economist offer a definition of uncompetitiveness?
4. Was dollarization technically feasible in late 2001 to early 2002?

	1a	*1b*	*2a*	*2b*	*3a*	*3b*	*4*
Proper response	**No**	**Yes**	**Yes *or* No**	**Yes**	**No**	**Yes**	**Yes**
Actual response							
Yes	91	**56**	**72**	**50**	52	**44**	**27**
Yes, but bad definition	NA	11	NA	10	NA	2	NA
No	**3**	27	**3**	15	**6**	12	4
Did not discuss	6	6	25	25	42	42	69

Notes: NA = not applicable. Yes and No responses include both those that were explicit and those I classified as strongly implied; for the detailed views of each economist, see Table 2.
Source: Table 2.

METHODS OF THIS STUDY

Table 1 summarizes the views of 100 U.S. economists or groups of coauthors who were active in offering public commentary on Argentina in the last several years. Table 2 shows the views of each economist on each question. Appendix 1 lists each economist's relevant writings and statements on Argentina.[3] It also contains citations to over 100 other, less active or less prominent commentators. That group includes, for example, economists whose only discussions of Argentina were in textbooks and

[3] All appendixes can be accessed as attachments at the end of the article.

were therefore unlikely to influence the policy debates of the moment. Appendix 2 contains quotations by all of the 100 most active economists and many of the less active ones.

Table 2:
Detailed Views of 100 U.S. Economists on Argentina

Key to headings of columns 1-5
Proper responses are indicated in bold within parentheses.
1a. Was Argentina's monetary system a currency board? **(No)**
1b. Did the economist offer a definition of a currency board? **(Yes)**
2a. Was the peso overvalued, at least 1999 onward? **(Yes *or* No)**
2b. Did the economist offer a definition of overvaluation? **(Yes)**
3a. Were Argentina's exports uncompetitive? **(No)**
3b. Did the economist offer a definition of uncompetitiveness? **(Yes)**
4. Was dollarization technically feasible late 2001-early 2002? **(Yes)**
5. Other.
Key to codes in columns 1-4 (see end of table for column 5)
✔ = Proper response (✔- if only implied).
B = Proper response, but bad definition (columns 1b, 2b, 3b only).
O = Improper response (O- if only implied).
— = Did not discuss.

Name	*1a*	*1b*	*2a*	*2b*	*3a*	*3b*	*4*	*5*
Mark Allen	O	O	✔-	✔	O-	O	—	—
Altig, Humpage	O	✔	—	—	—	—	—	a
Werner Baer	O	O	✔-	✔	—	—	—	a
Robert Barro	O	✔	✔	B	—	—	✔	a
Gary Becker	O	✔	✔	B	O-	O	—	b
Andrew Berg	O	✔	—	—	—	—	—	—
C. Fred Bergsten	O	✔	✔	B	O	✔	—	c, d
Nancy Birdsall	—	—	✔-	✔	—	—	—	—
Olivier Blanchard	O	✔	✔	B	O	✔	—	d
Robert Blecker	O	✔	✔	O	O	✔	—	—
Michael Bordo	O	O	✔	O	O-	O	—	a
Eduardo Borensztein	O	O	—	—	—	—	—	—
Ricardo Caballero	O	O	—	—	—	—	—	—
Charles Calomiris	O	✔	✔-	✔	—	—	—	e
Guillermo Calvo	O	✔	✔-	✔	—	—	✔	—
Roberto Chang	O	✔	✔	O	O-	O	—	a
William Cline	O	✔	✔	✔	O-	✔-	—	a
Benjamin J. Cohen	O	✔	✔-	O	O	O	—	a
W. Max Corden	O	✔	✔-	✔	O-	✔	—	a

Daseking and others	O	✔	✔-	✔	O-	✔	✔-	a
Augusto de la Torre	O	✔	✔	✔	O-	✔-	✔	a
J. Bradford DeLong	O	✔	✔-	B	O	B	—	—
David DeRosa	O	✔	✔	✔	O-	✔-	✔	b
Padma Desai	O	✔	✔	✔	O	✔	—	a
Eugenio Díaz B.	O	✔-	✔	O	✔	✔	—	a
Dominguez, Tesar	O	✔-	✔	✔	—	—	—	—
Rudiger Dornbusch	O	✔	✔-	✔	O-	O	✔	—
Sebastian Edwards	O	B	✔	O	—	—	✔-	a
Barry Eichengreen	O	✔	✔-	✔	O-	O	✔	f
David Feldman	O	✔	✔	✔	✔	✔	✔	e, g
Martin Feldstein	O	B	✔	B	O	✔	—	a, d
David Felix	—	—	✔	✔	O	✔	O-	—
Stanley Fischer	O	✔	—	—	—	—	—	a
Kristin Forbes	O	O	✔	✔-	—	—	O	—
Jeffrey Frankel	O	✔	✔-	✔-	O	✔	✔-	a
Milton Friedman	O	✔	—	—	—	—	—	—
Andrés Gallo	O	✔-	✔-	✔	—	—	—	a
Ghosh, Gulde, Wolf	O	✔	—	—	—	—	—	a
Morris Goldstein	O	B	✔	O	O	O	—	—
Carol Graham	—	—	✔	B	O	B	—	e
David Hale	O	B	✔	✔	O-	✔-	—	—
Steve H. Hanke	✔	✔	✔	✔	✔	✔	✔	—
Arnold Harberger	O	✔	✔	✔	—	—	—	a
Ricardo Hausmann	O	✔	✔	✔	✔-	✔-	✔-	—
R. Glenn Hubbard	O	B	—	—	—	—	—	—
Jiri Jonas	O	✔	✔	✔	O	✔	✔	—
Graciela Kaminsky	O	O	—	—	—	—	—	—
Timothy Kehoe	✔	O	✔-	✔	✔-	✔-	—	—
Peter Kenen	O	✔	✔-	O	—	—	—	—
Jan Kregel	O	✔-	✔	✔	O-	✔-	—	—
Anne Krueger	O	O	✔	✔	O	✔	O	a
Paul Krugman	O	✔	✔	B	O	✔	✔-	a
Finn Kydland	O	✔	—	—	—	—	—	a
Adam Lerrick	O-	O-	—	—	—	—	—	—
Paul Masson	O	✔	✔	O	—	—	—	e
Ronald McKinnon	O	O	—	—	O	✔	—	—
Allan Meltzer	O	O	✔	O	—	—	—	—
Frederic Mishkin	O	✔	✔-	✔-	O-	✔-	—	a
Ramon Moreno	O	O	✔	✔-	O-	O	—	a, b
Robert Mundell	O	✔	✔	O	—	—	—	a
Michael Mussa	O	✔	✔	✔	O-	✔-	O	a
Maurice Obstfeld	O	✔	✔	B	—	—	—	a

Scott Pardee	O	B	✔	✔	O-	✔-	—	—
M. Pastor, C. Wise	O	O	✔	✔	O	✔	✔	—
Guillermo Perry	O	O	✔	✔	O-	✔	✔	—
Michael Pettis	O	O	—	—	—	—	—	—
Edmund Phelps	O	O	—	—	—	—	—	—
Arturo Porzecanski	—	—	✔-	O	O-	O	✔-	—
M. Quispe-Agnoli	O	O	✔-	O	O-	O	—	a
Carmen Reinhart	O	✔	—	—	—	—	—	—
Dani Rodrik	O	O	✔	O	O	✔	—	—
Liliana Rojas-Suárez	O	O	✔	✔	O	✔	—	—
Andrew Rose	O	O	—	—	—	—	—	—
Nouriel Roubini	O	B	✔	✔	O-	✔	✔	—
Jeffrey Sachs	O	✔	✔	✔	O	✔	✔	—
Dominick Salvatore	O	✔	✔-	✔	O	✔-	✔-	—
Paul Samuelson	O	O	—	—	—	—	—	—
Miguel Savastano	O	✔	—	—	—	—	—	a
Sergio Schmukler	O	✔	✔	✔	O-	✔-	✔	a
Kurt Schuler	✔	✔	✔	✔	✔	✔	✔	
Luis Servén	O	O	✔	✔	O-	✔	—	a
Brad Setser	O	O	✔	✔	—	—	—	—
Mark Spiegel	O	✔	✔	✔	O	✔	✔-	a
Joseph Stiglitz	O	B	✔	✔	O	✔	✔-	—
Lawrence Summers	O	✔	—	—	—	—	—	—
John Taylor	—	—	—	—	O-	✔	✔	—
Lance Taylor	—	—	✔-	✔	O-	✔-	—	—
James Tobin	O	B	—	—	—	—	—	—
Edwin Truman	O	✔	✔	✔	O-	✔-	—	a
Martín Uribe	O	✔-	—	—	—	—	—	—
Carlos Végh G.	O	O	—	—	—	—	—	a
Andrés Velasco	O	O	✔	✔	O	✔	—	—
Velde, Veracierto	O	✔	—	—	—	—	—	a
G. von Furstenberg	O	✔	✔-	✔	—	—	—	a
Sidney Weintraub	O	B	✔	✔	O	✔	✔-	—
Mark Weisbrot	O	B	✔	B	—	—	—	—
Onno Wijnholds	O	O	✔	✔	—	—	—	—
Thomas Willett	O	✔	✔	O	O	O	✔-	a
John Williamson	O	✔	✔	✔	O-	✔	—	a
Carlos Zarazaga	O	✔	—	—	—	—	—	a

Key to letter codes in column 5:

a = Occasionally mentioned that the convertibility system was not an orthodox currency board, but on balance seemed to consider the system a currency board.

b = Considered the peso overvalued, but did not think overvaluation was an important cause of Argentina's crisis.

c = Defined overvaluation with respect to the bilateral exchange rate with the United States.
d = Defined uncompetitiveness as a trade deficit or a growing current-account deficit that in fact did not exist at the time he commented.
e = Stated or implied that the peso was overvalued, but favored addressing overvaluation by means other than devaluation.
f = Favored combining dollarization with a one-shot devaluation.
g = Seemingly contradictory passages on whether exports were competitive.
Sources: Appendixes 1 and 2.

The economists listed in Table 2 are the cream of the crop. More than half are or have been full professors at leading universities, while many of the rest hold research positions of comparable rank at international financial institutions, think tanks, or the Federal Reserve System. Seven have won the Nobel Memorial Prize in economics. At least 15 have held top policy-making positions at the IMF, World Bank, Inter-American Development Bank, Council of Economic Advisers, or U.S. Treasury Department, and at least 15 more have held other upper-level positions.[4] Appendixes 1 and 2 list the affiliations of all commentators.

To gather material, I searched the Library of Congress, EconLit, Nexis, and the Internet. The commentators are mainly academic economists, because it was their ideas that set the terms of debate on Argentina's crisis. The study omits a number of business economists,

[4] The winners of the Nobel Memorial Prize are Gary Becker, Milton Friedman, Finn Kydland, Robert Mundell, Paul Samuelson, Joseph Stiglitz, and James Tobin. Economists who have held top policy-making positions include, at the IMF, Stanley Fischer (first deputy director and later acting managing director, 1994-August 2001), Anne Krueger (first deputy managing director since September 2001), Michael Mussa (director of research, 1991-2001), and Onno Wijnholds (executive director, 1994-2002); at the World Bank, Stanley Fischer (chief economist, 1988-1990) and Joseph Stiglitz (chief economist, 1997-February 2000); at the Council of Economic Advisers, Martin Feldstein (chairman, 1982-1984), R. Glenn Hubbard (chairman, May 2001-February 2003), Joseph Stiglitz (member and later chairman, 1993-1997), Kristin Forbes (member, November 2003-June 2005), and Jeffrey Frankel (member, 1997-March 1999); at the Inter-American Development Bank, Guillermo Calvo (chief economist since June 2001) and Ricardo Hausmann (chief economist, 1994-2000); at the U.S. Treasury, Lawrence Summers (under secretary for international affairs, 1993-July 1999, and Secretary of the Treasury, July 1999-January 2001), John Taylor (under secretary for international affairs, June 2001-April 2005), C. Fred Bergsten (assistant secretary for international affairs, 1977-1981), and Edwin Truman (assistant secretary for international affairs, December 1998-January 2001). Kristin Forbes held another upper-level position at the U.S. Treasury that included responsibility for Argentina (deputy assistant secretary for quantitative policy analysis, Latin America, and Caribbean nations, 2001-2002).

economic journalists, political scientists, historians, and others who offered interesting commentary but were more repeaters than originators of economic analysis. (It is worth noting that the business economists, in this case mainly analysts for investment banks, were generally better informed about the facts than academic economists. Investment bank newsletters consist mainly of analysts' remarks on news and statistics, so as part of their job, analysts were required to follow the data more closely than academic economists did.) The selection is sufficiently broad to include the major currents and many minor currents of opinion about Argentina among U.S. economists. The material selected is mainly from 1999, when Brazil's devaluation focused attention on Argentina, to 2002, when Argentina abandoned the convertibility system near the start of the year. However, the material extends as far back as 1991 for a few economists who wrote about Argentina's convertibility system before 1999, and as recently as early 2005 for some major postmortem analyses.

I tried to find everything important that all commentators listed said or wrote about Argentina. Where an economist expressed opinions about Argentina in different formats, I usually preferred books to journal articles and other essays, essays to newspaper op-eds, and newspaper op-eds to newspaper interviews. Newspaper articles are often edited by persons who have no expertise about the topics being discussed, and it is almost always editors rather than authors who choose the titles. The chance of getting the undiluted flavor of a writer's ideas is greatest in longer writings. I also bore in mind that economists who work in high-level positions in governments or international organizations sometimes consider it inappropriate to express their personal views candidly (as Stanley Fischer 2004, 224, remarks about some statements he made on Argentina when he worked at the IMF). I was able to contact almost all of the economists in Table 2 by electronic mail to ask if they had publications relevant to Argentina, and I thank those who supplied me with publications I had missed. In many cases, the table pieces together economists' views from multiple writings, on the assumption that except where a change of opinion is obvious, the views remained the same.

The selection of U.S. economists includes foreigners who live in the United States. Widening the pool in this way extends membership to expatriate Latin Americans, who may understand Argentina's economy and history better than most economists born and raised in the United States. International organizations employ a number of such foreign nationals.

I am not an impartial spectator. I have been writing about Argentina's monetary system since 1990, and have expressed views few economists share. However, I admire informed analysis from other perspectives, and will mention examples of good scholarship from those perspectives.

WAS THE CONVERTIBILITY SYSTEM A CURRENCY BOARD? NO

Argentina's "convertibility" monetary system began on April 1, 1991. It attempted to end Argentina's problems with chronically high inflation by linking Argentina's currency, the austral, to the U.S. dollar at a selling rate of 10,000 australes per dollar. The law set no buying rate, allowing in principle for an appreciation against the dollar. On January 1, 1992, the peso, Argentina's present currency, replaced the austral at 1 peso = 10,000 australes = US$1.

Table 1 shows that among the 100 most active commentators on Argentina, 91 of 94 who mentioned the topic called the convertibility system a currency board. Yet examination reveals important differences between the convertibility system and an orthodox currency board. The system was a central bank that mimicked some currency board features; it is perhaps best termed a currency board-like system, or even a pseudo currency board.

An orthodox currency board is a monetary authority that issues notes and coins (and deposits, if any) fully backed by foreign reserves and fully convertible at a fixed exchange rate into an anchor currency. In combination, these characteristics imply that a currency board has no room for discretionary monetary policy. In particular, a currency board has not only a minimum ratio of 100 percent net reserves, held exclusively in foreign assets, but a maximum ratio. Historically, the maximum ratio has often been 100 percent; if higher, it has typically been 110 percent. When a currency board accumulates reserves in excess of the maximum, it periodically pays them out as profits (seigniorage). The purpose of the reserves in excess of 100 percent, if they exist, is to provide a cushion against losses in the capital value of assets, so that the reserve ratio always remains at least 100 percent.

An orthodox currency board does not hold significant domestic assets; does not engage in sterilized intervention (buying or selling domestic assets to offset the effects on the money supply of gaining or losing foreign reserves); does not lend to the government; and does not act as a lender of last resort to banks. Acceptance of this definition extends to a number of economists, mentioned below, who are critical of currency boards. The definition has a background in economic theory stretching back about 180 years, and dozens of countries have in fact had currency boards that have fit the definition (Schuler 1992).

Argentina's convertibility system maintained a rigid exchange rate with the U.S. dollar and for most of its life imposed no restrictions on converting local currency into dollars, but in other respects it was unlike a currency board. Argentina never established a separate body to act as a currency board, nor did it establish a separate division within its central bank or even a separate balance sheet. Instead, the central bank retained its previous organizational structure, but was subjected to some new rules. The main legal basis of the convertibility system, the Convertibility Law of 1991 (Law 23.928), explicitly allowed the central bank to count Argentine government bonds payable in foreign currency as reserves, setting no limit on the extent of the practice. Later laws reduced the sized of this loophole, ultimately imposing a minimum foreign reserve requirement of 66-2/3 percent against the monetary base (Law 24.144, Article 1, [sub]articles 20, 33, and 60). No maximum existed. Foreign reserves could be held in assets payable in precious metals or currencies including the dollar, but no requirement existed that reserves be held in any particular currency.

Table 3: Argentina's Central Bank During "Convertibility"
(percentages; expected ratios for a currency board: 100 percent)

Median monthly ratio of foreign assets to total assets	34
Median monthly ratio of net foreign assets to monetary base	76
Correlation of monthly change in net foreign assets and change in monetary base	47
Median monthly reserve pass-through (ratio of change in monetary base to change in net foreign reserves)	31
Total reserve pass-through (sum for whole period)	241

Source: Appendix 3. Underlying data are from IMF, *International Financial Statistics* database, November 2004, lines 11-17, for the period April 1991-December 2001.

If one is looking at balance sheet figures of an orthodox currency board, there are several ratios that should be near or equal to 100 percent. Table 3 shows that for Argentina's central bank during the convertibility system, the ratios were far from 100 percent. More detailed data, in

Appendix 3, indicate no tendency for the system to become more like a currency board over time. For instance, the central bank's claims on the Argentine government, which are a type of domestic asset, ballooned from roughly 20 percent of total assets at the end of 2000 to 50 percent at the end of 2001. A currency board would have held no such assets. The central bank at some times engaged in sterilized intervention and at other times the opposite practice, namely, amplifying the effect on the monetary base of changes in foreign reserves. That is why the correlation figure and the reserve pass-through figures are far from 100 percent. The central bank sterilized through a number of channels, including lending to commercial banks through repurchase (repo) and swap arrangements.[5]

This review of the workings of the convertibility system, though brief, is already as long as many newspaper articles. It is not surprising, then, that many short popular writings by economists contained no definition of a currency board. Newspaper editors are prone to cutting technical discussions as a way of fitting articles into the limited space of a newspaper page. In longer writings, though, economists should define important terms that are open to differing interpretations. (The same considerations apply to the other questions of definition discussed below.) Economists who wrote longer pieces but failed to define what they meant by calling Argentina a currency board included many current or recent staff of international financial institutions.[6]

A number of economists offered definitions of a currency board that were incomplete or otherwise bad. Morris Goldstein (2002a, 21) wrote, "A currency board regime is one where the domestic currency (M0 money) is backed (usually 50 percent or more) with foreign currency, and where the currency board is obligated to convert domestic currency into foreign currency on demand at a fixed price." Goldstein included Argentina in his

---

[5] For more details of the qualitative features of the convertibility system, see Schuler (2004a). Appendix 3 compares IMF data with central bank data, which use different accounting conventions but yield broadly similar results. It also includes IMF data on Bosnia, to show what the numbers look like for a system that is closer to an orthodox currency board. Finally, it includes IMF data on Brazil's *Real* Plan, which operated alongside Argentina's convertibility system. Everyone acknowledges that Brazil was then and is now a central banking system. Whether assessed qualitatively or quantitatively, the convertibility system looks more like Brazil than like Bosnia. Hanke (2002x, 205-11) reached similar conclusions.

[6] Namely, Mark Allen (2003, 121); Guillermo Calvo, Alejandro Izquierdo, and Ernesto Talvi (2002, 35); Christina Daseking, Atish Ghosh, Timothy Lane, and Alun Thomas (2004, 1); Jiri Jonas (2002a, 1); Anne Krueger (2002c); Michael Mussa (2002d, 1—he termed the convertibility system "currency board like," with no elaboration); and Guillermo Perry and Luis Servén (2003, working paper version, 2).

list of currency boards. His definition fails to specify the minimum foreign reserve ratio of 100 percent, and the maximum of 100 to 115 percent, that prevent an orthodox currency board from undertaking sterilized intervention. Joseph Stiglitz and Carl Walsh (2002, 420) remarked, "Under a currency board the exchange rate between the local currency and, say, the dollar is fixed by law. The central bank holds enough foreign currency to back all the domestic currency and [commercial bank] reserves it has issued." Their definition is incomplete because it fails to add that an orthodox currency board holds no domestic assets, thus precluding sterilized intervention.

Scores of economists offered correct definitions but applied them wrongly to Argentina. Thomas Willett (2002b, 52-53) noted that "Under a currency board regime, a country fixes the value of its currency to another and allows its own money supply to expand or contract only as its central bank's holdings of the foreign currency rise or fall," but nevertheless termed Argentina a currency board.[7] In a comparison of stabilization programs in Argentina and Turkey, Barry Eichengreen (2002b, 111-112, n 22) commented, "the parallels [of Turkey's monetary reform] with Argentina were extensive. The rules of the Turkish system required that the intervention of the currency be unsterilized and that the central bank had to hold foreign exchange reserves amounting to a significant fraction of the domestic currency issue. This was not a pure currency board, à la Argentina, but quite similar to one." More than two dozen textbooks, including those by David Beim and Charles Calomiris (2001, 241), J. Bradford DeLong (2002, 436, 489-90), and Rudiger Dornbusch, Stanley Fischer, and Richard Startz (2004, 512 n. 12, 533), defined currency boards as lacking the ability to engage in sterilized intervention or other forms of discretionary monetary policy, yet still called Argentina a currency board. Milton Friedman (1998b) did likewise.

Lee Alston and Andrés Gallo (2002, 3) and Steve Hanke and I (for example, Hanke, Jonung, and Schuler 1993, 73-4) were the only economists in Table 2 who gave clear evidence of having looked at the legal framework of the convertibility system ourselves, rather than relying on summaries provided by others. Failure to read the Convertibility Law led to many muddled statements about its content, such as the claim by Sergio

[7] Willett also railed against unnamed "fixed-rate fundamentalists," while neglecting his own assessment of a few years earlier that despite some problems, "To date Argentina's current program has provided the best example [among the recent Latin American stabilization attempts the authors surveyed] of success with a rigidly fixed exchange rate" (Martin, Westbrook and Willett 1999, 151).

Schmukler and Luis Servén (2002, 15 n13) that "The [Convertibility] law required the central bank to hold an amount of dollars equal to the entire monetary base at all times, although a limited proportion of this backing could be held in domestic government bonds." As we have seen, the reserves were not required to be in dollars, though in practice most were, and the proportion of reserves against the monetary base that could be held in domestic government bonds was initially unlimited.

Many economists at some point acknowledged the differences between the convertibility system and a currency board, then proceeded as if the differences had no importance. An extreme case was Sebastian Edwards: in 1999 he described Argentina as a "(quasi)-currency board arrangement," distinguishing it from a pure currency board (Edwards and Savastano 1999, 7), but three years later he heaped scorn on others for making the same distinction (Edwards 2002e, published version, 24). Four IMF economists (Daseking and others 2004, 1, 18-22, 27 n4) referred repeatedly to the convertibility system as a currency board, despite observing in a well-buried footnote that the correlation between the net foreign assets of the central bank and reserve money as they measured it was only 0.08, rather than 1.00 as would have been the case for a currency board. In other words, by that measure the convertibility system was 92 percent *not* a currency board. Economists should have paid far more attention to the particulars of the convertibility system, analyzing its potential to operate differently from an orthodox currency board, the extent to which it actually did so, and the effects on Argentina's economy.

How did the idea that the convertibility system was a currency board originate and spread? The first article in Nexis that describes Argentina as a currency board without qualification is a survey of Argentina on May 14, 1992 in the *Financial Times* (Fidler 1992). It states, "The convertibility law turned the central bank into a currency board. It fixed the Argentine currency to the US dollar and only allows the central bank to issue local currency when backed by inflows of dollars to the central bank." Anna Schwartz (1992, 17) seems to have been the first U.S. academic to associate the convertibility system with a currency board: she wrote that Argentina "possibly represents a currency board approach." By the mid 1990s, it had become commonplace to call the convertibility system a currency board, in the business press, articles written by economists mainly for other economists, and in textbooks (for instance, *Economist* 1994; Bennett 1994; McCallum 1996, 222). Schwartz's cautious "possibly" was neglected by later commentators, almost none of whom consulted the balance-sheet statistics of Argentina's central bank. When the IMF revised its classifications of exchange rate regimes in 1999, it classified Argentina as a "currency board arrangement." It defined a currency board arrangement as "A monetary regime based on an explicit legislative commitment to exchange domestic currency for a specified foreign currency at a fixed exchange rate, combined with restrictions on the issuing authority to ensure the fulfillment of its legal obligation" (IMF 1999, 3). These vague criteria do not suffice to distinguish currency boards from cases that everyone would agree are central banks, such as the U.S. Federal Reserve System and the Bank of England for much of the time they adhered to the gold standard. Later, the IMF (2003a, 2) added to its definition, specifying that in a currency board arrangement, "domestic currency will be issued only against foreign exchange and that it remains fully backed by foreign assets." But by then the convertibility system was dead, and the belief that it had been a currency board was a firmly entrenched part of conventional wisdom.

Calling the convertibility system a currency board was like calling a mule a horse, then wondering why it did not win the Kentucky Derby. The only economists in Table 2 who consistently stressed that the convertibility system was not a currency board, and frequently explained in some detail why, were Steve Hanke and I, in numerous writings.[8]

WAS THE PESO OVERVALUED? THE CASE NEEDED TO BE ARGUED, NOT ASSUMED

Especially after Brazil's currency devaluation of January 1999, the view was widespread that the Argentine peso was overvalued. In an article perhaps written before Brazil devalued but not published until afterwards,

[8] Hanke (1991) was apparently the first article by a U.S. economist on the convertibility system. The title of the article was "Argentina Should Abolish Its Central Bank," and its thrust was that the central bank should be converted into the currency board it was not at the time. Hanke and I subsequently issued writings in almost every year of the convertibility system emphasizing that it was not a currency board. They included Hanke, Jonung, and Schuler (1993, 72-4, 77); Hanke and Schuler (1994a, 47-8); Hanke (1995m); Hanke (1996c, 19); Schuler (1996, 15); Hanke (1997a); Schuler (1997, 103); Schuler (1998); Hanke and Schuler (1999b, 8-9); Hanke (2000a, 51); Hanke (2001r); Schuler (2001b, section "Spillover from debt problems to the currency"); and Hanke and Schuler (2002, 43-44). At times (for example, Hanke 1998a), we neglected or editors suppressed the distinction between currency boards and hybrid, currency board-like systems, but in general we were consistent about the distinction.

Martin Feldstein (1999, 98-99) said Argentina had "maintained its 'overvalued' fixed dollar-peso exchange rate during the past decade [he should have said 'the past eight years'] and stayed competitive because its domestic producers lowered the cost of Argentine goods by increasing productivity." A few years later, though, he thought "An overvalued fixed exchange rate (locked at one peso per dollar since 1991) and an excessive amount of foreign debt were the two proximate causes of the Argentine crisis. Because the exchange rate was fixed at too high a level, Argentina exported too little and imported too much" (Feldstein 2002a, 8).

Impressions that the Argentine peso was overvalued came from various sources. One source was the bilateral real exchange rate of the Argentine peso against the U.S. dollar, based on consumer price indexes. Setting the index number of the real exchange rate at 100 in March 1991, just before the convertibility system began, the index peaked at 137 in January 1995; in December 2001 it was still 114. (The index is constructed so that higher numbers indicate appreciation relative to the base period.) Using *producer* or *wholesale* price indexes, though, the bilateral real exchange rate peaked in April and October 1996 at just 105; from May 1999, it fell and stayed below 100, and in December 2001 it was 94.[9] Real exchange rates calculated multilaterally rather than against the United States alone show that under the convertibility system, measures based on producer prices remained much closer to 100 than did measures based on consumer prices (Figure 1). For gauging the effect of the real exchange rate on the competitiveness of exporters, the measure based on wholesale prices is presumably more relevant than the measure based on consumer prices, since exporters more often deal in wholesale markets than in retail markets (as Steve Hanke [1999a, 359-361] implied in an argument he made). Another possible measure is the real exchange rate based on unit labor costs. Some IMF economists (Daskeing and others 2004, 15; Jonas 2002a, 26) and I (Schuler 2003, 26) were apparently the only ones to refer to calculations of unit labor costs. Because labor productivity rose faster than wages, this measure of the real exchange rate depreciated substantially, except for a sharp but temporary reversal centered approximately on Brazil's January 1999 currency devaluation. The growth of labor

[9] Data are from the CEI, an Argentine government office dealing with international economic issues (http://www.cei.gov.ar/estadistica/mercosur/cuadro32.xls and http://www.cei.gov.ar/estadistica/mercosur/cuadro33.xls). For clarity, I have inverted and rebased the original numbers.

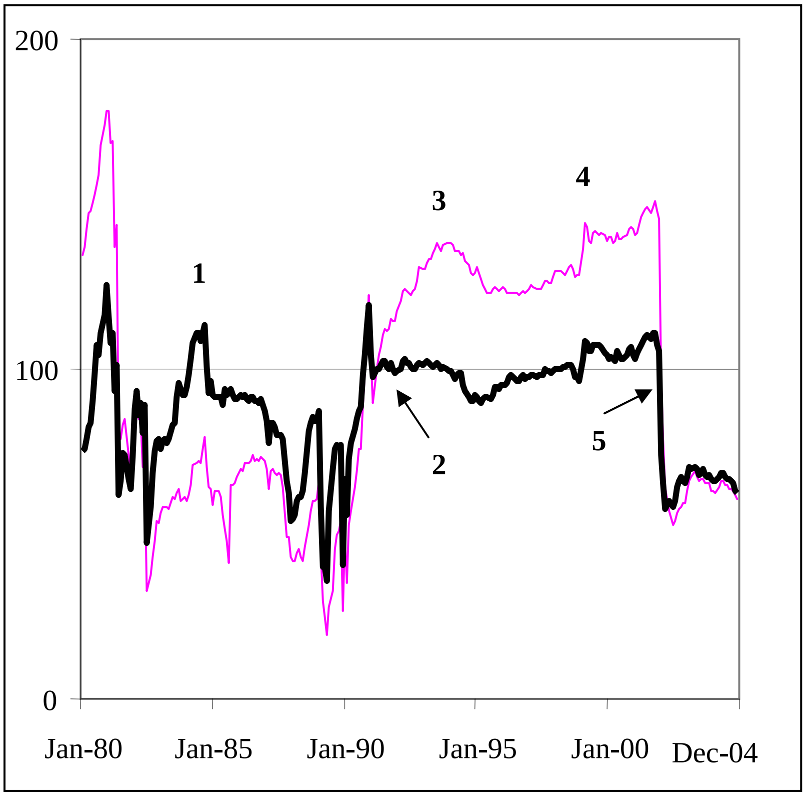
productivity under the convertibility system contrasts with the near stagnation in productivity from 1980 to 1990.[10]

Yet another way of trying to measure overvaluation is through economic models that estimate whether a country's foreign-exchange earnings seem sufficient to pay its foreign debt, or whether the inflows of foreign capital a country can plausibly attract seem sufficient to finance continuing deficits in its current account. When the models indicate insufficient foreign-exchange earnings or inflows of capital, economists often interpret the results as indicating that the currency should be devalued. Another possibility, which economists often neglect, is that the government should restructure its foreign debt but not necessarily devalue.

Several commentators based their case for overvaluation mainly on models (Calvo, Izquierdo, and Talvi 2002, 10-16; Perry and Servén 2003, working paper version, 17-25). William Cline (2003, 22) made simple calculations himself and cited the more complex calculations of Perry and Servén just mentioned. Jan Kregel (2003, working paper version, 5n-6n) also cited Perry and Servén's calculations, and briefly discussed their importance. Too many economists, however, took overvaluation as self-evident. They did not discuss different possible measures of overvaluation or even specify any measure according to which the peso was overvalued. It was not necessary that they should have made the measurements themselves; referring to the work of others would have sufficed. In early 2002, after seeing writings by half a dozen well-known economists asserting that the peso had been overvalued, I wrote to them asking what measure of overvaluation they were using. Sebastian Edwards immediately replied in exemplary fashion, citing two models by investment banks published in the banks' market letters. The other economists failed to respond or replied that in fact they had no specific measure in mind. Because the communications were private, I will not list names.

[10] There seems to be no long series of consistent statistics of unit labor costs in Argentina, hence long-term estimates of labor productivity are subject to unusual uncertainty. Unpublished calculations by the Argentine economist Marcos Buscaglia (2002) indicate that unit labor costs increased 21 percent from March 1991 to December 1992, and peaked in February 1993 at 39 percent above their level of March 1991. A country report by the IMF (2001, 10) contains a graph of unit labor costs from 1993 to 2001. Daseking and others (2004, 19) have graphs showing stagnant or falling productivity from 1995.

Figure 1: Argentina's Real Multilateral Exchange Rates, 1980-2004 (light line = consumer price-based; dark line = wholesale price-based; March 1991 = 100; higher numbers indicate appreciation)



Notes: 1 = High and variable inflation of the 1980s.
2 = Convertibility system begins, April 1991.
3 = Tequila crisis begins, December 1994.
4 = Brazil devalues, January 1999.
5 = Convertibility system ends in devaluation, January 2002.

Source: CEI (http://www.cei.gov.ar/estadistica/mercosur/cuadro37.xls and http://www.cei.gov.ar/estadistica/mercosur/cuadro38.xls). For clarity, I have inverted and rebased the original numbers. Calculations from the IMF's *International Financial Statistics* database yield similar results, but as of the April 2005 release, the database no longer shows the wholesale price index for Argentina, and its coverage of the producer price index begins only with January 1994.

WERE ARGENTINE EXPORTS UNCOMPETITIVE? NO

Whether one thinks Argentine exports were uncompetitive follows closely from whether one thinks the peso was overvalued. Under the convertibility system, Argentina often had deficits in both its trade account and current account. Some observers took the deficits as indications that the Argentine exporters were uncompetitive because the peso was overvalued.

Table 4 shows some pertinent facts about Argentina's trade under the convertibility system. The dollar value of exports grew every year except 1991 and 1999. In 1991, exports fell enough in the first quarter, before the convertibility system began, to cause shrinkage for the year as a whole. In 1998, exports rose, but the rise was minuscule. In 1999, falling prices for commodities and the effect of Brazil's currency devaluation in January caused exports to shrink.

Because the convertibility system began in April 1991, Table 4 uses 1990 as the base year. From 1990 to 2001, exports, measured in current U.S. dollars, grew an average of 7.2 percent a year. In comparison, exports grew an average of only 4.0 percent a year from 1980 to 1990. *Industrial* exports grew an average of 8.6 percent a year from 1990 to 2001, versus 7.3 percent a year from 1980 to 1990. Argentina was not just relying on farm products, its export mainstay since the 1800s. Adjusted for inflation, export performance under the convertibility system looks even better, because inflation in the dollar was lower in the 1990s than in the 1980s.[11] Despite a setback in 1999, the trend under the convertibility system was for Argentine exports to become more rather than less competitive. In 2000 and 2001, exports were among the few growing sectors of the economy.

Many economists failed to define what they meant when they called Argentine exports, or the Argentine economy, uncompetitive. Because a notion of uncompetitiveness follows from the idea of overvaluation, it is understandable that economists who had already defined in what sense they considered the Argentine peso overvalued should not have offered a further definition of uncompetitiveness. Still, in light of the statistics, it is worth

---

[11] For example, the U.S. producer price index for finished goods rose an average of 1.5 percent a year from 1990 to 2001, versus 2.8 percent a year from 1980 to 1990. Figures here and in the main text are from the Web sites of INDEC (Argentina's statistical agency) and the U.S. Bureau of Labor Statistics. Averages, here and elsewhere in the text, are compound annual figures calculated from the endpoints of each period.

asking why exports were growing at a respectable pace if the peso was overvalued.

Some economists assumed that the fall in exports in 1999, resulting from Brazil's devaluation, had continued into 2000 and 2001. C. Fred Bergsten (2001) claimed in an interview that "with the rigid exchange rate relationship, Argentine products became increasingly overpriced in world markets. They lost export sales." Bergsten's remark implies that Argentina's exports were falling at the time he spoke, which was not the case. It is hard to give an interview and hunt though statistics simultaneously, though, so Bergsten's comments may have been nothing more than a slip of the tongue. Martin Feldstein (2003, 6—written in October 2001), stated, "Brazil, Argentina's largest competitor, has a floating exchange rate [since January 1999] that has made the Brazilian *real* increasingly competitive and the Argentine peso increasingly uncompetitive. The result has been to create a growing trade deficit in Argentina." Several lines later, he claimed that "the sharp decline of the Brazilian real has caused a major increase in Argentina's current account deficit." Paul Krugman (2004a), in an article focusing on U.S. budget deficits, remarked in passing that "Argentina retained the confidence of international investors almost to the end of the 1990's. Analysts shrugged off its large budget and trade deficits." Krugman and Maurice Obstfeld (2003, 694) contended that after Brazil's devaluation, "the country's current account deficit remained high," although they did not define what they meant by "high." In their textbooks, Olivier Blanchard (2003, 454) and David Colander (2004, 788) implied that following Brazil's devaluation of January 1999, Argentina's trade deficits increased. Robert Blecker (2003) also claimed that "Argentina developed a huge trade deficit" by the late 1990s.

Had these economists looked at the statistics, they would have seen that at its peak of the late 1990s, in 1998, the trade deficit was only 1.6 percent of GDP. The current-account deficit was much larger, at 4.8 percent of GDP. The trade deficit shrank in 1999 and turned to surplus in 2000 and 2001. On a year-over-year basis, the current-account deficit shrank every quarter from the first quarter of 1999 until turning to surplus in the last quarter of 2001. (Incidentally, if current-account deficits indicate an overvalued currency, it is hard to explain why Argentina had them every year from 1979 to 2001 except 1990, despite currency depreciations that at times made the real exchange rate undervalued according to calculations such as those of Figure 1.)

Table 4: Argentina's Foreign Trade
(in billions of U.S. dollars unless indicated)

	1990	*1991*	*1992*	*1993*	*1994*	*1995*
Exports	12.4	12.0	12.4	13.3	16.0	21.2
Trade balance	8.3	3.9	-2.6	-3.7	-5.8	0.8
—with Brazil	0.9	0.4	-1.4	-0.5	-0.3	2.1
Current account	4.6	-0.6	-5.7	-8.2	-11.1	-5.2
Capital account	-5.9	0.2	7.6	20.3	11.4	5.0
Nominal GDP	141	190	229	237	258	258
Share of world exports (%)	0.36	0.34	0.32	0.35	0.37	0.41
Export volume (1990 = 100)	100	98	97	104	122	152
Export prices (1990 = 100)	100	98	102	102	105	111
	1996	*1997*	*1998*	*1999*	*2000*	*2001*
Exports	24.0	26.4	26.4	23.3	26.3	26.5
Trade balance	0.0	-4.0	-4.9	-2.2	1.1	6.2
—with Brazil	2.1	2.1	1.7	0.8	1.0	1.5
Current account	-6.8	-12.2	-14.5	-11.9	-9.0	-3.9
Capital account	11.8	16.8	19.0	14.6	8.0	-14.8
Nominal GDP	272	293	299	284	284	269
Share of world exports (%)	0.44	0.47	0.49	0.41	0.41	0.43
Export volume (1990 = 100)	162	187	208	207	212	221
Export prices (1990 = 100)	119	115	103	91	100	97

Notes: The table uses 1990 as the base year because it was the last full year before the convertibility system began. The trade balance uses cost, insurance, and freight (c.i.f.) numbers for imports rather than lower free on board (f.o.b.) numbers. The trade balance with Brazil is calculated from each country's statistics for imports from the other.
Sources: IMF, *Direction of Trade Statistics* database, August 2004 (trade balance with Brazil); *International Financial Statistics* database, August 2004 (other statistics).

Taking a longer-term view, Sebastian Edwards (2002a) commented, "During the last decade two factors have contributed to Argentina's poor export performance and [poor] productivity growth: an overvalued exchange rate; and membership in Mercosur, the regional trading bloc that includes Chile, Bolivia, Brazil, Paraguay and Uruguay." Anne Krueger (2002c) likewise spoke of Argentina's "weak export growth relative to other Latin American countries." The fact is that under the convertibility system, Argentina's share of world exports of goods made its first sustained rise since the 1940s. From 1990 to 2001, exports in current U.S. dollars rose 115 percent. Argentina's growth in exports was close to Chile's 118 percent and Peru's 117 percent. Mexico was the only major Latin American economy where exports rose substantially faster: 289 percent, as a result of the North American Free Trade Agreement. Argentina outperformed Brazil, Colombia, and Venezuela, as well as Canada and the United States.[12] A look at the destination of Argentina's exports suggests that Mercosur did not artificially inflate overall exports. Mercosur came into effect at the start of 1995. The annual rate of growth of exports to the Mercosur bloc was much higher from 1990 to 1994 than from 1994 to 2001, while combined exports to other countries showed the opposite pattern.[13]

In summary, economists who criticized the convertibility system for making Argentina uncompetitive neglected the supporting data on trade. The enormous nominal and real depreciation of the peso since January 2002 has not resulted in unusually high growth, measured in dollars. The value of exports grew 9.1 percent a year from 2001 to 2004, versus 7.2 percent a year under the convertibility system. However, most of the recent growth was the result of higher world prices for Argentina's agricultural

[12] Statistics are from the IMF's *International Financial Statistics* database, August 2004. Data for exports of goods and services (rather than goods alone) yield similar results. Perry and Servén (2003, working paper version, 19) purport to show that Argentina's export performance was mediocre by using data on exports expressed in constant 1995 U.S. dollars, from the World Bank's *World Development Indicators* database. They compare Argentina with a group of seven other major Latin American economies. Group exports are simply the sum of each country's exports. The group looks as if it performed strongly, growing an average of 9.1 percent a year for the years 1992-2001, versus 7.6 percent a year for Argentina. However, the result is driven by Mexico, which had 36 percent of the group's exports in 1991 and 48 percent in 2001. Giving equal weighting to each country instead of to each dollar of exports, the seven major economies grew an average of 7.3 percent a year. (Servén kindly provided me with a spreadsheet copy of the source data and calculations.)

[13] See CEI statistics (http://www.cei.gov.ar/estadistica/mercosur/cuadro14.xls). Chile became an associate member of Mercosur in October 1996. The statements in the main text hold whether or not one counts it as part of Mercosur. Argentina had a prior trade agreement with Brazil, ratified in 1989 (Law 23.695).

exports. The *volume* (quantity) of exports grew only 4.1 percent a year from 2001 to 2004, versus 7.5 percent a year under the convertibility system. Argentina's share of world exports of goods has fallen every year since the convertibility system ended. Official projections for 2005 indicate a further decline, to 0.36 percent, although if the rapid pace of growth in the first four months of the year continues, Argentina's share will remain nearly unchanged at 0.39 percent. Argentina's trade balance with Brazil was in deficit in 2004 and will probably remain so in 2005, compared to surpluses from 1995 to 2003.[14]

Only a handful of economists who commented on the competitiveness of exports showed signs of having examined the trade data in some detail. I noted the growth of exports under the convertibility system (Schuler 2001b, section "Is the peso overvalued?"). David Feldman (2002a) considered the peso overvalued, but remarked that Argentina's exports had been growing. (Feldman 2002b, however, called Argentine goods "overpriced.") Feldman correctly understood that uncompetitiveness does not follow automatically from overvaluation. Earlier, Feldman (2001b) had advocated dollarization at one peso per dollar as preferable to devaluation. After Argentina devalued, Feldman was again notable for his correct minority view that Argentina's competitiveness, as measured by exports, was unlikely to improve substantially. Jiri Jonas (2002a, 26-27) analyzed import and export data and mentioned the changes in Argentina's share of world exports. Carolina Díaz Bonilla and others (2004, 7-8) noted the growth in Argentina's share of world exports under the convertibility system. Like Feldman, they distinguished between export competitiveness and what they considered to be an overvalued peso. Steve Hanke (2002f, 5) made the same distinction, though he did not consider the peso overvalued.[15]

---

[14] Historical statistics are calculations from data on INDEC's Web site. The conjecture about the trade balance with Brazil in 2005 is based on the same source. The official projections underlying my calculation of Argentina's share of world exports in 2005 are a forecast of Argentina's exports by its Ministry of Economy (reported in Quiroga 2005) and a forecast of world exports of goods by the IMF (2005, 230).

[15] An anonymous referee has suggested a more charitable interpretation of claims by many U.S. economists that a devaluation of the peso was advisable to restore Argentina's export competitiveness. He has proposed that the claims were a shorthand for addressing the divergence between the prices of tradable goods, which rose little under the convertibility system, and prices of nontradable goods, which rose substantially. Inefficient government and government-granted monopoly privileges to some privatized government agencies, such as telephone companies, hindered competitiveness insofar as even tradable goods have some nontradable inputs. It can be argued that devaluation was a blunt but necessary tool for

WAS DOLLARIZATION TECHNICALLY FEASIBLE? YES

On January 15, 1999, during Brazil's currency crisis, a key staff official working for Argentine president Carlos Menem announced that Menem was considering replacing the peso with the dollar. Dollarization had been suggested for Argentina before: economy minister Domingo Cavallo had mentioned it in March 1995, during a previous currency crisis. Never had it received such favorable consideration at the highest level, though. After the announcement of Menem's interest in dollarization, a number of economists analyzed the desirability and feasibility of dollarization in Argentina. Most who expressed an opinion considered dollarization feasible, but the doubters included some economists who were in or had only recently left key policy-making positions. I will leave the reader to decide the question of desirability. The question of technical feasibility is less a matter of judgment and more a matter of fact.

One question is whether dollarization would have been feasible at the rate of one peso per dollar that prevailed under the convertibility system. An important factor was the availability of foreign reserves. In an article published on November 12, 2001, Michael Mussa (2001), former director of research at the IMF, claimed that "the resources necessary to sustain the currency board are not available. Financing of fiscal deficits and deposit outflows have driven Argentina's foreign currency reserves below the monetary base." The balance sheet of the Argentine central bank from Friday, November 9, the last date Mussa could have seen, indicated that foreign reserves were 17.583 billion pesos, while monetary liabilities were 16.030 billion pesos and the monetary base was 11.858 billion pesos. Months later, Kristin Forbes (2002) similarly claimed that before the devaluation of the peso, there were not enough reserves to dollarize. Mussa and Forbes seem to have relied on figures from the IMF, which are compiled using accounting conventions different from those of the central bank. According to IMF statistics, *gross* foreign reserves exceeded the

overcoming nominal rigidities in the prices of nontradable goods. Argentine economists debated these ideas, especially in 2001, when minister of economy Domingo Cavallo proposed measures to attack the "Argentine premium" in prices (*costo argentino*). My discussion reflects the crude treatment most U.S. economists offered, rather than the more subtle points Argentine economists considered.

monetary base in September and October 2001, the last of the IMF's monthly figures Mussa could have seen. *Net* foreign reserves (foreign assets minus foreign liabilities) were below the monetary base, according to the IMF, but that need not prevent dollarization.

In a press conference of January 2002 shortly after Argentina abandoned the convertibility system, a questioner asked Anne Krueger, the IMF's first deputy managing director, "What about dollarization, is that included or excluded?" Krueger (2002a) replied, "Well, my understanding at the moment is that that is technically unfeasible. So I don't think the authorities are thinking about it, I don't think we are thinking about it. They have already said they are going to a floating rate regime, and we are just accepting that." An advisory panel of former central bank officials sent by the IMF to Argentina in July 2002 also discouraged dollarization without serious analysis (see Alejandra Gallo 2002). Even after abandoning the convertibility system, Argentina could have dollarized at one peso per dollar as long as it had or could obtain gross reserves (not necessarily net reserves) equal to the monetary base.

Another question is whether dollarization was feasible at a rate other than one peso per dollar. Even with small reserves, at a suitably depreciated exchange rate, dollarization is *always* technically feasible. At a rate of a billion pesos per dollar, the dollars many an Argentine carries in his wallet would have been more than sufficient for dollarization. Steve Hanke (2002c) requested that Krueger and the IMF reveal their reasoning for calling dollarization technically infeasible, but no IMF official ever responded. Hanke and I (for example, Schuler and Hanke 2001/2002, 13) were the only economists who made explicit reference to the balance sheet of Argentina's central bank, as posted on its Web site, in discussions of the feasibility of dollarization. Although I consider that in this case the majority view was correct, few U.S. economists who held it referred to data that might have supported that view.

A CASE STUDY IN CARELESSNESS: PAUL KRUGMAN

The case of Paul Krugman illustrates in detail how U.S. economists failed to do the work necessary for understanding Argentina's situation accurately. Krugman is one of the best-known active economists. His twice-weekly column in the *New York Times* is read across the United States and, through syndication and translation, around the world. He specializes in international economics and is highly regarded by many economists. He wrote more than a dozen articles on Argentina's economic crisis.

In his book *Pop Internationalism,* Krugman (1996b, vii-ix, 118-19) decried people who comment publicly on international economic affairs without even knowing the basic ideas to be found in textbooks on international economics. But perhaps people do not consult the textbooks because textbook writers too often fail to check their assertions against the "book of the world." A reader of the widely used undergraduate textbook on international economics that Krugman wrote with Maurice Obstfeld will find this about currency boards:

> Argentina's 1991 monetary law requiring 100 percent foreign exchange backing for the monetary base made it an example of a **currency board,** in which the monetary base is backed entirely by foreign currency and the central bank therefore holds no domestic assets. . . .
>
> In a currency board regime, a note-issuing authority announces an exchange rate against some foreign currency and, at that rate, simply carries out any trades of domestic currency notes against the foreign currency that the public initiates. The currency board is prohibited by law from acquiring any *domestic* assets, so all the currency it issues automatically is fully backed by foreign reserves. In most cases the note-issuing authority is not even a central bank: its primary role could be performed as well by a vending machine.
>
> Currency boards originally arose in the colonial territories of European powers. By adopting a currency board system, the colony effectively let its imperial ruler run its

> monetary policy, at the same time handing the ruling country all seigniorage coming from the colony's demand for money. . . .
>
> More recently, the automatic, vending machine character of currency boards has been seen as a way to import anti-inflation credibility from the country to which the domestic currency is pegged. Thus Argentina, with its experience of hyperinflation, mandated a currency board rule in its 1991 Convertibility Law in an attempt to convince a skeptical world that it would not even have the option of inflationary policies in the future. . . .
>
> Since the currency board may not acquire domestic assets, it cannot lend currency freely to domestic banks in times of financial panic (a problem Argentina encountered frequently, as we have seen). . . .
>
> Since a currency board typically may not acquire government debt, some argue that it can discourage fiscal deficits, thus reducing a major cost of inflation and devaluation (although Argentina's experience in this area provides a counter-example). (Krugman and Obstfeld 2003, 695-696)

Krugman and Obstfeld's theoretical definition of a currency board is reasonably accurate, and in a footnote, they observe, "Strictly speaking, Argentina's currency board involved a slight fudge. A limited fraction of the monetary base could be held in the form of U.S. dollar-denominated Argentine government debt." On most other points of fact they are wrong. As we have seen, the Convertibility Law (presumably the "1991 monetary law" they mention) allowed reserves to consist entirely of Argentine government bonds denominated in foreign currency, although later legislation imposed restrictions. The central bank engaged in sterilized intervention, held extensive domestic assets, lent to domestic banks, and acquired government debt. By Krugman and Obstfeld's own definition, then, the convertibility system lacked the automatic, vending machine quality they correctly understand as being characteristic of currency boards.[16]

In a section of their textbook called "Argentina's 2001-2002 crisis," Krugman and Obstfeld (2003, 694) write, "Argentina's rigid peg of its peso to the dollar proved increasingly painful as the dollar itself appreciated in the foreign exchange market. As panel (a) of Figure 22-3 [on page 680 of their text] shows, the peso's real exchange rate remained high despite high domestic unemployment, and the country's current account deficit remained high." The graph shows data only through 1999. The notes to the graph explain that the real exchange rate is based on the "domestic price level"—apparently the consumer price index at the end of each year—calculated bilaterally against the United States. As has been mentioned, the bilateral real exchange rate based on consumer price indexes peaked in 1995 and was falling thereafter. Calculations based instead on wholesale or producer prices and updated to 2001 would show that in 2000 and 2001 the real exchange rate was perhaps *undervalued* (below the levels existing shortly before the convertibility system began). Making a plausible argument that the peso was overvalued according to Krugman and Obstfeld's criteria requires referring to the multilateral real exchange rate, which they do not discuss, rather than to the bilateral rate with the United States. Even then, only the multilateral real exchange rate based on *consumer* prices offers much support for the claim of overvaluation.

[16] Krugman and Obstfeld's summary of currency boards is defective in other respects as well. Currency boards arose specifically in *British* colonies; there are only isolated instances of currency boards among colonies of other countries. Colonial currency boards did not hand seigniorage to "the ruling country," but to the local colonial administration, which in many cases had elements of local representation. Nor were currency boards in British colonies a completely captive market for British government securities, because they were typically allowed to hold securities issued by other colonies and sometimes by independent countries within the sterling area. Krugman and Obstfeld claim that "Hong Kong has a currency board" and that "Similarly [to Argentina's lack of monetary credibility in the early 1990s], Estonia and Latvia, with no recent track record of monetary policy after decades of Soviet rule, hoped to establish low-inflation reputations by setting up currency boards after they gained independence." None of these systems fits their definition of a currency board. The Hong Kong Monetary Authority in August 1998 went so far as to buy about US$15 billion of equities in the local stock market, an unorthodox operation even for a central bank. Its purchases of equities exceeded the monetary base. Krugman and Obstfeld confuse Latvia with Lithuania. The Estonian and Lithuanian central banks hold little in domestic assets, but their foreign assets considerably exceed 100 percent of the monetary base and hence give them freedom for discretionary monetary policy that an orthodox currency board would not have.

While Argentina's crisis was unfolding, Krugman used his *New York Times* columns to castigate the supposed currency board as the main problem: "So why is Argentina's economy depressed? Basically it comes down to the currency board, which pegs the value of the peso at one dollar and ensures (technicalities aside) that each peso in circulation is backed by a dollar in reserves" (Krugman 2001a). But it is hardly a technicality to observe that the convertibility system differed from Krugman's textbook description of a currency board not just on one or two points, but on most points. Nor does the record support Krugman's claim that "Argentina was an experiment in doing away with monetary activism. After generations of mismanagement, Argentina returned to a colonial-era monetary system, a 'currency board,' which took government out of the loop" (Krugman 2001f). A quick look at the central bank's Web site reveals that the central bank issued 210 regulations of a supposedly durable character in 2001 alone; they touched all aspects of the financial system.[17] Steve Hanke (2002x, 212) identifies eight of these as being among 24 important policy decisions by Argentina's government in 2001 (and another three in early 2002) that contributed to the undoing of the convertibility system. The government was firmly in the loop.

Krugman termed the peso "severely overvalued" as early as 1995 (Krugman 1995a) and claimed after Brazil's devaluation of January 1999 that "Argentine producers find themselves priced out of world markets" (Krugman 2000b). Despite his skepticism about the exchange rate of one peso per dollar, in June 2000 he thought that persisting with it was the lesser of two evils (Krugman 2000a). By July 2001, though, the continuing contraction had changed the balance for Krugman, who wrote, "Some Wall Street analysts believe that the Argentine government will default but try to keep the peso pegged at one dollar. Maybe—but that would be a bizarre strategy, choosing the worse of two evils" (Krugman 2001a). He suggested pesifying dollar assets and liabilities: "Simply issue a decree canceling the indexation" in dollars (Krugman 2001c).

When Argentina's economic decline accelerated in 2002 after the government did what Krugman had proposed, he fell silent. To date (July 2005), he has published no analysis of why the decline was so severe, though he has restated some earlier points in Krugman (2003a).

[17] Banco Central de la República Argentina (http://www.bcra.gov.ar>Enter>Regulations> Communications). The figure of 210 refers to the "A" communications issued (though not all published) in 2001, numbered 3208 to 3417. Over the whole life of the convertibility system there were 1596 such communications, numbered 1822 to 3417. There were also thousands of "B" and "C" communications, which were generally less important.

ARGENTINA LISTENS TO THE ECONOMISTS —AND SUFFERS

The consensus view among economists about the convertibility system and its effects on Argentina influenced the policy of the IMF and U.S. Treasury Department. During the crisis and afterwards, officials or former officials of both institutions made a number of statements repeating elements of the consensus view. Many of the officials were economists, and some of their statements appear in Appendix 2. Shapers of opinion in other professions have since faithfully repeated the consensus view among economists. For example, in an article that is in effect a supplementary chapter to his standard history of Argentina, David Rock (2002, 79), a professor of history at the University of California-Santa Barbara, identified the convertibility system as currency board. In a book looking back at Argentina's crisis, Paul Blustein (2005, 20), a business reporter for the *Washington Post,* did likewise. Moisés Naím (2005), the editor of *Foreign Policy* magazine and a former Venezuelan minister of trade and industry, claimed in a review of Blustein's book that the peso was not maintained "at a level that would stimulate exports." Electronic searches readily yield many similar instances.

In early 2002, the new government of president Eduardo Duhalde did what the consensus view recommended. Effective January 6, the government devalued the peso from the previous rate of one per dollar to 1.40 per dollar and ended the convertibility system. On January 9, the government "pesified" dollar assets and liabilities, forcibly converting them at 1 peso per dollar. On February 9 it floated the peso. These measures were part of a package that included other steps not necessarily urged by the consensus, such as converting dollar bank deposits into pesos at a differential rate of 1.40 pesos per dollar; confiscating the dollar reserves of banks and paying them only 1 peso per dollar; suspending bankruptcy proceedings; and doubling penalties for employers who dismissed workers.

The peso depreciated to nearly 4 per dollar in April 2003 before recovering somewhat. (Sebastian Edwards 2001 and David Hale 2001 were notable for correctly predicting a much larger depreciation of the peso than most observers expected.) As of July 2005, the central bank is managing the exchange rate to remain close to 2.90 pesos per dollar. For the year 2002, the dollar value of exports fell 4.5 percent, though volume (quantity exported) rose 0.7 percent. Real GDP, which had fallen 5.5 percent in 2001, fell a record 16.3 percent in the first quarter of 2002 and 13.5 percent in the second quarter, on a year-over-year basis. The fall in real GDP for 2002 as a whole was 10.9 percent, the worst in more than a century. The unemployment rate rose to 23.6 percent in 2002 from 18.3 percent the year before, and the proportion of Argentines below the officially defined poverty line jumped to 57.5 percent from 38.3 percent the year before.[18] Since 2002 the economy has recovered, though GDP per person is still below the earlier peak. [19]

In an economy supposedly being depressed by a currency board maintaining an overvalued currency, one would have expected a rapid increase in exports, and a rebound or at least a slowing rather than an acceleration of economic decline in 2002. To my knowledge, no advocate of devaluation or pesification before the fact has explained why Argentina's economy shrank so much in 2002 after devaluing, or why Argentina's share of world exports has been lower since the convertibility system ended than it was during the last seven years of the system. A possible explanation is that the Duhalde government was clumsy. Still, advocates of the consensus

[18] Statistics are from INDEC's Web site.

[19] U.S. economists have written little on Argentina's recovery; Forbes (2005) is among the few exceptions. One reason for the silence is that the recovery is still in progress; another is that economists have moved on to other subjects now that Argentina no longer so regularly appears on the front pages of U.S. newspapers. In my view, the recovery results from four factors. (1) It started from a low base because the policies of the Duhalde government in early 2002 destroyed considerable wealth. After some months, though, the destruction ceased and the economy bottomed out. (2) The big depreciation of the peso in nominal and real terms in early 2002 made import-competing industries more competitive, though not necessarily more efficient. Imports fell from US$20.3 billion in 2001 to $9.0 billion in 2002; in 2005, at the year-over-year growth rate of the first four months, they will be about $30 billion, while exports will be $40 billion. (3) Government finances have improved. Inflation and default on foreign debt reduced federal spending as defined by the IMF from 17.8 percent of GDP in 2001 to 14.6 percent in 2002. Higher revenues from the economic recovery sent the government budget into surplus in 2003, for the first time since current IMF statistics began in 1973. The budget has remained in surplus since, so deficits no longer create political pressure for policies that discourage growth, such as the three big tax increases the De la Rúa government imposed. (4) International conditions have been very favorable. The world economy has grown fast, world interest rates have been low, and commodity prices have risen sharply. Such major Argentine export commodities as petroleum, soybeans, beef, and wheat rose more than 50 percent in dollar terms from 1999 to 2004. The depreciation of the peso approximately tripled the weight of the export sector in the economy, to about 23 percent of GDP, and amplified the effect of the rise in commodity prices.

view should have considered the possibility that the cures they were proposing might be administered so clumsily as to cause great harm. Ricardo Hausmann (2001, 2002c), after first proposing to upend contracts on a massive scale by forcibly converting dollar-denominated claims into pesos, later implied his disapproval of Argentina's implementation of the idea by calling it a violation of property rights.

ONE SWALLOW DOES NOT MAKE A SUMMER

Argentina's economic crisis has led to the search, typical of such spectacular cases, for the supposed lessons of its experience. Among the conclusions that some writers have drawn are that "neoliberal" reforms were disastrous (DeLong 2002a), that allowing extensive foreign participation in the banking system was inadvisable (Stiglitz 2002a), and that currency boards and fixed exchange rates are very risky (Daseking and others 2004, 43-4; Edwards 2002e, 241). Forget for a moment that Argentina grew fastest when it undertook free-market policies most vigorously, in the early 1990s; that when banks in Argentina were almost all locally owned, the country suffered one of the most expensive banking crises on record, costing an estimated 55 percent of GDP from 1980-82; that the convertibility system was not a currency board; and that the exchange rate was not a fixed rate (in the sense Milton Friedman, Robert Mundell, and some other economists quoted in Appendix 2 use the term, to mean a rigid rate lacking sterilized intervention). The broader point is that where a large body of relevant experience exists, generalizing from a single case is supremely unscientific.

In the period 1999-2001, when analysis placing Argentina's crisis within a wider historical, political, or cross-country context could have done the most good, only two U.S. economists provided it. One was Manuel Pastor, Jr.: with Carol Wise, a specialist in international relations, he wrote a long article that discussed the roots of Argentina's political and economic deadlock (Pastor and Wise 2001b). The other was Steve Hanke, who provided a running commentary on events in a series of articles in the U.S. and Argentine press. Since the start of 2002 there have been many analyses that have brought historical and political insights to bear on analysis of the crisis, but they were too late to be of use in preventing the crisis. (One of my own efforts [Schuler 2003] falls into this category.)

CONCLUSIONS

Economics is often derided as mere armchair analysis. Today, though, armchair analysis need not mean uninformed commentary. Through the Internet, researchers can gain instant access to official statistics, read local newspapers, and correspond easily with local contacts. The gap between the knowledge available to somebody on the scene and somebody thousands of miles away has greatly diminished. By 2001, extensive official information on Argentina was available for free. Argentina's central bank had on its Web site the texts of the Convertibility Law, the law of the central bank, recent balance sheets, annual reports stretching back a few years, and monetary statistics back to 1989. Most of that material was available in English translation as well as in Spanish. The texts of laws and decrees relevant to the convertibility system were available in Spanish on the Web site of Infoleg, a service of the Ministry of Economy. INDEC, Argentina's national statistical agency, had extensive statistics on its site, though at the time only in Spanish. The IMF also made available considerable information. Its country reports were available for free on its Web site. The published volumes and database of the IMF's *International Financial Statistics* were available only by subscription, but could be found in many university libraries.

Almost no U.S. economists showed signs of having researched the relevant legal and statistical information in depth. Jan Kregel (2003, 21 n27) and Steve Hanke and I (for instance, Hanke and Schuler 1999b, 3) were apparently the only economists who cited any Argentine law or decree by number. A handful of economists, including Michael Mussa (2002d, 46-47), examined data from the central bank, though apparently not the whole range available. A somewhat larger group, including Mark Weisbrot and Dean Baker (2002a) and Werner Baer, Pedro Elosegui, and Andrés Gallo (2001), used data from the national statistical agency and other parts of the Ministry of Economy. Many economists seem to have looked at *International Financial Statistics,* but several made statements that revealed they had consulted no statistics.

Mistakes can arise from many sources: reliance on inaccurate data, our incomplete understanding of complex situations, even something as elementary as errors of transcription. In my own writings I have at times committed each of these kinds of error, so I do not criticize my fellow economists simply for having made mistakes. My criticism is that as a group, economists were slaves to assumptions that they failed to check against readily available facts. Scattered individual errors would have been regrettable, but unimportant. The problem was systemic: economists failed to exercise the individual diligence and mutual scrutiny that is supposed to prevent elementary errors from becoming conventional wisdom. The "experts" assumed that the consensus of opinion was correct and did not bother to spend a few minutes checking the sources that would have confirmed or rejected it.[20]

Failure to check the facts resulted in egregious errors by many of the most prominent economists in the United States. I have already mentioned some choice examples, but the prize goes to Maurice Obstfeld (2000, 21). In the quarterly review of the National Bureau of Economic Research, he wrote, "Argentina, in the wake of hyperinflation in 1991, wrote into its constitution a currency board system under which all base money is backed by foreign reserves and domestic pesos are convertible into dollars at a 1:1 rate." Obstfeld packed three major errors into one sentence: the convertibility system was part of statutory law, rather than being written into Argentina's constitution; the system was not a currency board by the definition Obstfeld himself has offered in various editions of his textbook with Paul Krugman (for instance, Krugman and Obstfeld 2003, 695); and all base money was not necessarily backed by foreign reserves.

Too often, economists also failed to define the terms they were using. They proceeded as if it were obvious what was meant by a currency board, or an overvalued exchange rate, or uncompetitive exports. Even where they did offer definitions, in many cases the definitions were bad or cursory. Few discussions went below the surface to explore, for example, whether different measures of overvaluation yielded different results, and what the differences might imply about Argentina's situation.

The Argentine episode, though but a few years old, has already passed from current events into mythology, skipping the intermediate stage, history. The bald one- or two-page summaries of Argentina's experience found in textbooks bid fair to make immortal the errors of analysis we have reviewed. Argentines paid a high price for following the consensus of U.S. and other economists: deepening depression; unemployment among nearly a quarter of its working population; and poverty among more than half its people. Let us hope that the next time scores of economists offer advice to a country in trouble, they will first seek a solid body of facts instead of basing their analysis mainly on unfounded assumptions.

---

[20] Zarazaga (2003) also explores flaws of the consensus view.

Appendix 1:
Link to full references.

Appendix 2:
Link to detailed quotations.

Appendix 3:
Link to spreadsheet of central bank balance sheet data.

REFERENCES

Brackets around an economist's name indicate that a reference is about him or is an interview with him, rather than being written by him. The references here are keyed to Appendix 1, so a reference such as DeLong (2002c) means that DeLong (2002b), which is missing here, is there. Online links in this article were current as of May 6, 2005.

Allen, Mark. 2003. Some Lessons from the Argentine Crisis: A Fund Staff View. In *The Crisis That Was Not Prevented: Lessons for Argentina, the IMF and Globalization* ed. Jan Joost Teunissen and Age Akkerman. The Hague: FONDAD, 130-50. Online: http://www.fondad.org/publications/argentina/Fondad-Argentina-Chapter8.pdf.

Alston, Lee J., and Andrés Gallo. 2002. The Political Economy of Bank Reform in Argentina Under Convertibility. *Journal of Policy Reform* 5(1): 1-16.

Baer, Werner, Pedro Elosegui, and Andrés Gallo. 2002. The Achievements and Failures of Argentina's Neo-Liberal Economic Policies. *Oxford Development Studies* 2(1): 63-85.

Banco Central de la República Argentina. Web site: http://www.bcra.gov.ar.

Beim, David O., and Charles W. Calomiris. 2001. *Emerging Financial Markets.* Boston: McGraw-Hill.

Bennett, Adam G. G. 1994. Currency Boards: Issues and Experiences. In *Frameworks for Monetary Stability* ed. Tomás J. T. Baliño and Carlo Cottarelli. Washington: International Monetary Fund, 186-212.

[Bergsten, C. Fred]. 2001. National Public Radio, All Things Considered program, interview with Linda Wertheimer, December 21.

Blanchard, Olivier J. 2003. *Macroeconomics,* 3rd edition. Upper Saddle River, New Jersey: Prentice-Hall.

Blecker, Robert A. 2003. What Befell Argentina. Letter to the editor, *Washington Post,* August 8: A16.

Blustein, Paul. 2005. *And the Money Kept Rolling In (and Out): Wall Street, the IMF, and the Bankrupting of Argentina.* New York: PublicAffairs.

Buscaglia, Marcos A. 2002. The Economics and Politics of Argentina's Debacle. Typescript, IAE Escuela de Dirección y Negocios, Universidad Austral, October 15, and accompanying spreadsheet provided by the author.

Calvo, Guillermo A., Alejandro Izquierdo, and Ernesto Talvi. 2002. Sudden Stops, the Real Exchange Rates and Fiscal Sustainability: Argentina's Lessons. Typescript, Inter-American Development Bank, June 4. Online: http://www.iadb.org/res/publications/pubfiles/pubS-146.pdf.

CEI (Argentina, Ministerio de Relationes Exteriores, Comercio Internacional y Culto, Centro de Economía Internacional). Web site, http://www.cei.gov.ar.

Cline, William R. 2003. Restoring Economic Growth in Argentina. World Bank Policy Working Paper No. 3158, June. Online: http://www-wds.worldbank.org/servlet/WDSContentServer/WDSP/IB/2004/03/08/000012009_20040308154202/Rendered/PDF/28118.pdf.

Colander, David C. 2004. *Economics,* 5th edition. Boston: McGraw-Hill/Irwin.

Daseking, Christina, Atish R. Ghosh, Alun H. Thomas, and Timothy D. Lane. 2004. *Lessons from the Crisis in Argentina.* International Monetary Fund Occasional Paper No. 236. Washington: International Monetary Fund. Earlier anonymous online draft: http://www.imf.org/external/np/pdr/lessons/100803.pdf.

DeLong, J. Bradford. 2002a. Mark-My-Beliefs-to-Market Time. Web log, June 26. Online: http://www.j-bradford-delong.net/movable_type/archives/000433.html.

DeLong, J. Bradford. 2002c. *Macroeconomics.* Boston: McGraw-Hill Irwin.

Díaz Bonilla, Carolina, Eugenio Díaz Bonilla, Valeria Piñiero, and Sherman Robinson. 2004. Argentina: The Convertibility Plan, Trade Openness, Poverty and Inequality. Typescript. Online: http://www.undp.org/rblac/finaldrafts/eng/Chapter4.pdf.

Dornbusch, Rudiger, Stanley Fischer, and Richard Startz. 2004. *Macroeconomics,* 9th edition. Boston: McGraw-Hill/Irwin.

Economist. 1994. Creating Credibility. July 2: 76.

[Edwards, Sebastian]. 2001. Para la Argentina, el nuevo plan económico es "la major de las alternativas." By Norberto Malatesta. *La Nación,* November 4. Online: at http://www.lanacion.com.ar.

Edwards, Sebastian. 2002a. This Argentine Scheme. *Financial Times,* U.S. edition, January 21: 11.

Edwards, Sebastian. 2002e. The Great Exchange Rate Debate After Argentina. *North American Journal of Economics and Finance* 13(3): 237-52. Online: http://www.anderson.ucla.edu/faculty/sebastian.edwards/Debate.pdf.

Edwards, Sebastian, and Miguel A. Savastano. 1999. Exchange Rates in Emerging Economies: What Do We Know? What Do We Need to Know? National Bureau of Economic Research Working Paper No. 7228, July. Online: at http://www.nber.org.

Eichengreen, Barry J. 2002b. *Financial Crises and What to Do About Them.* New York: Oxford University Press.

Feldman, David H. 2002a. Argentina's Responsibility in the Current Fiscal Crisis. *Norfolk Virignian-Pilot,* February 9. Online: http://dhfeld.people.wm.edu/Argentina%27sResponsibility.htm.

Feldman, David H. 2001b. U.S. Can Help Argentina Stabilize Its Economy. Houston *Chronicle*. August 21. Online: http://dhfeld.people.wm.edu/Argentina.html.

Feldman, David H. 2002b. Worthless Money: Dollarizing Afghanistan. *Asian Wall Street Journal,* May 20: A9.

Feldstein, Martin S. 1999. A Self-Help Guide for Emerging Markets. *Foreign Affairs,* 78(2): 93-109.

Feldstein, Martin S. 2002a. Argentina's Fall—Lessons from the Latest Financial Crisis. *Foreign Affairs* 81 (2): 8-14. Online: http://www.nber.org/feldstein/argentina.pdf.

Feldstein, Martin S. 2003. Economic and Financial Crises in Emerging Market Economies: An Overview of Prevention and Management. In his *Economic and Financial Crises in Emerging Market Economies.* Chicago: University of Chicago Press, 1-29.

Fidler, Stephen. 1992. Survey of Argentina. *Financial Times,* May 14: 32.

Fischer, Stanley. 2004. *IMF Essays from a Time of Crisis: The International Financial System, Stabilization, and Development.* Cambridge, Massachusetts: MIT Press.

Forbes, Kristin I. 2002. Comments in conference summary of National Bureau of Economic Research, Argentina: Program on Exchange Rate Crises in Emerging Markets, July 17. Online: http://www.nber.org/crisis/argentina_report.html.

Forbes, Kristin I. 2005. Argentina's Latest Tango. Remarks at World Economic Forum, Davos, Switzerland, January 27. Online: http://www.whitehouse.gov/cea/argentina-wef-comments-20050127.html.

Friedman, Milton. 1998b. A Primer on Exchange Rates. *Forbes,* November 2: 53.

Gallo, Alejandra. 2002. Los "notables" rechazan de plano la dolarización. *Clarín,* July 24. Online: at http://www.clarin.com.

Goldstein, Morris. 2002a. *Managed Floating Plus.* Washington: Institute for International Economics. Online: http://www.iie.com/publications/chapters_preview/342/5iie3365.pdf.

Hale, David. 2001. How Donald Rumsfeld Can Save Argentina. *Financial Times,* London edition, July 18: 19.

Hanke, Steve H. 1991. Argentina Should Abolish Its Central Bank. *Wall Street Journal,* October 25: A15.

Hanke, Steve H. 1995m. A Tale of Two Pesos: A Comparison of Currency Policies in Mexico and Argentina. Heritage Foundation Lecture No. 552, December 12. Washington: Heritage Foundation. Online: http://www.heritage.org/Research/LatinAmerica/HL552.cfm.

Hanke, Steve H. 1996c. Professionalism, Please. *VenEconomy Monthly*, Caracas, June: 17-20.

Hanke, Steve H. 1997a. Emerging Bubbles. *Forbes,* August 11: 143.

Hanke, Steve H. 1998a. Testimony before the U.S. House of Representatives, Committee on Banking and Financial Services. Hearing on Implications of Asian Financial Crisis, January 30.

Hanke, Steve H. 1999a. Some Reflections on Currency Boards. In *Central Banking, Monetary Policies, and the Implications for Transition Economies* ed. Mario I. Blejer and Marko Skreb. Boston: Kluwer Academic Publishers, 341-66.

Hanke, Steve H. 2000a. The Disregard for Currency Board Realities. *Cato Journal* 20 (1): 49-59. Online: http://www.cato.org/pubs/journal/cj20n1/cj20n1-7.pdf.

Hanke, Steve H. 2001r. Who's Killing the Peso in Buenos Aires? *Wall Street Journal,* November 30: A15.

Hanke, Steve H. 2002c. Questions the IMF Is Obliged to Answer. Letter to the editor, *Financial Times,* U.S. edition, January 17: 10.

Hanke, Steve H. 2002f. Argentine Plunder. *Friedberg's Commodity and Currency Comments* 23(1): 4-6. Online: at http://www.friedberg.ca.

Hanke, Steve H. 2002x. On Dollarization and Currency Boards: Error and Deception. *Journal of Policy Reform* 5(4): 203-22.

Hanke, Steve H., Lars Jonung, and Kurt Schuler. 1993. *Russian Currency and Finance: A Currency Board Approach to Reform.* London: Routledge.

Hanke, Steve H., and Kurt Schuler. 1994a. *Currency Boards for Developing Countries: A Handbook*. San Francisco: ICS Press (Institute for Contemporary Studies).

Hanke, Steve H., and Kurt Schuler. 1999b. A Dollarization Blueprint for Argentina. Cato Institute Foreign Policy Briefing 52, March 11. Online: http://www.cato.org/pubs/fpbriefs/fpb52.pdf.

Hanke, Steve H., and Kurt Schuler. 2002. What Went Wrong in Argentina? *Central Banking* 12(3): 43-8.

Hausmann, Ricardo. 2001. A Way Out for Argentina. *Financial Times,* October 30: 23. Online: http://www.nber.org/~confer/2002/argentina02/hausmann.pdf.

Hausmann, Ricardo. 2002c. Patience Is a Virtue for Argentina's Creditors. *Financial Times,* U.S. edition, October 3: 13.

Hutchison, T[erence] W[ilmot]. 1977. *Knowledge and Ignorance in Economics.* Oxford: Basil Blackwell.

IMF (International Monetary Fund). 1999. *International Financial Statistics,* April. Washington: International Monetary Fund.

IMF (International Monetary Fund). 2001. Argentina: Third Review Under the Stand-By Arrangement, Request for Waivers and Modification of the Program—Staff Report and News Brief on the Executive Board Discussion. Country Report No. 01/90, June 18. Online: http://www.imf.org/external/pubs/ft/scr/2001/cr0190.pdf.

IMF (International Monetary Fund). 2003a. *Annual Report on Exchange Arrangements and Exchange Restrictions.* Washington: International Monetary Fund.

IMF (International Monetary Fund). 2005. *World Economic Outlook,* April. Washington: International Monetary Fund. Online: http://www.imf.org/external/pubs/ft/weo/2005/01/index.htm.

IMF (International Monetary Fund). *Direction of Trade Statistics* database. Washington: International Monetary Fund.

IMF (International Monetary Fund). *International Financial Statistics* database. Washington: International Monetary Fund.

INDEC (Argentina, Ministerio de Economía, Instituto Nacional de Estadística y Censo). Web site, http://www.indec.mecon.gov.ar.

Infoleg (Argentina, Ministerio de Economía, Centro de Documentación e Información). Web site, http://infoleg.mecon.gov.ar.

Jonas, Jiri. 2002a. Argentina: The Anatomy of a Crisis. Zentrum für Europäische Integrationsforschung, Rheinische Friedrich-Wilhelms-Universität Bonn, Working Paper No. B12. Online: http://www.zei.de/download/zei_wp/B02-12.pdf.

Kregel, Jan. 2003. An Alternative View of the Argentine Crisis: Structural Flaws and Structural Adjustment Policy. *Investigación Económica* 62 (243): 15-49. An earlier version, Revised Draft for DGDS Argentina Paper, which I term the working paper, is online at http://www.cedeplar.ufmg.br/download/kregel.pdf.

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

Krueger, Anne O. 2002c. Crisis Prevention and Resolution: Lessons from Argentina. Speech at National Bureau of Economic Research conference The Argentina Crisis, July 17. Online: http://www.imf.org/external/np/speeches/2002/071702.htm.

Krugman, Paul R. 1995a. Monetary Virtue Leads Two-Peso Tussle. *Financial Times,* June 13: 21.

Krugman, Paul R. 1996b. *Pop Internationalism.* New York: W. W. Norton and Company.

Krugman, Paul R. 2000a. Green Cheese Rules. *New York Times,* June 4, section 4: 19.

Krugman, Paul R. 2000b. The Shadow of Debt. *New York Times,* November 22: A27.

Krugman, Paul R. 2001a. A Latin Tragedy. *New York Times,* July 15, section 4: 15.

Krugman, Paul R. 2001c. A Cross of Dollars. *New York Times,* November 7: A23.

Krugman, Paul R. 2001f. Laissez Not Fair. *New York Times,* December 11: A27.

Krugman, Paul R. 2003a. Argentina: The Role of Ideology. Typescript, August 3. Online: http://www.wws.princeton.edu/~pkrugman/argent03.html.

Krugman, Paul R. 2004a. Rubin Gets Shrill. *New York Times,* Washington Final edition, January 6: A27.

Krugman, Paul R., and Maurice Obstfeld. 2003. *International Economics,* 6th edition. Boston: Addison-Wesley.

Martin, Pamela, Jilleen R. Westbrook, and Thomas D. Willett. 1999. Exchange Rate Based Stabilization Policy in Latin America. In *Exchange-Rate Policies for Emerging Market Economies* ed. Richard J. Sweeney, Clas G. Wihlborg, and Thomas D. Willett. Boulder, Colorado: Westview Press, 141-63.

McCallum, Bennett T. 1996. *International Monetary Economics.* New York: Oxford University Press.

Mussa, Michael. 2001. Fantasy in Argentina. *Financial Times,* November 12: 23.

Mussa, Michael. 2002d. *Argentina and the Fund: From Triumph to Tragedy.* Washington: Institute for International Economics. Online: http://bookstore.iie.com/merchant.mvc?Screen=PROD&Product_Code=343.

Naím, Moisés. 2005. The Incredible Shrinking Peso. *Washington Post*, Book World section, May 8: 5.

Obstfeld, Maurice. 2000. Globalization and Macroeconomics. *NBER Reporter,* September 22: 18-23. Online: http://www.nber.org/reporter/fall00/obstfeld.html.

Pastor, Jr., Manuel, and Carol Wise. 2001b. From Poster Child to Basket Case. *Foreign Affairs* 80(6): 60-72.

Perry, Guillermo E., and Luis Servén. 2003. Anatomy of a Multiple Crisis: Why Was Argentina Special and What Can We Learn from It? World Bank Policy Research Working Paper No. 3081, June 30. Online: http://www-wds.worldbank.org/servlet/WDSContentServer/WDSP/IB/2003/07/22/000094946_03070904012091/Rendered/PDF/multi0page.pdf.

Quiroga, Annabella. 2005. Las exportaciones crecerían el 7%. *Clarín,* April 22. Online: at http://www.clarin.com.

Rock, David. 2002. Racking Argentina. *New Left Review* 17: 54-86. Online: http://www.newleftreview.com/PDFarticles/NLR25104.pdf.

Salvatore, Ricardo D. 2002. Expert Economic Advice and the Subalternity of Knowledge: Reflections on the Recent Argentine Crisis. Typescript, December. Online: http://conconflicts.ssrc.org/USA/salvatore/.

Schmukler, Sergio L., and Luis Servén. 2002. Pricing Currency Risk Under Currency Boards. *Journal of Development Economics* 69(2): 367-91.

Schuler, Kurt. 1992. Currency Boards. Unpublished Ph.D. dissertation, George Mason University. Online: http://users.erols.com/kurrency/dissertation.pdf.

Schuler, Kurt. 1996. *Should Developing Countries Have Central Banks? Currency Quality and Monetary Systems in 155 Countries.* London: Institute of Economic Affairs.

Schuler, Kurt. 1997. The Future of Currency Boards, with Special Reference to Developing Countries. In Maggie Tan Pin Neo, editor, *Currency Board System: A Stop-Gap Measure or a Necessity; Currency Board System Symposium '97*. Singapore: Board of Commissioners of Currency Singapore, 102-35, 169.

Schuler, Kurt. 1998. Por qué el sucre no es tan bueno como el dólar. *El Financiero,* Guayaquil, Ecuador, May 4: 15.

Schuler, Kurt. 2001b. U-Turn Out of the Dead End: How to Solve Argentina's Debt, Currency, and Banking Problems. Typescript, August 16, with postscript August 27. Online: http://web.archive.org/web/20011116112441/users.erols.com/kurrency/arguturn.htm.

Schuler, Kurt. 2003. Argentina's Economic Crisis: Causes and Cures. Staff background paper, Office of the Vice Chairman, Joint Economic Committee, U.S. Congress, June. Online: http://www.house.gov/jec/imf/06-13-03long.pdf.

Schuler, Kurt. 2004a. The Collapse of Argentina's "Convertibility" System: A Failure of Central Banking. Typescript, April 12. Online: http://users.erols.com/kurrency/convertibility.pdf.

Schuler, Kurt, and Steve H. Hanke. 2001/2002. How to Dollarize in Argentina Now. Cato Institute paper, December 20, 2001, updated January 2, 2002. Online: http://www.cato.org/pubs/papers/schuler-hanke011231.pdf.

Schwartz, Anna J. 1992. Do Currency Boards Have a Future? Institute of Economic Affairs, Occasional Paper No. 68. London: Institute of Economic Affairs.

Stiglitz, Joseph E. 2002a. Argentina's Lessons. *The Edge,* Malaysia, January 14.

Stiglitz, Joseph E., and Carl E. Walsh. 2002. *Principles of Macroeconomics,* 3rd edition. New York: W. W. Norton and Company.

U.S. Bureau of Labor Statistics, Web site, http://www.bls.gov.

Walters, Alan A. 1993. Wishful Thinking. *AIG World Markets Advisory,* American International Group, September: 1, 3-6.

Weisbrot, Mark, and Dean Baker. 2002a. What Happened in Argentina? Typescript, Center for Economic Policy Research, January 31. Online: http://www.cepr.net/publications/argentina_2002_01_31.htm.

Willett, Thomas D. 2002b. Crying for Argentina. *Milken Institute Review* 2nd quarter: 50-9. Online: at http://www.milkeninstitute.org.

Zarazaga, Carlos E. J. M. 2003. Conjectures on Why a Devaluation Did Not Cure Argentina. *Revista Venezolana de Análisis de Coyuntura* 9 (1): 11-39.

ABOUT THE AUTHOR

Kurt Schuler is an international economist at the U.S. Treasury Department. Before that he was a senior economist to the chairman and vice chairman of the Joint Economic Committee of the U.S. Congress. As befits a bureaucrat, he has chosen to remain faceless. This article expresses his personal views, which, to repeat, are not likely those of the U.S. Treasury Department.