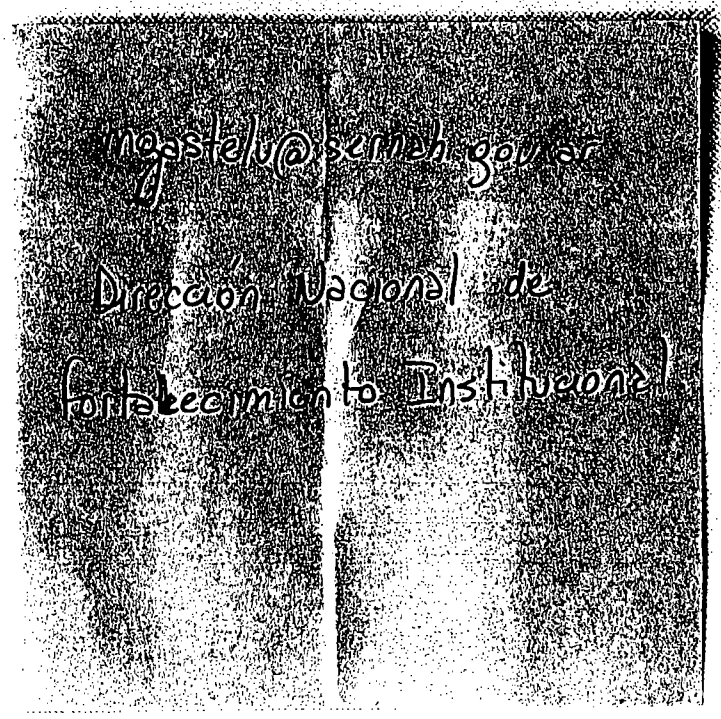

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Raymond P. Guiteras
10/09/98 03:13:01 PM

Record Type: Record

To: Joseph E. Aldy/CEA/EOP

cc:
Subject: argentina growth

Joe -

I talked to the (secretary of the) head of the Argentina desk, and (s)he said they would send a fax as soon as the head gets out of a meeting.

The top dog at the IMF desk didn't want to send anything on paper, but he told me that he projects, given "nothing bad happining to Brasil, a return to reasonable interest rates, and emerging markets not getting shut out of the world economy":

1998 5%
1999 3--4%
return to 5% or thereabouts after 1999

of course, when I asked if they had two sets of projections based on two sets of the real, he said, no, actually they have about 10 sets of projections, with 1999 growth ranging from +5% to -2%.

Regards,
The Consultant

Argentina

Year: 1995

Energy Production (Quads) = 3.0169 **Energy Consumption (Quads) = 2.4760**

Oil (Thousand Barrels per Day)

	Production	Refinery	Recycled	Imports	Exports	Stock Build	Consumption	Unaccounted for Supply
Crude Oil	715.00	422.95		13.82	305.87	0.00	0.00	0.00
NGL's	42.00	42.00		0.00	0.00	0.00	0.00	0.00
Other Oils	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Refinery Gain	5.00	13.48						8.48
Gasoline		122.52		15.26	24.82	0.00	120.44	7.49
Jet Fuel		20.55		1.32	0.58	0.00	21.28	0.00
Kerosene		6.79		0.00	0.00	0.00	6.79	0.00
Distillate		172.37		27.03	12.96	0.00	185.83	-0.61
Residual		49.38		4.51	16.90	0.00	35.84	-1.16
LPG's		28.81		6.38	11.54	0.00	58.40	34.76
Unspecified		78.01		1.53	0.19	0.00	45.80	-33.55
TOTALS	762.00	478.42		69.84	372.86	0.00	474.40	**15.41**

Natural Gas (Billion Cubic Feet and Quadrillion Btu)

Gross Production	(Billion Cubic Feet)	1076.05	**Dry Imports**	(Billion Cubic Feet)	69.92
Vented and Flared	(Billion Cubic Feet)	77.69	**Dry Exports**	(Billion Cubic Feet)	0.00
Reinjected	(Billion Cubic Feet)	45.91			
Marketed Production	(Billion Cubic Feet)	952.45			
Dry Production	(Billion Cubic Feet)	883.23	**Dry Production**	(Quadrillion Btu)	0.9565
Dry Consumption	(Billion Cubic Feet)	953.15	**Dry Consumption**	(Quadrillion Btu)	1.0323

Coal (Thousand Short Tons and Quadrillion Btu)

	Production		Imports		Exports		Stock Build	
	(1000 Tons)	(Quads)	(1000 Tons)	(Quads)	(1000 Tons)	(Quads)	(1000 Tons)	(Quads)
Hard Coal			1553	0.0329	41	0.0009	-19	-0.0004
--- Anthracite	0	0.0000						
--- Bituminous	336	0.0071						
Lignite	0	0.0000	0	0.0000	0	0.0000	0	0.0000
Coke			0	0.0000	24	0.0005	-7	-0.0002
Total Coal	336	0.0071	1553	0.0329	65	0.0014	-25	-0.0005

Consumption : (1000 Tons) = 1850 **(Quads) =** 0.0392

Electricity (Million Kilowatts, Billion Kilowatt Hours, and Quadrillion Btu)

	Capacity	Generation				
	(Million kw)	(Billion kwh)	(Quads)		(Billion kwh)	(Quads)
Hydroelectric	8.008	33.377	0.3471	**Total Imports**	2.338	0.0243
Nuclear	1.018	7.070	0.0835	**Total Exports**	0.221	0.0023
Geothermal and Other	0.000	0.000	0.0000	**Losses**	4.856	
Thermal	10.584	28.923				
Totals	**19.610**	**69.370**		**Consumption**	**66.631**	

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OECD ECONOMIC OUTLOOK

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JUNE 1998

ORGANISATION FOR ECONOMIC CO-OPERATION AND DEVELOPMENT

deficit and delays in structural reforms have plagued the economy, however, and prompted the International Monetary Fund and World Bank to withhold disbursement of several loan facilities. As in Russia, beginning in the second half of 1997, Ukrainian financial markets have been experiencing some turbulence, although the estimated US$700 million in short-term capital inflows in the first half of 1997 do not compare with the magnitudes received by Russia. Nevertheless, the combination of poorly-developed financial markets, fiscal imbalances, and uncertainty over the future course of reform has made Ukraine potentially vulnerable to financial volatility. As in Russia, authorities have been raising interest rates and drawing down reserves in the process of defending the currency in recent months.

Growth has strengthened and inflation declined in the Baltic countries, but current account deficits remain high

The growth of the *Baltic* economies accelerated markedly in 1997, to 9 per cent in Estonia and around 6 per cent in Latvia and Lithuania. Stringent monetary and fiscal policies contributed to a further slow-down of annual inflation, which in December registered 7.0 per cent in Latvia, 8.4 per cent in Lithuania, and 12.5 per cent in Estonia. However, despite relatively strong export performance, these countries incurred current account deficits on the order of 8 to 10 per cent of GDP in 1997. Even though these deficits were partly compensated by a pickup in foreign direct investment, the economies of the Baltics remain potentially vulnerable to volatile short-term capital flows. In fact, Estonia, Latvia, and Lithuania have felt some effects of the turbulence on international financial markets since the third quarter of 1997, but have so far managed to weather the storm quite well.

South America

1997 was a record year for growth...

In 1997, GDP growth in South America averaged 5 per cent, approaching the rates recorded before the first oil crisis. While the current account deficit of the region has widened considerably, unprecedented capital inflows have easily covered this gap. Real GDP growth was especially strong in Argentina, Peru and, as in all years since the mid-1980s, Chile. In all these countries, prudent fiscal policies and declining inflation have assisted the take-off of investment, although the related rise in imports of capital goods has aggravated trade imbalances. Venezuela has started recovering from the 1996 recession, as high inflationary pressures are slowly receding, banks' balance sheets are improving, and the privatisation programme is finally gaining momentum. The Colombian economy, on the other hand, rebounded from the mild slump of the first quarter, with growth accelerating well beyond 5 per cent at year-end, partly on account of the reversal of the appreciation of the peso.

... but Brazil is now experiencing a marked slowdown

Problems in finding the right balance between fiscal and monetary policies, on the other hand, have impaired higher growth in *Brazil*, which accounts for two-thirds of the region's GDP. During the first half of last year, the Brazilian economy benefited from renewed confidence on the part of domestic consumers and foreign investors, as further progress on the inflation side was matched by a more resolute tackling of structural reforms, most notably the acceleration of privatisation and concession awarding. Despite higher tax receipts and larger contributions from state-owned enterprises, however, the fiscal situation was not showing signs of improvement at mid-year, when international investment sentiment about emerging markets started deteriorating. In the fall, with the current account deficit continuing to deteriorate and markets conveying

Table III.4. **Projections for selected South American countries**[a]

	1997	1998	1999
Argentina			
Output	8.4	4.0	4.0
Inflation	0.5	0.5	0.5
Budget balance (% GDP)	–1.2	–1.0	–1.0
Current account balance (% GDP)	–3.5	–4.0	–4.0
Current account balance ($ billion)	–9.5	–14.0	–14.5
Brazil			
Output	3.0	1.0	3.0
Inflation	6.1	3.2	3.0
Budget balance (% GDP)	–5.9	–4.0	–3.0
Current account balance (% GDP)	–4.2	–3.0	–3.5
Current account balance ($ billion)	–33.8	–25.0	–27.0
Chile			
Output	7.1	5.0	4.0
Inflation	6.2	5.1	4.0
Budget balance[b] (% GDP)	1.0	1.0	1.0
Current account balance (% GDP)	–5.5	–6.0	–4.0
Current account balance ($ billion)	–4.0	–5.3	–4.0
Colombia			
Output	3.2	4.0	4.0
Inflation	18.5	16.0	15.0
Budget balance (% GDP)	–4.5	–4.5	–4.0
Current account balance (% GDP)	–6.5	–6.3	–5.8
Current account balance ($ billion)	–6.2	–6.0	–5.4
Peru			
Output	7.4	4.0	5.0
Inflation	8.5	6.0	5.0
Budget balance (% GDP)	–1.2	–2.2	–2.2
Current account balance (% GDP)	–5.2	–6.0	–6.0
Current account balance ($ billion)	–3.4	–3.9	–4.0
Venezuela			
Output	5.1	3.5	4.5
Inflation	53.6	31.0	22.0
Budget balance[c] (% GDP)	0.3	–3.5	–2.0
Current account balance (% GDP)	6.0	–0.5	2.0
Current account balance ($ billion)	5.4	–0.4	1.8

a) The figures for output (GDP) and inflation (based on consumer prices) are percentage changes from previous year.
b) Overall balance adjusted for the operation of the Copper Stabilization Fund.
c) Overall balance includes assistance to banks and transfers to central government from the oil sector.
Sources: United Nations Economic Commission for Latin American and the Caribbean, *Preliminary Overview of the Economy of Latin America and the Caribbean 1997*; national sources, and OECD.

clear signals that the currency was vulnerable, Brazilian authorities reacted decisively, first by raising policy-controlled interest rates to very high levels, then by announcing a vast array of restrictive fiscal measures, to the tune of 2 per cent of GDP.

Following a tightening late in the year, the Brazilian economy is adjusting...

In Brazil, the adjustment to these measures is already visible, especially in credit-sensitive sectors, such as cars and other consumer durables, where domestic production shrank in the last quarter of 1997. It is still difficult to read too much from trade data, although the growth rate of imports seems to have stabilized below that of exports and the strong 1997/98 harvest is going to shore up export earnings in the coming quarters. The Brazilian parliament has also approved, at least in a first reading, important structural reforms. The new labour law introduces temporary contracts; the social security reform raises the minimum retirement age and years of contribution and tightens eligibility conditions for a number of special regimes; and the administrative

reform introduces a salary cap for all civil servants and makes it possible to fire unperforming and redundant civil servants. Pressures on Brazil have correspondingly abated. Since the beginning of the year, cuts in the key policy rate have gone beyond market expectations, as the central bank signalled its reasonable comfort with the international environment and domestic developments. Fiscal results at decentralised levels of government, however, are still far from balance, and improvements are unlikely before the October elections.

... cooling off the Argentine economy

Given the large increase in the country's current account deficit, *Argentina* also suffered in late 1997, as investors' concerns with the fate of the monetary regime of Hong Kong, China, put into question the sustainability of the currency board system. In Argentina, the increasing cost of consumer credit and the contraction of Brazilian demand has brought about some slowdown in economic activity. Nonetheless, with domestic demand remaining brisk, the agreement reached with the International Monetary Fund in early 1998 includes a trigger clause requiring prompt policy action if external imbalances exceed certain thresholds. Unemployment data may deteriorate again after the slight improvement recorded in 1997, making it all the more necessary to implement the labour reforms currently under consideration. The government is also taking action to fight tax evasion.

In the rest of South America the effects of the Asian turbulence are milder...

For other countries the prospects for 1998 are moderately good, though not without risk since their financial markets have also felt the negative consequences of the turbulence in Asia. In *Chile*, the currency slide has been significant, prompting the central bank to raise interest rates twice in the first two months of the year. The peso's depreciation, however, is unlikely to feed strongly into prices, given the authorities' strong commitment to the inflation target and a slowdown of growth caused by falling export prices and volumes. Substantial long-term overseas financing, including sizeable unrecorded capital transactions, and a high level of international reserves should reduce *Colombia*'s vulnerability to a currency crisis, despite a big current account shortfall. There, as in *Peru*, negative consequences of *El Niño* and lower commodity prices will not offset the positive growth contribution of the weaker currency on non-traditional exports, and last year's good performance is unlikely to lose momentum. Faced with the possible derailment from the goal of reducing inflation, *Venezuelan* authorities have also raised interest rates to defend the bolivar. Policy management, however, is made difficult by declining oil prices, which are reducing export earnings as well as fiscal revenues.

... though projections are contingent on a stabilization of investor sentiment towards emerging markets

Given available information on economic activity since the financial turmoil of late 1997 and plausible hypotheses on the international economic situation, South America is poised for a marked deceleration of growth in 1998, possibly with a mild recession in Brazil in the first half of the year. In this context, the current account deficit will decrease, although still hovering around $50 billion. Financing is expected to be largely met by long-term foreign investment, lured by privatisation, mainly in Brazil, Colombia, and Venezuela, and by the continuing decline of inflation. At this stage, the major downside risk relates to a worsening of the Asian financial crisis. In that case, the determination of Brazilian authorities to defend their currency would be tested again. Abandoning the Real plan could shatter confidence in the whole region, bringing about a steep rise of risk premia, while, in an economy still relatively closed like Brazil's, the possible increase of price competitiveness would be unlikely to compensate for the plunge in domestic demand. On the other hand, a further tightening of Brazil's monetary and fiscal policies and the inevitably much steeper recession could cause rising urban unemployment, especially in the São Paulo area, leading to social and political unrest. In such a scenario, growth prospects could become uncomfortably gloomy in Argentina, given increased interdependence between the two countries.

WORLD ECONOMIC AND FINANCIAL SURVEYS

WORLD ECONOMIC OUTLOOK

A Survey by the Staff of the
International Monetary Fund

Part I. Chapters I and II and Statistical Appendix

INTERNATIONAL MONETARY FUND
Washington, D.C.
September 1998

and a tightening of fiscal policies. As a result, capital inflows had been sustained at relatively high levels and growth prospects had deteriorated only moderately. Venezuela, Chile, and to some extent Mexico, were more seriously affected than others, partly as a result of weakening prices of export commodities. With the Russian crisis, however, financial market pressures intensified in most of the region, apparently reflecting increased fear of devaluation and default. To help alleviate these concerns, individual countries have needed to take appropriate measures to strengthen and safeguard macroeconomic stability, maintain the credibility of their exchange rate policies, and continue their structural reform efforts.

The country whose growth has been worst hit by developments over the past year is *Venezuela*, owing in part to its dependence on oil. With macroeconomic policies having been loosened in 1997, the tightening of policies that is in train this year is important for the achievement of macroeconomic stability. Venezuela also has a pending agenda of structural reforms that are needed to put the economy on a sustainable recovery path and to promote economic diversification. The Asian crisis has also had a significant impact on *Chile*'s balance of payments, reflecting the importance to it of the Asian market, which accounts for about one-third of its exports, and also its dependence on primary commodity exports. Chile's strong macroeconomic and structural fundamentals will help it to cope with the needed adjustment. Depending on how quickly the incipient slowdown in private demand takes hold, a further fiscal effort may be needed to ease the burden on monetary policy. In early September, a reserve requirement that has discouraged short-term capital inflows was removed to promote stronger inflows, and the trading band for the peso was widened.

Brazil weathered the Asian crisis with the assistance of tighter fiscal and monetary policies implemented in late 1997. In fact, by late June, interest rates had been allowed to decline to pre-October 1997 levels. The intensification of pressures in August led to a renewed tightening of policies in early September, but this failed to fully restore confidence and reverse the capital outflows; additional spending cuts were announced in mid-September. With the fiscal deficit still running at 7 percent of GDP and a significant current account deficit, efforts to rein in spending and to improve the finances of state governments still need to be strengthened to restore and maintain investor confidence. Financial pressures in *Argentina* and *Mexico* have also intensified since the eruption of the Russian crisis. In Argentina, confidence in the currency board arrangement has been maintained, and there are no indications of capital flight. Nonetheless, a relatively heavy debt service burden for 1999 and a still large current account deficit point to a difficult financing situation if the external turbulence were to continue for an extended period, and highlight the importance of continued fiscal restraint and structural reforms. Likewise in Mexico, continued capital market uncertainty points to the need to maintain tight credit conditions, while a widening current account deficit points to the importance of continued fiscal restraint and structural reforms.

In Africa, the limited access of most countries to international financial markets has in turn limited the impact of the past year's market turbulence: the crisis in emerging markets has affected Africa mainly through commodity prices and trade. Growth in Africa is now projected to be little higher than 3½ percent in 1998, but such an outcome would still exceed the growth

would establish conditions for further interest rate reductions and a resumption of sustainable growth.

Among the *developing countries*, in the Middle East and Europe region output growth is projected to weaken from 4¾ percent in 1997 to 2¼ percent this year but to pick up to 2¾ percent in 1999. The projections represent significant downward revisions from the May 1998 *World Economic Outlook*. The sharp decline in oil prices has adversely affected activity not only in the oil-producing countries in the region but also in other countries, owing to lower workers' remittances and reduced regional demand. Reductions in fiscal outlays in the Islamic Republic of Iran, Saudi Arabia, and other oil-producing countries, while containing the deterioration of budgetary and external balances, are likely to restrain growth, and growth projections have been marked down accordingly (Table 2.4). Growth in Turkey, following a very strong first-quarter performance, is projected to slow in the second half of 1998, in part owing to the short-term impact of policies being implemented to curtail inflation. In Jordan, growth data for 1996–97 have been revised down, and growth prospects for 1998 and the medium term now seem less favorable in light of an apparently slower underlying growth trend and the limited progress with the regional peace process.

In the emerging market economies of Latin America, the weakness of oil prices has contributed to downward revisions in growth projections for Colombia, Mexico, and especially Venezuela, on account of oil production cutbacks and fiscal restraint in response to the weakening of budgetary revenues. Increases in interest rates associated with financial market pressure, and policy measures taken to reduce countries' vulnerability to such pressure, have affected growth prospects more widely. In Mexico, following two previous fiscal adjustments in January and March 1998, the government in July announced an additional round of measures aimed at offsetting the effect of lower oil prices on the budget. Projected growth has also been marked down for Chile, mainly reflecting a tightening of credit policy and weak demand in Asian markets—which account for about one-third of Chile's exports, about three times the average for the region. In Brazil, where financial market pressures associated with the Asian and Russian crises have been felt more acutely, growth in 1998 and 1999 is projected to slow down considerably from the 3¼ percent rate achieved in 1997. Growth projections for Argentina have also been reduced; unemployment, having fallen below 14 percent, could increase in the period ahead.

Economic developments in Africa have remained uneven. A number of countries in the north have benefited in 1998 from improved agricultural production following last year's drought and from the strengthening of growth in Europe, and many other countries have been net beneficiaries of declines in oil and non-oil commodity prices. But other countries have been adversely affected by the weakness of commodity prices, and in some cases economic activity has been disrupted by civil and military unrest. The impact of El Niño was less significant than previously feared. South Africa is the only country in the region to have suffered significant financial contagion from the Asian crisis (see below). All these factors have combined to lower the growth projection for Africa in 1998, with significant risks of a weaker outcome.

Table 2.4. Selected Developing Countries: Real GDP and Consumer Prices
(Annual percent change)

	Real GDP			Consumer Prices		
	1996	1997	1998	1996	1997	1998
Developing countries	**6.6**	**5.8**	**2.3**	**14.1**	**9.1**	**10.3**
Median	**4.6**	**4.3**	**4.0**	**7.3**	**5.9**	**5.0**
Africa	**5.8**	**3.2**	**3.7**	**26.7**	**11.0**	**7.7**
Algeria	3.8	1.3	4.0	18.7	5.7	5.7
Cameroon	5.0	5.1	5.0	6.4	4.2	2.1
Côte d'Ivoire	6.8	6.0	6.0	2.7	5.6	3.0
Ghana	4.4	3.0	5.6	45.6	27.9	15.5
Kenya	3.8	1.8	2.7	9.0	11.2	9.3
Morocco	12.0	-2.2	6.8	3.0	1.0	2.2
Nigeria	6.4	3.9	2.0	29.3	8.5	9.0
South Africa	3.2	1.7	0.8	7.4	8.6	6.0
Sudan[1]	4.7	6.6	6.1	132.8	46.7	12.3
Tanzania	4.1	3.9	3.3	25.7	17.1	14.5
Tunisia	6.9	5.6	5.9	3.8	3.7	3.7
Uganda	8.9	4.2	5.5	7.5	7.8	6.2
SAF/ESAF countries[2]	5.8	4.6	4.6	15.6	8.6	7.1
CFA countries	5.3	5.5	5.7	5.4	4.3	2.7
Asia	**8.2**	**6.6**	**1.8**	**7.9**	**4.7**	**8.3**
Bangladesh	5.4	5.7	4.2	4.5	4.8	8.6
China	9.6	8.8	5.5	8.4	2.8	0.0
India	7.5	5.6	4.8	6.9	6.3	7.2
Indonesia	8.0	4.6	-15.0	7.9	6.6	60.0
Malaysia	8.6	7.8	-6.4	3.5	2.7	6.0
Pakistan	5.2	1.3	5.4	10.3	12.5	8.0
Philippines	5.7	5.1	-0.6	8.4	6.0	10.0
Thailand	5.5	-0.4	-8.0	5.9	5.6	9.0
Vietnam	9.3	8.8	4.0	5.8	3.2	9.0
Middle East and Europe	**4.7**	**4.7**	**2.3**	**24.6**	**22.6**	**22.6**
Egypt	4.3	5.0	5.0	7.2	6.2	3.3
Iran, Islamic Republic of	4.8	3.2	0.0	23.1	16.9	22.7
Jordan	0.8	2.2	2.5	6.5	3.0	4.0
Kuwait	0.9	1.6	1.3	3.6	0.8	0.5
Saudi Arabia	1.4	1.9	0.4	0.9	-0.4	0.0
Turkey	6.9	7.5	3.7	82.3	85.7	78.0
Western Hemisphere	**3.5**	**5.1**	**2.8**	**20.8**	**13.9**	**10.8**
Argentina	4.8	8.6	5.0	0.2	0.8	1.3
Brazil	2.8	3.2	1.5	11.1	7.9	5.0
Chile	7.4	7.1	4.5	7.4	6.1	5.4
Colombia	2.1	3.1	2.7	20.8	18.5	19.5
Dominican Republic	7.3	8.1	6.0	5.4	8.3	5.0
Ecuador	2.0	3.4	1.5	24.4	30.6	33.6
Guatemala	3.0	4.1	4.5	11.0	9.2	6.5
Mexico	5.2	7.0	4.5	34.4	20.6	15.3
Peru	2.5	7.2	3.0	11.5	8.5	7.5
Uruguay	5.3	5.1	4.0	28.3	19.8	10.2
Venezuela	-0.4	5.1	-2.5	99.9	50.0	37.0

[1]The inflation figures published in the May 1998 *World Economic Outlook* were end-of-period data.
[2]African countries that had arrangements, as of the end of 1997, under the IMF's Structural Adjustment Facility (SAF) or Enhanced Structural Adjustment Facility (ESAF).

April 1998

IMF Staff Country Report No. 98/38

Argentina: Recent Economic Developments

This Recent Economic Developments report on Argentina was prepared by a staff team of the International Monetary Fund as background documentation for the periodic consultation with this member country. As such, the views expressed in this document are those of the staff team and do not necessarily reflect the views of the Government of Argentina or the Executive Board of the IMF. In releasing this document for public use, confidential material has been removed at the request of the member.

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INTERNATIONAL MONETARY FUND

ARGENTINA

Recent Economic Developments

Prepared by Messrs. Traa, Catão, Franks (all WHD),
Gerson (FAD), and Gruenwald (PDR)

Approved by the Western Hemisphere Department

January 16, 1998

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Statistical Appendix Tables (continued)

I. Supply and Demand Aspects of the Convertibility Regime, 1991–97 [1]

The Convertibility Plan and associated reforms introduced in Argentina starting in 1991 succeeded in accelerating growth, stopping a protracted inflation—that had twice already resulted in hyperinflation—and fundamentally changing the nature of the economy. The Plan is regarded as a successful exchange-rate based stabilization program, which indeed it was. What is not usually noted is that a substantial part of this program was focussed on the **supply side**, i.e., on shifting the aggregate supply schedule outward and thus making attainment of low inflation consistent with a resumption of growth. The role of **aggregate demand policy** in this Plan (essentially reflecting the fiscal balance) changed markedly over time. As is shown below, fiscal policy was actually expansionary in the early years through 1994, i.e., in the years when inflation came down rapidly to single digit levels. Only since 1995 did fiscal policy and supply reforms pull in the same direction to limit inflation, which then disappeared altogether. This note describes the main elements of the economic strategy put in place since 1991, highlighting the relation between supply and demand aspects of this strategy.

A. The Convertibility Plan

The Convertibility Plan involved at least five distinct areas of policy initiatives or **regime shifts**, that had clear effects on improving supply conditions in the economy. These regime shifts included the convertibility proper, liberalization of foreign trade, deregulation, privatization, and the reform of the financial system.

Convertibility

The first regime shift, began with the launching of the **Convertibility Plan** at end–March 1991, contained the reform of the exchange rate system and, subsequently, that of the central bank charter. In the exchange rate reform, the currency was pegged to the U.S. dollar, the stock of currency issued was tied to the stock of foreign exchange held by the Central Bank (BCRA), and full convertibility of the peso for both current and capital transactions was established.[2] These steps increased transparency in the economy, set the exchange-rate anchor, and had an early effect in sorting out efficient from inefficient enterprises.

---

[1] Prepared by Bob Traa.

[2] While the new monetary and exchange rate arrangements are usually described as implying a currency board, this is not strictly the case because in an emergency, and unlike in a pure currency board, the stock of monetary liabilities of the Central Bank can exceed the stock of foreign exchange by a maximum of 33 percent (20 percent between 1991 and 1995). However, in practice, except during the Mexican exchange rate crisis in 1995, the foreign exchange cover of monetary liabilities has been maintained close to 100 percent.

In 1992, to support the independence of the central bank, its charter was rewritten to prohibit the financing of public sector deficits and to remove lender-of-last-resort functions in the bank's relations with the rest of the financial system. The central bank retained some policy instruments that it uses in its relations with banks, such as repurchase agreements, but in practice these facilities have remained small and are used mostly at the margin for overnight liquidity management.

Trade

Very early in the Plan,[3] a second regime shift comprised a **trade reform** designed to reduce distortions and to integrate the economy with external markets. Export tariffs and nontariff import barriers were eliminated (except those for automobiles, textiles, and shoes); and average import tariffs were cut from a level in excess of 40 percent in 1989 to some 9 percent by the end of 1991, with a zero rate for capital goods and raw materials. The trade reform in particular helped improve profitability in the agricultural sector, where Argentina has a comparative advantage. Also, the removal of tariffs and nontariff barriers on capital goods and other inputs was important, as it affected relative factor prices and improved the investment climate at the outset of a period of strong demand for new capital stock.

Deregulation

A third regime shift involved **deregulation** of the economy. Between 1989 and 1992, the Government abolished all price controls, some of which had been in place for decades; and closed down a number of regulatory and marketing bodies and boards, mainly in the agricultural area. In 1992, the Government deregulated wholesale and retail trade; and in 1993, restrictions that had regulated access to professional services were relaxed. The deregulation and privatization of ports, public utilities, transport, and the oil and gas sectors resulted in important cost reductions in production, shipping, and transportation; while the availability and quality of gas, water, electric, and telephone services improved, favoring a more dynamic economy.

Privatization

Within about three years (1991–94), the Government **privatized** some 90 percent of all state enterprises for the equivalent of more than US$20 billion, which for the most part was used to clear arrears and for other forms of debt reduction. The privatization program brought about considerable gains in economic efficiency. At the same time, it made visible previously hidden unemployment, as the new owners typically reduced manpower to increase productivity and improve competitiveness, thereby making available labor to increase output elsewhere in the economy (relative factor prices permitting). Between 1989 and 1994, employment in

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[3] Some of the trade reform preceded the launching of the Convertibility Plan, but the Plan greatly intensified the drive for trade liberalization.

privatized enterprises was reduced from 302,000 to 138,000 with particularly large reductions in the railways, and the oil and steel sectors. Also, privatization reduced the size of the public sector and its influence in allocating overall resources in the economy.

Financial system reform[4]

The transformation of the **financial system** was a fifth regime shift, contributing to make more efficient the intermediation of financial resources in the economy. Banking and financial intermediation services had shrunk during the hyperinflation years of the 1980s, with broad money amounting to just 6 percent of GDP by the end of the decade. With the return of price stability, the conditions for banking improved, at a time when banks were also placed in a more competitive environment. The drive for modernization accelerated with the financial crisis of early 1995 when a run on deposits resulted in the shake-out of the weakest financial institutions while further progress was made in the privatization of (provincial) public sector banks.[5] Furthermore, to provide banks with a liquidity cushion that could reduce the need for a lender of last resort, nonremunerated reserve requirements were replaced by remunerated liquidity requirements (mostly held off-shore), and a schedule was established to bring these requirements to 20 percent of deposits by February 1998. Also, in late 1996, the BCRA negotiated a US$6.1 billion contingent repurchase facility with international banks to provide the banking system in Argentina with liquidity in the event of a systemic liquidity crisis. At the same time, capitalization ratios were boosted to 20 percent of assets in the banking system. The stock of nonperforming loans was reduced from 17 percent of total credit at its peak in mid–1995 to 11.4 percent by mid–1997. As a result, and with the increase in confidence in the banking system, by 1997 the ratio of broad money to GDP had increased to 24 percent of GDP. Also, there was renewed interest from foreign direct investors and by end–1997, foreign banks had purchased several large private banking institutions in Argentina and had increased their share in total deposits to about 40 percent. In turn, this strengthened the linkage of the Argentine financial system with the world economy.

Labor market reform

Notwithstanding the progress made in improving supply conditions in the economy, Argentina still faces considerable pressure in its macroeconomic balance, as witnessed by the simultaneous occurrence of a large and growing current account deficit and a very high rate of unemployment. Given that labor services represent ⅔ of the total value added in the economy,

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[4] For a more in-depth discussion of financial system reform in Argentina, see "Financial Policies and the Consolidation of the Banking System" in this paper.

[5] Between 1994 and 1997, the number of financial institutions in Argentina declined from 202 to 143; and 13 provincial government banks were privatized (another five are in the process of being sold).

these circumstances underscore the need for a substantive labor market reform that would help reduce labor costs and improve labor productivity.

Modernization of the labor markets would have constituted a sixth major regime shift. Although some progress was made in this area, a significant part of the pre-Convertibility labor legislation has not yet been updated.[6] Current labor laws and regulations inhibit flexibility in job assignments within the enterprise; make part-time work contracts expensive (through provisions that require full-time equivalent job benefits); result in costly severance payments; inhibit entry in certain professions or impose additional costs in certain sectoral branches through "special statutes"; and impede the renegotiation of contracts, as contracts remain legally binding after their expiry if there is no agreement to renegotiate between unions and employers (the "ultra-actividad" clause). Also, while infrastructure and other conditions can be different between regions in Argentina, thereby giving rise to regional differences in productivity, most contracts are negotiated at the central level in Buenos Aires (the most productive region) and are binding nationwide, thereby creating standards that are too demanding for substantial employment growth in other less productive areas of the country.

B. Fiscal Policy

Fiscal policy also had important aspects that supported the supply-side orientation of the early Convertibility regime, such as tax cuts and the removal of tax and expenditure distortions. Indeed, in the early years of the Plan the contribution of fiscal policy to the reduction of inflation was more associated with these supply-side aspects than with its impact on aggregate demand. During these early years, fiscal policy was pro-cyclical, with the public-sector deficit declining by less than what would have been consistent with the operation of automatic stabilizers during the upswing of 1993–94. Only in 1995, when the country slipped into a recession, did the contribution of fiscal policy turn restrictive, prompted by the need in order to maintain confidence and to adapt to financing constraints.

Compared with the base year of 1992, the **fiscal stance** was **expansionary throughout the period 1992–97**.[7] However, the **fiscal impulse**, which is indicative of the year-on-year impact

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[6]There have been some partial reforms, such as special labor legislation for small and medium-sized enterprises (the PYMES) and newly invested firms, a new working place accident law, flexible opening hours in commerce, and a new bankruptcy law. However, these reforms have not been as far-reaching as the reforms in other parts of the economy.

[7]The stance of fiscal policy is defined here as the difference between the actual fiscal balance and an estimate of the cyclically adjusted balance, calculated using revenue and expenditure ratios in a base year in which actual and potential output were deemed to be about equal. Staff estimates suggest that actual and potential GDP were approximately equal in 1992. After that year, a positive output gap opened up in 1993–94 when the economy grew faster than its potential rate, and a negative output gap existed during 1995–97, following the recession in 1995. The fiscal impulse considers the change in the fiscal stance from year-to-year. For a

(continued...)

of the fiscal stance on aggregate demand, was **positive** (i.e., had a pro-cyclical effect on aggregate demand) **during the early years** of the Convertibility Plan (1992–94, when the economy was growing above potential), and **negative in the later years** (1995–97, when a negative output gap developed as a consequence of the recession in 1995). In other words, in the early years of the Plan through 1994, the exchange rate anchor together with supply improvements in the economy appeared to have been strong enough significantly to reduce inflation notwithstanding an expansionary fiscal stance and impulse; in contrast, during the period 1995–97, fiscal policy, at least as measured by the year-on-year impulse, contributed to the reduction and eventual elimination, of inflation.

Fiscal Stance and Impulse, 1992–97

	1992	1993	1994	1995	1996	1997
	(In billions of pesos)					
Public sector balance (deficit-) 1/	-0.8	-0.6	-4.8	-8.5	-10.4	-6.5
Cyclically adjusted balance (deficit-)	-0.8	0.7	1.0	-5.2	-7.7	-5.2
Fiscal stance	0.0	1.3	5.8	3.3	2.7	1.3
	(In percent of GDP)					
Fiscal stance (expansionary +)	0.0	0.5	2.1	1.2	0.9	0.4
Fiscal impulse (expansionary +)	...	0.5	1.5	-0.9	-0.3	-0.5
Memorandum items						
Actual GDP growth	10.3	6.3	8.5	-4.6	4.2	8.0
Potential GDP growth	5.0	5.0	5.0	5.0	5.0	5.0

Source: Fund staff calculations.

1/ Public sector balance on a cash basis comprising the federal government, off-budget funds and programs, and the balance in provincial governments.

These calculations of the fiscal stance and impulse assume that the structure of the public finances remained the same throughout the period of analysis. In fact, this was not the case. In mid–1994, the Government implemented a **pension reform** comprising a scaled down public

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[7](...continued)
more detailed exposition on the recent fiscal stance and impulse in the case of Argentina, see "Cyclically Adjusted Fiscal Position", p. 15–18, of Selected Issues and Statistical Appendix (SM/96/259) prepared for the 1996 Article IV consultation with Argentina.

pay-as-you-go pension facility, designed to grant a basic minimum pension for all current and future old-age pensioners and financed with employer social security contributions, and a complementary private capitalized system for supplementary pensions funded by employee social security contributions. Although this reform resulted in a reduction of future liabilities of the public system, during the transition period it widened the fiscal deficit by an amount equal to the contributions shifted to the private system by those individuals that signed up for the capitalized pension system. These transition costs are estimated to amount to about 1 percent of GDP a year. Without these additional expenditures, the stance of fiscal policy in 1996–97 would have been approximately neutral to slightly contractionary, instead of expansionary as indicated above, highlighting further the coincidence of supply improvements and demand management in maintaining low inflation.

As regards the contribution of fiscal policy to improving supply conditions, early in the Convertibility Plan the Government introduced tax measures aimed at eliminating smaller taxes and shifting the relative tax incidence from output and productive factors to consumption. These measures included the elimination of some 21 federal taxes and levies (including those on bank debits, assets, and exports) with a yield of about 3 percent of GDP, the removal of exemptions (notably from the VAT), and the elimination of subsidies (including under regional incentive programs). Also, to help reduce labor costs, effective January 1994, employer payroll tax rates were reduced by 30 to 80 percent, mostly in the traded goods sector.[8] On the expenditure side, the Government undertook steps to downsize and improve the efficiency of the national civil service, as well as transferring to the provinces responsibilities for health and education. As a result, core employment at the national administration was reduced from 526,000 to 300,000 employees, and on balance, there was a transfer of labor from the public to the private sector.

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[8] The reductions in employer social security contributions were partially rolled back in early 1995 to limit the increase in the deficit that resulted from the sudden downturn in revenue in the recession of 1995. Later in 1995, employer social security contributions were reduced again.

II. Financial Policies and the Consolidation of the Banking System[9]

On the eve of the introduction of the Convertibility plan in March 1991, financial intermediation in Argentina had reached its lowest point in more than a decade. Years of high inflation and large-scale capital flight had brought the ratio of broad money (M3) to GDP down to 6 percent in 1990 from around 20 percent in the early 1980s, while commercial bank credit to the private sector fell to 12 percent of GDP from some 28 percent a decade earlier.

With the advent of macroeconomic stabilization, real interest rates on deposits became positive, capital repatriation bolstered deposits in the banking system, and broad money (M3) increased to 19 percent by GDP by 1994. During the same period, bank credit to the private sector rose at an average rate of 12½ percent a year in real terms. Financial deepening was accompanied by significant productivity improvements in the banking industry. Notwithstanding a rapid expansion of financial services, the number of employees in the banking system fell by 10 percent between end–1990 and end–1994, reflecting not only widespread computerization of banking services, but also streamlining and elimination of inefficient institutions, the privatization of a number of provincial public banks and greater competition amongst financial intermediaries.

The rapid expansion of financial intermediation during 1991–94 was interrupted by the crisis triggered by the devaluation of the Mexican peso in December 1994. Between December 1994 and March 1995, the banking system lost about 18 percent of its deposits while the Central Bank of Argentina (BCRA) lost over a third of its liquid international reserves. In response to these events, a comprehensive set of monetary and fiscal measures was introduced in early 1995 to help shore up confidence in the financial system. By end–1995, bank deposits and BCRA's gross international reserves were virtually back to pre-crisis levels. However, the recovery of deposits was concentrated in the twenty largest banks and a number of provincial, cooperative and small private banks continued to experience problems.

The 1995 financial crisis prompted a tightening of prudential regulations and the introduction of structural measures to accelerate the consolidation of the banking system and foster financial intermediation. This note describes these measures and their impact on financial sector developments in Argentina, and provides an assessment of the present strength of the Argentine banking system relative to that before the 1995 crisis.

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[9]Prepared by Luis Catão.

A. Financial Policies in the Aftermath of the 1995 Crisis

Background

The currency board arrangement introduced by the Convertibility Law of March 1991 imposed strict limits on the Central Bank as a lender of last resort. There was an allowance for central bank intervention through repo operations, but this was limited to the smoothing of seasonal fluctuations in the interbank market; the extension of rediscounts and credit advances to financial institutions beyond a 30–day period was virtually prohibited. Direct lending to national, provincial or local governments as well as to the nonfinancial private sector was ruled out.[10] The BCRA was allowed to purchase government bonds at market prices under the proviso that BCRA's bond holdings cannot grow by more than 10 percent a year.

Given such limits, and in light of the fragile state of the financial system after years of high inflation and monetary disarray, financial policies since 1991 have been directed toward strengthening the banking system and removing institutional obstacles to financial intermediation. To this end, a comprehensive regulatory framework was developed along three main lines: i. measures to ensure that banks operate with high liquidity margins and capital adequacy ratios; ii. measures to reduce banks' exposure to credit, market, and trading risk through stricter bank supervision and high provisioning requirements; iii. efforts to minimize information asymmetries in credit markets and reduce structural costs of financial intermediation.

Starting in 1991 reserve requirements were simplified—with uniform rates being set for domestic and foreign currency transactions—and compliance with these requirements was made more stringent; new capital adequacy requirements were introduced and progressively tightened on the basis of a more stringent weighting system and by incorporating a risk factor related to the interest rate charged on loans. Also, a comprehensive system of loan classification, portfolio risk rules and provisioning rules was introduced from mid–1994. As a result, by late 1994, the outstanding stock of BCRA credit to financial institutions had fallen markedly from 1990 levels, reserve requirements averaged 17½ percent of deposits, and the risk weighted capital-asset ratio for the financial system as a whole rose well above the 8 percent Basle standard.

Despite the substantial progress made during 1991–94, the crisis triggered by the devaluation of the Mexican peso in December 1994 brought into sharp relief the remaining weaknesses of Argentina's banking sector. Notwithstanding nearly three years of buoyant economic activity, the stock of problem loans of the banking system still exceeded 10 percent of the loan

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[10]In case of an emergency, the Convertibility Law provides room for extending credit to financial institutions, thus reducing the foreign reserves coverage of the money base, for up to 33 percent (20 percent through 1995) of the money base. This room (i.e., nearly 20 percent) was used only once, during the 1995 crisis.

portfolio by late 1994 and was asymmetrically distributed, with small private and provincial banks accounting for a disproportionately high share of the total. In these circumstances, the run on deposits caught several banks short of liquid assets and the ensuing contagion spread to a number of apparently solvent institutions.[11] The authorities responded to the growing banking crisis with measures that included lowering reserve requirements, providing distressed banks with fresh Central Bank credit through swaps and rediscounts of lengthened maturity,[12] setting up two fiduciary trust funds to foster the privatization of provincial banks and help the capitalization and restructuring of private banks, the establishment of a temporary safety net coordinated by the largest national bank (Banco Nación) to redistribute liquidity within the system,[13] and by creating a privately managed deposit insurance scheme (SEDESA) funded with compulsory contributions from financial institutions.[14]

These measures, coupled with fiscal adjustment efforts and financial support from multilateral institutions, proved effective in shoring up public confidence in the banking sector. Deposit recovery speeded up in the second half of 1995 and by early 1996 deposits had risen above pre-crisis levels.[15] By late 1995, the country risk premium and domestic interest spreads had declined sharply and, although remaining above pre-crisis levels, clearly signaled that the worst of the crisis was over. The authorities took advantage of this reprieve, and began to put in place a **"second generation" of prudential measures** to consolidate and deepen further the 1991–94 reforms. The new measures aimed at raising banks' liquidity margins and capital-

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[11]See D'amato, L. E. Grubisic and A. Powell, 1997. "Contagion, Bank Fundamentals or Macroeconomic Shock? An empirical Analysis of the Argentine 1995 Banking Problems", Banco Central de la Republica Argentina, working paper number 2.

[12]This was possible through an amendment in the Central Bank charter which allowed rediscounts beyond the 30–day window in the case of systemic liquidity problems (Law 24,485 of April, 1995).

[13]To this end, the authorities charged the Banco Nación with purchasing high-quality loans from ailing banks with funds obtained by a two percent surcharge on reserve requirements for all banks.

[14] These are calculated as a surcharge of 0.03 percent or 0.06 percent (depending on the assessed riskiness of the institution) on deposits. To limit moral-hazard the scheme is limited to a maximum restitution of US$20,000 per depositor.

[15] For a concise description of financial developments in Argentina during 1995, see IMF (1996), *International Capital Markets: Development, Prospects and Key Policy Issues*, IMF, Washington D.C., pp. 112–113. A more detailed account of events is provided in Banco Central de la República Argentina, "Managing a Liquidity Shock: Regulating the Financial System in Argentina, December 1994 to July 1995", BCRA, August 1995, mimeo.

asset ratios further, and placed emphasis on addressing information asymmetries in credit markets and overhauling the country's payments system.

Measures

In the third quarter of 1995, reserve requirements were replaced by a system of remunerated liquidity requirements which was gradually tightened. High **legal liquidity requirements** (LLRs) are regarded by the authorities as a vehicle to improve depositors' confidence and a bulwark against imprudent lending policies—a view corroborated by developments during the 1995 crisis, when it was observed that banks with weak liquidity positions proved to be the ones more likely to witness a run on deposits.[16] At the same time, higher LLRs are deemed to provide an incentive for the recapitalization of banks by raising the relative cost of deposits relative to banks' own capital as a source of funding. Under the new system, banks were allowed to hold LLRs either at the BCRA under a repo agreement renewed on a daily basis ("pases pasivos"), or in deposit accounts at the New York branch of the Deutsche Bank, or in OECD countries' government bonds rated 'A' or above held at the same international custodian.[17]

Subsequent to the introduction of this new system, LLRs were tightened by extending their applicability to banking liabilities other than deposits and through the establishment of a scheduled increase of 2 percentage points a year, to reach 20 percent of most banking liabilities by February 1998—a rate substantially higher than that prevailing in most countries.[18] Banks' capacity to withstand liquidity shortages was enhanced further through an agreement between the BCRA and a group of 13 major international banks on a **contingent repo facility** which allows the BCRA to swap a collateral (Argentine government securities owned by the BCRA or by domestic financial entities) for up to US$ 7.3 billion in cash—an amount equivalent to 11¾ percent of total deposits in December 1996, when the contract was signed. The scheme works as a put option which can be exercised at the BCRA's discretion during the period of the contract (currently with a minimum maturity of two years and a

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[16]See BCRA (1995), op. cit., for evidence on the extent to which the public discriminated between "good" and "bad" banks on the basis of their relative liquidity position during the 1995 crisis.

[17]Initially banks were required to hold at least 50 percent of LLRs at the BCRA but this minimum threshold was gradually reduced to 20 percent. At end-1997, 48 percent of banks' liquidity requirements were held at the BCRA.

[18] For instance, reserve requirements stand at 10 percent on time deposits in Chile, Venezuela and Peru, 6 percent in Germany and 0.35 percent in the U.K. See Rojas-Suarez, Liliana and Steven Weisbrod, "Banking Crisis in Latin America: Experience and Issues", Paper presented in the Conference on Banking Crisis in Latin America, Inter-American Development, October 6–7, 1995.

maximum maturity of five years), subject to a margin call[19] and a commitment fee of 33 basis points. In the event of a drawing, the implicit cost would be equivalent to the U.S. dollar LIBOR plus 205 basis points.

Capital-asset ratios were raised through the introduction of a new weighting system which takes into account market risk factors (besides the usual counterpart risk)[20] as well as the institution's CAMEL rating in determining the minimum coverage of banks' assets with own capital.[21] The CAMEL rating of a bank is determined by the superintendency of banks on the basis of information provided by financial entities and monitored on the basis of quarterly inspections by authorized external auditors.

Information asymmetries are widely acknowledged to be a main determinant of high interest rate spreads in Argentina and a hindrance to efficient credit allocation. In particular, information deficiencies have long affected small but financially viable agricultural producers in the countryside and small and medium industrial enterprises ("PYMES"), which are charged high lending rates and are often subject to credit rationing.[22] At the root of the problem lies

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[19]The margin call under the agreement specifies that if the price of the collateral falls by more than 5 percent, further bonds or U.S. dollars must be delivered to reach 125 percent of the amount of cover to be provided; if the price of the collateral falls by more than 20 percent the BCRA is obliged to top up the difference with U.S. dollars. This implies that the transaction would turn increasingly more expensive as the market price of the collateral drops beyond 20 percent and would eventually unwind itself. A description of the terms of this contingent repo facility is provided in Banco Central de la República Argentina, "Main Features of the Regulatory Framework of the Argentine Financial System", April 1997.

[20]Market risk is calculated on the basis of the observed asset volatility, so that the higher the price volatility of a bank's assets, the higher the coverage with the bank's own capital that is required.

[21]The CAMEL system establishes a rating of 1 to 5 on the quality of Capital, Assets, Management, Earnings and Liquidity. A sound bank, with CAMEL rating of 1 (2), will have its assets multiplied by 0.97 (1.00) to determine its minimum capital coverage. A bank with CAMEL rating of 5 will have its assets multiplied by 1.125, thereby being required to increase the capital coverage of its assets by an additional 12.5 percent relative to a bank with CAMEL rate of 2.

[22]Bank credit is estimated to finance about 55 percent of total production in the capital, but only 11 percent of output in the remainder of the country. See Pou, Pedro. "La Argentina Interior", paper presented at the conference of the Association of Private Provincial Banks of the Republic of Argentina (ABAPPRA), November 24, 1997, mimeo. Main issues on the financing of PYMES are discussed in Vicens, Mario. 1997. "El Crédito en la Argentina:

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the difficulty faced by financial institutions in Argentina in assessing the creditworthiness of new borrowers in the absence of a comprehensive nationwide system of credit information. Limited access to credit information has hindered competition amongst financial intermediaries for creditworthy clients, has contributed to the segmentation of the system and exacerbated adverse selection effects, as banks—when faced with difficulties to screen out "bad" from "good" borrowers—tend to raise interest rates across the board and thus crowd out the creditworthy borrower. To promote the dissemination of credit information amongst financial institutions, a credit risk bureau was established in the BCRA in September 1996 with a mandate to centralize information from all financial entities on the credit history of their debtors, which can then be passed on to any individual institution that so requests.

Steps were also taken to disseminate information about the performance of individual banks and foster market-driven monitoring of bank's performance. The authorities' objectives in this area are to increase public awareness of riskier institutions, impose market discipline on their management and enhance competition in the supply of banking services.[23] To this end, a monthly publication containing individual banks' balance sheets, together with a set of performance indicators, has been given wide circulation and made available to the general public through the BCRA internet site. The accuracy of such information has been enhanced through quarterly external audits and rating reports based on the CAMEL evaluation system. Starting in 1998, all financial institutions will be obliged to print their rating on billboards, deposit certificates and other publications related to raising funds from the public. Moreover, also starting in 1998, banks (with exception of branch offices of foreign banks with 'investment grade' and foreign bank subsidiaries with explicit backing of their parent institution) will need to issue debt for at least 2 percent of their deposit base, with a minimum two-year maturity, under the form of publicly-offered bonds, or loans or time-deposit certificates to be held by a foreign bank with rating "A" or higher.

The **high cost of financial services** has been a long-standing constraint on financial deepening in Argentina. High reliance on cash as a means of payments and the limited use of banking services by the public through the early 1990s reflected years of macroeconomic disarray and a general lack of confidence in the financial system after episodes of asset confiscation and freezing of private sector deposits by previous administrations. With macroeconomic

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[22](...continued)
Factores de Sobrecosto", paper presented at the conference of the National Association of Argentine Banks (ADEBA), Buenos Aires, May 1997.

[23]The importance of good bank-specific information has been emphasized in the recent academic and policy-oriented literature on bank runs and contagion effects. In the case of the U.S., for instance, it has been documented that the availability of reliable information on banks' fundamentals to depositors helped to prevent runs in the years prior to the set up of the Federal Reserve. See Park, S. 1991. "Bank Failure Contagion in Historical Perspective", *Journal of Monetary Economics*, 28, pp. 271–86.

stabilization and the gradual strengthening of public confidence in the system, the use of banking services in Argentina has risen rapidly since 1991; yet, it remains well below industrial country levels, both on a per capita basis and as a ratio to GDP. A main factor is the relatively high cost of financial services in Argentina which, in turn, has been attributed to three main variables:[24] i. the composition of payment instruments demanded by the public, which in Argentina is highly skewed toward labor intensive tasks, leading to higher operating costs;[25] ii. low monetization, which entails a proliferation of low-value deposit accounts that are expensive to manage; iii. the high cost of interbank transfers and settlement of financial transactions.

The impact of low monetization on the cost of financial intermediation is being gradually corrected by the effect that price stability, tighter prudential regulations and further strengthening of the currency board arrangement are having on agents' confidence in the domestic financial system. In addition, the authorities have taken a number of steps to spread the use of bank accounts and interbank payment transfers, which include making it compulsory for enterprises of over 100 employees to pay wages and salaries through bank accounts, heftier penalties on default on checks and stricter regulations on direct debit instruments.

In the area of **interbank payments and settlement system**, substantial advances have been made toward a comprehensive reform. Prior to 1997, interbank settlements were based on a multilateral net settlement system for large value transactions managed by the BCRA. The system operated on the basis of a form that financial institutions had to submit to the BCRA, which was processed semi-manually before the transfer of funds was authorized at the close of each business day (system 4090). Low value transactions were settled in 83 clearing houses around the country,[26] not interlinked electronically and relying on physical transfers of

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[24]See Vicens, M., op. cit., as well as Villar A. 1996. "Sistema de Pagos en la Economía Argentina", BCRA, mimeo, August 1996, and Corrigan, E. G. 1996. "Building a Progressive and Profitable National Banking System in Argentina, Goldman, Sachs and Co., New York, mimeo.

[25]For instance, cash withdrawals and payments through a manual cashier is still the operation most relied upon by the public, accounting for 42 percent of the total, according to a 1995 survey. The remainder is distributed as follows: payments by check (29 percent), ATM (5 percent), automatic debit/credit (4 percent) and interbank transfers (20 percent). The high cost of the latter, however, implies that this instrument is used mostly by enterprises, rather than by the general public. See Villar, A., op.cit.

[26]The most important of which is located at the BCRA, accounting for over 60 percent of nationwide checking clearing operations. The remaining regional clearing houses have been operated by the Banco Nación on behalf of the BCRA.

cash balances for the final settlement of net outstanding positions—an arrangement that was both risky and costly. Starting in the second half of 1997, a system of real time gross settlement (RTGS) for high value interbank transfers was introduced, replacing the previous

Box 1. Main Measures implemented during 1996 and 1997 to strengthen the banking system and promote financial deepening

• Extension of legal liquidity requirements to liabilities other than deposits (such as lines of credit from abroad, interbank repo operations and commercial paper) together with a pre-announced timetable for increasing LLR from 15 percent of most banks' liabilities in February 1996 to 20 percent by February 1998;

• A tightening of minimum capital requirements through the introduction, from September 1996, of a more stringent criterion for calculating the risk-weighted stock of assets, which in addition to the usual criteria for "counterpart risk", also includes a measure of "market risk" and takes into account the CAMEL rating of the respective institution;

• The establishment from September 1996 of a credit information bureau at the BCRA with the purpose of providing information to financial institutions about the credit rating of borrowers nationwide;

• A contingent line of credit set up in December 1996 with a group of foreign financial entities, whereby the BCRA and participating local banks have the option to engage in a repurchase agreement with Argentine government securities for up to US$ 7.3 billion;

• A reform of the payments system, including replacement of a semi-manual clearing system by a real time gross settlement system from the second half of 1997;

• Obligation, starting in late 1997, for all enterprises with more than 100 workers to pay their employees through deposit accounts in financial institutions;

• Introduction, in December 1996, of compulsory quarterly external auditing; and requirement, from January 1998 for all financial entities to publish their ratings on billboards, deposit certificates and all other publications aimed at raising funds from the public;

• Obligation, starting in 1998, for all financial institutions to issue debt for at least 2 percent of their respective deposit base in the form of bonds or loans to be placed with institutions with a 'A' rating or higher.

net settlement system (system 4090). Stand alone computers at the different institutions have been linked via a gateway to a terminal connected to the BCRA, which coordinates debit/credit operations of the respective institutions' current account at the BCRA. Since no

transactions are posted if the bank's current account funds are insufficient to cover the electronic payment order in full, the new system imposes greater discipline on the liquidity management of financial institutions, while also eliminating the main source of credit risk underlying the previous system—a particularly desirable feature under a currency board arrangement. In the area of retail payments, the reform involved the setting up of two automated clearing houses (ACHs)—one comprising the large private banks and the Banco Nación, while the other ACH includes small private banks as well as provincial public banks. The BCRA is responsible for regulating the operations of the ACHs, and the settlement of the ACH's net positions takes place over the current accounts of banks at the BCRA. As with the reform of the wholesale payments system, the overhaul of the retail payments network is expected to bring about a substantial reduction in credit risk and banks' operating costs.

B. Recent Trends in Financial Intermediation

Figure 1 (top panel) depicts trends in banking system deposits, credit to the private sector and total credit (private sector plus government). Deposits grew at an average annual rate of 21 percent since end–1995 and at end–September 1997 stood 42 percent above end–1994 levels, while credit to the private sector grew at an annual average rate of 8½ percent. After having nearly doubled during the 1995 crisis,[27] net bank credit to the public sector declined by some Arg$2.5 billion (or 30 percent) between end–1995 and mid–1997 (Statistical Appendix Table 32). Thus, notwithstanding an acceleration in recent months, overall credit expansion remained well below the growth of deposits. This reflected the tightening in LLRs, a sharp reduction in the bank's net foreign liabilities, as well as a more prudent attitude on the part of banks toward new lending in the aftermath of the 1995 crisis. Despite the rapid growth of deposits, indicators of financial deepening such as broad money (M3) and credit to the private sector to GDP, remain well below industrial country levels.[28]

The increase in banks' liquidity margins resulted in a wider coverage of total deposits with liquid foreign assets. Liquidity requirements, plus the BCRA's contingent line of credit and the banks' cash in vault amounted to 33 percent of deposits in September 1997, up from 23 percent in end–1994.[29] The BCRA's liquidity position also strengthened during the period with the recovery of rediscounts that were granted during the 1995 crisis and some sale of

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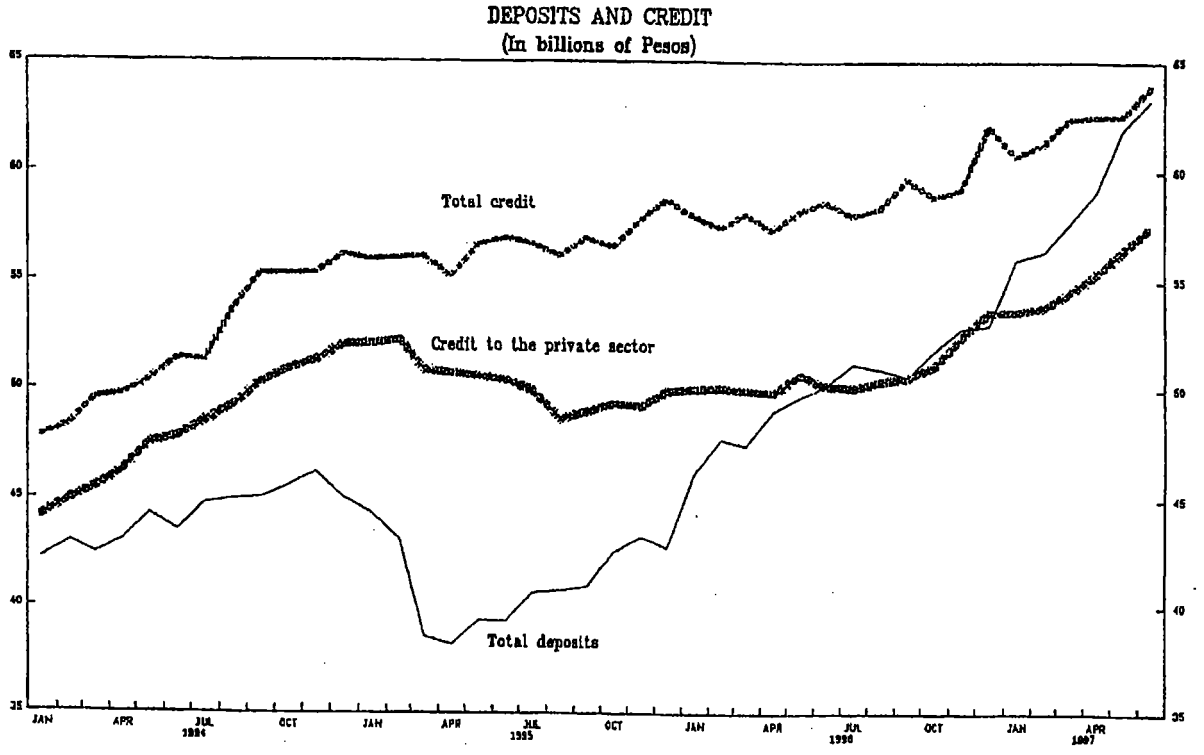
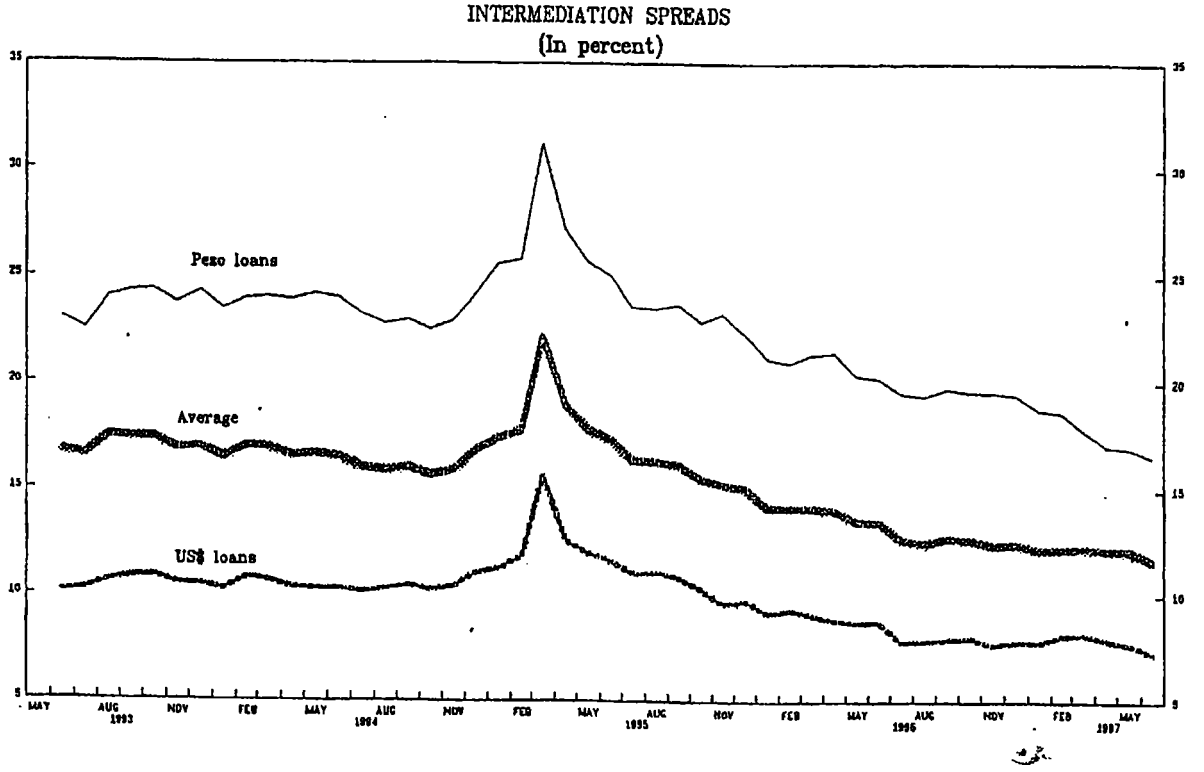
[27]As fiscal balances deteriorated and foreign borrowing became increasingly expensive during 1995, the participation of domestic banks in net public sector financing increased markedly, thus reverting the 1991–1994 trend, when net bank credit to the public sector declined in absolute terms.

[28]For instance, while M3/GDP reached 22 1/2 percent in Argentina during 1997, it stood around 67 percent in Germany, 59 percent in the USA, 79 percent in Spain, and 40 percent in Chile at end–1996. In Argentina it had stood at over 40 percent in the 1940s.

[29]In addition, the possibility under the convertibility law that the BCRA extend extra liquidity to banks for up to 33 percent of gross international reserves would entail as of September 1997 an extra coverage of 6 percent of total deposits.

Figure 1. Argentina: Bank Deposits, Credit and Spreads





Sources: Central Bank of Argentina; and Fund staff estimates.

government bonds, which resulted in a reduction in the Bank's net domestic assets of about Arg$1.8 billion since end–1995. As a result of such improvements in the liquidity position of both the BCRA and the rest of the financial system, the coverage of broad money (M3) with liquid foreign assets rose by 6 percentage points between end–1994 and September 1997, to 46 percent.

The gradual strengthening of Argentina's banking system can also be gauged from a number of solvency and capital-adequacy indicators. The stock of problem loans for the aggregate system fell from 16½ percent of total loans in the second half of 1995 to 11.4 percent in August 1997 or, when measured net of provisions, from 7¾ percent to 4¾ percent. Although the stock of problem loans as a percentage of total loans remained substantially higher among public banks than among private banks, both groups witnessed a similar improvement. The number of checks with no funds—an important indicator of private sector solvency in Argentina—declined markedly over the past two years, partly reflecting the macroeconomic recovery but also the stiffer penalties on defaults on checks introduced by the new checking law. The risk-weighted capital-asset ratio for the banking system rose from 18.2 percent in December 1994 to 20.1 percent in July 1997 on the basis of the Basle criterion. Growing domestic liquidity has been accompanied by a marked reduction in the stock of net foreign liabilities of commercial banks and nonbanking financial institutions, which declined from US$7.4 billion at end–1995 to 2.7 billion at mid–1997 (Statistical Appendix Table 32).

Both deposit and lending interest rates fell substantially from end–1995 levels, partly due to improved macroeconomic prospects and a decline in exchange-rate and relative country risk, but also due to a reduction in banking spreads (Figure 1, bottom panel). The decline in intermediation spreads since late 1995 reflected a decline in problem loans as well as an improvement in operational efficiency—the two most important determinants of domestic intermediation spreads in Argentina.[30] Although the tightening of prudential rules—notably in legal liquidity requirements—increased the cost of funding during the period, its adverse effect on banking spreads was minor, reflecting the fact that LLRs are fully remunerated.

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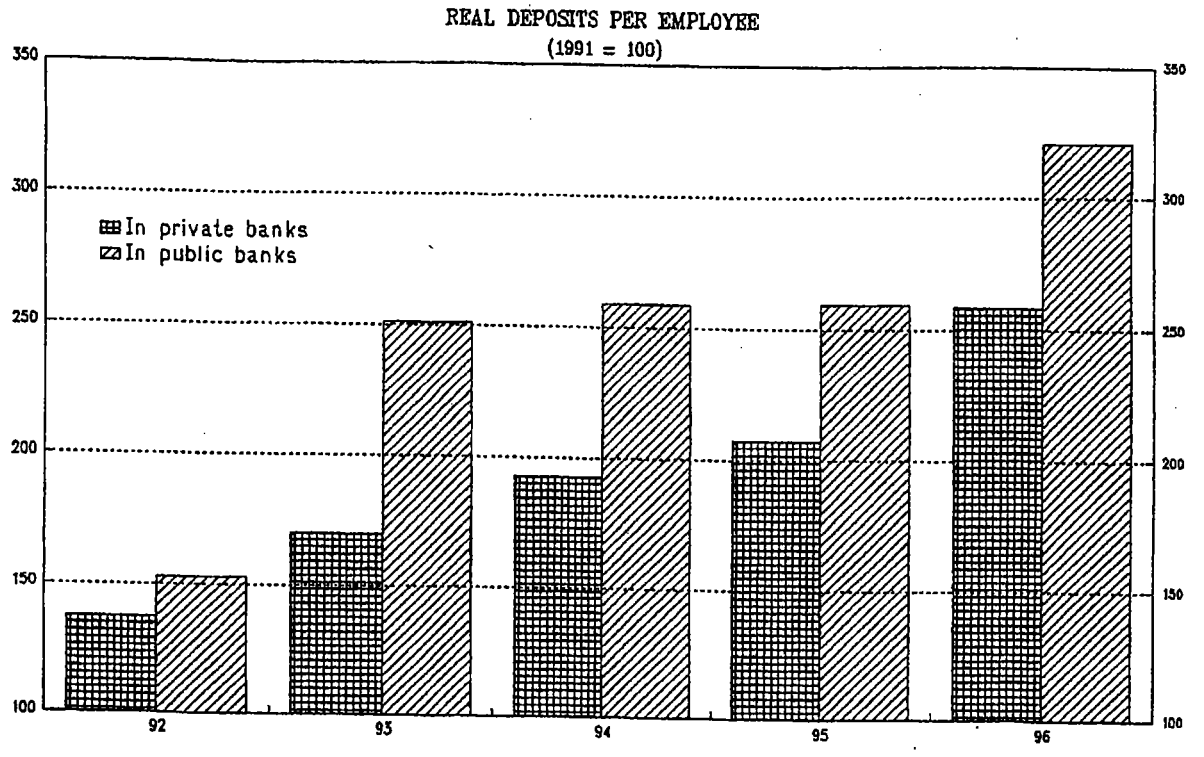
[30]Based on income statement data from the consolidated banking system and using balance-sheet identities, it is possible to estimate the relative contribution of the distinct factors accounting for intermediation spreads. Staff estimates for the 1995–96 fiscal year are as follows (in percent):

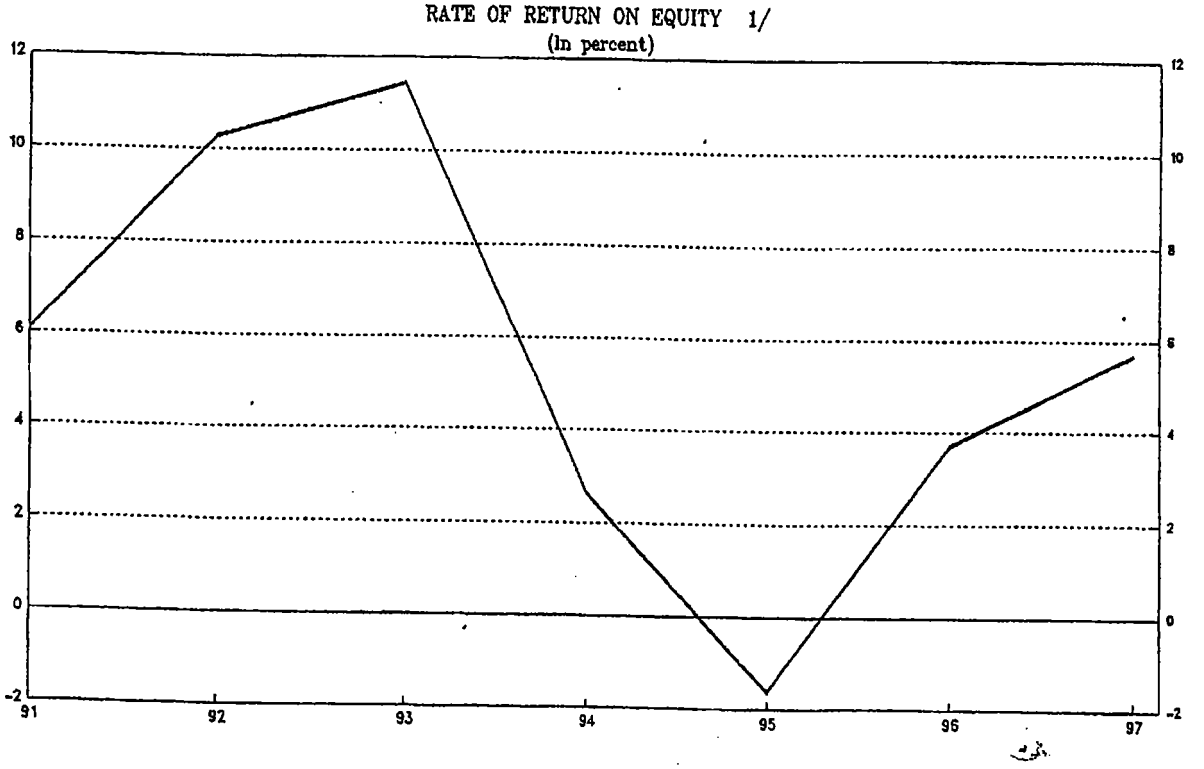
Taxes on financial intermediation	0.8
Cost of LLRs	0.2
Cost of deposit insurance	0.3
Operating costs	10.1
Cost of loan recovery and provisioning	5.3
Minus: Net service income	5.0
Other income (net)	2.8
Equal: Implicit intermediation spread	8.9

After bottoming out in the second quarter of 1995, the rate of return on equity (ROE) for the banking system as a whole increased markedly, from an average of -1.6 percent in 1995 to an average of 6 percent in the first half of 1997 (Figure 2). This reflected both the reduction in average costs accruing from higher monetization and computerization of bank operations, as well as the consolidation of the banking sector. Not only the total number of institutions fell markedly—from 205 in end–1994 to 143 in September 1997—but also the share of deposits accounted for the 15 largest institutions in total deposits increased from 58 percent in end–1994 to 69 percent in September 1997. Several loss-making provincial banks were privatized and a number of private banks were merged or taken over by financially sounder institutions. Competition amongst the latter, stemming in particular from the greater penetration of foreign banks in the Argentine market, became stiffer. Three large domestic banks and two mid-sized ones had their majority ownership taken over by international financial groups, whose share in total deposits in the financial system rose from 16½ percent in end–1994 to 39 percent in end–September 1997. The increased competition for the supply of banking services appears to have exerted a disciplinary effect on management policies, while also providing further incentives for the search of new clients. Consultations to the BCRA credit rating bureau have increased rapidly since late 1996, while information made available by financial institutions already covers some 4.2 million borrowers. A swift expansion of the banking network, particularly toward the inner regions of the country, has been underway.[31]

[31]Between end–1996 and November 1997, a total of 430 requests for the opening of new branches have been placed with the BCRA, representing an eleven percent increase over the previous year. Of these 251 branches are to be located outside the Great Buenos Aires area. See, Pou (op.cit).

Figure 2. Argentina: Efficiency Indicators of the Banking System





Sources: Central Bank of Argentina; and Fund staff estimates.

1/ Data available up to first half of 1997.

III. SOCIAL EXPENDITURE[32]

Argentina has a history of generous spending on its social sector. This note examines recent developments in social spending. It begins by looking at overall expenditure by the public sector on a functional basis, in order to put aggregate social spending in the context of total public expenditure. It then goes on to examine the distribution of spending within the social sector, and looks at some of its most important (in terms of the level of expenditure) elements. Finally, it examines the recent development of some key social indicators, including the distribution of income.

A. Overall Trends

Reductions in public expenditure have played a major role in the fiscal restructuring that has occurred in Argentina in recent years. At the beginning of the decade, total public sector expenditure (including the federal government, provinces, municipalities, and state enterprises) on a commitment basis reached nearly one-third of GDP (see Table 1). In 1996, total public sector expenditure had fallen to 27 percent of GDP, its lowest level in many years. However, this decline largely reflects growth in GDP. Between 1990 and 1994 spending by the consolidated public sector rose by nearly 25 percent in constant peso terms, and although real spending fell in 1995 and 1996, spending by the consolidated public sector was nevertheless 18 percent greater in constant peso terms in 1996 than in 1990 (Table 2).[33]

Virtually all of the decline in spending relative to GDP can be traced to two categories: interest and economic services.[34] In 1989—the year of the hyperinflation—spending on these categories equaled more than 40 percent of total expenditure (Table 3), but since then this figure has fallen to a little less than 15 percent of total spending (in 1996). Relative to GDP, these categories of expenditure have fallen from about 17 percent to about 4 percent over the same period. The decline in interest expenditure primarily reflects the decline in inflation, and the accompanying fall in domestic interest rates. The decline in spending on economic services (more than 70 percent in constant pesos since the late 1980s) can be traced in part to the authorities' privatization program. Currently, more than 45 percent of spending on economic services goes for transportation and communication, spending on which is divided more or less equally between the federal government, on one hand, and provincial and municipal

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[32]Prepared by Philip Gerson.

[33]Nominal expenditure amounts are deflated using the implicit GDP deflator. Real expenditure figures obtained using the CPI differ substantially from those reported here.

[34]Economic services includes a variety of activities that are either directly productive—such as transportation and communications—or promote or regulate private sector activity, such as tourism promotion and environmental regulation. Over the last few years, transportation has accounted for more than half of the total expenditure in this category.

governments on the other. Expenditure on defense and internal security including pensions outlays amounted to less than 2 percent of GDP in 1990, and has remained fairly constant relative to GDP since then.

Because much of the decline in total expenditure occurred in the category of interest expenditure, declines in primary expenditure have been much more modest than those in total expenditure. Relative to GDP, primary expenditure remained essentially constant between 1990 and 1995, before falling by about 2½ percent of GDP in 1996. In constant peso terms, primary expenditure grew by nearly 40 percent between 1990 and 1994, before declining in 1995 and 1996. In essence, the decline in interest rates and high levels of real GDP growth in the early 1990s allowed the authorities to increase real primary expenditure significantly while still recording a decline in total expenditure relative to GDP.

The distribution of expenditure at the various levels of the public sector has also changed in recent years. Since 1989 the share of the federal government, the social security institutions and the public corporations in total spending has declined from nearly 73 percent to about 56 percent (Table 4). To some extent, this reflects the privatization of a number of public sector enterprises and the decline in the importance of interest expenditure, which is predominantly (though decreasingly) an area of federal government expenditure. However, it also reflects a shift in most other categories of expenditure toward increasing local (provincial and municipal) participation, including in the social sector.

B. The Social Safety Net in Argentina

The official social safety net comprises the social security system, which provides pensions to about 3½ million retirees; the public education system, which provides free education at the pre-school, primary, secondary, and university levels; and the public health system, which provides free health care for the indigent and uninsured. In addition, the Government has established a number of programs to assist the poor and the unemployed, including programs in the areas of training, special education, emergency social assistance, employment, income support for families, food, and housing. The most important social programs include health care for the elderly (PAMI) and housing programs (principally FONAVI). While unemployment benefits exist, eligibility requirements are strict and the length of coverage is limited (to between four and twelve months).

C. Trends in Social Spending

Social spending has increased faster than GDP (by about 45 percent in real terms since 1990). Coupled with the sharp declines in expenditure on interest and on economic services, social expenditure now represents two-thirds of total public expenditure, compared to less than one-half in 1988 and 1989. The two-thirds ratio of social to total expenditure applies at each of the national, provincial and municipal levels. Nearly three-quarters of public primary expenditure now goes to the social sector, compared to about 55 percent in 1988 and 1989.

Within the social sector, the relative shares of different categories of expenditure have remained fairly constant in recent years. Social security expenditure accounts for about 40 percent of total social spending, health care about 25 percent and education about 20 percent (Table 5). Within subsectors, spending on basic education constitutes about two-thirds of total spending on education and culture, and spending on secondary and university education about one-fifth. The balance is made up by spending on science and technology, and by other cultural expenditures. Slightly more than one-third of health expenditures go for the direct provision of medical services, about one-third toward obras sociales,[35] and the balance for medical care for retirees (PAMI).

The shift in expenditure from the national to the local level has been particularly marked in two areas: education and housing. Beginning in 1992 responsibility for expenditures on secondary and university education was transferred from the federal to the local level.[36] In addition, while expenditure on housing has always been almost exclusively within the domain of the provinces, by 1996 virtually all public expenditure on housing occurred at the local level. About three-quarters of expenditure on welfare and social security occurs at the national level, along with about half of health expenditure. Provincial health expenditure goes primarily for direct medical services, although provinces do have some expenditures on the obras sociales for their own employees.[37]

Education

Primary school coverage in Argentina is virtually universal, and secondary school coverage is about 59 percent, which is about average for a medium-income country. Relative to GDP, spending on education in Argentina is about the same as in comparable countries. However, there are problems with the efficiency of spending. Despite the 60 percent increase in real spending on education between 1990 and 1996, neither enrollments nor graduation rates have increased, and achievement levels remain low, especially for poor children. At least in urban areas, enrollment ratios for students from poor families have fallen over the last several years, while those from better-off families have grown. As a result, the gap between enrollment rates

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[35]Obras sociales are medical insurance schemes that are linked to places of employment. Participation in an obra social is mandatory for formal sector workers and their dependents. About 300 national obras with approximately 10 million beneficiaries exist, with one serving each occupation and industry. They are financed by a compulsory payroll contribution from workers and their employers, at a combined rate of 6 to 9 percent, depending on the geographical location of employment. In addition, each of the 24 provinces has a provincial obra social for its public sector workers. Altogether, these cover an additional 5 million workers and are also financed by wage taxes.

[36]Responsibility for primary education was transferred to the provincial level in 1978.

[37]Municipal governments finance only direct provision of medical services.

for children aged 14 to 19 from the highest and lowest income quintiles has widened from 14.4 to 31.8 percentage points between 1990 and 1996. When students do go to school, the quality of the education they receive is questionable: at both the primary and the secondary level, nationwide achievement exams have found that students are learning only 60 percent of what they are expected to know in the areas of mathematics and science. In addition, the ratio of graduates to total university enrollment has declined from 8 percent to 5 percent over the last decade. By contrast, Brazil, Chile and Mexico all have ratios of graduates to enrollment of between 12 and 15 percent. Moreover, the ratio of science graduates to total population in Argentina is less than half the OECD average, and about one-quarter of the ratio in Australia, Ireland, Japan and Korea.

During the 1990s the authorities have adopted a number of reforms to the education sector. In 1993 a new Ley Federal de Educación extended the mandatory period of schooling from 7 to 10 years. A national system has been established to measure the quality of primary and secondary education nationwide, and universities have been given the right to raise their own resources by instituting charges for some services.

Health

Argentina has a highly developed health system, with broad coverage, a wide range of preventive and primary care services available, and nearly 80 percent of young children vaccinated. The ratios of doctors and of hospital beds to inhabitants are similar to those in many OECD countries. About 70 percent of the population has health insurance, and the remainder of the population receives free care in government hospitals. About 90 percent of those with health insurance are members of obras sociales, while the remainder of the insured population is covered by private programs, some of which are for-profit. In recent years the authorities have introduced reforms to allow competition among obras sociales, for example by allowing workers some flexibility in changing affiliations among union-led obras sociales.

Overall health expenditures are financed primarily by earmarked social security taxes and by private payments (in the form of contributions to private insurance plans or pre-pagas, plus copayments, deductibles and out-of-pocket expenses for medications, etc.). To a lesser extent, general tax revenues, primarily from provincial governments, also finance health spending.

Health care delivery is shared about equally between the public and private sectors. The public sector accounts for about 40 percent of total hospital beds and also provides immunization programs, maternal health care, and nutrition programs for mothers and children. Nearly all public hospitals are owned by provincial or municipal health ministries rather than by the federal government. However, most insured individuals receive their health care from private sector providers, and most physicians have either full- or part-time private practice.

Health care insurance for most retirees and disabled persons—totaling about 3½ million individuals—is provided by PAMI. PAMI is financed by a portion of the payroll tax as well as by transfers from the social security system and own revenues. Over the years PAMI has run

large deficits, and the program has accumulated a stock of debt estimated at about Arg$1.3 billion. PAMI's financial problems are due to a number of factors, including declining revenues due to reductions in required employer contributions; overstaffing; and a lack of emphasis on cost containment. With the support of the World Bank, PAMI has undertaken a number of cost control measures, which have combined to reduce its monthly cash flow deficit from Arg$71 million in December 1995 to about Arg$35 million a month in the first half of 1997. Among these measures are a reduction in staffing by 24 percent since 1995, an umbrella agreement with the pharmaceuticals industry that reduces monthly pharmaceutical spending by nearly 20 percent, and the signing of other contracts with providers to reduce unit costs. In March 1997 the Government approved a decree to transfer all PAMI debts to the treasury, and in 1998 the program is to be converted into an autonomous institution within the public sector.

Housing programs

The FONAVI housing program is a lending program funded by the Federal Government via a portion (currently 42 percent) of the revenue generated from fuel taxes and by reflows from previous loans. In 1996, FONAVI benefitted about 150,000 individuals and had total costs of about Arg$1.1 billion. FONAVI is a significant player in the housing market: in 1995, FONAVI loans accounted for 20 percent of the total stock of housing loans, while 35 percent of houses were financed with FONAVI loans. FONAVI was established as a revolving loan fund, but with very generous terms. In practice the collection rate on FONAVI loans has been extremely low, converting the program largely into a pure transfer program. Although reforms introduced in 1993 have improved the collection rate on loans, and the quality of FONAVI-financed houses has improved, problems remain. For example, the recovery ratio on loans is still only about 50 percent.

Social Security

Social security accounts for about 40 percent of social expenditure (Table 5), and in recent years the social security system has undergone a dramatic transformation. Starting in July 1994, participants in the public, defined-benefit social security system were given the opportunity to opt out of part of the public system and instead contribute to a privately administered (although publicly regulated), defined contribution retirement scheme. While employer contributions would continue to accrue to the public system, and all employees would retain coverage for disability insurance and a minimum pension under the public system, the employee contributions of those who elected to join the new, capitalized system would be credited to their accounts with private investment firms (Administradoras de Fondos de Jubilaciones y Pensiones). Retirement benefits for these individuals will be paid from the accrued balances of their individual accounts, and will therefore depend both on their contributions and the performance of their investment portfolios. At the same time, the retirement age was increased by five years, to ages 65 for men and 60 for women. By mid–1997 more than two-thirds of contributors had chosen to affiliate with the privatized scheme.

Other programs

A variety of other social programs exist, including health care for needy mothers and infants; feeding for needy young children (PRANI); assistance for street children (PROAME); assistance to needy elderly (ASOMA); schooling opportunities for children; employment opportunities for heads of households (TRABAJAR, supported by the World Bank); and salary subsidies for heads of households who are over the age of 45. In addition, there are programs to provide low-cost housing for at least 50,000 needy families each year, and basic infrastructure for the 1,000 poorest municipalities.

D. Developments in Key Social Indicators

Most social indicators show significant improvement with respect to their levels in 1990, likely reflecting the more serious adverse impact hyperinflation had on the living standards of the poor than on those of the wealthy. However, since 1994 many indicators have worsened, reflecting the impact of the recession that followed the Mexican crisis of late 1994 and the resulting high unemployment rate. However, it appears that the ongoing economic recovery, and associated recent decline in the unemployment rate, has led to a renewed reduction in poverty rates. Between May 1990 and May 1994 the poverty rate in Greater Buenos Aires (defined as the percentage of the population below the poverty line) declined from about 43 percent 2to about 16 percent, only to increase to 26 percent in May 1997. The rate of indigence—those whose incomes are insufficient to afford a minimum consumption basket of foodstuffs—fell from 9.2 percent in May 1990 to 2.6 percent in May 1994, but rose to 4.1 percent in May 1997.[38]

Looking beyond incomes, the performance of several indicators closely linked to poverty has also improved over recent decades. For example, the infant mortality rate has declined steadily from nearly 52 per 1,000 live births in 1970 to 27 in 1987 and to 22 in 1995. This figure is significantly better than the average of 37 for Latin America and the Caribbean, or 35 for upper-middle-income countries. Similarly, life expectancy at birth has grown from 67 years in 1970 to 71 years in 1987 and to nearly 73 years in 1995, compared to the 69 year average in Latin America and the Caribbean and in upper-middle- income countries. Progress has also been made in reducing adult illiteracy, which has fallen from 4.7 percent of the population aged 15 and over in 1990 to 3.8 percent in 1995.[39]

Throughout the early 1990s income distribution figures documented the improving relative status of the middle class, with the share of national income accruing to the middle 60 percent of the income distribution (in Greater Buenos Aires) rising from 54.6 percent in 1990 to 57.3 percent in 1994. Over the same period, the share of national income accruing to the poorest 30 percent of the population rose marginally, from 8.8 percent in 1990 to 9.0 percent in

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[38]Ministerio de Economia y Obras y Servicios Publicos (1997).

[39]World Bank (1997).

1994. Thus, the significant increases in per capita incomes that occurred in the early 1990s appear to have been relatively larger for the lower and especially the middle classes than for the wealthy, and by the mid-1990s the distribution of income in Argentina was generally more equal than in most Latin American countries. However, the groups that benefitted from the economic growth of the early 1990s were those that suffered the most from the downturn in 1995. That year, the last for which data are available, the share of income accruing to the poorest 30 percent of the population stood at 8.1 percent, lower than their share at the beginning of the decade. The overall improvement in poverty indicators between 1990 and 1995 reflects the fact that while the poor were receiving a smaller slice of the economic pie, several years of economic growth that were only partially offset by the recession of 1995 resulted in a much larger pie. High levels of social spending might not translate into permanent improvements in social indicators if there are inefficiencies or substantial leakage of social expenditures to middle or upper classes. A study conducted by the Ministerio de Economia [de Flood and others (1994)], which attempts to measure the redistributive impact of public sector social expenditure, suggests that social expenditure in Argentina is in fact mildly progressive. Using data from 1991 and 1992, the authors found that on a per capita basis, total social expenditure was oriented disproportionately toward upper income groups: the highest income quintile received benefits worth US$1,112 on a per capita basis, compared to US$752 for the lowest income group. However, the benefits received by lower income groups tended to be much larger as a share of per capita income. Moreover, the higher absolute benefits received by the better-off were due to the fact that social security benefits are much higher for upper income groups than for lower income ones. Excluding social security benefits, the authors found that the lowest income decile received substantially greater benefits than higher income groups both in per capita dollar terms and as a percentage of per capita income. In particular, they find that spending on health and education are highly progressive, while spending on housing is mildly regressive.

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Table 1. Argentina: Functional Distribution of Public Expenditure for the Consolidated Public Sector

(In percent of GDP)

	General Admin.	Defense & Security	Education & Culture	Health	Housing	Labor	Soc. Ass. & Welfare	Other Social	Economic Services	Primary Expenditure	Interest	Total
1980	2.4	3.6	3.3	4.0	0.9	0.9	6.3	0.7	7.6	29.6	2.5	32.1
1981	2.5	3.6	3.4	5.2	0.5	0.6	6.8	0.7	7.5	30.7	5.4	36.1
1982	1.8	3.3	2.5	4.0	0.5	0.4	4.6	0.4	7.7	25.2	7.0	32.2
1983	1.9	2.9	2.8	3.8	0.8	0.5	4.3	0.5	7.8	25.3	4.3	29.7
1984	2.0	2.2	3.3	4.0	0.6	0.4	4.9	0.4	7.2	25.3	3.7	28.9
1985	2.5	2.3	3.5	4.5	0.7	0.5	7.0	0.7	7.8	29.5	3.9	33.4
1986	2.7	2.5	3.8	4.7	0.8	0.7	7.0	0.7	7.1	29.9	3.2	33.1
1987	3.0	2.6	4.1	4.8	0.9	0.6	7.8	0.8	7.8	32.4	4.0	36.3
1988	2.8	2.4	3.7	4.5	0.6	0.4	6.6	0.7	7.9	29.6	5.0	34.6
1989	2.7	2.3	3.4	4.2	0.5	0.4	8.3	0.7	7.9	30.4	8.9	39.3
1990	2.8	1.9	3.3	4.4	0.7	0.4	8.0	0.8	5.0	27.2	4.9	32.2
1991	3.1	2.1	3.3	4.4	0.6	0.6	8.2	0.8	3.4	26.6	3.2	29.8
1992	3.4	2.1	3.5	4.4	0.4	0.6	8.4	0.8	2.8	26.5	2.2	28.6
1993	3.5	2.1	3.7	4.6	0.4	0.8	7.9	0.9	3.0	26.9	1.6	28.5
1994*	3.6	2.1	3.8	4.8	0.4	0.8	8.2	0.9	2.3	26.9	1.6	28.5
1995*	3.6	2.1	3.9	4.9	0.4	0.9	8.4	0.8	2.3	27.3	2.0	29.3
1996*	3.1	1.9	3.8	4.4	0.4	0.8	8.0	0.7	1.7	24.9	2.2	27.1

* Preliminary

Source: Ministry of Economy and Public Works.

Table 2. Argentina: Functional Distribution of Public Expenditure for the Consolidated Public Sector

(In constant pesos, 1990=100) 1/

	General Admin	Defense & Security	Education & Culture	Health	Housing	Labor	Social Assis. & Welfare	Other Social	Total Social	Economic Services	Primary Expenditure	Interest	Total
1980	98.3	248.5	111.3	100.3	143.7	266.5	87.6	98.3	101.7	170.9	121.6	57.1	111.7
1981	95.0	238.0	107.3	123.8	82.5	175.2	88.8	97.3	103.1	159.0	119.4	115.9	118.8
1982	66.5	175.8	77.2	92.4	80.6	112.3	58.3	59.6	72.5	158.7	94.8	145.1	102.5
1983	74.2	164.2	89.4	92.9	120.8	149.4	57.4	65.7	77.1	167.3	99.3	93.1	98.4
1984	78.7	127.1	109.4	98.8	104.6	128.5	66.8	62.3	85.4	158.9	101.1	80.3	97.9
1985	93.0	123.5	106.7	102.8	99.6	141.1	87.6	86.5	96.6	159.9	109.6	80.6	105.2
1986	106.4	143.8	123.6	114.7	122.7	211.1	94.0	102.3	108.7	154.6	119.3	70.4	111.8
1987	121.0	152.7	137.7	120.9	142.5	179.6	107.8	117.5	120.0	173.9	132.2	89.6	125.7
1988	109.0	139.2	121.7	111.9	102.7	105.7	89.3	96.8	102.3	172.8	118.4	110.3	117.2
1989	99.2	119.9	102.3	96.7	80.9	107.3	105.1	88.1	100.9	162.4	113.2	182.2	123.8
1990	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1991	124.3	124.5	109.8	111.0	93.2	187.0	112.8	116.9	112.8	75.1	107.9	71.6	102.3
1992	149.4	137.4	129.2	122.5	76.9	191.1	126.7	133.6	125.9	67.9	118.5	53.4	108.5
1993	164.8	140.8	144.5	135.1	74.3	270.3	127.7	150.8	134.7	78.7	128.0	42.3	114.8
1994*	185.8	152.0	161.4	152.4	88.8	307.8	142.6	159.4	150.8	65.9	139.0	44.7	124.5
1995*	173.3	150.1	159.2	148.3	80.6	313.0	139.7	146.9	147.3	61.4	134.5	54.3	122.1
1996*	156.8	142.8	161.1	140.6	80.0	303.5	138.7	135.8	144.5	48.1	128.1	62.7	118.0

1/ Deflated by the implicit GDP deflator.

* Preliminary.

Sources: Ministry of Economy and Public Works and Fund Staff Estimates.

Table 3. Argentina: Functional Distribution of Public Expenditure for the Consolidated Public Sector

(Percent of expenditure)

	General Admin.	Defense & Security	Functions of State	Education & Culture	Health	Housing	Labor	Soc. Ass. & Welfare	Other Social	Total Social	Economic Services	Primary Expenditure	Interest	Total
1980	7.5	11.2	18.7	10.3	12.3	2.7	2.8	19.6	2.1	49.8	23.6	92.1	7.9	100.0
1981	6.9	10.1	16.9	9.3	14.3	1.4	1.7	18.7	2.0	47.4	20.6	85.0	15.0	100.0
1982	5.6	10.1	15.7	7.8	12.4	1.6	1.3	14.2	1.4	38.7	23.9	78.2	21.8	100.0
1983	6.5	9.9	16.3	9.4	13.0	2.6	1.8	14.6	1.6	42.9	26.2	85.4	14.6	100.0
1984	6.9	7.7	14.6	11.6	13.9	2.2	1.5	17.1	1.5	47.8	25.0	87.4	12.6	100.0
1985	7.6	7.0	14.5	10.5	13.4	2.0	1.5	20.8	2.0	50.2	23.4	88.2	11.8	100.0
1986	8.2	7.6	15.8	11.4	14.1	2.3	2.2	21.0	2.2	53.2	21.3	90.3	9.7	100.0
1987	8.3	7.2	15.4	11.3	13.2	2.4	1.7	21.5	2.2	52.2	21.3	89.0	11.0	100.0
1988	8.0	7.0	15.0	10.7	13.1	1.8	1.0	19.1	2.0	47.8	22.7	85.5	14.5	100.0
1989	6.9	5.7	12.6	8.5	10.7	1.4	1.0	21.2	1.7	44.6	20.2	77.4	22.6	100.0
1990	8.6	5.9	14.5	10.3	13.7	2.1	1.2	25.0	2.4	54.7	15.4	84.6	15.4	100.0
1991	10.4	7.2	17.6	11.1	14.9	1.9	2.1	27.6	2.7	60.3	11.3	89.2	10.8	100.0
1992	11.8	7.5	19.3	12.3	15.5	1.5	2.0	29.2	3.0	63.5	9.6	92.4	7.6	100.0
1993	12.3	7.3	19.6	13.0	16.1	1.3	2.7	27.8	3.1	64.2	10.6	94.3	5.7	100.0
1994*	12.8	7.2	20.0	13.4	16.8	1.5	2.9	28.7	3.1	66.3	8.2	94.5	5.5	100.0
1995*	12.2	7.3	19.4	13.5	16.7	1.4	3.0	28.6	2.9	66.0	7.8	93.2	6.8	100.0
1996*	11.4	7.2	18.6	14.1	16.3	1.4	3.0	29.4	2.8	67.0	6.3	91.8	8.2	100.0

* Preliminary

Source: Ministry of Economy and Public Works.

Table 4. Argentina: Spending by Federal Government, Social Security Institutions and Goverment Corporations as a Share of Total Expenditure

(In percent of public sector expenditure)

	Function of State	Education & Culture	Health	Housing	Soc. Sec. & Welfare	Labor	Other Social	Total Social	Economic Services	Primary Expenditure	Interest	Total
1980	55.0	48.0	63.8	6.1	78.9	100.0	0.0	62.7	71.8	63.5	96.9	66.1
1981	55.8	46.4	64.2	15.4	75.8	100.0	0.0	62.5	77.7	64.8	96.5	69.6
1982	63.4	46.8	66.4	25.2	77.7	100.0	0.0	63.6	84.5	69.9	98.6	76.2
1983	61.3	48.0	67.3	18.7	77.1	100.0	0.0	62.3	82.3	68.3	97.3	72.5
1984	54.3	40.4	61.8	10.8	75.3	100.0	0.0	58.3	78.2	63.3	99.2	67.9
1985	50.7	40.8	57.8	17.5	75.7	100.0	0.0	59.1	78.4	62.9	98.1	67.0
1986	48.6	36.8	57.3	13.7	72.9	100.0	0.0	56.6	75.2	59.6	98.6	63.4
1987	49.6	37.5	59.8	10.0	74.7	100.0	0.0	57.6	80.7	61.7	97.8	65.7
1988	50.2	39.1	60.6	8.6	73.2	100.0	0.0	57.2	84.1	63.1	95.3	67.8
1989	50.2	36.1	58.6	7.3	78.4	100.0	0.0	60.8	86.0	65.7	96.5	72.7
1990	44.4	37.1	60.5	6.1	76.2	100.0	0.0	59.4	81.2	60.8	98.4	66.6
1991	45.2	36.1	55.6	8.3	74.3	100.0	0.0	58.1	69.1	56.9	95.8	61.1
1992	44.7	21.9	52.2	4.7	72.2	100.0	0.0	53.5	65.8	52.9	92.8	56.0
1993	42.2	22.9	51.0	6.3	68.4	95.2	0.0	51.3	60.0	50.4	88.7	52.5
1994*	43.6	22.7	53.4	8.7	72.2	94.3	0.0	53.6	49.8	51.2	86.6	53.1
1995*	43.7	22.7	53.5	1.1	72.3	99.5	0.0	54.0	45.7	51.2	87.3	53.6
1996*	46.8	24.5	51.6	0.8	77.0	100.0	0.0	56.0	45.2	53.4	86.9	56.1

Source: Ministry of Economy and Public Works.

Table 5. Argentina: Social Expenditure as Percent of Total Social Spending

(In percent)

	Education					Health								Labor			Urban	
	Total	Basic Ed.	Sec.& Uni.	Sci/Tech.	Unspec.	Total	Med Serv.	Ob. Soc.	PAMI	Environm't	Housing	Welfare	Soc. Sec.	Total	Rel. Lab.	Asig. Fam.	Services	Total
1980	20.7	14.0	3.1	1.8	1.8	24.8	7.8	11.9	3.1	2.0	5.4	3.4	36.0	5.5	0.2	5.4	4.2	100.0
1981	19.7	12.4	3.2	2.5	2.3	30.1	8.3	16.3	3.7	1.9	3.0	3.6	35.8	3.6	0.2	3.4	4.1	100.0
1982	20.1	12.4	3.2	2.1	2.5	32.0	8.3	17.5	4.2	1.9	4.2	3.1	33.8	3.3	0.1	3.1	3.6	100.0
1983	21.9	14.1	3.2	1.9	2.7	30.2	8.5	15.2	4.6	1.9	6.0	3.4	30.7	4.1	0.1	4.0	3.7	100.0
1984	24.2	16.5	3.4	1.5	2.8	29.0	9.3	13.2	4.4	2.1	4.7	4.0	31.8	3.2	0.1	3.0	3.2	100.0
1985	20.9	13.7	3.0	1.6	2.5	26.7	8.2	12.9	4.0	1.6	3.9	4.7	36.8	3.1	0.1	2.9	3.9	100.0
1986	21.5	14.7	2.9	1.6	2.2	26.5	8.7	12.5	3.8	1.4	4.3	4.5	35.1	4.1	0.1	4.0	4.1	100.0
1987	21.7	14.4	3.4	1.6	2.5	25.3	8.1	12.4	3.4	1.4	4.5	4.5	36.6	3.2	0.2	2.9	4.3	100.0
1988	22.5	14.6	3.7	1.7	2.5	27.4	8.3	13.9	3.8	1.4	3.8	4.3	35.6	2.2	0.1	2.1	4.1	100.0
1989	19.2	12.7	2.9	1.5	2.0	24.1	7.8	12.1	3.0	1.1	3.1	5.1	42.6	2.2	0.1	2.2	3.8	100.0
1990	18.9	12.6	3.0	1.4	1.9	25.1	7.5	12.9	3.7	1.0	3.8	3.2	42.6	2.1	0.1	2.0	4.4	100.0
1991	18.4	12.9	2.7	1.2	1.6	24.7	7.8	11.5	4.0	1.4	3.1	3.0	42.7	3.5	0.1	3.4	4.5	100.0
1992	19.4	12.9	3.2	1.0	2.3	24.4	8.7	10.4	4.5	0.9	2.3	3.1	42.9	3.2	0.2	3.0	4.6	100.0
1993	20.3	13.1	3.5	1.1	2.6	25.2	9.5	10.0	4.6	1.0	2.1	3.8	39.5	4.2	1.1	3.2	4.9	100.0
1994*	20.2	13.4	3.3	1.1	2.4	25.3	9.4	9.4	5.4	1.1	2.2	3.6	39.7	4.3	1.2	3.1	4.6	100.0
1995*	20.4	13.1	3.8	1.1	2.4	25.3	9.0	9.3	5.6	1.3	2.1	3.5	39.9	4.5	1.2	3.3	4.4	100.0
1996*	21.1	13.6	4.1	1.0	2.3	24.4	9.2	9.1	4.9	1.1	2.1	3.3	40.5	4.4	1.4	3.0	4.1	100.0

Source: Ministry of Economy and Public Works.

IV. Foreign Direct Investment[40]

Foreign direct investment (FDI) now constitutes a substantial proportion of capital flows into Argentina. This note presents an overview of FDI and related items in Argentina over the period 1992–95, based in large part on the results of a first-ever study undertaken by the Ministry of Economy.[41] The study indicates that the increase in FDI in the 1990s occurred in response to: (i) the prevailing international environment; (ii) the structural reforms put in place in Argentina favoring its insertion into the international economy; (iii) privatizations; and (iv) the elimination of restrictions on foreign investors in particular and capital transactions in general.

Table 6 includes summary data on **foreign direct investment** (the capital account item comprising new investment inflows and reinvested income from existing investment stocks); the **accumulated investment position** (the aggregate existing investment stock); and **investment income** (a current account entry reflecting income generated from the accumulated investment position).[42] FDI averaged some US$3½ billion per year over 1992–95, or US$4.2 billion per year if the portfolio investment element of the privatization program is included. [43] While aggregate FDI under either measure exhibited virtually no growth over the period, the disappearance of privatization opportunities implies that other FDI grew rather briskly, at 23 percent per annum. The substantial jump in FDI in 1994–95 was due in large part to (i) the creation of the private pension funds (AFJPs), which reportedly generated direct investment by nonresidents of around US$300 million, and (ii) the category of other investments, which reflects the sale of private firms. The latter has replaced privatization as the main component of FDI.

The accumulated investment position over 1992–95 increased by 18½ percent per annum, from US$14.8 billion to US$24.6 billion. It should be noted that the change in this item does not precisely correspond to the flow data owing to valuation effects. Investment income, which is

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[40] Prepared by Paul Gruenwald.

[41] "**Inversión Extranjera Directa en Argentina 1992–95**", Ministry of Economy, December 1996. The study did not cover FDI into agro-industrial firms or firms producing fixed investment goods. Available evidence indicates that these items, particularly the former, are sizeable; the intent is to include them in subsequent annual versions of the report. Also omitted was direct investment by Argentines into the rest of the world. Indications are that FDI outflows, like inflows, increased sharply in the 1990s.

[42] Due to subsequent revisions, the data appearing in the balance of payments table in the 1998 Article IV consultation staff report do not entirely match those presented here.

[43] This distinction stems from the modality of the privatization of YPF (the state petroleum company), which resulted in a large increase in portfolio, rather than foreign direct, investment. That is, no investor obtained a share exceeding 10 percent of the enterprise's capital and therefore these flows were not counted as FDI. Portfolio investment flows stemming from privatization activities are shown as a memorandum item in Table 6.

disaggregated by ultimate use into either cash distributions or reinvested returns, grew by some 15 percent per annum over the period, with most of the growth and variability accounted for by cash distributions. Investment income declined somewhat in 1995 reflecting the contraction in economic activity.

Table 7 shows FDI and related items by sector of destination. FDI grew mostly rapidly in the communications (99 percent per annum) and manufacturing (55 percent per annum) sectors. Large privatizations took place in electricity, gas and water (1992, 1993, and 1995) and petroleum (1992), while FDI growth in manufacturing and communications (1994, 1995) reflected the installation of a new plant and the purchase of existing facilities. Manufacturing had the largest accumulated investment position (available on a comprehensive basis only through end–1994) at 35 percent of the total, followed by electricity, gas and water at 18 percent, with petroleum, communications and banking each accounting for 10–13 percent. With regard to investment income, there were marked outflows related to the petroleum, manufacturing, and trade sectors over 1992–94, all of which declined in the recession year of 1995. Profits generated by electricity, gas, and water, and communications grew steadily over the period, while flows associated with the banking sector were somewhat erratic, with the drop in 1994 mirroring that of the stock market, in which the banks had invested heavily.

FDI data by country and region of origin are presented in Table 8, which show the United States as the main single country foreign investor into Argentina. Close to 40 percent of the more than US$14 billion of FDI over 1992–95 originated in the United States. Chile was the second largest individual country investor with over 10 percent. Europe accounted for about 30 percent of the total, with sizeable shares coming from France, Italy, the Netherlands, and the United Kingdom. Regarding the accumulated position, at end–1994, the United States comprised about one-third of the US$20.4 billion total, while Europe comprised over 40 percent, led by France, the Netherlands, and Spain. The distribution of investment income flows broadly mirrored that of the accumulated stocks.

Preliminary data for 1996 and a substantial part of 1997 indicate that the decade long trends in FDI and related items just described have continued. FDI is estimated to have topped US$4 billion in 1996 with continued growth in intra-private sector flows (privatization proceeds comprised less than US$500 million). FDI in 1997 is projected at some US$6½ billion reflecting the privatization of ESEBA (the electricity utility of the Buenos Aires province) and sizeable investments into the banking sector. The accumulated investment position is estimated to have increased to US$28½ billion at end–1996 and to US$30¾ billion at end–June 1997. Investment income has grown apace.

The inclusion of FDI and related items into the balance of payments statistics has improved the coverage and transparency of these statistics, particularly in the capital account, and confirmed the importance of FDI in total capital inflows into Argentina. At an annual average of around US$3½ billion over 1992–95, FDI constituted some 40 percent of the capital account surplus over this period. This would increase to 47 percent if portfolio investments related to the privatization process were included. Moreover, further revisions to the data, in particular the inclusion of FDI into the agro-industrial sector, should raise this percentage even higher.

Table 6. Argentina: Foreign Direct Investment and Related Items

(In millions of U.S. dollars)

	1992	1993	1994	1995
Foreign direct investment	**4,044**	**2,556**	**3,066**	**4,179**
Reinvested returns from investment income	834	872	814	738
Direct purchases	484	667	1,262	860
Privatizations	2,342	916	122	1,034
Other changes of ownership	384	101	868	1,574
Accumulated investment position	**14,829**	**16,476**	**20,401**	**24,630**
Investment income	**1,154**	**1,681**	**1,795**	**1,740**
Cash distributions	320	809	981	1,002
Reinvested returns	834	872	814	738
Memorandum items				
Composition of privatization proceeds	2,608	3,270	385	1,034
Foreign direct investment	2,342	916	122	1,034
Portfolio investment	266	2,354	263	0
FDI plus portfolio investment from privatizations	4,310	4,910	3,329	4,179

Source: Ministry of Economy.

Table 7. Argentina: Foreign Direct Investment by Sector of Destination

(In millions of U.S. dollars)

	1992	1993	1994	1995
Foreign direct investment	**4,044**	**2,556**	**3,066**	**4,179**
Petroleum	1,013	240	435	316
Manufacturing	438	677	1,601	1,628
Electricity, Gas, and Water	2,102	1,050	165	942
Trade	88	31	206	135
Communications	66	-46	335	516
Banks	216	484	110	483
Other	122	121	216	160
Accumulated investment position	**14,829**	**16,476**	**20,401**	**24,630**
Petroleum	2,400	2,182	2,566	...
Manufacturing	5,213	5,732	7,056	...
Electricity, Gas, and Water	2,304	3,165	3,685	...
Trade	535	540	754	...
Communications	1,896	1,808	2,024	...
Banks	1,457	1,875	2,035	2,600
Other	1,025	1,175	2,280	...
Investment income	**1,154**	**1,681**	**1,795**	**1,740**
Petroleum	333	273	430	380
Manufacturing	444	576	811	332
Electricity, Gas, and Water	-18	186	258	381
Trade	133	163	294	221
Communications	162	203	257	267
Banks	83	226	-137	182
Other	17	53	-118	-23

Source: Ministry of Economy.

Table 8. Argentina - Foreign Direct Investment by Country/Region of Origin

	Foreign Direct Investment				Accumulated Investment Position				Investment Income			
	1992	1993	1994	1995	1992	1993	1994	1995	1992	1993	1994	1995
	In millions of U.S. dollars											
Total	4,044	2,556	3,066	4,179	14,829	16,476	20,401	24,630	1,154	1,680	1,795	1,740
Europe	1,605	462	1,171	1,036	6,337	6,720	8,360	...	497	646	607	667
France	182	46	462	145	1,021	1,041	1,315	...	87	55	152	116
Germany	130	163	192	60	704	829	1,095	...	49	107	173	21
Italy	499	-226	75	368	1,170	923	1,061	...	67	108	77	92
Netherlands	178	92	259	169	1,032	1,098	1,394	...	162	207	285	257
Spain	290	62	-200	156	865	1,120	1,423	...	-24	44	-151	65
United Kingdom	223	278	113	96	746	887	1,003	...	28	93	31	83
Others	103	47	270	42	799	822	1,069	...	128	32	40	33
North America	897	1,391	1,404	2,055	5,175	5,971	7,481	...	459	721	796	818
United States	646	1,246	1,383	2,020	4,554	5,276	6,699	...	410	672	827	748
Others	251	145	21	35	621	695	782	...	49	49	-31	70
South America	512	396	288	647	760	1,115	1,364	...	24	45	41	0
Chile	436	291	119	595	553	801	878	...	-4	11	16	42
Others	76	105	169	52	207	314	486	...	28	34	25	-42
Other Regions	1,031	307	204	442	2,557	2,670	3,197	...	174	268	351	255
	Percentage Distribution											
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Europe	39.7	18.1	38.2	24.8	42.7	40.8	41.0	...	43.1	38.5	33.8	38.3
France	4.5	1.8	15.1	3.5	6.9	6.3	6.4	...	7.5	3.3	8.5	6.7
Germany	3.2	6.4	6.3	1.4	4.7	5.0	5.4	...	4.2	6.4	9.6	1.2
Italy	12.3	-8.8	2.4	8.8	7.9	5.6	5.2	...	5.8	6.4	4.3	5.3
Netherlands	4.4	3.6	8.4	4.0	7.0	6.7	6.8	...	14.0	12.3	15.9	14.8
Spain	7.2	2.4	-6.5	3.7	5.8	6.8	7.0	...	-2.1	2.6	-8.4	3.7
United Kingdom	5.5	10.9	3.7	2.3	5.0	5.4	4.9	...	2.4	5.5	1.7	4.8
Others	2.5	1.8	8.8	1.0	5.4	5.0	5.2	...	11.1	1.9	2.2	1.9
North America	22.2	54.4	45.8	49.2	34.9	36.2	36.7	...	39.8	42.9	44.3	47.0
United States	16.0	48.7	45.1	48.3	30.7	32.0	32.8	...	35.5	40.0	46.1	43.0
Others	6.2	5.7	0.7	0.8	4.2	4.2	3.8	...	4.2	2.9	-1.7	4.0
South America	12.7	15.5	9.4	15.5	5.1	6.8	6.7	...	2.1	2.7	2.3	0.0
Chile	10.8	11.4	3.9	14.2	3.7	4.9	4.3	...	-0.3	0.7	0.9	2.4
Others	1.9	4.1	5.5	1.2	1.4	1.9	2.4	...	2.4	2.0	1.4	-2.4
Other Regions	25.5	12.0	6.7	10.6	17.2	16.2	15.7	...	15.1	16.0	19.6	14.7

Source: Ministry of Economy.

V. Private Sector Borrowing[44]

This note presents an overview of borrowing by the Argentine private sector from international capital markets from 1990 through the third quarter of 1997 employing data from the Fund's DCBEL database. In line with trends across emerging markets in general, and Latin America in particular, private sector borrowing in the form of both international bond issues and syndicated loan commitments increased sharply during the decade. At the same time, developments in private sector bond issues over this period have broadly paralleled those of the sovereign in terms of the overall trend, the declining spreads, the lengthening maturity, and the fixed rate nature of the debt.

It should be emphasized that the data on private sector borrowing presented here relate only to international bond issues and syndicated loan agreements—i.e., the aim is to measure access to international capital markets. Bond data are on an "at issue" basis while the loan data are on a commitment basis and may not reflect actual disbursements. Private sector borrowing from official sources, borrowing in the form of commercial paper (including CDS), and trade-related credits are not included.

Total external private sector debt at end–1997 is estimated at 9½ percent of GDP. The size of the debt consistent with the data identified in this note would be equivalent to some 6 percent of GDP (3½ percent for bonds and 2½ percent for loans), taking into account the identified bond issues and assuming full disbursement of the loan commitments. Regarding the volatility of private sector flows, these range from relatively stable foreign direct investment (see note on Foreign Direct Investment above) and portfolio flows, to highly volatile cross-border deposits. Broadly speaking, syndicated loans would appear to be in the less volatile end of the spectrum, while bond issues, which show some correlation with both the business cycle and developments in global capital markets, would be somewhat more volatile.

International Bond Issues

Since 1990, the Argentine private sector has tapped the international bond market for some US$14¾ billion (Table 9). The bulk of private sector issues came in the two episodes of robust macroeconomic expansion: 1993–94 and 1996 to date, with annual average issuance in those periods of over US$3.0 billion. Private sector bond issues fell sharply to below US$1 billion in 1995, the year of the Mexican exchange crisis, with the drop in the financial sector being particularly pronounced. The denomination of choice of Argentine private sector bonds has been the U.S. dollar, which accounts for over 90 percent of the total. This contrasts with the denomination of sovereign Argentine issues, which have moved increasingly toward yen and Deutsche mark, and, more recently, lira.

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[44]Prepared by Paul Gruenwald.

On the details of bond issues (Table 10), the average U.S. dollar amount has risen from about US$50 million early in the decade to US$150 million by 1997. As is the case with the sovereign, the terms of borrowing for the private sector have generally improved throughout the 1990s, again with the exception of 1995. The weighted average maturity at issue lengthened to about five years in 1993–94 before falling to 3.3 years in 1995, and recovering thereafter to some 5½ years in 1997. Weighted average spreads were in the area of 400 basis points over the comparable instrument in the country of the currency denomination in 1993–94, but jumped to 570 basis points in 1995 before falling to under 300 basis points through the first three quarters of 1997. More than 90 percent of the private sector bonds have been issued at fixed rates. Regarding maturities at issue (Table 11), some 8 percent of the total private sector bond issues over the decade were short-term, while about two-thirds had maturities between one and five years, with the remaining 25 percent having maturities of more than five years. In 1997 the percentage of bonds with maturity of more than five years exceeded 40 percent.

As to the composition of private sector international bond issues by sector of origin, about one-third of the total over the period or US$5 billion were placed by the financial sector (Table 12). The telecommunications and the coal, gas and oil sector have each issued some US$3 billion in bonds this decade, or about 20 percent of the total. Of note, over half of the amount for the telecommunications sector was issued by Telecom Argentina. Utilities is the remaining sector with a significant share of bonds issued over the period with 10 percent of the total.

Syndicated Loan Commitments

After a decade of stagnation in the 1980s in which the total amount of loans syndicated per year averaged some $50 million, new loan commitments signed by the Argentine private sector rose sharply to over US$2.9 billion over the first nine months of 1997 (Table 12). Unlike in the case of bond issues described above, there was no slow down in loan commitments in 1995, the year of the Mexican exchange crisis. As in the case of private sector international bonds, the overwhelming majority (over 99 percent) of syndicated loans contracted (by value) were denominated in U.S. dollars (Table 13). The vast majority of the loan commitments, however, carried a floating interest rate.

The financial sector appears to have shied away from syndicated loans, comprising only 3 percent of the value of loan commitments. The coal, gas and oil sector had the largest amount of loans over the period at just under US$2 billion or about one-quarter of the total. The utilities and telecommunications sector also had significant loan commitments over the period at around US$1.5 billion each or 18–19 percent the total. Of note, the US$542 million mining sector loan contracted in 1997 (comprising 18 percent of the total for that period) was for the Bajo de la Alumbrera copper mine, which began operation in the fall of 1997. Projected exports from this project are expected to be some US$600 million a year.

Table 9. Argentina—International Bond Issues

(In millions of U.S. dollars)

	U.S. dollar	Yen	Lira	Swiss Franc	Total
1990	21	0	0	0	21
1991	265	0	0	0	265
1992	1,220	0	0	0	1,230
1993	3,902	0	0	0	3,902
1994	2,580	0	0	0	2,580
1995	526	0	373	53	952
1996	2,446	93	0	0	2,539
1997	2,871	0	414	0	3,285
Total	13,830	93	788	63	14,774

Source: DCBEL database.

Table 10. Argentina - International Bond Issues, Selected Details

Year	Average Issue US$ mn	Amount Issued US$ mn	Weighted Average Maturity	Weighted Average Spread 1/	Bonds Issued	Reported Spreads	Floating Rate Bonds	(percent of total bonds)
1990	21	21	4.92	...	1	0	0	....
1991	53	265	4.24	355	5	1	1	100.0
1992	59	1,230	3.69	399	21	12	1	8.3
1993	98	3,902	5.21	373	40	39	2	5.1
1994	89	2,580	4.68	416	29	27	4	14.8
1995	79	952	3.29	570	12	4	1	25.0
1996	102	2,539	3.64	405	25	22	1	4.5
1997	149	3,285	5.44	273	22	19	3	15.8

Source: DCBEL database.

1/ DCBEL reports spreads on some 80 percent of the bonds in the database.

Table 11. Argentina - Maturity Structure of Private Sector International Bond Issues

(In millions of U.S. dollars)

Year	Maturity up to one year	Maturity one to five years	Maturity more than five years	Total
1990	0	21	0	21
1991	0	265	0	265
1992	25	1205	0	1230
1993	217	2375	1310	3902
1994	75	2055	450	2580
1995	111	641	200	952
1996	200	2084	255	2539
1997	550	1406	1329	3285
Total	1178	10052	3544	14774
	(In percent of total)			
1990	0.0	100.0	0.0	100.0
1991	0.0	100.0	0.0	100.0
1992	2.0	98.0	0.0	100.0
1993	5.6	60.9	33.6	100.0
1994	2.9	79.7	17.4	100.0
1995	11.7	67.3	21.0	100.0
1996	7.9	82.1	10.0	100.0
1997	16.7	42.8	40.5	100.0
Total	8.0	68.0	24.0	100.0

Source: DCBEL database.

Table 12. Argentina - International Bond Issues and Syndicated Loan Commitments by Sector

	1990	1991	1992	1993	1994	1995	1996	QI-Q3 1997	Cumu-lative
International Bond Issues									
Financial	0	75	620	1,335	615	95	1,093	1,180	5,013
Coal, Gas and Oil	0	125	150	785	350	171	213	976	2,770
Iron and Steel	0	50	30	0	0	60	0	0	140
Manufacturing	0	0	0	300	0	0	0	100	400
Mining	0	0	0	0	0	0	75	150	225
Telecommunications	0	0	300	850	620	573	298	488	3,129
Transportation	0	0	0	172	0	0	0	0	172
Utilities	0	0	0	80	865	0	480	0	1,425
Other	21	15	130	380	130	53	380	391	1,500
Total	21	265	1,230	3,902	2,580	952	2,539	3,285	14,774
Syndicated Loan Commitments									
Financial	0	0	41	28	0	0	0	200	269
Coal, Gas and Oil	0	74	136	65	250	103	511	840	1,979
Construction	0	0	0	0	0	250	0	140	390
Iron & Steel	0	0	0	0	0	0	0	244	244
Mining	0	0	0	0	0	0	0	542	542
Telecommunications	0	0	0	56	274	475	400	250	1,455
Utilities	0	0	0	526	390	110	0	506	1,532
Other	0	0	103	86	51	350	927	218	1,734
Total	0	74	280	761	965	1,288	1,838	2,940	8,145
				(In percent of total)					
International Bond Issues									
Financial	0.0	28.3	50.4	34.2	23.8	10.0	43.0	35.9	33.9
Coal, Gas and Oil	0.0	47.2	12.2	20.1	13.6	18.0	8.4	29.7	18.7
Iron and Steel	0.0	18.9	2.4	0.0	0.0	6.3	0.0	0.0	0.9
Manufacturing	0.0	0.0	0.0	7.7	0.0	0.0	0.0	3.0	2.7
Mining	0.0	0.0	0.0	0.0	0.0	0.0	3.0	4.6	1.5
Telecommunications	0.0	0.0	24.4	21.8	24.0	60.2	11.7	14.9	21.2
Transportation	0.0	0.0	0.0	4.4	0.0	0.0	0.0	0.0	1.2
Utilities	0.0	0.0	0.0	2.1	33.5	0.0	18.9	0.0	9.6
Other	100.0	5.7	10.6	9.7	5.0	5.6	15.0	11.9	10.2
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Syndicated Loan Commitments									
Financial	...	0.0	14.6	3.7	0.0	0.0	0.0	6.8	3.3
Coal, Gas and Oil	...	100.0	48.6	8.5	25.9	8.0	27.8	28.6	24.3
Construction	...	0.0	0.0	0.0	0.0	19.4	0.0	4.8	4.8
Iron & Steel	...	0.0	0.0	0.0	0.0	0.0	0.0	8.3	3.0
Mining	...	0.0	0.0	0.0	0.0	0.0	0.0	18.4	6.7
Telecommunications	...	0.0	0.0	7.4	28.4	36.9	21.8	8.5	17.9
Utilities	...	0.0	0.0	69.1	40.4	8.5	0.0	17.2	18.8
Other	...	0.0	36.8	11.3	5.3	27.2	50.4	7.4	21.3
Total	...	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: DCBEL database.

Table 13. Argentina - Loan Commitments by Year and Currency

(In millions of U.S. dollars)

Signature Year	U.S. dollars	DM	British Pound	Total
1990	0	0	0	0
1991	74	0	0	74
1992	229	51	0	280
1993	753	0	8	761
1994	965	0	0	965
1995	1,288	0	0	1,288
1996	1,838	0	0	1,838
1997	2,940	0	0	2,940
Total	8,086	51	8	8,145

Source: DCBEL database.

Table 14. Argentina: GDP and Prices

(Percentage changes from preceding year)

	1991	1992	1993	1994	1995	1996
GDP at 1986 prices	10.5	10.3	6.3	8.5	-4.6	4.3
Real GDP per capita	8.3	8.8	4.8	7.1	-5.8	2.9
GDP deflator	137.5	13.7	6.9	0.8	4.0	2.0
Consumer prices						
Average	171.7	24.9	10.6	4.1	3.4	0.2
End of period	84.0	17.5	7.4	3.9	1.6	0.1
Wholesale prices						
Average	110.5	6.0	1.6	0.6	6.5	3.2
End of period	56.7	3.2	0.1	3.0	5.8	2.1
Nominal GDP (billions of pesos)	180.9	226.8	257.6	281.6	279.5	297.4

Sources: Ministry of Economy; INDEC.

Table 15. Argentina: National Accounts in Constant Prices

	1991	1992	1993	1994	1995	1996
	(In millions of pesos at 1986 prices)					
Gross domestic expenditure	**10,019.6**	**11,682.9**	**12,572.1**	**13,810.8**	**12,652.9**	**13,400.9**
Consumption 1/	8,398.8	9,518.8	10,061.6	10,753.9	10,093.0	10,629.2
Gross domestic investment	1,620.8	2,164.1	2,510.5	3,056.9	2,559.9	2,771.7
Foreign balance	**160.6**	**-454.1**	**-641.4**	**-863.1**	**-297.5**	**-520.2**
Exports of goods and nonfactor services	1,121.0	1,144.6	1,171.9	1,358.3	1,667.0	1,775.0
Imports of goods and nonfactor services	960.4	1,598.7	1,813.3	2,221.4	1,964.5	2,295.2
Gross domestic product	**10,180.2**	**11,228.8**	**11,930.7**	**12,947.7**	**12,355.4**	**12,880.7**
Net factor payments abroad	-184.4	-152.5	-194.2	-221.4	-190.8	-232.3
Gross national product	**9,995.8**	**11,076.3**	**11,736.5**	**12,726.3**	**12,164.6**	**12,648.4**
	(Percentage changes)					
Gross domestic expenditure	**16.8**	**16.6**	**7.6**	**9.9**	**-8.4**	**5.9**
Consumption 1/	14.3	13.3	5.7	6.9	-6.1	5.3
Gross domestic investment	31.5	33.5	16.0	21.8	-16.3	8.3
Foreign balance 2/	**-5.1**	**-6.0**	**-1.7**	**-1.9**	**4.4**	**-1.8**
Exports of goods and nonfactor services	-5.1	2.1	2.4	15.9	22.7	6.5
Imports of goods and nonfactor services	75.6	66.5	13.4	22.5	-11.6	16.8
Gross domestic product	**10.5**	**10.3**	**6.3**	**8.5**	**-4.6**	**4.3**

Sources: Ministry of Economy.

1/ Includes changes in inventories.

2/ Percentage points contribution to growth.

Table 16. Argentina: National Accounts in Current Prices

(In millions of pesos)

	1991	1992	1993	1994	1995	1996
Gross domestic expenditure	**177,926**	**230,524**	**262,723**	**288,813**	**279,447**	**298,130**
Consumption 1/	151,448	192,670	215,350	232,557	229,018	245,704
Gross domestic investment	26,478	37,854	47,373	56,256	50,429	52,426
Foreign balance	**2,974**	**-3,675**	**-5,153**	**-7,168**	**95**	**-761**
Exports of goods and nonfactor services	14,048	15,138	15,993	18,919	24,247	27,491
Imports of goods and nonfactor services	11,074	18,813	21,146	26,087	24,152	28,252
Gross domestic product	**180,900**	**226,849**	**257,570**	**281,645**	**279,542**	**297,369**
Net factor payments abroad	-2,301	-2,066	-2,708	-3,169	-2,829	-3,519
Gross national product	**178,599**	**224,783**	**254,862**	**278,476**	**276,713**	**293,850**
GDP deflator						
Percentage change	137.5	13.7	6.9	0.8	4.0	2.0

Source: Ministry of Economy.

1/ Includes changes in inventories.

Table 17. Argentina: Sectoral Origin of Gross Domestic Product

	1991	1992	1993	1994	1995	1996
	(In millions of pesos at 1986 prices)					
Total	10,180	11,229	11,931	12,948	12,355	12,881
Primary sector	1,088	1,106	1,159	1,216	1,258	1,301
Agriculture, livestock, and fishery	847	839	865	896	917	932
Mining	241	267	294	320	341	369
Secondary sector	3,347	3,722	3,963	4,277	3,983	4,160
Manufacturing	2,619	2,888	3,036	3,224	3,000	3,156
Construction	526	615	685	788	703	710
Electricity, gas, and water	202	219	242	265	280	294
Service sector	5,631	6,202	6,593	7,216	6,996	7,308
Commerce	1,665	1,905	1,985	2,153	1,983	2,071
Transportation and communication	503	568	599	657	658	696
Finance and banking	1,515	1,661	1,814	2,052	2,047	2,160
Other services	1,948	2,068	2,195	2,354	2,308	2,381
Plus: Import taxes minus imputed financial services 1/	114	199	216	239	118	112
	(Percentage changes)					
Total	10.5	10.3	6.3	8.5	-4.6	4.3
Primary sector	3.9	1.7	4.8	4.9	3.5	3.4
Agriculture, livestock, and fishery	4.2	-0.9	3.1	3.6	2.3	1.6
Mining (including oil extraction)	3.0	10.8	10.1	8.8	6.6	8.2
Secondary sector	11.6	11.2	6.5	7.9	-6.9	4.4
Manufacturing	9.9	10.3	5.1	6.2	-6.9	5.2
Construction	25.2	16.9	11.4	15.0	-10.8	1.0
Electricity, gas, and water	3.6	8.4	10.5	9.5	5.7	5.0
Service sector	10.3	10.1	6.3	9.4	-3.0	4.5
Commerce	15.3	14.4	4.2	8.5	-7.9	4.4
Transportation and communication	10.3	12.9	5.5	9.7	0.2	5.8
Finance and banking	14.8	9.6	9.2	13.1	-0.2	5.5
Other services	3.3	6.2	6.1	7.2	-2.0	3.2
	(Percentage distribution)					
Total	100.0	100.0	100.0	100.0	100.0	100.0
Primary sector	10.7	9.8	9.7	9.4	10.2	10.1
Agriculture, livestock, and fishery	8.3	7.5	7.3	6.9	7.4	7.2
Mining	2.4	2.4	2.5	2.5	2.8	2.9
Secondary sector	32.9	33.1	33.2	33.0	32.2	32.3
Manufacturing	25.7	25.7	25.4	24.9	24.3	24.5
Construction	5.2	5.5	5.7	6.1	5.7	5.5
Electricity, gas, and water	2.0	2.0	2.0	2.0	2.3	2.3
Service sector	55.3	55.2	55.3	55.7	56.6	56.7
Commerce	16.4	17.0	16.6	16.6	16.0	16.1
Transportation and communication	4.9	5.1	5.0	5.1	5.3	5.4
Finance and banking	14.9	14.8	15.2	15.8	16.6	16.8
Other services	19.1	18.4	18.4	18.2	18.7	18.5
Plus: Import taxes minus imputed financial services 1/	1.1	1.8	1.8	1.8	1.0	0.9

Sources: Ministry of Economy; and staff calculations.

1/ Includes residual.

Table 18. Argentina: Index of Agricultural Production 1/

(1986=100)

	1991	1992	1993	1994	1995	1996
Total 2/	**109.1**	**109.6**	**112.8**	**117.1**	**122.3**	**126.0**
Agriculture	**120.4**	**114.3**	**115.3**	**123.8**	**131.4**	**138.0**
Cereals	94.2	90.3	108.9	108.1	101.4	124.2
Oilseeds	155.4	146.1	141.4	158.2	175.8	178.3
Industrial crops	125.8	111.7	95.1	108.9	131.7	130.1
Fruits	121.5	133.7	128.6	137.4	147.6	149.0
Vegetables	102.4	100.4	103.5	110.4	112.1	113.1
Flowers	74.9	84.1	72.6	75.0	67.9	62.3
Livestock	**99.6**	**101.1**	**105.0**	**103.7**	**104.1**	**103.7**
Cattle	101.0	102.0	105.8	104.8	105.3	105.4
Other livestock 3/	89.1	94.6	99.0	95.8	95.1	91.0
Wool	**77.7**	**78.9**	**76.2**	**69.3**	**66.3**	**64.4**
Milk	**104.2**	**113.6**	**120.3**	**134.2**	**147.4**	**150.7**
Forestry	**122.0**	**122.8**	**107.0**	**114.6**	**124.6**	**124.6**
Fishing	**150.9**	**229.4**	**306.9**	**297.6**	**311.5**	**390.7**

Sources: Ministry of Economy, National Accounts Office.

1/ Value added.

2/ Includes hunting.

3/ Includes sheep, goats, pigs, and horses.

Table 19. Argentina: Selected Data on Planted and Harvested Area, Production, and Yield

(Area in thousands of hectares; production in thousands of metric tons; yields in tons per harvested hectare)

	1991/92	1992/93	1993/94	1994/95	1995/96	1996/97
Cereals						
Wheat						
Planted area	4,751	4,548	4,910	5,308	5,087	7,344
Harvested area	4,547	4,255	4,777	5,221	4,878	7,076
Yield	2.2	2.3	2.0	2.2	1.9	2.3
Production	9,884	9,874	9,659	11,306	9,450	15,983
Corn						
Planted area	2,686	2,963	2,781	2,958	3,412	3,952
Harvested area	2,365	2,503	2,445	2,522	2,601	3,243
Yield	4.5	4.4	4.2	4.5	4.0	4.5
Production	10,701	10,901	10,360	11,404	10,499	14,496
Oats						
Planted area	2,180	2,006	1,971	1,972	1,848	1,870
Harvested area	456	372	303	259	214	246
Yield	1.3	1.6	1.4	1.4	1.2	1.3
Production	610	600	437	357	260	310
Barley						
Planted area	233	239	202	147	231	243
Harvested area	230	226	196	146	217	196
Yield	2.5	2.6	2.3	2.3	1.8	2.3
Production	570	580	459	341	385	441
Rye						
Planted area	452	463	460	473	390	380
Harvested area	51	48	73	56	51	42
Yield	0.9	0.7	0.9	1.0	0.8	0.9
Production	46	34	64	54	40	36
Rice						
Planted area	139	144	148	189	211	227
Harvested area	132	140	141	185	193	225
Yield	5.3	4.3	4.3	5.0	5.0	5.4
Production	701	608	606	926	974	1,222
Sorghum						
Planted area	823	810	670	622	671	805
Harvested area	764	723	612	477	550	686
Yield	3.6	4.0	3.5	3.5	3.9	3.7
Production	2,767	2,860	2,148	1,650	2,132	2,552

Table 19. Argentina: Selected Data on Planted and Harvested Area, Production, and Yield (Concluded)

(Area in thousands of hectares; production in thousands of metric tons; yields in tons per harvested hectare)

	1991/92	1992/93	1993/94	1994/95	1995/96	1996/97
Oilseeds						
Linseed						
Planted area	431	215	148	156	196	93
Harvested area	416	207	142	153	193	89
Yield	0.8	0.9	0.8	1.0	0.8	0.8
Production	343	177	112	152	153	72
Sunflower seeds						
Planted area	2,694	2,187	2,206	3,010	3,411	3,055
Harvested area	2,562	2,060	2,153	2,954	3,235	2,936
Yield	1.3	1.4	1.9	2.0	1.7	1.7
Production	3,408	2,956	4,095	5,800	5,556	5,021
Soybeans						
Planted area	5,004	5,320	5,817	6,011	5,988	6,668
Harvested area	4,936	5,116	5,748	5,935	5,899	6,366
Yield	2.3	2.2	2.0	2.0	2.1	1.7
Production	11,310	11,045	11,720	12,134	12,436	11,013
Groundnuts						
Planted area	153	110	134	155	239	312
Harvested area	153	110	134	155	239	282
Yield	1.4	2.1	1.6	1.5	1.9	1.0
Production	221	233	208	238	462	282
Industrial crops						
Cotton						
Planted area	615	378	504	762	1,011	956
Harvested area	529	302	484	680	969	884
Yield	1.2	1.4	1.5	1.7	1.4	1.2
Production	652	431	706	1,123	1,347	1,017
Tobacco						
Planted area	80	78	56	57	57	...
Harvested area	71	69	50	49	51	...
Yield	1.5	1.6	1.6	1.6	1.9	...
Production	109	112	82	79	98	120
Sugarcane						
Planted area	332	307	312	310	311	...
Harvested area	255	226	239	295	297	...
Yield	50.3	45.6	47.2	46.6	45.9	...
Production	12,834	10,310	11,275	13,736	13,637	14,000

Source: Ministry of Economy, National Accounts Office.

Table 20. Argentina: Industrial Production Index

Base 1984=100

	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
						(With Seasonality)							
January	88.2	94.0	99.0	95.7	90.3	81.6	88.1	93.3	95.9	107.8	98.7	87.3	99.5
February	69.0	73.5	78.2	87.0	88.4	73.1	75.5	82.7	80.0	86.3	103.8	97.2	103.5
March	92.5	97.0	107.3	105.7	103.4	81.3	83.0	105.0	107.6	113.9	117.3	112.2	118.1
April	91.2	101.8	109.6	96.9	101.6	82.3	89.6	106.3	107.4	110.0	104.2	112.4	123.1
May	91.1	106.7	108.2	108.5	90.5	91.2	99.1	106.2	108.8	118.2	112.2	118.6	126.7
June	79.9	94.1	112.5	106.1	89.5	92.7	94.3	110.2	112.9	114.8	106.5	110.1	124.7
July	84.9	109.5	119.1	108.5	87.4	89.4	106.5	109.6	116.4	115.5	107.0	119.7	131.6
August	87.1	114.1	114.4	108.7	92.8	106.7	106.1	105.7	114.6	120.7	109.3	121.8	130.5
September	95.3	115.6	113.6	100.2	91.6	101.2	104.5	111.0	116.7	122.4	105.5	114.1	131.9
October	101.7	118.5	113.6	100.8	98.4	105.0	108.6	109.1	116.6	122.3	108.5	123.1	140.5
November	100.5	109.9	103.3	102.4	98.1	100.5	106.2	106.4	115.8	122.7	106.9	119.0	129.4
December	98.8	105.9	102.3	98.4	95.8	99.4	102.2	105.4	110.7	114.7	101.0	111.9	...
Average	90.0	103.4	106.8	101.6	94.0	92.0	97.0	104.2	108.6	114.1	106.7	112.3	...
Percent change	-10.0	14.8	3.3	-4.9	-7.5	-2.1	5.4	7.5	4.2	5.1	-6.5	5.2	...
						(Deseasonalized)							
January	88.4	96.3	103.6	100.4	94.6	86.7	94.6	101.2	105.1	119.5	117.6	105.4	116.9
February	85.7	92.1	102.8	115.3	118.4	94.6	101.8	103.3	101.6	109.6	118.7	104.8	117.4
March	91.0	97.5	106.5	106.1	103.3	81.4	82.9	110.9	106.0	111.8	112.4	109.6	118.9
April	90.5	104.6	110.2	96.6	99.8	83.0	87.3	108.0	108.7	111.9	107.9	113.0	120.4
May	91.0	107.5	105.4	105.2	87.9	87.5	96.6	102.9	108.5	114.0	106.8	111.9	121.7
June	81.1	93.8	113.3	111.1	93.3	92.1	91.6	107.7	109.9	113.5	104.8	112.2	125.9
July	84.3	105.8	116.3	105.8	83.5	82.4	101.0	101.3	112.2	111.3	104.9	113.7	125.4
August	84.6	106.0	109.5	103.2	88.2	98.4	99.7	99.9	109.0	113.5	103.2	116.0	125.0
September	90.8	109.5	106.8	93.9	84.8	95.8	101.1	103.8	109.9	115.9	102.2	111.9	127.8
October	98.3	111.0	104.3	89.6	88.7	98.5	101.6	101.8	109.9	117.3	102.3	114.7	130.0
November	93.5	102.9	95.9	96.2	94.2	99.1	101.4	102.3	110.7	116.4	102.7	114.8	127.4
December	97.1	106.9	101.5	96.1	94.6	100.7	99.6	104.3	109.0	116.8	103.6	114.5	...
Average	89.7	102.8	106.3	101.6	94.3	91.7	96.6	104.0	108.4	114.3	107.3	111.9	...
Percent change	-10.0	14.6	3.4	-4.4	-7.2	-2.7	5.4	7.6	4.3	5.5	-6.2	4.3	...

Source: FIEL.

Table 21. Argentina: Automobile Production, Domestic Demand, Exports, and Imports

(In units)

	Total Production	Domestic Demand	Exports	Imports
1980	281,793	343,419	3,607	68,361
1981	172,363	238,974	285	60,126
1982	132,117	137,144	3,234	5,339
1983	159,876	151,640	5,202	1,075
1984	167,323	165,578	4,243	519
1985	137,675	146,271	774	747
1986	170,490	166,621	357	1,049
1987	193,315	192,357	460	1,530
1988	164,160	163,896	1,662	1,369
1989	127,823	133,563	1,841	642
1990	99,639	95,960	1,126	1,173
1991	138,958	165,806	5,205	28,631
1992	262,022	349,245	16,353	105,882
1993	342,344	421,006	29,976	109,793
1994	408,777	508,152	37,858	147,431
1995	285,196	327,983	52,747	103,021
1996	313,152	376,143	108,990	161,000
1997	445,870	426,341	208,250	171,345

Source: Argentine Automobile Manufacturer's Association.

Table 22. Argentina: Price Indices

Percentage change during the year

	Consumer Prices for Buenos Aires	Wholesale Price Index 1/			
		General	Agricultural Goods	National Nonagricultural Goods	Imported Goods
1985	385.4	363.9	336.3	364.2	405.6
1986	81.9	57.9	83.7	55.9	53.4
1987	174.8	181.8	153.3	182.8	216.0
1988	387.7	431.6	456.1	430.3	412.9
1989	5,103.7	5,386.4	5,023.6	5,138.0	7,600.3
1990	1,344.4	798.4	656.7	879.5	406.5
1991	84.0	56.7	62.0	54.8	69.5
1992	17.5	3.2	9.5	2.0	4.4
1993	7.4	0.1	0.1	0.6	-5.4
1994	3.9	3.0	3.1	2.3	8.9
			Primary Products	Manufactured Products and Electricity	Imported Goods
1995	1.6	5.8	11.0	4.7	4.3
1996	0.1	2.1	6.1	1.9	-6.2
1997	0.3	-0.9	-1.6	-0.4	-0.1

Source: National Institute of Statistics.

1/ The wholesale price index was revised in 1995.

Table 23. Argentina: Rates of Price Increases

(In percent)

	Consumer Price Index		Wholesale Price Index	
	Change over Preceding Month	Change over 12 months	Change over Preceding Month	Change over 12 months
1994				
January	0.1	6.6	0.0	-0.6
February	0.0	5.8	-0.2	-1.7
March	0.1	5.0	-0.2	-1.3
April	0.2	4.3	0.5	-1.6
May	0.3	3.3	0.6	-1.4
June	0.4	3.0	1.5	0.2
July	0.9	3.6	0.7	1.0
August	0.2	3.8	0.3	0.9
September	0.7	3.7	0.3	1.2
October	0.3	3.4	0.7	1.5
November	0.2	3.6	0.9	3.9
December	0.2	3.9	0.7	3.0
1995				
January	1.2	5.0	1.4	7.4
February	0.0	5.0	0.4	6.0
March	-0.4	4.4	-0.6	5.3
April	0.5	4.6	3.3	8.4
May	0.0	4.3	0.1	7.3
June	-0.2	3.7	0.3	6.8
July	0.4	3.2	0.4	6.6
August	-0.2	2.7	0.3	7.1
September	0.2	2.2	0.0	7.1
October	0.3	2.2	-0.1	6.7
November	-0.2	1.7	-0.2	6.7
December	0.1	1.6	0.3	5.8
1996				
January	0.3	0.7	0.2	4.6
February	-0.3	0.3	-0.1	4.1
March	-0.5	0.2	0.8	5.5
April	0.0	-0.2	1.5	3.6
May	-0.1	-0.3	0.2	3.7
June	0.0	-0.1	-0.8	2.6
July	0.5	0.0	-0.1	2.1
August	-0.1	0.2	-0.3	1.5
September	0.2	0.2	1.2	2.6
October	0.5	0.4	0.4	3.2
November	-0.2	0.4	-0.8	2.5
December	-0.3	0.1	-0.1	2.1
1997				
January	0.5	0.2	0.4	2.2
February	0.4	0.9	-0.2	2.1
March	-0.5	1.0	-0.3	1.0
April	-0.3	0.6	-0.4	-0.9
May	-0.1	0.7	0.7	-0.4
June	0.2	0.9	-0.4	-0.1
July	0.2	0.5	-0.4	-0.3
August	0.2	0.8	0.6	0.6
September	0.0	0.6	0.0	-0.5
October	-0.2	-0.1	0.0	-1.0
November	-0.2	-0.1	-0.2	-0.4
December	0.2	0.3	-0.6	-0.9

Source: National Institute of Statistics.

Table 24. Argentina: Urban Labor Force, Employment, and Unemployment

(Thousands of persons)

	Labor Force	Employment	Unemployment
1980 April	8,516	8,282	234
October	8,623	8,381	242
1981 April	8,698	8,312	386
October	8,774	8,296	478
1982 April	8,861	8,305	556
October	9,042	8,587	455
1983 April	9,013	8,497	516
October	8,925	8,507	418
1984 April	9,147	8,676	471
October	9,193	8,734	459
1985 May	9,335	8,718	617
November	9,523	8,910	613
1986 April	9,682	9,059	623
November	9,804	9,249	555
1987 April	10,039	9,398	641
October	10,045	9,440	605
1988 May	10,186	9,503	683
October	10,345	9,688	657
1989 May	10,595	9,654	941
October	10,482	9,738	744
1990 May	10,546	9,657	889
October	10,618	9,937	681
1991 June	10,927	10,134	793
October	11,005	10,310	695
1992 May	11,197	10,411	786
October	11,411	10,585	826
1993 May	11,727	10,607	1,120
October	11,722	10,659	1,063
1994 May	11,941	10,687	1,254
October	11,929	10,530	1,399
1995 May	12,477	10,307	2,170
October	12,307	10,348	1,959
1996 May	12,387	10,343	2,044
October	12,589	10,542	2,047
1997 May	12,863	10,861	2,002
October	13,084	11,352	1,729

Source: Ministry of Economy.

Table 25. Argentina: Unemployment and Labor Force Participation Rates

(In percent of active population)

		Unemployment Rate			Under-employment Rate 1/			Labor Force Participation Rate 2/		
		Greater Buenos Aires	Other areas	Total	Greater Buenos Aires	Other Areas	Total	Greater Buenos Aires	Other Areas	Total
1983	April	5.2	6.1	5.5	4.6	8.0	5.9	38.0	37.4	37.4
	October	3.1	5.8	3.9	4.9	8.0	5.9	37.5	36.5	37.3
1984	April	4.1	5.9	4.7	4.5	6.9	5.4	38.4	36.8	37.8
	October	3.6	6.0	4.4	4.7	8.0	5.9	38.4	36.5	37.9
1985	May	5.5	7.4	6.3	5.5	8.6	7.5	38.9	36.4	37.9
	October	4.9	7.5	5.9	6.6	7.9	7.1	38.8	37.1	38.2
1986	April	4.8	7.6	5.9	6.4	9.7	7.7	39.6	37.1	38.6
	November	4.5	6.5	5.2	6.1	9.5	7.4	40.0	36.9	38.7
1987	April	5.4	7.1	6.0	8.0	8.7	8.2	40.9	37.3	39.5
	October	5.2	6.6	5.7	7.8	9.6	8.5	40.0	37.3	38.9
1988	May	6.3	7.0	6.5	7.7	8.7	8.9	40.4	37.2	38.7
	October	5.7	6.8	6.1	7.4	9.0	8.0	40.5	37.6	39.4
1989	May	7.6	9.8	8.1	8.5	10.8	8.6	41.9	37.5	40.2
	October	7.0	7.2	7.1	8.0	9.3	8.6	40.8	37.0	39.3
1990	May	8.6	8.3	8.6	8.4	10.9	9.3	40.9	36.6	39.1
	October	6.0	6.7	6.3	8.1	10.4	8.9	40.3	36.9	39.0
1991	June	6.3	7.9	6.9	7.7	9.9	8.6	40.9	37.5	39.5
	October	5.3	7.0	6.0	7.0	9.4	7.9	40.8	37.6	39.5
1992	May	6.6	7.3	6.9	7.6	9.5	8.3	41.4	37.6	39.8
	October	6.7	7.6	7.0	7.3	9.4	8.1	41.7	38.1	40.2
1993	May	10.6	8.8	9.9	8.2	9.9	8.8	44.2	37.6	41.5
	October	9.6	8.7	9.3	9.1	9.5	9.3	43.3	37.6	41.0
1994	May	11.1	10.1	10.8	10.2	10.3	10.2	43.4	38.0	41.1
	October	13.1	10.8	12.2	10.1	10.9	10.4	43.1	37.6	40.8
1995	May	20.2	15.4	18.4	10.7	12.4	11.3	45.9	38.1	42.6
	October	17.4	15.5	16.6	12.6	12.4	12.5	44.2	38.0	41.4
1996	May	18.0	15.9	17.1	12.6	12.6	12.6	43.5	38.0	41.0
	October	18.8	15.0	17.3	13.8	13.1	13.6	44.9	37.8	41.9
1997	May	17.0	14.9	16.1	12.7	13.8	13.2	45.0	38.6	42.1
	October	14.3	12.5	13.7	13.0	13.4	13.5	45.1	38.7	42.3

Source: Ministry of Economy, National Accounts Office.

1/ Defined as workers employed for less than 35 hours a week desiring to work more hours.
2/ In percent of total urban population.

Table 26. Argentina: Consolidated Public Sector

	1991	1992	1993	1994	1995	1996
	(In billions of pesos)					
Public sector balance 1/						
Federal Govt., all included	**-4.4**	**-0.7**	**-0.1**	**-4.0**	**-7.6**	**-9.5**
Federal Government	-4.4	-0.5	2.3	-1.3	-3.9	-5.9
Trust Fund for banks	0.0	0.0	0.0	0.0	-0.8	-0.7
Severance payments	0.0	0.0	0.0	0.0	0.0	0.0
Trust Fund prov. pension funds	0.0	0.0	0.0	0.0	0.0	-0.5
Capitalized interest	0.0	-0.2	-0.7	-1.0	-1.2	-1.2
Debt consolidation	0.0	0.0	-1.7	-1.7	-1.7	-1.2
INDER, PAMI, BHN	0.0	0.0	0.0	0.0	0.0	0.0
Provinces, all included	**-1.4**	**-0.5**	**-2.1**	**-2.4**	**-3.6**	**-1.9**
Provincial governments	-1.4	-0.5	-2.1	-2.4	-3.6	-1.9
Fonavi, BHN	0.0	0.0	0.0	0.0	0.0	0.0
Total	**-5.8**	**-1.2**	**-2.2**	**-6.4**	**-11.2**	**-11.4**
Public sector debt 1/ 2/	**64.7**	**68.8**	**77.6**	**90.3**	**101.5**	**114.4**
Federal Government	58.7	62.4	69.6	80.0	87.5	98.5
Provinces	6.0	6.4	8.0	10.4	13.9	16.0
	(In percent of GDP)					
Public sector balance	-3.2	-0.5	-0.8	-2.3	-4.0	-3.8
Public sector debt	35.8	30.3	30.1	32.1	36.3	38.5
Federal Government	32.4	27.5	27.0	28.4	31.3	33.1
Provinces	3.3	2.8	3.1	3.7	5.0	5.4
Memorandum item (billions of pesos)						
Gross domestic product	180.9	226.8	257.6	281.6	279.5	297.4

Source: Fund staff estimates.

1/ Public sector balance excludes some debt operations below-the-line such as payments of government guarantees or court-ordered liabilities; they are included in the debt.

2/ The total debt is consolidated for provincial debt owed to the Federal Government.

Table 27. Argentina: Summary of Federal Government Operations, 1991-96 1/

	1991	1992	1993	1994	1995	1996
	(Millions of pesos)					
Revenue	**27,895**	**38,570**	**46,066**	**48,719**	**46,757**	**47,256**
Taxes 2/	18,082	26,454	29,310	32,089	31,558	33,486
Social security contributions 3/	7,757	9,833	13,042	13,608	11,844	11,198
Nontax revenues 4/	1,382	1,755	2,879	3,101	3,328	2,501
Operating surplus of enterprises	603	423	690	-153	-58	-56
Capital revenue	71	105	145	74	85	127
Expenditure (excluding interest payments) 5/	**27,595**	**35,737**	**40,911**	**46,631**	**46,441**	**49,049**
Wages	4,959	5,652	6,963	7,794	7,770	7,898
Goods and services	1,767	2,482	2,393	2,295	2,356	2,426
Pensions 3/	9,070	12,653	12,513	15,241	15,627	15,410
Provincial pension funds	0	0	0	0	0	547
Transfers to the private sector 3/	697	492	3,250	4,568	4,680	5,720
Transfer to provinces	9,199	12,620	13,802	14,771	14,511	15,888
Other current expenditure	0	0	148	311	357	152
Capital	1,903	1,838	1,842	1,651	1,140	1,008
Interest payments 6/	4,744	3,324	2,917	3,450	4,213	4,704
Primary balance	**300**	**2,833**	**5,155**	**2,089**	**316**	**-1,793**
Overall balance	**-4,444**	**-491**	**2,238**	**-1,361**	**-3,897**	**-6,497**
	(In percent of GDP)					
Revenue	**15.4**	**17.0**	**17.9**	**17.3**	**16.7**	**15.9**
Taxes 2/	10.0	11.7	11.4	11.4	11.3	11.3
Social security contributions 3/	4.3	4.3	5.1	4.8	4.2	3.8
Nontax revenues 4/	0.8	0.8	1.1	1.1	1.2	0.8
Operating surplus of enterprises	0.3	0.2	0.3	-0.1	0.0	0.0
Capital revenue	0.0	0.0	0.1	0.0	0.0	0.0
Expenditure (excluding interest payments) 5/	**15.3**	**15.8**	**15.9**	**16.6**	**16.6**	**16.5**
Wages	2.7	2.5	2.7	2.8	2.8	2.7
Goods and services	1.0	1.1	0.9	0.8	0.8	0.8
Pensions 3/	5.0	5.6	4.9	5.4	5.6	5.2
Transfers to the private sector 3/	0.4	0.2	1.3	1.6	1.7	1.9
Transfer to provinces	5.1	5.6	5.4	5.2	5.2	5.3
Other current expenditure	0.0	0.0	0.1	0.1	0.1	0.1
Capital	1.1	0.8	0.7	0.6	0.4	0.3
Interest payments 6/	2.6	1.5	1.1	1.2	1.5	1.6
Primary balance	**0.2**	**1.2**	**2.0**	**0.7**	**0.1**	**-0.6**
Overall balance	**-2.5**	**-0.2**	**0.9**	**-0.5**	**-1.4**	**-2.2**

Sources: Ministry of Economy.

1/ Excludes privatization receipts.

2/ Adjusted for differences between the face and market value of bonds received as payment of tax liabilities.

3/ Prior to 1993 includes only the balance of various social security operations (e.g. PAMI); since 1993, revenue and expenditure of these operation are included separately. Similarly, from 1996 onward, includes revenue and expenditure of family benefits on a gross bases; prior to 1996 these are included on a net basis.

4/ Includes quasi-fiscal result of the BCRA.

5/ Excludes clearing of expenditure arrears to pensioners, suppliers, and provinces, financed by bonds (BOCONS and BCHRs), and compensation payments to enterprises for the elimination of loss carry-forward provisions on losses accummulated before March 31, 1991, financed by bonds ("quebrantos").

6/ Accrual basis.

Table 28. Argentina: Federal Government Revenue, 1991-96 1/

	1991	1992	1993	1994	1995	1996
	(Millions of pesos)					
Tax revenue 1/	**18,082**	**26,454**	**29,310**	**32,089**	**31,558**	**33,486**
Direct taxes	1,809	3,299	4,720	6,196	6,677	7,498
Income tax	1,085	2,526	4,272	5,822	6,239	6,799
Other	724	773	448	374	438	699
Indirect taxes	16,273	23,155	24,590	25,893	24,881	25,988
Value-added taxes	6,693	13,349	16,267	17,366	17,442	18,897
Excise tax	1,990	2,154	2,101	2,146	2,059	1,678
Export taxes	181	50	1	31	37	29
Import taxes	543	1,963	2,371	2,753	1,970	2,020
Fuel Tax	2,714	2,493	2,060	2,069	1,793	2,216
Other	4,152	3,146	1,790	1,528	1,580	1,148
Social security contributions 3/	**7,757**	**9,833**	**13,042**	**13,608**	**11,844**	**11,247**
Nontax revenue	**1,453**	**1,860**	**3,024**	**3,175**	**3,413**	**2,628**
Operating surplus of the non-financial public enterprises	**603**	**423**	**690**	**(153)**	**(58)**	**(56)**
Total	**27,895**	**38,570**	**46,066**	**48,719**	**46,757**	**47,305**
	(In percent of GDP)					
Tax revenue 1/	10.0	11.7	11.4	11.4	11.3	11.3
Direct taxes	1.0	1.5	1.8	2.2	2.4	2.5
Income tax	0.6	1.1	1.7	2.1	2.2	2.3
Other	0.4	0.3	0.2	0.1	0.2	0.2
Indirect taxes	9.0	10.2	9.5	9.2	8.9	8.7
Value-added taxes	3.7	5.9	6.3	6.2	6.2	6.4
Excise tax	1.1	0.9	0.8	0.8	0.7	0.6
Export taxes	0.1	0.0	0.0	0.0	0.0	0.0
Import taxes	0.3	0.9	0.9	1.0	0.7	0.7
Fuel Tax	1.5	1.1	0.8	0.7	0.6	0.7
Other	2.3	1.4	0.7	0.5	0.6	0.4
Social security contributions 3/	4.3	4.3	5.1	4.8	4.2	3.8
Nontax revenue	0.8	0.8	1.2	1.1	1.2	0.9
Operating surplus of the non-financial public enterprises	0.3	0.2	0.3	-0.1	0.0	0.0
Total	15.4	17.0	17.9	17.3	16.7	15.9

Source: Ministry of Economy.

1/ Excludes privatization receipts.

2/ Adjusted for differences between face and market values of bonds received as a payment of tax liabilities.

3/ Prior to 1994, only the net revenue (revenue minus expenditure) of various social security operations, e.g., the Medical Fund for Pensioners (PAMI) is included. Since 1994, gross revenue is shown amounting to 0.7 percent of GDP. From June 1994, contributions to private pension funds are excluded, amounting to 0.8 percent of GDP on an annual basis.

Table 29. Argentina: Summary of Provincial Public Finances, 1991-96 1/

	1991	1992	1993	1994	1995	1996
	(In millions of pesos)					
Revenue	**14,861**	**21,949**	**24,982**	**27,222**	**26,422**	**28,282**
Current	13,479	20,415	23,017	24,993	24,129	25,693
Own tax revenue	4,678	7,364	8,781	9,663	9,136	9,713
Own nontax revenue	730	1,182	1,483	1,910	1,835	1,811
Transfers from Fed. Government	7,611	11,329	12,206	12,844	12,513	13,376
Royalties	460	540	547	576	645	793
Capital	1,382	1,534	1,965	2,229	2,293	2,589
Own capital revenue	85	130	258	300	309	285
Transfers from Fed. Government	1,297	1,404	1,707	1,929	1,984	2,304
Noninterest expenditure	**15,981**	**22,073**	**26,592**	**29,022**	**29,284**	**29,220**
Current	13,793	19,659	23,307	25,046	25,033	24,692
Wages	8,431	11,944	14,097	15,044	15,206	14,831
Goods and services	1,722	2,375	2,778	3,140	3,177	2,920
Transfers	3,640	5,340	6,432	6,862	6,650	6,941
Provincial social security	661	1,035	1,086	918	941	711
Education	261	597	736	964	1,057	1,087
To municipalities and other	2,718	3,708	4,610	4,980	4,652	5,143
Capital	2,188	2,414	3,285	3,976	4,251	4,528
Interest	**267**	**353**	**490**	**594**	**722**	**950**
Primary balance	**-1,120**	**-124**	**-1,610**	**-1,800**	**-2,862**	**-938**
Overall balance	**-1,387**	**-477**	**-2,100**	**-2,394**	**-3,584**	**-1,888**
	(In percent of GDP)					
Revenue	**8.2**	**9.7**	**9.7**	**9.7**	**9.5**	**9.5**
Current	7.5	9.0	8.9	8.9	8.6	8.6
Capital	0.8	0.7	0.8	0.8	0.8	0.9
Noninterest expenditure	**8.8**	**9.7**	**10.3**	**10.3**	**10.5**	**9.8**
Wages	4.7	5.3	5.5	5.3	5.4	5.0
Goods and services	1.0	1.0	1.1	1.1	1.1	1.0
Transfers	2.0	2.4	2.5	2.4	2.4	2.3
Capital	1.2	1.1	1.3	1.4	1.5	1.5
Interest	**0.1**	**0.2**	**0.2**	**0.2**	**0.3**	**0.3**
Primary balance	**-0.6**	**-0.1**	**-0.6**	**-0.6**	**-1.0**	**-0.3**
Overall balance	**-0.8**	**-0.2**	**-0.8**	**-0.9**	**-1.3**	**-0.6**

Sources: Ministry of Economy.

1/ Figures for provinces are only available on an accrual basis.

Table 30. Argentina: Registered Outstanding Debt of the National Public Sector at the End of the Period

(In billions of U.S. dollars)

	1991	1992	1993	1994	1995	1996	Prel.-June 1997
Foreign commercial banks	30.1	28.9	25.9	26.9	27.3	24.0	23.9
International organizations 1/	7.7	7.6	10.9	11.6	15.4	16.3	17.0
Paris Club creditors	8.8	8.9	8.9	8.0	8.0	6.7	5.3
BONEX	4.6	4.0	3.6	5.1	5.3	4.4	5.7
New money bonds	0.1	0.1	0.1	0.1	0.0	0.0	0.0
Euronotes and other titles	0.5	0.8	2.5	5.1	8.4	22.5	28.3
BOCON	0.0	5.3	8.4	16.0	15.5	17.9	17.9
To pensioners	0.0	3.7	6.1	11.0	11.0	11.8	11.7
To suppliers	0.0	1.6	2.3	5.0	4.5	6.1	6.2
Hydrocarbon bonds	0.0	0.4	0.4	0.0	0.0	0.0	0.0
Other	6.6	3.1	7.1	6.7	9.8	7.9	10.6
Total	**58.4**	**59.1**	**67.8**	**79.5**	**89.7**	**99.7**	**108.7**
Local currency	1.2	0.7	5.9	7.3	6.7	10.7	15.6
Foreign currency	57.2	58.4	61.9	72.2	83.0	89.0	93.1
External debt	57.2	57.4	60.3	69.6	68.2	72.5	73.3
Domestic debt	0.0	1.0	1.6	2.6	14.8	16.5	19.8

Sources: Ministry of Economy; and Fund staff estimates.

1/ IMF, World Bank, and IDB.

Table 31. Argentina: Annualized Interest Rates

(In percent)

	Deposit Rates 1/		Lending Rates 2/	
	Pesos	U.S. dollars	Pesos	U.S. dollars
1994				
January	8.07	5.65	9.12	7.48
February	6.44	5.45	8.21	7.05
March	7.03	5.45	8.57	7.62
April	7.69	5.51	10.18	8.31
May	7.83	5.57	10.32	8.25
June	8.08	5.66	10.32	8.36
July	8.44	5.81	10.60	8.41
August	8.55	5.76	10.28	8.26
September	8.33	5.67	9.71	8.06
October	8.27	5.71	9.83	8.15
November	8.72	5.82	10.00	8.33
December	9.55	6.14	13.56	9.80
1995				
January	10.65	6.54	18.06	11.51
February	11.64	6.88	19.06	12.11
March	19.38	9.91	34.05	23.03
April	19.07	11.09	26.45	20.14
May	15.54	10.84	22.13	17.81
June	10.83	8.45	16.19	13.61
July	10.24	8.05	14.57	12.37
August	9.17	7.42	13.29	11.79
September	9.21	7.22	13.26	11.35
October	8.92	7.21	12.55	11.03
November	9.02	7.31	12.31	10.93
December	9.16	7.41	12.24	10.82
1996				
January	8.62	7.15	11.54	10.31
February	7.62	6.53	10.65	9.58
March	7.27	6.27	10.23	9.27
April	7.11	6.14	9.99	8.97
May	6.66	5.90	9.74	8.74
June	6.55	5.74	9.70	8.76
July	6.67	5.78	9.98	8.99
August	7.45	5.89	11.30	9.10
September	7.76	5.96	11.50	9.10
October	7.44	5.92	10.60	8.90
November	7.50	5.92	10.50	8.90
December	7.60	5.98	10.50	8.80
1997				
January	7.33	5.90	10.15	8.57
February	6.92	5.78	9.56	8.27
March	6.77	5.74	8.74	7.67
April	6.67	5.75	8.02	7.32
May	6.49	5.69	7.92	7.34
June	6.43	5.67	7.77	7.26
July	6.42	5.68	7.66	7.21
August	6.38	5.71	7.83	7.32
September	6.43	5.71	7.79	7.33
October	6.70	5.88	8.67	7.83
November	8.89	6.36	14.17	9.41
December	8.38	6.59	12.60	8.62

Source: Central Bank of Argentina.

1/ Weighted average of rates on 30-59 day time deposits.

2/ 30-day prime lending rates.

Table 32. Argentina: Summary Operations of the Financial System

(In millions of pesos)

	December					June
	1992	1993	1994	1995	1996	1997
			I. Consolidated Financial System			
Net foreign assets	**5,122**	**7,878**	**6,389**	**2,512**	**6,955**	**11,741**
Central Bank (NIR)	8,541	11,766	11,818	9,832	13,452	14,443
Rest of system	-3,419	-3,888	-5,429	-7,320	-6,497	-2,702
Net domestic assets	**23,695**	**34,617**	**43,650**	**46,221**	**50,736**	**52,902**
Credit to public sector (net) 1/	9,453	10,525	12,059	17,784	16,960	14,807
Credit to private sector	34,988	43,243	52,029	49,945	53,512	57,542
Private capital and surplus	-10,809	-12,705	-13,755	-13,970	-15,038	-16,246
Official capital and surplus and unclassified assets (net)	-9,937	-6,446	-6,683	-7,538	-4,698	-3,201
Liabilities to private sector	**28,767**	**42,493**	**50,039**	**48,733**	**57,691**	**64,643**
Monetary liabilities (M1)	9,999	13,475	15,196	15,404	17,139	17,547
Quasi-money	8,088	11,859	13,222	11,811	14,053	18,047
Foreign exchange deposits	10,680	17,159	21,621	21,518	26,499	29,049
			II. Central Bank 2/			
Net international reserves 2/	**8,541**	**11,766**	**11,818**	**9,832**	**13,452**	**14,443**
Net domestic assets	**2,469**	**3,224**	**5,124**	**8,334**	**7,105**	**6,743**
Credit to public sector (net) 1/	3,940	5,750	8,039	10,460	9,951	9,823
Credit to financial system	2,410	1,495	1,514	3,061	1,957	1,488
Official capital and surplus and unclassified assets (net)	-3,881	-4,021	-4,429	-5,187	-4,803	-4,568
Monetary liabilities	**11,010**	**14,989**	**16,943**	**18,166**	**20,557**	**21,185**
Currency issued	9,648	12,173	13,318	13,050	14,030	14,041
Currency in circulation	7,682	10,061	11,219	11,148	11,750	11,598
Cash in vault	1,966	2,112	2,099	1,902	2,280	2,443
Government deposits	0	0	674	1,464	2,242	1,341
Reserve deposits 4/	1,362	2,816	2,951	3,652	4,285	5,803
			III. Banks and Nonbank Financial Institutions			
Net foreign assets	**-3,419**	**-3,888**	**-5,429**	**-7,320**	**-6,497**	**-2,702**
Net claims on BCRA	**918**	**3,433**	**3,535**	**2,493**	**4,608**	**6,759**
Net domestic assets	**23,586**	**32,888**	**40,714**	**42,412**	**47,830**	**48,988**
Credit to public sector (net) 1/	5,513	4,775	4,694	8,788	9,251	6,325
Credit to private sector	34,988	43,243	52,029	49,945	53,512	57,542
Capital and reserves	-10,969	-12,705	-13,755	-13,970	-15,038	-16,246
Other (net)	-5,946	-2,425	-2,254	-2,351	105	1,367
Liabilities to private sector	**21,085**	**32,432**	**38,820**	**37,585**	**45,941**	**53,045**
Local currency deposits	10,405	15,273	17,199	16,067	19,442	23,996
Sight deposits	2,317	3,414	3,977	4,256	5,389	5,949
Time and savings deposits	8,088	11,859	13,222	11,811	14,053	18,047
Foreign currency deposits	10,680	17,159	21,621	21,518	26,499	29,049

Sources: Central Bank of Argentina; and Fund staff estimates.

1/ All public sector entities, including provincial governments.

2/ The BCRA net international reserves comprise gold, foreign currency holdings, Aladi (net) and IMF liabilities.

3/ Includes current account deposits, swaps ("pases pasivos") and treasury liquidity notes ("Lelibans") held by financial institutions at the Central Bank.

Table 33. Argentina: Legal Reserve Requirements and Legal Liquidity Requirements

(In percent)

	Domestic Currency Deposits											
					Time Deposits							
	Demand Deposits		Savings Deposits		To 59 Days		60-89 Days		90-179 Days		180-365 Days	
	Res. Req.	Liq. Req.	Res. Req.	Liq. Req.	Res. Req.	Liq. Req.	Res. Req.	Liq. Req.	Res. Req.	Liq. Req.	Res. Req.	Liq. Req.
1995												
May	33.0	...	33.0	...	2.0	...	2.0	...	0.0	...	0.0	...
June	33.0	...	33.0	...	2.0	...	2.0	...	0.0	...	0.0	...
July	33.0	...	33.0	...	2.0	...	2.0	...	0.0	...	0.0	...
August	30.0	...	30.0	...	...	6.0	...	2.0	...	2.0	...	2.0
September	20.0	6.0	20.0	6.0	...	6.0	...	6.0	...	3.0	...	3.0
October	10.0	10.0	10.0	10.0	...	10.0	...	10.0	...	7.0	...	5.0
November	...	15.0	...	15.0	...	15.0	...	15.0	...	10.0	...	5.0
December	...	15.0	...	15.0	...	15.0	...	15.0	...	10.0	...	5.0
1996												
January	...	15.0	...	15.0	...	15.0	...	15.0	...	10.0	...	5.0
February	...	15.0	...	15.0	...	15.0	...	15.0	...	10.0	...	5.0
March	...	15.0	...	15.0	...	15.0	...	15.0	...	10.0	...	5.0
April	...	15.0	...	15.0	...	15.0	...	15.0	...	10.0	...	5.0
May	...	15.0	...	15.0	...	15.0	...	15.0	...	10.0	...	5.0
June	...	15.0	...	15.0	...	15.0	...	15.0	...	10.0	...	5.0
July	...	16.0	...	16.0	...	16.0	...	16.0	...	11.0	...	6.0
August	...	16.0	...	16.0	...	16.0	...	16.0	...	11.0	...	6.0
September	...	16.0	...	16.0	...	16.0	...	16.0	...	11.0	...	6.0
October	...	17.0	...	17.0	...	17.0	...	17.0	...	12.0	...	7.0
November	...	17.0	...	17.0	...	17.0	...	17.0	...	12.0	...	7.0
December	...	17.0	...	17.0	...	17.0	...	17.0	...	12.0	...	7.0
1997												
January	...	17.0	...	17.0	...	17.0	...	17.0	...	12.0	...	7.0
February	...	18.0	...	18.0	...	18.0	...	18.0	...	13.0	...	8.0
March	...	18.0	...	18.0	...	18.0	...	18.0	...	13.0	...	8.0
April	...	18.0	...	18.0	...	18.0	...	18.0	...	13.0	...	8.0
May	...	18.0	...	18.0	...	18.0	...	18.0	...	13.0	...	8.0
June	...	18.0	...	18.0	...	18.0	...	18.0	...	13.0	...	8.0
July	...	18.0	...	18.0	...	18.0	...	18.0	...	13.0	...	8.0
August	...	19.0	...	19.0	...	19.0	...	19.0	...	14.0	...	9.0
September	...	19.0	...	19.0	...	19.0	...	19.0	...	14.0	...	9.0
October	...	19.0	...	19.0	...	19.0	...	19.0	...	14.0	...	9.0
November	...	19.0	...	19.0	...	19.0	...	19.0	...	14.0	...	9.0
December	...	19.0	...	19.0	...	19.0	...	19.0	...	14.0	...	9.0

Table 33. Argentina: Legal Reserve Requirements and Legal Liquidity Requirements (Continued)

	Dom. Curr. Deposits		Foreign Currency Deposits							
	Time Deposits 365 Days or More		Demand Deposits		Savings Deposits		Time Deposits To 59 Days		Time Deposits 60-89 Days	
	Res. Req.	Liq. Req.	Res. Req.	Liq. Req.	Res. Req.	Liq. Req.	Res. Req.	Liq. Req.	Res. Req.	Liq. Req.
1995										
May	0.0	...	33.0	...	33.0	...	2.0	...	2.0	...
June	0.0	...	33.0	...	33.0	...	2.0	...	2.0	...
July	0.0	...	33.0	...	33.0	...	2.0	...	2.0	...
August	...	0.0	30.0	...	30.0	...	...	6.0	...	2.0
September	...	0.0	20.0	6.0	20.0	6.0	...	6.0	...	6.0
October	...	0.0	10.0	10.0	10.0	10.0	...	10.0	...	10.0
November	...	0.0	...	15.0	...	15.0	...	15.0	...	15.0
December	...	0.0	...	15.0	...	15.0	...	15.0	...	15.0
1996										
January	...	0.0	...	15.0	...	15.0	...	15.0	...	15.0
February	...	0.0	...	15.0	...	15.0	...	15.0	...	15.0
March	...	0.0	...	15.0	...	15.0	...	15.0	...	15.0
April	...	0.0	...	15.0	...	15.0	...	15.0	...	15.0
May	...	0.0	...	15.0	...	15.0	...	15.0	...	15.0
June	...	0.0	...	15.0	...	15.0	...	15.0	...	15.0
July	...	0.0	...	16.0	...	16.0	...	16.0	...	16.0
August	...	0.0	...	16.0	...	16.0	...	16.0	...	16.0
September	...	0.0	...	16.0	...	16.0	...	16.0	...	16.0
October	...	0.0	...	17.0	...	17.0	...	17.0	...	17.0
November	...	0.0	...	17.0	...	17.0	...	17.0	...	17.0
December	...	0.0	...	17.0	...	17.0	...	17.0	...	17.0
1997										
January	...	0.0	...	17.0	...	17.0	...	17.0	...	17.0
February	...	0.0	...	18.0	...	18.0	...	18.0	...	18.0
March	...	0.0	...	18.0	...	18.0	...	18.0	...	18.0
April	...	0.0	...	18.0	...	18.0	...	18.0	...	18.0
May	...	0.0	...	18.0	...	18.0	...	18.0	...	18.0
June	...	0.0	...	18.0	...	18.0	...	18.0	...	18.0
July	...	0.0	...	18.0	...	18.0	...	18.0	...	18.0
August	...	0.0	...	19.0	...	19.0	...	19.0	...	19.0
September	...	0.0	...	19.0	...	19.0	...	19.0	...	19.0
October	...	0.0	...	19.0	...	19.0	...	19.0	...	19.0
November	...	0.0	...	19.0	...	19.0	...	19.0	...	19.0
December	...	0.0	...	19.0	...	19.0	...	19.0	...	19.0

Table 33. Argentina: Legal Reserve Requirements and Legal Liquidity Requirements (Concluded)

	Foreign Currency Deposits					
	Time Deposits					
	90-179 Days		180-365 Days		365 Days or More	
	Res. Req.	Liq. Req.	Res. Req.	Liq. Req.	Res. Req.	Liq. Req.
1995						
May	2.0	...	2.0	...	0.0	...
June	2.0	...	2.0	...	0.0	...
July	2.0	...	2.0	...	0.0	...
August	...	2.0	...	0.0	...	0.0
September	...	3.0	...	2.0	...	0.0
October	...	7.0	...	3.0	...	0.0
November	...	10.0	...	5.0	...	0.0
December	...	10.0	...	5.0	...	0.0
1996						
January	...	10.0	...	5.0	...	0.0
February	...	10.0	...	5.0	...	0.0
March	...	10.0	...	5.0	...	0.0
April	...	10.0	...	5.0	...	0.0
May	...	10.0	...	5.0	...	0.0
June	...	10.0	...	5.0	...	0.0
July	...	11.0	...	6.0	...	0.0
August	...	11.0	...	6.0	...	0.0
September	...	11.0	...	6.0	...	0.0
October	...	12.0	...	7.0	...	0.0
November	...	12.0	...	7.0	...	0.0
December	...	12.0	...	7.0	...	0.0
1997						
January	...	12.0	...	7.0	...	0.0
February	...	13.0	...	8.0	...	0.0
March	...	13.0	...	8.0	...	0.0
April	...	13.0	...	8.0	...	0.0
May	...	13.0	...	8.0	...	0.0
June	...	13.0	...	8.0	...	0.0
July	...	13.0	...	8.0	...	0.0
August	...	14.0	...	9.0	...	0.0
September	...	14.0	...	9.0	...	0.0
October	...	14.0	...	9.0	...	0.0
November	...	14.0	...	9.0	...	0.0
December	...	14.0	...	9.0	...	0.0

Source: Central Bank of Argentina.

Table 34. Argentina: Financial Assets 1/

(In millions of pesos)

	Currency in Circulation	M-1	M-2	Foreign Currency Deposits	M3
1991					
I	2,426	3,980	7,913	3,530	11,443
II	3,452	5,986	9,865	4,749	14,614
III	3,743	6,380	10,885	5,893	16,778
IV	5,219	8,785	13,432	6,583	20,015
1992					
I	4,782	8,807	14,615	7,993	22,608
II	5,600	10,743	17,746	9,002	26,748
III	5,660	10,733	18,951	10,384	29,335
IV	7,682	12,852	21,465	10,842	32,307
1993					
I	6,653	12,671	23,891	12,290	36,181
II	7,502	13,938	25,444	13,822	39,266
III	8,064	14,319	26,945	16,484	43,429
IV	10,061	17,318	30,377	17,532	47,909
1994					
I	9,118	17,255	31,590	19,959	51,549
II	9,085	16,993	31,477	21,174	52,650
III	9,402	16,040	32,082	22,382	54,464
IV	11,219	18,229	32,714	23,555	56,269
1995					
I	9,154	15,366	26,848	20,872	47,720
II	9,240	16,092	27,722	20,810	48,532
III	9,311	16,136	27,864	22,392	50,256
IV	11,148	18,338	30,346	23,590	53,936
1996					
I	10,099	17,747	31,966	25,608	57,575
II	10,801	19,851	34,918	26,118	61,037
III	10,064	18,627	32,751	27,908	60,659
IV	11,751	21,708	36,275	28,405	64,680
1997					
I	10,916	21,595	38,510	30,008	68,518
II	11,596	23,057	42,409	32,470	74,879
III (Prel.)	11,741	23,917	43,770	33,475	77,245

Sources: Central Bank of Argentina; and Fund staff estimates.

1/ End of period. M-1 includes currency in circulation and local currency demand deposits; M-2 comprises M-1 plus time and sa deposits in pesos; and M-3 in addition includes all foreign currency deposits.

Table 35. Argentina: Balance of Payments

(In millions of U.S. dollars)

	1993	1994	1995	1996	January-June 1996	January-June 1997
Current account 1/	**-7,853**	**-10,341**	**-4,302**	**-5,781**	**-1,993**	**-4,888**
Trade balance	-2,427	-5,750	844	49	633	-1,336
Exports (f.o.b.)	13,117	15,841	20,967	23,811	11,344	12,583
Imports (f.o.b.)	-15,544	-21,591	-20,123	-23,762	-10,711	-13,919
Nonfactor services	-2,633	-1,333	-780	-827	-488	-757
Receipts	2,507	2,668	2,925	3,313	1,587	1,717
Expenditures	-5,140	-4,001	-3,705	-4,140	-2,075	-2,474
Factor services	-3,204	-3,578	-4,798	-5,337	-2,312	-2,968
Profits and dividends	-1,273	-1,270	-1,871	-2,106	-931	-1,149
Interest due	-3,231	-4,177	-5,446	-5,950	-2,666	-3,377
Nonfinancial public sector	-2,419	-2,913	-3,539	-3,950	-1,758	-2,268
Financial system	-605	-796	-1196	-1134	-495	-625
BCRA	-251	-223	-299	-237	-92	-140
Other	-354	-573	-897	-897	-403	-485
Nonfinancial private sector	-207	-468	-711	-866	-413	-484
Interest earnings	1,300	1,869	2,519	2,719	1,285	1,558
Nonfinancial public sector	134	237	261	238	114	111
Financial system	531	727	1001	1185	552	716
BCRA	452	641	778	767	377	484
Other	79	86	223	418	175	232
Nonfinancial private sector 1/	635	905	1,257	1,296	619	731
Transfers (net)	411	320	432	334	174	173
Capital account	**11,002**	**10,393**	**2,315**	**9,201**	**3,101**	**5,879**
Nonfinancial public sector	7,117	3,513	5,884	8,886	4,564	3,695
National government	6,472	4,219	6,394	8,743	4,583	3,068
Multilateral organizations	2239	395	1590	1024	106	423
Bilateral and commercial	5,000	2,516	3,671	7,205	3,700	3,561
Privatization receipts	2429	351	981	219	219	0
Other	-3196	957	152	295	558	-916
Rest of NFPS	645	-706	-510	143	-19	627
Private sector	1,884	6,177	6,596	4,108	424	1,121
Foreign direct investment	1640	2759	2990	3624	1603	1481
Change in financial system NFA (- increase)	-3,131	1,542	1,901	-866	-1,935	-2,468
Debt flows	3,375	1,876	1,705	1,350	756	2,108
Other capital 2/	2,001	703	-10,165	-3,793	-1,887	1,063
Net international reserves (- increase)	**-3,149**	**-52**	**1,987**	**-3,420**	**-1,108**	**-991**
Assets	-4,377	-743	66	-3,782	-1,393	-1,089
Liabilities	1,228	691	1,921	362	285	98
Of which: IMF	1,228	460	1,915	367	267	92
Purchases	1,612	875	2,410	797	487	291
Repurchases	-384	-415	-495	-430	-220	-199
Memorandum items						
Current Account (percent of GDP)	-3.0	-3.7	-1.5	-1.9	...	...
Export Volume (percentage change)	8.0	15.0	25.3	6.6	-1.6	13.6
Import Volume (percentage change)	11.5	26.9	-11.6	19.6	5.7	33.2
Terms of Trade (percentage change)	-1.9	3.6	0.2	7.9	5.1	0.9
Total FDI (private and public)	4,910	3,110	3,971	4,080	1,971	2,251
External public debt/GDP (percent)	23.4	24.7	24.4	24.4	...	...

Sources: Ministry of Economy.

1/ Efforts to estimate private assets abroad are currently underway, which the authorities believe will imply higher interest receipts and a lower current account deficit, by about 0.5 percent of GDP a year.

2/ Includes errors and omissions.

Table 36. Argentina: Exchange Rates

(Annual Average)

	Official Exchange Rate (Arg$ per US$) 1/2/	Parallel Exchange Rate 3/	Parallel Exchange Rate Spread (In percent)	Real Effective Exchange Rate (Index 1990=100) 4/
1984	0.06774	0.08831	30.3	102.8831
1985	0.60156	0.69423	15.4	95.0144
1986	0.94150	1.05410	12.0	98.9799
1987	2.14600	2.73300	27.3	92.5712
1988	8.72100	10.98900	26.0	83.6190
1989	397.15750	475.81250	19.8	69.4048
1990	4,876.45480	...	...	100.0000
1991	9,541.32270	...	...	142.4076
1992	0.99065	...	...	164.0269
1993	0.99946	...	...	177.3968
1994	0.99996	...	...	168.9436
1995	1.00000	...	...	154.6282
1996	1.00000	...	...	151.9164
1996				
January	1.0000	...	...	154.0840
February	1.0000	...	...	153.2149
March	1.0000	...	...	152.4094
April	1.0000	...	...	152.1505
May	1.0000	...	...	151.5778
June	1.0000	...	...	151.2860
July	1.0000	...	...	151.1645
August	1.0000	...	...	150.5490
September	1.0000	...	...	151.2122
October	1.0000	...	...	152.3289
November	1.0000	...	...	151.4520
December	1.0000	...	...	151.5679
1997				
January	1.0000	...	...	152.9472
February	1.0000	...	...	155.2951
March	1.0000	...	...	155.0128
April	1.0000	...	...	154.5769
May	1.0000	...	...	154.0307
June	1.0000	...	...	154.3169
July	1.0000	...	...	155.8137
August	1.0000	...	...	157.4791
September	1.0000	...	...	156.1609
October	1.0000	...	...	...
November	1.0000	...	...	...
December	1.0000	...	...	...

Sources: Ministry of Economy; IMF Information Notice System; and Fund staff estimates.

1/ On January 1, 1992 the peso (Arg$) replaced the Austral (A) at a ratio of 1:10,000.

2/ Period averages of selling rates.

3/ From June to November 1981, July to November 1982, and from October 1987 to May 1989, the exchange market was split into an official and a free market; for this period, the ratio shown for the parallel exchange rate corresponds to the free market rate. On December 19, 1989, the foreign exchange market was unified under a floating rate system. A fixed rate system was implemented in late January 1991.

4/ Based on nominal exchange rates, consumer price indices seasonally adjusted and trade shares of most trading partners; increase denotes appreciation. Based on trade weights of 1996.

Table 37. Argentina: Exports by Principal Product Category

(In millions of U.S. dollars)

	1991	1992	1993	1994	1995	1996	January-May 1997
Primary products	**3,301**	**3,499**	**3,279**	**3,742**	**4,816**	**5,817**	**3,016**
Live animals	8	9	13	51	98	45	18
Fish and seafood	200	312	435	446	498	609	327
Honey	43	52	50	54	70	91	52
Fresh fruits	262	282	215	244	417	476	271
Cereals	1,067	1,548	1,454	1,333	1,863	2,560	1,834
Oil seeds and beans	1,081	790	696	952	884	964	171
Tobaccos	137	143	117	89	101	146	95
Wool	55	41	49	75	86	65	29
Cotton fibers	203	76	26	176	433	497	54
Other	245	246	224	322	366	366	166
Manufacture of agricultural origin	**4,927**	**4,827**	**4,924**	**5,800**	**7,472**	**8,439**	**3,288**
Meat	892	767	748	918	1229	1074	406
Fish and seafood products	246	237	271	279	416	395	175
Milk and milk products	67	35	76	135	260	281	106
Other animal products	9	10	12	17	16	22	8
Dry Fruits	23	24	22	32	26	33	8
Tea, herbs, and spices	45	47	62	60	67	65	32
Oils	1221	1110	1079	1533	2097	1891	803
Sugar and candies	74	65	43	59	122	145	24
Beverages	58	64	64	80	165	153	59
Other food products	1270	1459	1451	1348	1254	2367	810
Extracts	42	40	44	43	40	42	20
Leather	514	475	618	763	937	889	395
Refined wool	87	92	96	113	116	121	48
Other	379	402	338	420	727	964	396
Manufactures of industrial origin	**2,982**	**2,824**	**3,679**	**4,647**	**6,504**	**6,466**	**2,677**
Chemical products	504	533	559	727	972	980	402
Plastics	146	148	133	181	341	340	129
Rubber products	48	40	55	82	129	130	47
Leather products	77	79	118	157	138	147	35
Paper products	113	127	150	202	414	378	156
Textiles and textile products	148	121	165	210	383	305	128
Shoes and shoe products	59	52	92	87	102	73	41
Ceramics	79	71	79	71	110	107	43
Jewelry and precious stones	4	4	52	252	23	5	1
Metals and their manufacture	912	643	702	760	1214	1190	459
Machinery and electrical products	561	518	755	867	983	962	415
Transportation equipment	266	405	719	918	1308	1642	736
Others	65	83	100	133	387	209	88
Petroleum products	**766**	**1,082**	**1,236**	**1,651**	**2,169**	**3,089**	**1,263**
Total	**11,976**	**12,232**	**13,118**	**15,840**	**20,961**	**23,811**	**10,244**

Sources: National Institute of Statistics; and Ministry of Economy.

Table 38. Argentina: Principal Agricultural Exports

(Value in millions of U.S. dollars; volume in thousands of tons; unit price in U.S. dollars per ton)

	1991	1992	1993	1994	1995	1996
Total agricultural products	**8,228**	**8,329**	**8,203**	**9,541**	**12,290**	**14,256**
Cereals	1,040	1,535	1,461	1,390	1,940	2,593
Wheat	466	635	723	670	987	1,065
Volume	5345	6,047	5,672	5,143	6,782	5,914
Unit price	87	105	127	130	146	180
Corn	401	626	516	479	666	1,224
Volume	3882	6,085	4,864	4,146	5,902	7,069
Unit price	103	103	106	119	113	173
Sorghum	87	90	81	100	95	148
Volume	1316	1,146	910	424	189	672
Unit price	87	90	81	100	95	148
Other cereals	86	184	141	141	192	156
Soy beans	917	641	545	690	536	588
Volume	4430	3,053	2,418	2,909	2,549	2,056
Unit price	207	210	225	237	210	286
Soy oil	513	521	594	844	928	877
Volume	1233	1,308	1,360	1,480	1,524	1,658
Unit price	416	372	437	570	609	529
Soy pellets	941	1,209	1,239	1,146	1,017	1,984
Volume	5476	6,501	6,621	6,671	6,854	8,347
Unit price	172	186	187	172	148	238
Sunflower oil	529	432	335	502	868	735
Volume	1222	1,037	739	872	1,459	1,371
Unit price	433	417	453	576	595	536
Sunflower pellets	132	130	124	120	125	245
Volume	1606	1,375	1,182	1,286	1,898	2,096
Unit price	82	95	105	93	66	117
Beef	389	338	332	496	695	627
Volume	92	60	68	140	218	217
Unit price	4228	5,633	4,882	3,536	3,188	2,891
Beef products	349	261	258	277	368	324
Volume	130	104	96	103	126	141
Unit price	2685	2,510	2,688	2,689	2,921	2,291
Other meat	117	125	141	133	153	155
Fish and fish products	446	558	706	725	915	1,004
Volume	304	326	508	535	584	861
Unit price	1467	1,712	1,395	1,355	1,567	1,518
Fresh fruit	268	292	247	251	426	476
Volume	608	583	503	536	753	799
Unit price	441	501	491	468	586	595
Wool	91	80	93	122	120	98
Volume	38	33	46	53	37	35
Unit price	2395	2,424	2,022	2,302	3,243	2,819
Other agricultural exports (Value)	3,025	2,639	2,463	3,347	5,067	5,285

Sources: Ministry of Economy.

Table 39. Argentina: External Trade by Principal Countries and Regions

(In millions of U.S. dollars)

	1991	1992	1993	1994	1995	1996	January-May 1997
				Exports			
Total	**11,976**	**12,235**	**13,118**	**15,839**	**20,963**	**23,811**	**10,245**
LAIA	3,369	2,327	3,684	4,804	6,770	7,918	3,436
Of which: Brazil	1,489	1,671	2,814	3,655	5,484	6,615	2,906
United States	1,245	1,349	1,278	1,737	1,804	1,945	780
EEC	3,956	3,732	2,646	3,891	4,466	4,562	1,660
Japan	454	375	467	445	457	512	248
Other	2,952	4,452	5,043	4,962	7,466	8,874	4,121
				Imports			
Total	**8,284**	**14,872**	**16,784**	**21,590**	**20,122**	**23,762**	**11,424**
LAIA	2,748	3,755	4,214	3,784	4,511	5,800	2,725
Of which: Brazil	1,532	3,339	3,570	4,286	4,175	5,326	2,496
United States	1,871	3,226	3,859	4,373	4,207	4,719	2,374
EEC	2,033	3,633	4,139	6,140	6,025	6,902	3,359
Japan	393	697	669	986	711	725	357
Other	1,239	3,561	3,903	6,307	4,668	5,616	2,609

Sources: National Institute of Statistics; and Ministry of Economy.

Table 40. Argentina: External Trade: Value, Volume, and Price Indices

	1991	1992	1993	1994	1995	1996
			(1993 = 100)			
Export value	91.3	93.3	100.0	120.7	159.8	181.5
Export price	96.3	99.8	100.0	102.9	108.8	115.9
Export volume	94.9	93.5	100.0	117.4	146.9	156.6
Import value	49.3	88.6	100.0	128.6	119.9	141.6
Import price	104.5	102.3	100.0	101.4	106.9	105.3
Import volume	47.2	86.6	100.0	128.9	112.2	134.4
Terms of trade	**92.2**	**97.6**	**100.0**	**101.5**	**101.8**	**110.1**
			(Percentage changes)			
Export value	-3.1	2.2	7.2	20.7	32.4	13.6
Export price	-0.7	3.6	0.2	2.9	5.7	6.5
Export volume	-2.2	-1.5	7.0	17.4	25.1	6.6
Import value	102.0	79.7	12.9	28.6	-6.8	18.1
Import price	-3.9	-2.1	-2.2	1.4	5.4	-1.5
Import volume	111.7	83.5	15.5	28.9	-13.0	19.8
Terms of trade	**3.3**	**5.9**	**2.5**	**1.5**	**0.3**	**8.1**
Memorandum items						
Export value (in millions of U.S. dollars)	11,976	12,235	13,118	15,839	20,963	23,811
Import value (in millions of U.S. dollars)	8,284	14,872	16,784	21,590	20,122	23,762

Sources: Ministry of Economy; National Institute of Statistics; and Fund staff estimates.

Table 41. Argentina: Imports by Economic Classification

	1991	1992	1993	1994	1995	1996	January-May 1997
			(In millions of U.S. dollars)				
Total, c.i.f.	**8,284**	**14,872**	**16,784**	**21,590**	**20,122**	**23,762**	**11,424**
Consumption goods	1,514	3,205	3,527	3,907	3,174	3,583	1,642
Capital goods	1,637	3,888	4,964	7,409	5,552	5,607	2,951
Fuels	462	416	387	606	809	845	353
Other intermediate goods	4,671	7,363	7,906	9,668	10,587	13,727	6,478
			(In percent of total)				
Total, c.i.f.	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Consumption goods	18.3	21.6	21.0	18.1	15.8	15.1	14.4
Capital goods	19.8	26.1	29.6	34.3	27.6	23.6	25.8
Fuels	5.6	2.8	2.3	2.8	4.0	3.6	3.1
Other intermediate goods	56.4	49.5	47.1	44.8	52.6	57.8	56.7

Sources: Ministry of Economy; and National Institute of Statistics.

Table 42. Argentina: International Reserves of the Central Bank

(In millions of U.S. dollars; end of period)

	1991	1992	1993	1994	1995	1996	1997
Central bank net international reserves	**5,839**	**8,541**	**11,766**	**11,818**	**9,832**	**13,452**	**16,347**
Assets	**7,885**	**11,221**	**15,286**	**16,029**	**15,963**	**19,745**	**22,807**
Gold 1/	1,430	1,446	1,672	1,651	1,679	...	...
SDRs	224	413	455	563	539	...	...
IMF reserve tranche	0	0	0	0	0	...	...
Foreign exchange	6,722	9,528	13,339	13,758	13,723	...	...
LAIA (net) 2/	-491	-166	-180	57	22	...	...
Liabilities	**2,046**	**2,680**	**3,520**	**4,211**	**6,131**	**6,293**	**6,460**
IMF	2,046	2,680	3,821	4,638	6,131	6,545	6,957
Other	0	0	-301	-427	0	-252	-497

Source: Ministry of Economy.

1/ Valued at market prices.

2/ Balances under the multilateral clearing system of the Latin American Integration Association (LAIA).

Table 43. Argentina: International Bond Issues

	1992	1993	1994	1995	1996	January-September 1996	January-September 1997
			(In millions of U.S. dollars)				
Total bond placement	**1,619**	**6,308**	**5,320**	**6,356**	**13,988**	**9,025**	**13,319**
Public sector	389	2,406	2,740	5,403	11,448	7,030	10,034
Private sector	1,230	3,902	2,580	953	2,539	1,994	3,285
By currency							
U.S. dollars	1,609	5,688	4,070	2,426	5,526	3,751	8,751
Deutsche marks	0	620	300	1,533	4,004	3,031	891
Yen	0	0	352	1,672	2,029	1,145	397
Other	10	0	598	725	2,429	1,098	3,280
			(In years) 1/				
Average maturity							
Public sector							
U.S. dollars	4.7	7.2	4.8	5.0	4.6	3.6	11.8
Deutsche marks	...	5.0	3.0	5.8	11.8	10.2	7.0
Yen	...	...	3.9	3.0	7.7	7.9	7.0
Private sector							
U.S. dollars	3.9	5.2	4.5	2.6	3.9	4.1	4.8
			(In basis points) 2/				
Average yield spread at launch							
Public sector							
U.S. dollars	324	313	257	280	408	373	407
Deutsche marks	...	250	220	380	379	398	161
Yen	...	...	281	319	325	328	229
Private sector							
U.S. dollars	392	387	410	570	406	419	273

Sources: Staff estimates based on Euromoney Database, Euroweek, Financial Times, and International Financial Review (IFR).

1/ Unweighted average.

2/ Yield spread measured as the difference between the bond yield at issue and the prevailing yield for industrial country government bonds in the same currency and of comparable maturity. All figures are weighted averages.

Table 44. Argentina: Outstanding Government External Debt by Creditor 1/

(In millions of U.S. dollars)

	1992	1993	1994	1995	1996	End-June 1997
Public sector	**57,393**	**60,293**	**69,587**	**68,222**	**72,500**	**73,300**
International organizations	7,970	11,185	11,774	15,099	15,966	16,704
IMF	2,680	3,821	4,638	6,131	6,545	6,957
Other	5,290	7,364	7,136	8,968	9,421	9,747
Paris Club	8,901	8,923	7,978	8,024	6,898	5,295
Commercial banks	28,870	25,887	24,504	23,208	22,668	21,307
Refinanceable 2/	19,397	0	0	0	0	...
Arrears 2/	8,583	0	0	0	0	...
Other	890	25,887	24,504	23,208	22,668	21,307
Public bonds 3/	8,541	9,809	12,377	14,770	23,512	27,573
Other 4/	3,111	4,489	12,954	7,121	3,456	2,421

Source: Ministry of Economy.

1/ Excludes BONEX held by the Central Bank.

2/ Total debt eligible for rescheduling under the Brady Plan.

3/ Includes domestic bonds denominated in foreign currency, but excludes BOCONs which are considered to be held mostly by domestic residents.

4/ Includes other debt with commercial banks noneligible for rescheduling under the Brady Plan.

Electricity Reform Abroad and U.S. Investment

4. The Transformation of Argentina's Electricity Industry

Argentina's economy of the 1980's was engulfed in numerous problems, some of which could be traced to developments in the 1940's. Economic problems of hyperinflation, low economic growth, and rising national debt were worsened by a deteriorating infrastructure, including the electricity infrastructure.[1] Hyperinflation was dramatically reduced following passage of the Convertibility Law of 1991, which formally initiated then- Economy Minister Cavallo's plan to align Argentina's peso to the U.S. dollar. Additionally, the law required 100-percent backing of the nation's currency by foreign reserves.[2] The decision to link the Argentine peso to the U.S. dollar limited Argentina's available solutions to other problems (for example, low economic growth) by severely limiting discretionary changes in the nation's money supply. Thus, privatization was not only an action that could solve many of Argentina's remaining problems (i.e., rising debt and deteriorating infrastructure) but also an action that was permissible under the new economic plan.

Privatization directly addressed the problem of rising debt by divesting inefficiently-operated assets and companies. In addition, it was expected that the new owners of privatized assets would improve the assets, thereby upgrading Argentina's infrastructure. Further, privatization indirectly addressed the country's economic problems by providing Argentina's treasury with a financial cushion while the fiscal reforms [3] worked through the economy.[4] Privatizations also were a solution for a number of other problems (such as the absence of competition to spur the reduction of production costs) that tend to drain the national treasury, and that often are attributed to publicly-operated companies as opposed to similar privately-operated companies.[5] Finally, as in the Australian state of Victoria and the United Kingdom (UK), a surge in foreign investment accompanied electricity privatization in Argentina.

A Historical Perspective for Argentine Privatization Efforts

The Argentine privatization that began in 1992 was the most recent of a series of privatizations. As early as the late 1950's and early 1960's, Argentina privatized some nationalized industries. Again, during the 1970's, another wave of privatization was undertaken, resulting in the sale of 120 companies.[6] Attempts to increase the efficiency of remaining public companies during the late 1970's and 1980's were largely unsuccessful. For example, the 13 largest public companies in Argentina (exclusive of defense) had an operating deficit of $3.8 billion on revenue of $8.7 billion during 1989. During the first half of 1990, the operating deficit grew another 35 percent.

The country's inability to resolve these problems led to the 1992 privatization program. By this time, Argentina's electricity industry " had deteriorated badly and was characterized by severe operational and financial difficulties ."[7] The industry was constantly threatened with the possibility of blackouts, a threat which worsened during periods of relatively little rainfall (such as the summer) because of Argentina's reliance on hydroelectric power generation (Table 19). Electricity was also expensive and often stolen by consumers either through illegal hook-ups or by failure to pay bills.[8] (Argentina's problems were similar to those of other Latin American countries. For a brief review, see the text box entitled, " Historical Overview of Latin American Electricity ") Despite these problems, the industry achieved a positive growth rate. For example, between 1985 and 1991, net production of electricity increased 19

percent, averaging slightly more than 3 percent annually. However, since privatization began in 1992, the growth rate of electricity production has doubled. Between 1992 and 1995, net production of electricity in Argentina has increased 22 percent, averaging slightly less than 7 percent annually. Argentina's electric industry problems included recurring power outages, substantial and regular unavailability of power generators, and rampant theft of electricity. Given these problems and Argentina's economy-wide problems, the dramatic increase in electricity production that has accompanied privatization demonstrates the extent of its effectiveness.

Argentina's privatization was modeled after Chile's with modifications introduced to correct problems encountered by Chile. Argentina began privatization of its electricity industry more than ten years after Chile privatized its industry. The features of Chile's privatized electricity industry that Argentina adopted included open access to the wholesale electricity market guaranteed by law despite widely dispersed generation plants, and dispatch of electricity based on the production costs of the available generators, with the lowest-cost generation dispatched first. However, Argentina, unlike Chile, required complete separation of transmission from generation and distribution. Other willful differences in the privatizated industries of the two countries include Argentina's restriction that no single generator provide more than ten percent of national generation capacity.[9]

In 1991, just prior to the beginning of privatization, Argentina's electricity industry included four federal utilities,[10] one Argentina-Paraguay agency (controlling a large hydroelectric plant owned jointly by the two countries), one Argentina-Uruguay agency (also controlling a large hydroelectric plant owned jointly by the two countries), 19 provincial utilities, and several electricity cooperatives. One of the four federal utilities generated and distributed electricity to the greater Buenos Aires and La Plata area, one served the balance of the country's needs for power generation and transmission,[11] one oversaw the hydroelectric power generators of southern Argentina,[12] and one oversaw nuclear power generation plants.[13] At the time of privatization, the non-nuclear utilities accounted for about 80 percent of the approximately 15,000-megawatt generation capacity of the system. Since 1992, at least some part of each of the first three former federally-owned utilities (the power generation branch of the national atomic energy agency is the lone exception) has been privatized.[14]

Changes in Legislation and International Agreements

Several legal changes preceded the most recent round of privatization, which began with the passage of two 1989 laws. The first, the Economic Emergency Law, prohibited the Argentine central bank from financing government deficits and suspended all state subsidies and many incentive programs to mining and manufacturing companies.[15]

The second 1989 law was the Administrative Reform Law (Reform Law).[16] The Reform Law, enacted in September 1989, defined the ground rules for investment in formerly federally-owned companies. The ground rules implicitly allowed foreign investment by not expressly prohibiting it.[17] Additionally, the Reform Law gave the Argentina federal government authority to privatize federal companies, including the Buenos Aires electricity company.[18] Although parliamentary approval of privatization sales to domestic companies and/or foreign companies was assured by the Reform Law, further laws to govern the restructuring and privatization of Argentina's different industries were necessary.[19]

Although the 1989 laws allowed foreign companies to invest in Argentina's privatizing industries, U.S. companies were given a further incentive to invest by a 1992 trade treaty. The 1992 Bilateral Investment Treaty accorded U.S. companies the privilege of investing in Argentina's private sector at terms at least as favorable as those accorded domestic investors.[20]

Also during 1992, an electricity privatization law was passed. Public Law 24,065 (Electric Law), enacted in January 1992, established a legal structure for restructuring and privatizing the electricity industry. The federal government intended for the Electric Law to reduce electricity rates and improve service. The restructuring that preceded privatization was designed to lead to competition between the soon-to-be-privatized electricity companies [21] and was modeled after earlier restructuring by Chile and the price-cap regulation of the United Kingdom [22] Two further legal changes occurred during 1993. A 1993 amendment to the Foreign Investment Law [23] more explicitly addressed the question of foreign investment. This amendment removed restrictions that applied only to foreign investors, freeing them of the need to receive prior approval for most investment. Later in 1993, the measures of the 1989 Economic Emergency Law, the 1989 Reform Law, and the 1993 amendment to the Foreign Investment Law were combined in an act called Decree 1853, which removed most of the remaining restrictions on foreign investment.

Decree 1853, with few exceptions, allows foreigners to own 100 percent of Argentine companies, and to freely repatriate the profits and capital to their home country [24]. The passage of these laws, amendments, and treaties restructured Argentina's legal system to facilitate the sale of government-owned companies and assets, including those comprising the electricity industry.

The Industry Restructuring and Privatization Plan

The most recent round of privatizations by Argentina was conducted with guidance from the World Bank. [25] Although the World Bank was not directly involved in each individual privatization, Argentina largely adopted the Bank's recommendations in restructuring and privatizing its industries. [26]

Prior to the Initial Sale

After the passage of industry-specific privatization laws, the companies to be privatized were restructured so that a competitive industry with multiple companies could be created. Regulatory bodies for the newly-privatized industries also were established. Technical specialists defined and structured the assets into viable, independent business units. Legal advisors created charters for new corporations spun off from the privatized entity and prepared bidding documents, contract terms, and conditions consistent with sale objectives [27] and with the government's intent regarding privatization of the sector. [28]

Financial advisors determined necessary investment and price levels for the viability of the privatized entities. Advisors were paid expenses, an agreed-upon fee, and a bonus linked to the price the government received for the privatization(s) on which they worked. [29]

The Initial Sale

Privatized companies were sold through auction. The auction method used is known as the "two-envelope" process [30] Firms and consortia were prequalified for an intentionally short list of bidders. Those selected as bidders submitted a two-part bid. The first part of the bid was the technical offer, which had to conform with the requirements established by the bidding documents. Firms not meeting the technical requirements were eliminated. The second part of the remaining companies' bids, which contained the financial offers for the assets, were then examined. Winners either offered the highest price for the concession offered or agreed to provide the minimum level of service at the lowest price.

After the Initial Sale

The initial auction usually resulted in privatization of at least a bare majority (51 percent) of the company.

During early privatizations of federal electricity assets, the Argentine government retained no more than 39 percent and set aside at least 10 percent for company employees. However, as much as 90 percent of formerly government- owned companies was sold, with the employees receiving 10 percent of the company and the federal government retaining no ownership [31]. At least one 1995 sale resulted in the privatization of 98 percent of a relatively small (448 megawatts) hydroelectric company to an Argentine aluminum manufacturer, with the federal government retaining no ownership and only 2 percent retained for the generator's employees.[32]

The shares retained by the Argentine government during the initial sale/privatization could be sold later. Depending on how successfully winners of the initial sale operate the privatized company, the value of the government shares may change. However, sometimes the average price hardly changed. For example, in the case of the privatization of the southern distribution company of greater Buenos Aires, $511 million was paid for a 51-percent share in 1992 by a consortium.[33] The federal government's 39-percent share retained after the initial sale was sold in December 1995 for $390 million [34], essentially the same per-share price as in the 1992 sale.

The Creation of a Competitive Industry

Privatized Federal Enterprises

Argentina first restructured the federal electricity companies, and the electricity industry in general, and then privatized them. The restructuring began in 1992 with the creation of a national regulatory body,[35] Enre, for the soon-to-be privatized Argentine electricity industry. Also during 1992 a national electricity wholesale market [36] was organized and the privatization of companies began, within the new rules established by the various treaties and privatization laws discussed earlier. The first three of the federally-owned electricity companies that were privatized produced a total of about 80 percent of the nation's supply of electricity.[37] The companies were Segba, Ayee, and Hidronor.

Segba.

The first of the federal companies privatized was Segba, which served the greater Buenos Aires area, including the city of La Plata [38]. (Buenos Aires accounts for one-third of Argentina's total population.) Before Segba was privatized it was restructured by separating it vertically, and, to a lesser extent, horizontally. First, power generation was separated from transmission and distribution. Then, the constituent power generation facilities were separated from one another resulting in six separate companies (Figure 14).

Power transmission and distribution also were separated. The transmission assets were combined with those of Ayee and Hidronor to create a single high-voltage transmission company and six regional transmission companies (Figure 15). The distribution assets of Segba were separated into three companies, one each serving northern Buenos Aires, southern Buenos Aires, and La Plata (Figure 16).

Privatization of Segba's components began during 1992. The first sales were Segba's power generators. Of these, the first sold was Central Puerto in April 1992. Central Costanera and Central Alto Valle were next, in May and August 1992, respectively. Next to be sold were the distribution companies formed from Segba. The two distribution companies serving northern and southern greater Buenos Aires were sold in September 1992.[39] Subsequently, the remaining three power generation companies, the remaining distribution company, and the high-voltage transmission company, Transener, were privatized.

One interesting aside concerning the privatization of Transener, the high-voltage transmission company, is that National Grid Group, PLC was one of the members of a consortium that purchased a 95-year concession for 65 percent of Transener.[40] National Grid Group, PLC operates the transmission grid in the United Kingdom.

Ayee. The second of the federal electricity companies privatized had generation and transmission assets nationwide (i.e., everywhere but the Buenos Aires/La Plata metropolitan area).[41] Because of the large area for which Ayee was responsible, its restructuring resulted in many more individual companies than the restructuring of Segba, but affected substantially fewer electricity customers in total.

The restructuring of Ayee also separated the stages of power generation and transmission, and divided the generation facilities from one another. A total of 12 generation companies were created from the former federal utility (Figure 14). As previously mentioned, the transmission assets of Ayee were combined with those of Segba and Hidronor, creating a total of six transmission companies (Figure 15) Figure 15).[42]

As with Segba, the first assets of Ayee privatized were power generators. The first privatized was the thermal generator Central Termica Guemes in September 1992 [43]. Subsequently, nine additional thermal generators and two hydroelectric generators were privatized.

Hidronor.

The final privatization of the federal electricity companies involved Hidronor, which oversaw several hydroelectric power generation in southern Argentina.[44] Hidronor's primary assets were its four hydroelectric power facilities, each of which was restructured into a separate company and then privatized (Figure 15). Again, the transmission assets of Hidronor were combined with those of Segba and Ayee (Figure 15)

The first privatized was Central Hidroelectrica Alicura, S.A. in August 1993. Also privatized in August 1993 were Cerros Colorados and Chocon. By December 1993, the fourth and final generation company, del Aguila, was privatized.

Nuclear, Binational, and Provincial Enterprises

Although still not privatized, nuclear electricity assets were restructured in July 1994. The federal government separated the functions of the original nuclear agency into three distinct entities (Figure 17). The first is a company that the Argentine government wishes to privatize. It includes two operational nuclear generation plants, along with one plant still under construction. The second is the nuclear regulatory agency, which will continue to be government-owned and will regulate the individual nuclear powerplants after the plants are privatized. The third is the Argentine federal nuclear research organization, which retained the name of the original nuclear agency and will remain government-owned.

Also still unprivatized are Argentina's two binational hydroelectric generation facilities. One is jointly owned with Uruguay (Salto Grande), and the other is jointly owned with Paraguay and is still under construction (Yacyreta).

Following the onset of privatization of federally-owned electricity companies, restructuring of the provincial electricity companies began. Nearly all distribution assets outside Segba's service area (Buenos Aires and La Plata) belong to these companies. However as of early 1997, relatively few of the 19 provincial companies have been privatized. The most prominent of the exceptions is Eseba, the electricity

company of the Buenos Aires province, which has been partially privatized.[45]

As with the federal electric companies, Eseba was separated both vertically and horizontally, and two generation companies, one regional transmission company, and three distribution companies were created. However, unlike the federal privatizations, the first provincial companies privatized were distribution companies, not power generators. In April 1997, 95-year concessions for 90 percent of the ownership of each of the three distribution companies [46] were awarded. [47] Since then, privatization temporarily ceased; bids for the two generation companies were unexpectedly low and the governor of Buenos Aires province was advised to delay privatization. At the writing of this report (during the summer of 1997), it is unclear as to whether the privatization of the transmission company, planned for the summer of 1997, [48] will proceed as scheduled.

One apparently unprecedented event occurred during the privatization of Eseba. Among the companies unsuccess- fully attempting to buy the distribution companies of Eseba were both of the privatized former-federal distribution companies of Buenos Aires (Edesur and Edenor) and one of the privatized former-federal power generators, Central Costanera. [49] The Atlantic region concession was awarded for $404 million to a consortium of United Utilities International (a UK company, which is the parent of the regional electric company Norweb), Camuzzi (an Italian natural gas company), and Loma Negra (Argentina's largest cement manufacturer). [50] A con- sortium of AES Corp and Community Energy Alternatives (both U.S. companies) won the concessions for the northern and southern areas of the province, paying $565 million [51] Apparently, there was little concern with possible problems arising from increasing the concentration of Argentine power distribution, should Edesur or Edenor have won any of the three provincial distribution concessions

The Structure and Regulation of Industry Segments

As implied by the foregoing discussion of the restructuring and privatization of Argentina's electricity industry, much has changed in the past five years. Therefore, it is useful to provide an overview the current state of the different sectors of Argentina's electricity industry, beginning with a brief discussion of the federal regulatory body, Enre. [52]

The regulatory structure of Argentina's electricity industry was guided by earlier efforts by Chile and the United Kingdom. The federal regulator of Argentine electricity is Enre, which regulates all stages of the electricity industry, but most extensively transmission and distribution. Enre mediates disputes between electricity companies and enforces federal laws, regulations, and terms of concessions. [53] Enre also establishes service standards that distribution companies must meet and sets the maximum price that transmission and distribution companies may charge for their services. (This type of regulation is known as "price-cap regulation." See the section entitled "RPI-X: Price Caps Versus Rate of Return Regulation" in Chapter 2). Enre oversees the operator of the wholesale electricity market, Cammesa, and the generation companies. However, the generation companies are not subjected to price-cap regulation.

The post-privatization Argentine electricity industry consists of conventional power generation, transmission, distribution, and large users. Each of these is discussed in the following sections.

Power Generation. Conventional electricity (thermal and hydroelectric) facilities were sold separately, essentially making each privatized generation facility an independent power producer. The thermal generation facilities were sold outright, while concessions (averaging 30 years) were awarded for the hydroelectric plants [54]. The majority of Argentina's privatized generation capacity was purchased by foreign companies. Because foreign companies generally showed little interest in small capacity generation facilities, these privatized facilities tended to be exclusively owned by domestic companies.

Also, these domestic companies tended not to purchase generation facilities in order to sell electricity in the national wholesale market. Rather, the generation facilities were intended to be captive facilities, purchased to provide for the companies' own electricity needs. For example, two Argentine companies, a paper manufacturer and a steel producer, bought a 20-megawatt oil and gas-fired generating plant for $8.5 million [55]

The post-privatization Argentine power generation industry (including both conventional and non-conventional power facilities) is composed of independent, largely unregulated power generation companies. The companies are essentially unregulated because electric power generation is considered a competitive market. The nearly 40 generating companies operating in Argentina (Figure 14) are assured by the national electricity regulatory body (Enre) of having open and equal access to the national grid [56] and receive unregulated prices (Argentine electricity prices are discussed below). Nonetheless, some restrictions have been placed on power generators. In order to avoid market concentration difficulties, generation companies are legally restricted to a market share of 10 percent or less of the national electricity sales volume.[57] They also are prohibited from owning majority shares in electricity transmission facilities.[58]

About ten power generators (including both conventional and non-conventional) are still owned by the federal or provincial governments (in addition to those under construction or in the planning stage), either because efforts to privatize have not begun or because efforts are still unsuccessful. Nuclear power plants and the binational hydroelectric power generation facilities have been more problematic. (See the boxes entitled " Privatization of Argentine Nuclear Generation: The Long Good- bye" and " Privatization of Binational Generation: Twice the Usual Number of Headaches" for discussions of each.)

Even though still state-owned, the companies yet to be privatized effectively act as independent power producers, selling the power they generate through the wholesale electricity market. (Any power they generate is always dispatched.) Additional power demand is met by dispatching power from thermal power generators and cogenerators, in reverse order of their marginal cost of generation.

Generation companies receive income from providing actual electricity and reserve capacity to the transmission network. All generators whose power is dispatched by Cammesa receive a price equal to the marginal cost of the last generator whose power is dispatched. Generators whose production costs are too high to be dispatched by Cammesa receive a payment for providing the system with reserve power. The payment is based on the power they agree to provide, effectively creating a price floor for generators. However, the reserve payment is sufficiently low that generators have a dual incentive to reduce their costs --foremost, to have their electricity dispatched and, second, to increase the difference between electricity production costs and revenues from sales.

Wholesale Electricity Market. The wholesale electricity market (also known as a power pool) has both a supply side and a demand side. The supply side of the wholesale electricity market is composed of independent power producers, privatized generators, generators still owned by the federal government (including the two nuclear power plants), the two binational hydroelectric power plants (also still not privatized), and foreign producers selling imported electricity. The demand side of the wholesale market is composed of distribution companies, large users, and foreign consumers purchasing exported electricity.

The interaction of the supply and demand sides of the wholesale market largely determines wholesale prices for electricity. Additionally, a fixed charge is added to all of the market-determined prices to cover payments made by Cammesa to power generators providing reserve capacity to the electricity grid. Three kinds of wholesale electricity prices exist in the Argentine electricity industry: contractual prices, seasonal prices, and spot prices. Of these, seasonal and spot prices are determined directly in the wholesale

market, while contractual prices are affected indirectly by the wholesale market. (Prices are discussed in a separate section below.)

Use of the wholesale electricity market has increased substantially since its creation in 1992. For example, the number of exchanges taking place in the market has increased from approximately 20 (between February and April 1994) to around 450 (between November 1995 and January 1996)[59]. The number of participants in the wholesale market has demonstrated similar growth over the same period, particularly by large users, as total participants increased from about 50 (between February and April 1994) to more than 500 (between November 1995 and January 1996).[60]

The wholesale market is administered by Cammesa, a nonprofit, independent operating agency jointly owned wholesale by the government and the power generation companies. Cammesa is directed by a board composed of two representatives from each of the following: Argentina's federal government, power generators, transmission companies, distribution companies, and large users. The board of directors makes decisions based on simple majority rule. (However, the president of the board of directors is the Secretary of Energy, who has veto power over board decisions and apparently can be overridden only by the President of Argentina.) Cammesa has three primary tasks: dispatching power; determining the fixed charges and other fixed fees added to spot, seasonal, and contractual prices to cover the full costs of transmission; and ensuring that the power system maintains adequate reserve capacity.

Power is dispatched to the national electricity grid by Cammesa. Cammesa determines the cost of generation for each producer and then dispatches electricity to the transmission grid (discussed in the following section), sending the cheapest power first until current demand has been satisfied.[61] The price that is paid to each generator is determined largely by the highest cost producer whose power is dispatched .[62] (This arrangement is similar to the marginal cost pricing systems employed in the United Kingdom and Australia, discussed in Chapters 2 and 3 of this report.) Revenues to fund Cammesa's operations may be no more than 3.5 percent of the gross revenues generated by the wholesale electricity market.

Power Transmission. Although the wholesale market allows buyers and sellers of electricity to interact and determine prices, it is the transmission network of Argentina that physically links the buyers and sellers of electricity to one another, delivering power to distribution companies and to large industrial users. The transmission network has two parts, one high-voltage (500 kilovolts) transmission system, and six lower-voltage (220 kilovolts) regional transmission systems.

As in the United Kingdom and Australia, electricity transmission has been defined by Enre (the national electricity regulator) as a natural monopoly and is closely regulated. Firms may enter the industry only after successfully bidding for a fixed-duration concession for a particular area and may charge no more than regulated prices for their services. Concessionaires are required to allow open access to their transmission network to third parties.

Transmission companies are not allowed to buy or sell electricity. Instead, their revenues come exclusively from the regulated prices they receive. The price is based on the availability (providing a fixed source of income) and the use (providing a variable source of income) of their network assets.[63] The rate at which they are paid is capped by the federal electricity regulatory body, providing an incentive for Argentine transmission companies to reduce their costs.[64] (Price-cap regulation also is employed in the United Kingdom and Australia.)

The lower-voltage, regional transmission systems transmit power to and from the high-voltage

transmission system. Transener [65] owns and operates the high-voltage segment of the Argentine transmission network (in addition to one of the lower-voltage, regional systems). Transener serves a total 14 of Argentina's 24 provinces, possibly carrying 90 percent of Argentina's transmitted power.[66] Thus, Transener is considered the primary electricity transmission company in Argentina.

Among the six transmission companies, more than half have been at least partially privatized. The privatized companies are Distro Cuyo, Transnea, Transener, and Transpa.[67] The creation of a seventh private regional company was approved by the Argentine national electricity regulatory body during 1996. The company will construct, operate, and maintain transmission lines and transformer stations associated with the binational Yacyreta hydroelectric plant.[68] Construction of two additional transmission lines is under consideration and bids have been solicited. One will connect Salto to the Chilean border [69] and the other will add a fourth transmission line from Patagonia to Buenos Aires.[70]

Power Distribution. The final stage through which electricity passes between creation and use is the distribution stage. In Argentina electricity distribution is defined as a natural monopoly within the geographic area for which a concession is awarded. Firms may enter distribution only after successfully bidding for a concession. Distribution concessions are 95 years in length.[71] As with transmission companies, distribution companies have regulated maximum rates that they may charge for their services and must allow open access to their distribution network to third parties.[72]

Distribution companies provide power to their end users at rates that are capped by regulators (similar to provisions in the United Kingdom and Australia, discussed in the section entitled "RPI-X: Price Caps Versus Rate-of- Return Regulation" in Chapter 2). Incentives to reduce operating costs are provided by price-cap regulation, and the benefits of cost reductions are received by the regulated company and its stockholders. Customers, too, eventually save from lower operating costs because the cap is reset every five to eight years.[73]

Distribution assets formerly owned by federal electric utility companies generally were privatized or transferred to the provinces,[74] which have begun to privatize the distribution operations. Several distribution companies were created by the restructuring. The two largest, which serve greater Buenos Aires, were the first privatized.

Large Users. Large users (who consume at least 2 megawatt hours of electricity annually) may choose to be supplied by the distribution company serving their area or purchase electricity directly from a generation company. Large users are in one of two categories: major, which consume at least 4,380 megawatt hours of electricity annually, and minor, which consume less than 4,380 megawatt hours annually.

Large users choosing to be supplied directly by a generation company pay a contracted price determined through bilateral negotiation with a generation company. Large users who instead choose to be supplied by a distribution company pay the same rate charged any other customer of the distribution company. Large users additionally are permitted to buy power directly from the wholesale electricity market, paying the spot price.[75] The number of large users active in the wholesale electricity market has increased from about 5 in 1993 (none during 1992) to more than 200 in early 1996.[76]

Electricity Prices

Contractual Prices. Contractual prices are negotiated between generation companies and distribution companies, or between generation companies and large users. The length of the contracts is typically one year. These prices are largely unregulated. Hydroelectric generators may contract only up to 70 percent

of their anticipated monthly production. (Note that weather conditions and other factors may dramatically affect water levels and, therefore, the generation capacity of hydroelectric generators.) Similarly, thermal generators may not contract for more delivered electricity than their net generation capacity (some electricity use occurs at the generation facility).[77]

Seasonal Prices. Seasonal prices are determined by Cammesa in the seasonal component of the wholesale electricity market and officially maintained for 6-month periods, beginning May 1 and November 1 of each year. The seasons are based on water level [78] and generally correspond to winter/spring and summer/fall, respectively. Every 3 months Cammesa receives updates to the information it uses to determine seasonal prices and may then revise the current seasonal price.[79] Thus, seasonal prices are effectively 3-month prices.

Cammesa sets seasonal prices by using information provided by distribution, transmission, and generation companies. The information includes demand forecasts for typical days, unavailable reactive power, and weekly load curves from distribution companies; availability, restrictions, reactive power equipment unavailable, and net equipment information from transmission companies; capacity, efficiency, planned maintenance, internal electricity consumption, and availability from all generation companies; fuel use and prices from thermal generation companies; and historical and predicted water flows and other characteristics of the reservoirs from hydroelectric generation companies.[80]

The seasonal price is paid by distribution companies purchasing power in excess of the amount they had contracted to purchase from power generators. Seasonal prices during the winter/spring presume that hydroelectric generators are the primary source of power and have lower seasonal prices than the summer/fall period. Alternatively, seasonal prices during the summer/fall presume that thermal generators are the largest source of power and have relatively higher prices.[81]

Spot Prices. Spot prices are determined by the interaction of buyers and sellers in the spot component of the wholesale electricity market. Spot prices vary hourly.[82] The buyers who pay the spot price include generators and large users. Generators buy electricity they contractually agreed to provide in excess of actual generation. Additionally, large users who contracted for too little power to cover their current need may purchase additional electricity in the wholesale market, paying the spot price.

Sellers receive the spot price and may include distribution companies, generators, and large users. Distribution companies contracting for more electricity than actually purchased by their customers may sell their excess electricity in the spot market. Similarly, generators may sell electricity produced beyond their contractual obligations (to either distribution companies or large users) in the spot market. Large users, too, may sell any electricity they have contracted to buy that exceeds their current use, receiving the spot price.

Spot prices received are adjusted through application of fixed charges. These charges are assessed by Cammesa and are to cover the costs of ensuring some minimum level of reserve capacity and coverage of transmission and other losses.

Reserve capacity provided by thermal generators is based on the level of undispatched, but available, capacity they provide. Hydroelectric generators are paid on the basis of the amount of power generated. Reserve capacity is assigned on the basis of least-cost generation.

Transmission loss charges are based on the physical distance of the electricity seller from Buenos Aires. The greater the distance, the more the price received is discounted to cover transmission losses. [83]

As of May 1996, the base price paid for electricity dispatched by Cammesa was $5 per megawatt hour

and the fee paid for reserve capacity also was $5 per megawatt hour, summing to $10 per megawatt hour. [84]

Electricity Sector Effects

Argentina created a wholesale market for bulk electricity sales in which prices are based largely on the interaction of the two sides of the market, sellers and buyers. The wholesale market is overseen by Cammesa, while Enre, the federal electricity regulatory agency, oversees the electricity industry as a whole. Enre established regulations mandating services that distribution companies must provide to end users and instituted price-cap regulation of transmission and distribution. Price-cap regulation is not applied to generation. The Argentine federal government continues to engage in power planning, granting concessions, and setting overall electricity policies. Since privatization, many noticeable changes have marked the Argentine electricity industry. The changes include lower prices, increased reliability, lower employment, higher productivity, and increased foreign investment.

Lower Prices and Increased Reliability.

Following privatization, Argentine wholesale electricity prices fell about 60 percent from the pre-privatization level of $60 per megawatt hour in August 1992.[85] As of 1997, Argentina's wholesale power rates stabilized at about 40 percent below the pre-privatization level. However, this occurred only after a period of adjustment, during which wholesale rates fell almost to zero.[86]

Increased reliability of electricity service has been substantial in some cases. For example, the northern Buenos Aires distribution company reduced outages from 22 hours per year in 1992 to 6 hours per year in 1995. Meanwhile, the southern Buenos Aires distribution company cut outages from 39 hours per year to 6 hours per year over the same period.[87]

Reliability also has been increased through the introduction of improved technology. For example, following privatization, incumbent generating plants were retrofitted with power system stabilizers. Once the stabilizers were in place, a system to automatically disconnect generating capacity could be designed. Transmission faults were then less likely to cause widespread outages because the automatic system disconnects as little generating capacity as possible, given the particular transmission fault.[88]

Increased Productivity, Efficiency, and Investment.

Increased productivity did not occur overnight in Argentina. Many newly-privatized companies struggled to institute changes and make improvements. For example, the southern distribution company of greater Buenos Aires, one of the first distribution companies privatized, lost $150 million in the first 16 months after privatization. A concerted effort to discover and eliminate illegal connections, through which much electricity was stolen from the company, was eventually successful and the amount of Argentine electricity stolen through illegal connections was substantially reduced. This reduction at least partially accounts for an approximate profit of $60 million during 1995.[89]

As productivity at the generation stage was increased, overall efficiency eventually was increased. For example, 30 percent of the capacity of Costanera, a generator near Buenos Aires, typically was available before privatization. By 1994, availability was increased to 75 percent. Similarly, the electric distribution company serving the city of La Plata increased its customer base from 228,000 to 270,000 customers between 1992 and 1995, even while company employment fell [90]

Electricity service to Buenos Aires will be increased with the construction of a new $250 million transmission line from Patagonia to Buenos Aires. The transmission line will be commissioned by a

consortium [91] of eight privatized electricity generation companies. The companies are legally prohibited from holding a majority share in the planned transmission line, but will fund the construction and award the concession. The consortium also plans a $25-million capacitor project, which is expected to substantially increase the electricity supply to the greater Buenos Aires area from 2,700 megawatts to 4,600 over a three-year period. The consortium members currently produce 31 percent of Argentina's total electricity supply.[92]

With increased productivity, unemployment has become a problem as individual electricity companies in Argentina (and Chile) have reduced their total employment by as much as 40 percent since privatization.[93] Further, rising economy-wide unemployment prompted the 1994 signing of an agreement between the Argentine federal government, business organizations, and labor unions to restrain unemployment. This agreement includes the creation of training programs for displaced workers.[94]

Increasing foreign investment was one of the primary reasons the Argentine government undertook the 1992 round of general privatization. The government has indicated satisfaction with the level of foreign investment since privatization began (Figure 18). For example, the private owners of the northern distribution company of greater Buenos Aires made capital investments of about $380 million between September 1992 and 1995. Between 1995 and 2000 an additional total investment of $500 million is planned for northern Buenos Aires.[95] Anticipated economy-wide electricity investment between 1996 and 2001 is $7 billion, most of which is attributed to private investors.[96] The primary purpose of at least some of the anticipated investment is to improve customer service.

Economy-wide Effects

Debt Reduction. Privatization has reduced Argentina's federal government debt in two ways. First, federal assets were sold and the proceeds were used to retire debt. Privatization resulted in payments to the Argentine federal government of $10 billion.[97] Second, the losses generated by many federal companies were eliminated by selling the companies, thus ending the drain on the federal treasury as additional savings from reduced government subsidies to public companies were anticipated.[98]

There was a concern that some Argentine federal electricity companies might have drawn unacceptably low bids. As a result, in order to ensure their sale, the Argentine federal government agreed to retain some of these companies' liabilities and debt. (This type of partial assumption of the debt of federal companies in order to ensure their sale was applied to federal assets of many Argentine industries, not just the electricity industry.) The assumption of these debts (essentially, privatization-related expenses) necessarily contributed to Argentina's increase in publicly-guaranteed foreign debt (from $47.6 billion in 1991 to an estimated $62.2 billion in 1995 [99]) and could lead to the conclusion that privatization worsened Argentina's external debt. However, in reality, Argentina's external debt may have increased substantially more in the absence of their assumption of this debt, due to the anticipated continued losses and debts of the federal companies.

The anticipated long-term effect of privatizing former federal companies in Argentina is reduced federal debt. Between 1990 and 1994, Argentine government foreign debt was reduced by $15 billion as a result of proceeds from direct sale of federal assets.[100] An additional $2.7 billion of debt was transferred (via privatization) by the federal government to the new private owners of the former-federal companies.[101] Further, the ratio of debt interest payments to exports has fallen from nearly 35 percent in 1991 to an estimate of slightly less than 17 percent in 1995.[102]

Privatization proceeds have been considerable. As a result, the Argentine federal government has been able to substantially reduce domestic borrowing. Other privatization funds are earmarked for the

repurchase of government bonds, which also will reduce federal debt.

Employment Reduction. Federal employment in Argentine industries selected for privatization was anticipated, by the completion of privatization, to fall from a pre-1990-level of 222,000 employees to less than 42,000 employees. About 66,000 of those losing their public jobs were expected to be hired by the new private firms and another 19,000 of these employees were expected to retire.[103] At the same time, slowed economic growth and restructuring of the economy contributed to a soaring Argentine unemployment rate. The unemployment rate increased from 6.8 percent in 1991 to about 13.5 percent in 1995 [104] and, through May 1997, was about 17 percent.[105, 106] However, as of 1993, opposition by organized labor to such traumatic change was limited and was more than offset by public approval and by increased opportunity in the private sector. [107]

Few data are available concerning actual employment changes in privatized companies resulting from Argentina's massive privatization program. It is unclear how closely actual employment changes in the electricity industry have reflected anticipated reductions

Improved Economic Environment. By almost every measure, Argentina's economy has improved since the 1992 privatization efforts began. One of the first signs of the country's improvement occurred in December 1992, when it was allowed to enter into a credit-enhancing international debt agreement with the United States (generally known as "Brady debt").[108] Inflation (measured by the wholesale price index) fell from an annual rate of 1,607 percent in 1990 to 5.9 percent in 1994.[109] Real investment grew at an annual rate of approximately 20 percent between 1991 and 1994.[110] Economic growth (measured by the change in real Gross Domestic Product) varied between 5.8 and 8.7 percent between 1991 and 1994,[111] fell to about 1 percent during 1995,[112] but rebounded (by May 1997) to reach a 1997 annualized rate of about 8 percent.[113]

The interaction of supply and demand for electricity will determine the price in the newly-privatized environment. Increased efficiency is expected to reduce costs and put downward pressure on prices. However, real prices after privatization may increase as elimination of the use of government subsidies and ceilings that historically kept prices low may raise some prices. Further, elimination of previously existing cross-subsidies in which rural and large industrial customers subsidized urban residential customers [114] may also lead to increases in some prices paid for electricity.

Foreign investment in all Argentine industry has increased,[115] providing capital needed for the introduction and application of new technologies. According to the Inter-American Development Bank, net capital inflows to Argentina increased each year between 1991 and 1994, reaching almost $11 billion in 1994 (with the private sector receiving almost $9 billion).[116]

Resulting Foreign Investment

According to recent information, the largest concentration of private firms in Argentine electricity is in the area of power generation, the first segment of Argentina's electricity industry privatized (Figure 19). However, despite the substantially larger number of privatizations in power generation, electricity distribution based on sales is almost as heavily controlled by private firms (Figure 20).

Nearly all the companies that are investing in Argentina's electricity industry are from the United States or Chile.

The reduced risk associated with the political climate of Argentina, the apparent dedication of the current government to its program of macroeconomic stability, and the large growth rates forecast for Latin

America (and for Argentina, in particular) have attracted many companies to participate in the privatization of Argentina's electricity industry. For example, when 90 percent of the Buenos Aires provincial electricity company was privatized during 1996, sixteen consortia made offers.[117] (A listing of foreign companies with current investments in Argentine electricity is provided in Table 20. (See Appendix Table C1 for more information.)

Private companies have invested in the privatization of Argentina's electricity industry for several reasons. First, there are growth opportunities (the U.S. electricity industry is forecast to grow two percent between 1994 and 2000, while Argentina's electricity industry has been forecast to expand at an average annual rate of 8 percent for the same period).[118] Second, U.S. companies may see Argentina as a laboratory for learning how to operate in a deregulated market and hope to transfer the knowledge gained to the soon-to-be deregulated U.S. electricity industry.[119] Third, companies have invested in Argentina's privatized electricity industry in order to be positioned to subsequently expand into investments in the privatized electricity industries of other Latin American countries.[120] Fourth, some companies have developed specialities in electricity operations (e.g., power generation) and see opportunities to apply those specialities in Argentina.[121]

However, some companies investing in Argentine electricity have made mistakes. Companies have made investments in properties that later were sold. There also have been cases where, by substantially outbidding other companies, buyers have in fact overpaid for properties.[122] Some companies have reacted to mistakes by others by exercising caution.[123] Others have decided to refocus their investments to a more narrow range of activities.

Many of the companies investing in Argentina's privatized electricity industry are active in power generation in their own country.[124] For example, privatization in Argentina has enabled several of Chile's electricity firms to enter power generation in Argentina.

A network of Latin American transcontinental gas pipelines (permitting the conversion of coal-fired to natural gas-fired electricity plants) is well under way. Some of the firms active in the expansion of the natural gas pipeline network also are electricity companies. Examples include Chilgener[125] and CMS Energy (a U.S. company).[126] (See the box entitled "Latin America's New Natural Gas Pipeline Network" for a discussion of the relationship between natural gas pipeline investment and electricity investment in Latin America.)

The success of the network of gas pipelines may enhance the probability of a Latin American electricity grid. Argentina's electricity privatization has further spurred speculation that the natural gas network under construction will be formally extended, creating a regional electricity/natural gas network. In fact, the chairman of one of these Chilean electricity firms, Chilgener, has publicly speculated that within ten years an interconnected grid for the seven Southern Cone countries (Argentina, Bolivia, Brazil, Chile, Paraguay, Peru, and Uruguay)--with a single multinational regulator ensuring efficient use of capacity--will exist. Such an extraordinary innovation would substantially advance Latin America's standing in world markets.

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Intermediation Spreads in a Dual Currency Economy: Argentina in the 1990s

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Abstract

The currency board arrangement and widespread dollarization of the Argentine economy since 1991 have laid the basis for domestic interest rates to converge to international levels. Although such a convergence has been observed for interest rates on bank deposits, interest rates on bank lending remain well above industrial country levels. This paper examines the causes of high intermediation spreads in Argentina using a dual currency model of the banking industry, which incorporates key features of credit markets in that country. Empirical results allow inferences to be drawn on the effects of macroeconomic and financial policies on bank lending and interest rates.

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SUMMARY

Since the onset of the currency board arrangement in early 1991, interest rates on bank deposits in Argentina have gradually converged to international levels. Yet, a similar convergence has not been observed for lending interest rates, which stand well above OECD levels. This is widely perceived as having had a detrimental impact on employment in Argentina and on the external competitiveness of its domestic industry, as most firms have continued to rely on local banks for their financing.

This paper examines the determinants of the spread between deposit and lending interest rates in Argentina, seeking to answer two main questions. First, why have banking spreads remained relatively high despite the uninterrupted operation of the currency board arrangement for seven years now and the far-reaching liberalization and financial sector reforms that have boosted banking sector productivity? Second, why has there been a significant gap between interest rate spreads in domestic currency and those in foreign currency transactions, given that banks and the general public are virtually free to intermediate in either currency?

To identify the contribution of banks' operating costs and financial policy variables to intermediation spreads, this paper develops a partial equilibrium model of the banking industry in a dual currency economy with imperfectly competitive credit markets, and estimates it empirically. The evidence indicates that high intermediation spreads in Argentina persist as a result of (1) high administrative costs stemming from the low monetization of the economy, inefficiencies of the payments system, and limited consolidation of the financial system; (2) credit risk and sizable provisioning expenses associated with the large stock of non-performing loans, which partly reflect institutional barriers to the dissemination of credit information; and (3) market segmentation between domestic and foreign currency borrowers. Based on these results, the paper discusses a number of policy recommendations to reduce further banking spreads in Argentina.

I. INTRODUCTION

The banking industry in emerging market economies of the Western Hemisphere has undergone major transformations in recent years. With the sharp fall in inflation and the elimination of interest rate and credit controls, both funding costs and credit risk increased substantially, while competition among financial intermediaries became stiffer. Productivity in the banking sector improved markedly in most countries in the region. However, intermediation spreads—herewith defined as the difference between the average interest rate on bank deposits and the average interest rate on bank lending—have declined only slowly, even in those countries which have embarked on capital account liberalization and allowed domestic banks to intermediate freely in domestic and foreign currency, such as Argentina, Peru and Uruguay.[2] The persistence of high banking spreads is an important policy issue in these countries, where access to foreign savings is still relatively expensive, and investment needs associated with the process of structural transformation and catching up growth, are sizeable. In this context, the low efficiency and high cost in mobilizing national savings by the local financial sector has been shown to raise the domestic price of capital above optimal levels, restricting the access of innovative entrepreneurs to liquid funds and relegating a number of investment projects to economically inefficient scales, with clear adverse effects on external competitiveness and economic growth (King and Levine, 1993; Levine, 1997).

The depth of financial sector reforms in Argentina and the monetary discipline entailed by the currency board arrangement (CBA), make it an interesting case study on the relationship between structure and efficiency of its banking industry and domestic intermediation spreads. Following a decade of high inflation, widespread capital controls, and abundant Central Bank credit to financial institutions, Argentina's banking system was clearly oversized and undercapitalized by the early 1990s. Labor productivity had reached an all-time low, the share of problem loans in banks' portfolio exceeded twenty percent, and intermediation spreads hovered around triple-digit levels. Market discipline was introduced at a stroke with the enactment of the CBA in March 1991. Capital controls were abolished on practically all external transactions and strict limits were placed on Central Bank credit, including its role as a lender of last resort to the financial sector. A tight system of prudential regulations was gradually implemented to ensure that banks operated with high liquidity margins and capital-asset ratios, given the virtual lack of a lender of last resort; a number of public financial institutions were privatized, and considerable emphasis was placed on opening up the domestic market to foreign competition.

Responding to the new system of incentives and checks, both private and public banks underwent considerable streamlining. Employment in the financial system was cut by some 30 percent between 1989 and 1996. As deposits and the supply of banking services more than doubled in real terms, average productivity growth exceeded 10 percent a year. Yet, throughout the period intermediation spreads in Argentina remained high compared with

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[2]For the case of Peru, see Segura (1995). Intermediation spreads in Uruguay can be gauged from bank deposit and lending rates provided in IMF, *International Financial Statistics*.

OECD standards. After a sharp drop from their very high levels in late 1990, intermediation spreads declined only gradually (Figure 1); by late 1997 they stood in the neighborhood of 11 percent for the average of peso and dollar-denominated transactions. This compares with average banking spreads in the range of 1 to 4 percent for most industrial countries (IMF, 1996, p.80).

Thus, while interest rates on bank deposits in Argentina have converged to international levels —as one would expect from a currency board arrangement (Figure 2)—domestic lending rates remained far above industrial country levels. As most enterprises continued to rely on domestic bank credit as their main source of financing, the adverse effect of high banking spreads on competitiveness and employment have become increasingly apparent in recent years as a result of trade liberalization, the currency peg, and the opening up of the economy. This has motivated a number of policy initiatives to try and lower the domestic cost of financial intermediation, particularly during the early years of the convertibility regime. However, their outcome fell well short of expectations, as acknowledged by a key policy maker at the time (Cavallo, 1997).

The continuing importance of the topic and the paucity of robust empirical evidence on the determinants of intermediation spreads in Argentina, call for a more detailed investigation. This paper examines the issue in the context of a dual currency model of banking lending under imperfectly competitive credit markets, and where banks are subject to a set of binding prudential regulations. The remainder of the paper is structured along four sections as follows. Section II singles out a set of variables which appear to explain the high level of intermediation spreads in Argentina, and provides some *prima facie* evidence on the correlation between intermediation spreads and these variables over the period 1992–97. Against this background, Section III spells out an optimizing partial equilibrium model of bank lending in which individual banks behave like a profit maximizing firm under the constraints imposed by prudential regulations and a certain market structure. Section IV estimates the model empirically and discusses the extent to which it fits actual developments. On the basis of these results, the relative importance of distinct macro and microeconomic variables in the determination of banking spreads is assessed, and inferences are drawn on the impact of certain financial policies on domestic lending rates. Section V summarizes the main findings and discusses their policy implications.

II. *PRIMA FACIE* EVIDENCE

Table 1 provides information on selected banking indicators for Argentina and a group of OECD countries.[3] The first three lines of Table 1 show the **implicit** interest rate on loan and

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[3]Data for Peru is reported for comparison purposes since it is also a dual currency economy which have witnessed major financial sector reforms in recent years. For all countries, 1994 was chosen as the reference year due to a lack of comparable data for 1996, and also because

(continued...)

deposit operations derived from the income statements of the consolidated banking system in these countries.[4] The implicit spread between deposit and lending rates in Argentina is clearly higher than those in OECD countries, particularly when compared with the G7 group excluding Italy. Table 1 highlights some factors which account for these cross-country differences. Contrary to what one might expect, higher profit margins do not stand out as a key factor.[5] The two main culprits for high interest spreads in Argentina appear to be banks' operating costs and expenses with loan provisioning, both of which are up to three times as high as in OECD economies.

A number of hypotheses have been raised to explain the prevalence of **high operating costs** in banking among non-OECD economies (Revell, 1981; Hanson and Rocha, 1986; Segura, 1995; Vicens, 1997). A first set of factors pertains to macroeconomic and institutional disincentives to individual bank performance which have historically plagued some of these countries. In the case of Argentina, widespread subsidies to public banks, together with credit and capital controls prior to the early 1990s, helped shield financial institutions from domestic and foreign competition, reducing incentives for productivity growth. High inflation during the 1980s, by lowering the real cost of expanding the deposit base, reinforced the above factors and contributed to excessive branching.[6] As a result, Argentina embarked upon the banking sector reforms of the 1990s from a rather low **starting point**, with a financial system which was clearly undercapitalized and oversized. While the new "rules of the game" entailed by the CBA reinstated incentives for individual bank performance and productivity indicators for the banking system witnessed a marked improvement (Figure 3), on the eve of the Tequila crisis in late 1994, 205 banks still operated in Argentina compared with 219 in 1991; the two largest

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[3](...continued)
it seems a better choice than 1995 given the large exchange rate realignments amongst OECD countries during 1995 and the effects of the "Tequila" crisis on Argentina.

[4]The implicit or effective interest rate can differ markedly from the ex-ante or the contract interest rate in countries with a high incidence of nonperforming loans and refinancing operations.

[5]Although it can be rightly argued that 1994 was an atypical year regarding bank profitability, the ratio of profits to net worth of the consolidated banking sector in Argentina has not been overly high. It marginally exceeded 10 percent during the 1993 boom and averaged 7 percent in 1997 (Figure 8). The average rate of return on equity for the U.S. big banks, in comparison, has fluctuated in the range of 15 to 20 percent in recent years. See *The Economist*, April 11th–17th, 1998, pp. 55–56.

[6]It has been shown that in high inflation countries banks tend to develop an extensive network of local branches aimed at reducing the high transactions costs in these economies (Revell, 1981; Hanson and Rocha, 1986). With the sharp drop in inflation following macroeconomic stabilization, part of this network becomes redundant. This leads to higher overhead costs per unit of loan which, in turn, prevents a faster decline in intermediation margins.

public banks comprised 22 percent of total deposits, and the ratio of deposits per employee was three to five times lower than in OECD countries. Although the consolidation process has speeded up over the past two years, with the closure of less efficient banks and further tightening in prudential regulations, recent empirical evidence indicates that the number of financial institutions operating below the optimal production frontier (the so-called "X-inefficiencies") remains very high in Argentina compared to more advanced economies (Dick, 1996).[7]

Low monetization of the economy and inefficiencies in the **payments system** have been highlighted as important causes of banks' high operating costs among non-OECD economies, and Argentina is no exception in this regard. Despite its marked rise since the end of the 1989–90 hyperinflation, the degree of monetization of the Argentine economy remains low. The ratio of broad money (M3) to GDP barely exceeded 22 percent in 1997, compared, for instance, with 59 percent for the U.S., 67 percent for Germany, and 79 percent for Spain in 1996. Lower monetization limits risk diversification and entails lower average value of deposits per bank account which, in turn, raises operational costs per unit of deposits (Levine, 1997; Vicens, 1997). Moreover, it has been noted that not only is monetization low in Argentina but also the composition of payment instruments and bank services demanded by the public has been highly skewed toward cash transactions and labor intensive tasks, which are relatively costly (Villar, 1996). The low efficiency of the interbank payments system—which, prior to the 1997 reforms, operated in a semi-manual fashion and with great reliance on cash settlements of interbank transactions—has further contributed to keep banking costs high, as physical transportation of currency and other payment instruments delays final settlement, is riskier, and entail higher insurance costs (Villar, 1996).

Prudential regulations are widely acknowledged to have an important effect on intermediation spreads, as they constitute an extra tax on financial intermediation which, *ceteris paribus*, raises the wedge between deposit and lending interest rates. Partly because of a long history of financial crises and institutional constraints faced by banking supervision,[8]

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[7]Dick (1996) estimates the level of X-inefficiencies in Argentina's banking industry at 57 percent. In other words, if less efficient banks were to disappear or start operating on the production frontier estimated for efficient banks, the average cost of financial intermediation in Argentina would decline by as much as 57 percent.

[8]For instance, an accurate assessment of the banking system's net worth in developing countries is often marred by looser accountancy practices, shallow capital markets and the prevalence of ownership concentration. As most domestic banks raise only a small fraction of their capital at stock exchanges they are not subject to extensive market monitoring and pricing of their capital base. In fact, it is not unusual to have banks' capital measured at historical book value rather than at current market prices, often entailing an overestimation of banks' actual net worth. The prevalence of ownership concentration also complicates the assessment of the aggregate net worth of the banking system insofar as large shareholders can

(continued...)

partly due to the restrictions imposed by the currency board arrangement on the Central bank role as a lender of last resort, both reserve/liquidity requirements and minimum capital adequacy ratios have been significantly higher in Argentina than in most countries. During 1991–94, the Argentine financial system embarked upon a far-reaching process of re-capitalization. By late 1994, the average capital-asset ratio (measured by the standard Basle methodology) rose to 18.3 percent.[9] Regulations on minimum provisioning for problem loans were tightened further in the wake of the 1995 banking crisis, and the risk weighted capital-asset ratio for the system reached 20 percent in early 1997. With regard to reserve requirements, Figure 11 shows that reserve requirements plus banks' cash in vault[10] in peso, albeit having declined somewhat between mid–1991 and late 1997, remained above 25 percent, while reserves on U.S. dollar-denominated liabilities increased to that level. By late 1997, the average of U.S. dollar and peso legal liquidity requirements in Argentina reached 19 percent of deposits, with banks' cash in vault adding some 6 percentage points to this Figure. This is quite high by international standards and no doubt poses a significant restraint on bank lending. Its impact on intermediation spreads, however, has been mitigated since mid–1995 when legal reserve requirements started being remunerated at interest rates close to that of average bank deposits (4 to 5 percent a year), under a system of "liquidity requirements".

Banks' operating costs have also been heightened by sizeable **provisioning expenses**. The latter is a direct function of credit risk and the actual stock of **problem loans** which have been relatively high in Argentina due to a number of institutional factors and cyclical developments. With regard to institutional factors, the classical **information asymmetry** problem discussed

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[8](...continued)
offset their equity position in a bank with a liability position to the same bank or to banks owned by a related party, entailing a *de facto* reduction in capital adequacy standards (Rojas-Suarez and Weisbroad, 1995). In light of these difficulties in assessing banks' true net worth and systemic credit risk, it has been argued that reserve/liquidity requirements in developing and transition economies ought to be significantly higher than in developed countries (Fernandez and Guidotti, 1995).

[9]At the time, system averages hid significant shortfalls in capital requirements on the part of small private institutions and provincial government banks, whose fragility was brought into sharp relief by the deposit outflow of late 1994/early 1995.

[10]Prior to 1993, legal reserve requirements included banks' technical cash in vault. From March 1993, legal reserve requirements were lowered but banks' cash in vault was no longer allowed to be counted as part of the requirement. In 1995, in an effort to ease monetary conditions during the banking crisis, the authorities allowed banks to use up to 50 percent of their cash in vault to meet reserve requirements. This measure was abolished in February 1996, following the reflow of deposit into the banking system and end of the financial crisis. In order to keep the presentation consistent, the series plotted in Figure 11, adds banks' cash in vault to the legal reserve requirements throughout 1991–1997.

in the literature on banking (Jaffe and Russell, 1976; Mishkin, 1996) has been exacerbated in Argentina by the lack of a well-established nationwide credit rating system and generally loose accountancy standards, which make it even more difficult for banks to screen out "good" from "bad" borrowers (Cañonero, 1997; Vicens, 1997). At the same time, due to characteristics of the local legal system, it is not unusual for banks to face legal constraints to the enforcement of debts, and to the seizure and liquidation of the loan collateral (Corrigan, 1996). Both factors tend to increase borrowers' incentive to default which, *ceteris paribus*, fosters the incidence of problem loans. The latter have also been quite elastic to cycles in economic activity and interest rates, having declined markedly during the 1991–94 upswing and soared during the Tequila crisis in 1995, before declining again through late 1997 (Figure 5). As an inspection of Figures 1, 4 and 5 reveals, such fluctuations in problem loans and provisioning expenses have been clearly correlated with the level of intermediation spreads.

Market structure and competition among financial intermediaries are well-known factors believed to influence intermediation spreads. However, it has also been recognized that, because of the various offsetting forces at play, it is often difficult to establish the direction of the causality on theoretical grounds. On the one hand, limited competition and regional segmentation in domestic credit markets tend to hinder allocative efficiency, make it possible for X-inefficient firms to survive, and facilitate collusive behavior, enabling some to maximize profits by setting intermediation spreads above marginal costs.[11] On the other hand, it has been noted that if economies of scale and of diversification in the provision of banking services prevail, greater concentration may well lead to declining spreads through a reduction in operating costs of the banking system. Moreover, even if economies of scale in banking are relatively unimportant—as a number of studies have suggested (Berger et al., 1987; Dick, 1996; Hunter and Timme, 1995)—one could still expect a negative correlation between spreads, profitability and concentration under the so-called "efficiency-structure (or relative efficiency) hypothesis" (ESH): as market concentration is not a random event but, rather, the outcome of more efficient banks taking over or eliminating less efficient ones, a negative correlation between concentration and spreads should be expected over time.

In Argentina, no close correlation between intermediation spreads and traditional measures of market concentration is apparent. Figures 9 and 10 depict two well-known indicators of market concentration—the share of the 15 largest banks in total deposits and the "Herfindahl"

[11]Such a positive relationship between concentration, intermediation margins and monopoly profits has been traditionally emphasized by the so-called "structure performance hypothesis" (SPH), a main source of theoretical support for anti-trust legislation in banking.

index.[12] Both show that banking concentration decreased somewhat between 1991 and 1994, but has increased considerably since. Thus, while evidence for the period 1991–94 is consistent with the traditional "structure performance hypothesis", the concomitant increase in concentration and the decline in spreads during 1996–97 lends support to the ESH. So, as in the case of other countries,[13] the empirical link between usual measures of banking sector concentration and intermediation spreads in Argentina is not straightforward, indicating that offsetting factors are indeed at play.

Finally, in an economy where banks are allowed to intermediate freely in domestic or foreign currency, but the probability of a devaluation is non-negligible, spreads in domestic and in foreign currency-denominated transactions are bound to be affected in different ways by the **exchange rate risk premium**. Figure 1 shows that peso-denominated spreads have been substantially higher than those denominated U.S. dollar throughout the period, and also that such a gap between the two spreads has moved over time. Two factors seem to account for the phenomena. First, because a change in exchange rates or in the U.S. dollar denominated interest rate usually have an immediate effect on the cost of liabilities,[14] while its effects the rate of return of asset come only with a lag (which is proportional to the maturity of the loan portfolio), a devaluation or a rise in the exchange rate risk premium can severely reduce banks' profitability in the short-run.[15] Banks will thus tend to hedge themselves against such

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[12]The Herfindahl index of X is calculated as:

$$H_x = (X_1^2 + X_2^2 + \ldots + X_n^2)/(X_1 + X_2 + \ldots + X_n)^2,$$

where n is the number of banks and X usually stands for a deposit or credit variable. It is straightforward to see that the index declines as new banks enter the market, and increases as the number of institutions decreases (or their share in total deposits or credit increases). The index collapses to unity in the pure monopoly case.

[13]For evidence on Canada and the U.S., see Solvin and Sushka (1983), Smirlock, (1985), Hannan (1991), Yu (1995), and Peristiani (1997).

[14]In a country with free capital mobility and a long history of capital flight such as Argentina, depositors will arbitrage freely between interest rate at home and abroad. This implies that banks which fail to raise interest rates on deposits in line with changes in exchange rate and default risk premia will face an immediate deposit outflow.

[15]This is analogous to what happens to banks' profitability when there is an exogenous change interest rates brought about by an unexpected change in monetary policy. For a discussion of the adjustment of banks' lending and deposit interest rates to changes in monetary policy in the U.S. and the UK, see Hancock (1985) and Heffernan (1997), respectively. Empirical evidence on the hypothesis that intermediation spreads are higher where the volatility of base

(continued...)

potential losses in their peso-denominated portfolio by raising intermediation spreads in domestic currency operations. Second, one would expect intermediation spreads to increase in line with the exchange rate risk premium because of the likely contractionary effects of a devaluation in the short-run. Particularly in countries where a fixed exchange rate has become a centerpiece of macroeconomic policy, a devaluation is bound to be associated with major crises, which will drive up the share of **problem loans** in banks' portfolios. To hedge against such a potential decline in interest revenues, banks will raise *ex-ante* spreads in both currencies; the resulting mark-up in interest rates will tend to be higher for those customers whose revenues are denominated in domestic currency (nontradable sector), and for noncollateralized loans. As these customers are precisely the ones to face more restricted access to foreign borrowing and are more inclined to borrow in pesos (as their revenues are peso-denominated), domestic banks can exert some monopoly power in this segment of the market, charging a higher interest rate on peso loans. This close correlation between exchange rate risk premia, problem loans and spreads in the two currencies was clearly observed during the "Tequila" crisis. As the exchange rate risk premium rose sharply and the economy shrank by over 4 percent in 1995, problem loans peaked and bank profitability plunged (Figure 8). As shown in Figure 1, intermediation spreads in both currency rose sharply but the more so for transactions denominated in domestic currency.

In sum, X-inefficiencies, low degree of monetization of the economy, characteristics of the country's payments system, tight prudential regulations, loan default and exchange rate risk, all appear to have an important bearing on the relatively high operating costs of the financial sector in Argentina. Notwithstanding the impressive improvements on all these fronts since 1991–leading to a decline in the aggregate ratio of **operating expenses to loans** (Figure 4)–unitary costs for the consolidated banking system in Argentine remain high. This appears to be the main factor behind the wide differential between lending interest rates in Argentina and in industrial countries, as the empirical estimation of the model below will show in further detail.

III. BENCHMARK MODEL

This section develops a model of bank portfolio behavior in a dual currency economy which formalizes the interplay of the distinct variables discussed above so as to try and assess their individual impact on the cost of financial intermediation in Argentina.[16] The model constitutes a simplified version of the framework developed in Catão and Terrones (1998), which builds on previous work by Baltensperger (1980), Santonero (1984), and Yu (1995), extending it to the case of a two-currency bank firm which operates in an imperfectly competitive credit

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[15](...continued)
interest rates is greater, is provided in Ho and Saunders (1981).

[16]In this paper, a dual currency economy is defined as one in which banks carry freely their intermediation operations in domestic currency (pesos)as well as in foreign currency (U.S. dollars).

market, faces both exchange rate and default risk, and is subject to a set of prudential restrictions imposed by an outside regulator. The model is set in a partial equilibrium framework and its main objectives are to show how interest rate spreads are affected by market structure, reserve and capital requirements, as well as by key macroeconomic parameters such as devaluation risk and economic growth.

Let the economy consist of n banking firms, indexed i = 1, 2, ..., n, which freely intermediate resources in domestic and foreign currencies. Loans in domestic and foreign currencies are denoted by L_i and L_i^* and the total amount of loans are denoted by $L = \sum L_i$ and $L^* = \sum L_i^*$. Although we assume perfect capital mobility, there is segmentation in the credit market owing to the factors already discussed in Section II—notably, to the type of activity (tradable/non-tradable) the borrower is involved, and/or to information asymmetries and poor accounting practices that prevent access to the international capital markets. Thus, the respective inverse demand for loans in domestic and foreign currencies are given by:

$$r_L = r_L (L) \quad \textit{where} \quad \frac{\partial r_L}{\partial L} < 0$$

$$r^*_L = r_L (L^*) \quad \textit{where} \quad \frac{\partial r_L^*}{\partial L^*} < 0$$

and where the inverse demand functions are assumed to be linear. On the deposit side, each banking firm is assumed to face a perfectly competitive market, so that interest rates on deposits are parametrically set.[17]

At any given moment of time, a bank i holds as assets loans in domestic (L_i) and foreign currency (L_i^*), and reserves in domestic (R_i) and foreign (R_i^*) currency, and finances itself with deposits in domestic (D_i) and foreign (D_i^*) currency, and the bank's capital and reserves (K_i). Thus the bank's balance sheet is as follows:

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[17]As previously noted, in a country with a fixed exchange rate regime under free capital mobility, such as Argentina, interest rates on foreign currency denominated domestic deposits gravitate around the respective international rate. The interest rate on deposits denominated in domestic currency will be then determined by the U.S. dollar rate plus the devaluation risk and the marginal cost differential between capturing one unit of domestic denominated deposits relative to foreign currency deposits. A formal derivation of this arbitrage condition is provided in the appendix.

Bank i balance sheet

Assets	Liabilities
L_i	D_i
L_i^*	D_i^*
R_i	K_i
R_i^*	

The bank seeks to maximize expected profits denominated in the relevant foreign currency (U.S. dollars in the case of Argentina), arising from its loan operations, which are financed with deposits and own capital, and are subject to a set of reserve requirements and capital constraints imposed by prudential regulations, i.e.,

$$\begin{aligned}\textbf{Max } E(\Pi) = \alpha\,[(1+r_L(L))/((1+E(\Delta e_t))-1]\; e_t\, L_i + \alpha^*\, r_L^*(L^*)\, L_i^* + \\ [(1+r_E)/(1+E(\Delta e_t))-1]\; e_t\, R_i + r_E^*\, R_i^* - [(1+r_D)/(1+E(\Delta e))-1]e_t D_i - r_D^*\, D_i^* - \\ \tau\,(e_t L_i + L_i^* + e_t R_i + R_i^*) - C(e_t D_i, D_i^*, e_t L_i, L_i^*; 1-\alpha, 1-\alpha^*)\end{aligned} \tag{1}$$

such that

$$L_i/e_t + L_i^* + R_i/e_t + R_i^* = D_i/e_t + D_i^* + K_i \tag{2}$$

$$\varepsilon\, D_i \le R_i \tag{3}$$

$$\varepsilon^* D_i^* \le R_i^* \tag{4}$$

and

$$\kappa(\alpha)\, L_i/e_t + \kappa(\alpha^*)\, L_i^* \le K_i \tag{5}$$

where r_L, r_L^*, r_D, r_D^* are the lending and deposit interest rates in domestic and foreign currency; ε, ε^* are the reserve requirements remunerated at interest rates r_E and r_E^*; e is the exchange rate (defined as the domestic price of a unit of foreign currency) and $\Delta e = e_{t+1}/e_{t-1}-1$ is the rate of depreciation of the currency; α, α^* are the (expected) share of performing loans in total loans;[18] $\kappa(\alpha)$, $\kappa(\alpha^*)$ are the capital adequacy ratios (denominated in foreign

[18]These parameters are expected to be mainly determined by macroeconomic variables

(continued...)

currency);[19] and τ the average tax rate on assets. In line with actual developments, we assume that $r_D > r_E$ and $r_D^* > r_E^*$.

$C(L, L^*, D, D^*; 1-\alpha, 1-\alpha^*)$ is an operating cost function which depends on the bank's intermediation activities.[20] One of the parameters of this cost function is the quality of the loan portfolio; thus, for a given level of intermediation activities, operating costs will raise in tandem with the share of nonperforming loans in the bank's portfolio.

Equation (2) simply represents the balance sheet identity, while equations (3) and (4) spell out the reserve requirement regulations on domestic and foreign currency deposits. It is worth noting that the reserve requirements could differ by deposit denomination and that the denomination of these reserves are the same as that of the deposits. Equation (5) is the capital adequacy requirement which is related to the loan portfolio quality in both currencies. Thus, it is assumed that, as is the case in most countries, reserve requirements are not subject to any capital requirement.

In general, the lending decisions of a given bank i are not independent of the lending decisions of the rest of banks in the industry. Define the rest of the banking industry total lending as

$$\Lambda_i = L - L_i = \sum_{j \neq i} L_j, \qquad (6)$$

and

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[18](...continued)
exogenous to the model, such as the rate of economic growth and changes in real interest rate (brought about, e.g., by devaluation expectations, changes in country risk premia, and domestic inflation or deflation).

[19]In general the capital adequacy ratios are an inverse function of the quality of the loan portfolio of the bank. It is assumed that the higher the quality of the loan portfolio is, the lower the capital adequacy ratios are.

[20]It is assumed, without loss of generality, that the operating cost function has the following characteristics:

$$\frac{\partial C}{\partial L_i} > 0, \quad \frac{\partial^2 C}{\partial L_i^2} > 0, \quad \frac{\partial C}{\partial L_i^*} > 0, \quad \frac{\partial C^2}{\partial L_i^{*2}} > 0,$$

$$\frac{\partial C}{\partial D_i} > 0, \quad \frac{\partial^2 C}{\partial D_i^2} > 0, \quad \frac{\partial C}{\partial D_i^*} > 0, \quad \frac{\partial C^2}{\partial D_i^{*2}} > 0,$$

$$\frac{\partial^2 C}{\partial L_i \partial L_i^*} = 0, \quad \frac{\partial^2 C}{\partial D_i \partial D_i^*} = 0, \quad \frac{\partial^2 C}{\partial L_i \partial D_i} > 0, \quad \frac{\partial^2 C}{\partial L_i \partial D_i^*} = 0, \quad \frac{\partial^2 C}{\partial L_i^* \partial D_i} = 0, \quad \frac{\partial^2 C}{\partial L_i^* \partial D_i^*} > 0$$

$$\Lambda_i^* = L^* - L_i^* = \sum_{j \neq i} L_j^* \tag{7}$$

Following Dixit (1986), assume each bank has "conjectural variations" that relate its levels of lending with that of the rest of the banking industry and have the following characteristics:

$$\frac{\partial \Lambda_i}{\partial L_i} = \psi(L_i, \Lambda_i), \qquad \frac{\partial \Lambda_i^*}{\partial L_i^*} = \psi^*(L_i^*, \Lambda_i^*) \tag{8}$$

It can be shown that under **perfect competition** $\psi(L_i, \Lambda_i) = \psi^*(L_i^*, \Lambda_i^*) = -1$, under **competitive collusion** $\psi(L_i, \Lambda_i) = \Lambda_i / L_i$ and $\psi^*(L_i^*, \Lambda_i^*) = \Lambda_i^* / L_i^*$—which in the particular case in which the banking firms are identical become constant and equal to n-1, and under **competitive oligopoly** of the Cournot type, $\psi(L_i, \Lambda_i) = \psi^*(L_i^*, \Lambda_i^*) = 0$.

As $L_i, L_i^*, R_i, R_i^*, D_i, D_i^*, K_i > 0$ and assuming that reserve requirements and the capital adequacy constraint are binding, the first-order conditions of the maximization problem laid out in equations (1) to (5) yield the following interest spreads and arbitrage conditions:[21]

a. Intermediation spread in domestic currency

$$r_L(L) - r_D = \frac{1}{[1 - \kappa(\alpha)][1 + \delta]} \left[(1 - \kappa(\alpha))(1 + \delta) - \alpha + \frac{\alpha S_i}{\eta}(1 + \psi) \right] r_L(L) + \frac{\varepsilon}{(1 + \delta)(1 - \varepsilon)}(r_D - r_E) - \frac{\delta [r_d(1 - \varepsilon) - 1]}{(1 + \delta)(1 - \varepsilon)} + \left[\frac{1}{1 - \kappa(\alpha)} + \frac{\varepsilon}{(1 - \varepsilon)} \right] \tau + \frac{1}{1 - \kappa(\alpha)} \frac{\partial C}{\partial L_i} + \frac{1}{1 - \varepsilon} \frac{\partial C}{\partial D_i} \tag{9}$$

where,

δ = the expected rate of devaluation, $E(\Delta e)$;

$S_i = L_i / L$ = bank's i market share in total lending in domestic currency; and

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[21]These relations are obtained by substituting equation (8) in the expressions for the derivative of the Lagrangian in relation to L_i and L_i^*.

$$\eta = \frac{-\partial L/L}{\partial r_L/r_L} = \text{price elasticity of demand for loans in domestic currency.}$$

This expression states that, in equilibrium, the interest rate spread in domestic currency is a function of:

a) The quality of the loan portfolio in domestic currency, as well as capital and reserve requirements.
b) The bank's market power in the domestic currency credit market.[22]
c) The financial cost of intermediating resources in domestic currency.
d) The tax rate on the bank's assets;
e) The marginal operating costs of intermediating an additional unit in domestic currency; and
f) The expected rate of devaluation (or revaluation) of the domestic currency.

In the particular case where devaluation expectations are negligible, i.e., $\delta = 0$, equation (9) collapses to:

$$r_L(L) - r_D = \frac{1}{1 - \kappa(\alpha)} \left[(1 - \kappa(\alpha) - \alpha) + \frac{\alpha S_i}{\eta} (1 + \psi) \right] r_L(L) + \frac{\varepsilon}{(1 - \varepsilon)} (r_D - r_E) + \left[\frac{1}{1 - \kappa(\alpha)} + \frac{\varepsilon}{(1 - \varepsilon)} \right] \tau + \frac{1}{1 - \kappa(\alpha)} \frac{\partial C}{\partial L_i} + \frac{1}{1 - \varepsilon} \frac{\partial C}{\partial D_i} \quad (9')$$

[22]In the perfect competition case, i.e. when $\psi = -1$, this term drops out.

b. Intermediation spread in foreign currency:

$$r_L^*(L^*) - r_D^* = \frac{1}{1 - \kappa^*(\alpha^*)} \left[(1 - \kappa^*(\alpha^*) - \alpha^*) + \frac{\alpha^* S_i^*}{\eta^*} (1 + \psi^*) \right] r_L^*(L^*) + \frac{\varepsilon^*}{(1 - \varepsilon^*)} (r_D^* - r_E^*) + \left[\frac{1}{1 - \kappa^*(\alpha^*)} + \frac{\varepsilon^*}{(1 - \varepsilon^*)} \right] \tau + \frac{1}{1 - \kappa^*(\alpha^*)} \frac{\partial C}{\partial L_i^*} + \frac{1}{1 - \varepsilon^*} \frac{\partial C}{\partial D_i^*} \quad (10)$$

where,

$S_i^* = L_i^*/L =$ bank's I market share in total lending in foreign currency; and

$\eta^* = \frac{-\partial L^*/L^*}{\partial r_L^*/r_L^*} =$ price elasticity of demand for loans in foreign currency.

Similar to the previous case, the interest rate spread in foreign currency is a function of:

a) The quality of the loan portfolio in foreign currency, as well as capital and reserve requirements;
b) The bank's market power in the foreign currency credit market;
c) The financial cost of intermediating resources in foreign currency;
d) The tax rate on the bank's assets; and
e) The marginal operating costs of intermediating an additional unit in foreign currency.

c. Arbitrage condition for the lending rates

In addition to the average spreads in domestic and foreign currency denominated transactions, solution to the model also yields the following equilibrium condition for peso-US$ spreads in bank loans:

$$r_L(L) - r_L^*(L^*) = \frac{1}{1 - \kappa(\alpha)}\left[(1 - \kappa(\alpha) - \frac{\alpha}{(1 + \delta)} + \frac{\alpha S_i}{\eta} (1 + \psi)\right] r_L(L)$$
$$- \frac{1}{1 - \kappa(\alpha^*)}\left[(1 - \kappa(\alpha^*) - \alpha^*) + \frac{\alpha^* S_i^*}{\eta^*}(1 + \psi^*)\right] r_L^*(L^*) + \frac{\alpha\,\delta}{(1 + \delta)(1 - \kappa(\alpha))} \qquad (11)$$
$$+ \left[\frac{1}{1 - \kappa(\alpha)} - \frac{1}{1 - \kappa(\alpha^*)}\right]\tau + \frac{1}{1 - \kappa(\alpha)}\frac{\partial C}{\partial L_i} - \frac{1}{1 - \kappa(\alpha^*)}\frac{\partial C}{\partial D_i^*}$$

This expression states that, in equilibrium, the bank will provide loans in domestic and foreign denomination so that the net marginal revenue of each type of loan become equal. Or in other terms, the spread between lending rates is a function of:

a) The quality of the loan portfolio in domestic and foreign currency and associated capital reserve requirements;
b) The market power in each of the loan markets;
c) The tax rate on the bank's asset;
d) The marginal operating costs of providing the loans in both currencies; and
e) The expected rate of devaluation (or revaluation) of the domestic currency.

IV. Empirical Estimation

Empirical estimation of the model above can be carried out in two different ways. On the one hand, one can follow the standard approach in most of the literature and run a least square regression of spreads on a set of independent explanatory variables. This approach has the advantage of trying to capture a stable relationship between spreads and their potential determinants (if any), while also allowing us to infer the respective elasticities. Its main short coming, however, is that as most of the relationships underlying the theoretical model are highly nonlinear, a simplification of the model's functional form is required prior to its econometric estimation. This has led a number of authors to estimate linear regressions using one- or two-stage least squares (e.g., Ho and Saunders, 1981; Hannan, 1991; Yu, 1995; Broda and Kaufman, 1996), ignoring the functional forms postulated by theory.

An alternative approach to empirical testing consists of calibrating the model on the basis of the actual values of its parameters and then check whether the respective predictions match actual outcomes. This approach has the advantage of preserving the model's functional form but, on the other hand, makes it difficult to disentangle the likely effects of an exogenous change in a single explanatory variable on spreads.

In light of these trade-offs, we have pursued both strategies. Consolidated banking sector data was readily available for four of the seven variables of the model—namely, the capital adequacy ratio (itself a function of the stock of problem loans, 1-α), the average reserve

requirement ratio over deposits (ϵ), the average tax ratio (τ) and the share of problem loans in total bank lending ("proloan").[23] However, some proxies had to be derived for δ, Ψ, $\Delta C/\Delta L$ and $\Delta C/\Delta D$.[24] In a country with a fixed exchange rate such as Argentina, the scenario faced by bank i regarding exchange rate risk can be described as:

$$e_t = \begin{cases} 1+\Delta e, \text{ with probability } p; \\ 1, \text{ with probability } (1-p) \end{cases}$$

where p is the probability of a devaluation. Thus, the expected value of an exchange rate jump (δ) is given by $p\,E(\Delta e)$, an stochastic variable which can be proxied by one of the standard measures of exchange rate risk, such as the yield differential between the same sovereign debt instrument denominated in pesos and in U.S. dollars.[25]

As noted earlier, the parameter $(1+\Psi)$ in equations (9) to (11) aims to capture the effect of market structure on spreads. Under perfect competition this term will vanish, and so the price elasticity of the demand for loans (η) will have no effect on spreads. In the Argentine context, both the regional and informational segmentation of credit markets as well as the substantial discrepancies in the size of financial institutions, detract any realism from the perfect competition assumption. Instead, one would expect Ψ to lie in the (-1, 0) range as a more realistic scenario. Moreover, as Figures 9 and 10 indicate, the degree of concentration of the banking industry in Argentina has changed over time and so cannot be taken as a fixed parameter. In light of these considerations, and following the practice adopted by other authors,[26] we have proxied the market structure variable $(1+\Psi)$ by the Herfindahl index. The marginal cost of operating expenses ($\Delta C/\Delta L$ and $\Delta C/\Delta D$) is estimated as follows. We assume that the cost function embodied in the model has a translog functional form on the stock of loans and the share of the non-performing loans in banks' total portfolio only, since the level of deposits is itself a function of the desired level of lending. Estimating it by OLS provides us with the elasticities of operational costs with respect to the stock of loans in foreign and in domestic currency. The respective marginal costs are simply the product of the estimated elasticities by the average cost ratios C/L and C*/L*, on which raw data is readily available. Finally, in line with the discussion of Section III, we assume that the expected share of

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[23]While the model's set up laid out in Section III is more suitable to panel data estimation, individual bank data proved difficult to obtain from official sources. Thus, the empirical evidence presented in this paper is limited to aggregate data.

[24]Since we are working with aggregate data, the share of bank i loan in total loans (the variable S_i in the model) equals one and so drops out of the model.

[25]The instrument used here to measure such yield differential is the debt consolidation bond ("BOCON"), which is relatively liquid and for which a long series on secondary market prices is available.

[26]See, e.g., Hannan (1991).

problem loans in period t will be a function of the stock of non-performing loans at t-1 as well as the likelihood of an exchange rate crisis at period t, measured by the variable p $E(\Delta e)$, i.e., $1-\alpha_t = g\,(1-\alpha_{t-1}, p\,E(\Delta e_t))$. The share of performing loans (α) at period t-1, when the representative bank is solving its optimization problem, is given and is itself a function of a host of variables discussed earlier on—notably, cyclical developments, asymmetric information, and structural characteristics of the country's legal framework governing financial transactions. The proposed specification for the variable $1-\alpha_t$ thus implies that exchange rate risk will affect both domestic and foreign currency spreads. That is, the variable p $E(\Delta e_t)$ will have to be included in the estimation of equation (10) as well.

Table 2 reports the results of the OLS estimation of a linearized version of equations (9) and (10), i.e., it regresses spreads one the following set of explanatory variables:

$$r_L - r_D = f\,[\tau;\ \varepsilon(r_d - r_e),\ \varepsilon^*(r_d^* - r_e^*);\ \Delta c/\Delta l, \Delta c/\Delta l^*;\ 1-\alpha,\ 1-\alpha^*;\ E(\Delta e);\ 1+\Psi]$$

where "f" is a linear function, and the first derivatives of the dependent variable with respect to each of the explanatory variable are all expected to yield a positive sign, with the exception of market concentration whose sign can also take a negative value for the reasons discussed in Section II. Using the proxy variables discussed above and entering the tax ratio and the Herfindahl index and with a one-period lag,[27] the equation on the average of peso and U.S. dollar spreads yielded coefficients with the signs postulated by theory and which are statistically significant at 5 percent, with the exception of the Herfindahl index ($1+\Psi$) and the tax ratio.[28] A similar picture emerged from the estimates for the U.S. dollar spread equation. The low t-ratio yielded by the tax variable in both equations is not surprising since average taxes on banks have been relatively low in level and varied within a relatively narrow margin (Figure 6), while the lack of statistical significance of the herfindahl index is consistent with the ambiguous impact market concentration can have on spreads, as discussed in Section II.

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[27]The rationale for lagging the Herfindahl coefficient is that concentration usually affects spreads with a lag. Also, in the estimation we have experimented with entering the problem loan variable lagged of one month both to avoid potential simultaneity biases and to take account of the fact that banks, as discussed above, are assumed to take their provisioning and risk-adjusted decisions on setting period t spreads, based on actual default outcomes in period t-1. The respective estimates were virtually unchanged regardless whether we lagged or not the problem loan variable. Likewise, the use of current or lagged values for the tax variable was not critical: in both cases the tax/loan ratio yielded t-ratios well below the standard levels of statistical significance.

[28]Estimation was limited to the post mid–1993 period due to a statistical break in the available series on interest rates. See Central Bank of Argentina, Boletin Estadistico, several issues.

For the peso spread equation, however, the Herfindahl index was highly significant statistically, supporting the hypothesis that the structure of the peso credit market is quite distinct from that of the U.S. dollar-denominated market. That is, spreads and hence interest rates in pesos appear to be positively influenced by market concentration, reflecting the fact that most peso borrowers cannot arbitrage between domestic and foreign sources of funds, thus becoming subject to the monopoly power of local banks. This contrasts with the situation of the typical "U.S. dollar" borrower, usually epitomized by a large firm producing tradable goods, with a significant part of its revenues denominated in U.S. dollars and reasonably good accounting standards, which enable it to have a wide choice of lenders, domestically as well as abroad; or by a high income household which holds part of its wealth in U.S. dollar-denominated assets and can often pledge a standard collateral, such as real state or automobile, against their loans. For these reasons, interbank competition for the typical U.S. dollar borrower is bound to be considerably fiercer and the scope for banks to exert monopoly power over the client is therefore much reduced.

Turning to the magnitude of the estimated coefficients, the OLS results indicate that the spreads in pesos and in U.S. dollars transactions are particularly responsive to operating costs and problem loans, followed by exchange rate risk and the cost of liquidity requirements. According to these results, a 1 percentage point decrease in operating costs of the banking system appear would lead to a drop in the average spread of 0.6 to 0.8 percentage point, while a 1 percentage point increase in the share of problem loans in banks' portfolio would push up the average spread by some 0.3 to 0.5 percentage point. At the other extreme, an increase in 1 percentage point in reserve requirements would increase spreads by less than 0.05 percentage point,[29] reflecting the fact that banks' reserves at the Central Bank are remunerated at interest rates close to that of time deposits. The explanatory power of the regressions is very good—as borne out by the R^2 statistics—particularly considering that we are dealing with monthly data and with a period characterized by large shocks to the banking sector. There is no evidence of first or second order residual autocorrelation and the residuals passed the standard Dickey-Fuller tests for nonstationarity.

Figures 12a and 12b plot the actual values of intermediation spreads and those the model when calibrated as discussed above, assuming two scenarios for the interest elasticity of demand for loans (the η parameter) around the 0.66 estimate underlying previous work on the determinants of supply and demand for bank credit in Argentina (Catão, 1997). For both η=0.5 and η=0.75, the model's simulation is slightly more volatile than actual spreads but the predicted values capture very well the main trends of the data generation process—notably, the decline in spreads from mid–1993 through the eve of the Tequila crisis in late 1994,

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[29]This was calculated by first differencing the variable $\varepsilon(r_d-r_e)$, which yields $\Delta\varepsilon(r_d-r_e) + \varepsilon\,\Delta(r_d-r_e) + \Delta\varepsilon\,\Delta(r_d-r_e)$. If neither the rate of remuneration on reserve requirements nor the interest rate on deposits change, the last two terms of the latter expression will vanish. So, the estimated impact of a 1 percentage point increase in ε on spreads can be obtained by multiplying 0.01 by the estimated coefficient in the regressions times (r_d-r_e), the latter being expressed in percentage terms.

followed by a further decline in spreads once the peak of the crisis (March–April 1995). The scenario with a lower elasticity (0.5) tracks very closely actual developments through late 1995 but since then tends to overestimate the actual magnitude of spreads by some 1/2 to 1 percentage point. This gap vanishes, however, under the higher elasticity assumption, as shown in Figure 12.b. The fact that the higher elasticity case seems to fit better post–1995 developments is, in fact, hardly surprising, for it is well known that the interest rate elasticity of credit demand elasticity does tend to rise in the wake of financial crises. In any event, both model-based simulations track actual developments remarkably close.

V. Conclusions

This paper has sought to explain two main stylized facts about banking spreads in Argentina. First, why have average intermediation spreads declined slowly despite the introduction of a CBA and the far-reaching financial sector reforms since 1991? Second, why have spreads been substantially higher for peso-denominated than for U.S. dollar-denominated transactions, despite the continuing peg of the peso to the U.S. dollar for over seven years now, and that agents are allowed to intermediate freely in either currency?

This paper has argued that the persistence of high intermediation spreads in Argentina for the average of peso and U.S. dollar transactions results mainly from high administrative costs and provisioning expenses associated with credit risk and the sizable stock of problem loans in the economy, all of which remain well above OECD levels. Tight prudential requirements and exchange rate risk have also played a role, but to a much lesser extent.

Market concentration was shown to be another significant variable explaining spreads but only in the peso segment of the credit market. This result is consistent with the hypothesis of a market segmentation according to the currency denomination of bank loans—a phenomenon also observed in other countries which have embarked upon a dual currency kind of monetary arrangement (Rodríguez, 1994; Segura, 1995). Thus, as in the case of other dual currencies economies, the higher spread on local currency transactions in Argentina does **not** solely reflect devaluation risk; it also reflects the fact that local banks exercise some degree of monopoly power on non-tradable producers and households which cannot access international capital markets. Yet, limited access to international finance and devaluation risk alone cannot be the only reasons for the wide differential between peso and U.S. dollar spreads. Even under restricted foreign competition, one would expect that greater competition among domestic banks alone would tend to arbitrage part of this differential away. There is persuasive evidence, however, that low dissemination of information on the credit history of individuals and enterprises in Argentina has limited competition even among banks operating in the same region in the country (Cañonero, 1997; Vicens, 1997). As a result, firms and households that cannot borrow internationally and which are unable to pledge a standard collateral, often face a rather restricted choice of lenders and, thus, much higher interest rates.

A number of key policy implications follow. First, insofar as intermediation spreads are very sensitive to problem loans and the latter are mostly a function of economic growth and the level of interest rates, macroeconomic policies which lead to sustainable growth and a reduction in exchange rate and default risk—such as fiscal consolidation and the monetary discipline entailed by the existing currency board arrangement—are bound to reduce domestic banking spreads over time.

Second, structural policies and prudential regulations aiming at eliminating the market segmentation between peso and U.S.-dollar credit markets can be highly effective in reducing spreads. Important steps have already been taken in this area in the wake of the 1995 banking crisis. These include the creation of a credit information bureau at the Central Bank gathering information on borrowers of the financial system—so as to help banks discriminate between solvent and insolvent clients—as well as a host of regulations to force banks to disseminate information on their performance, so as to foster competition for "good" costumers amongst financial institutions.

Third, this paper has shown that both peso and U.S. dollar denominated spreads have been heightened by banks' administrative costs. It is well known that the latter varies widely across different groups of banks in Argentina. As long as there are a number of public and small private banks operating with substantially higher unitary costs, further declines in intermediation spreads are bound to depend on the speed of the consolidation process. Institutional arrangements which facilitate take overs and the orderly liquidation of less efficient institutions could, therefore, be highly instrumental in reducing aggregate lending rates.

Finally, monetary developments since the 1995 banking crisis suggest that the policy of keeping tight prudential regulations on banks and the unequivocal commitment to the currency board arrangement were effective in shoring up confidence in the domestic financial system, laying the basis for further declines in spreads. Private sector deposits have risen by over 20 percent a year, markedly increasing the monetization of the economy. Insofar as higher monetization lowers banks' average costs for the reasons discussed in Section II, one should expect this monetization trend to induce further declines in banking spreads. Adherence to the "rules of the game" entailed by the CBA has also been instrumental in attracting foreign banks into Argentina. Should the recent trend toward greater internationalization of the domestic financial system continue, its impact on operating efficiency and competition in credit markets will tend to lower spreads over the medium-term.

ARBITRAGE CONDITION FOR INTEREST RATES IN DOMESTIC AND FOREIGN CURRENCY DEPOSITS

In addition to the arbitrage condition between lending rates in pesos and in U.S. dollars (Equation 11), the model also allows us to derive the equilibrium condition between peso- and U.S. dollar-denominated interest rates on bank deposits. This is given by the following equation:

Spread between domestic and foreign currency deposits:

$$r_D - r_D^* = \frac{(1+\delta)}{(1-\varepsilon^*)}\frac{\partial C}{\partial D_i^*} - \frac{(1+\delta)}{(1-\varepsilon)}\frac{\partial C}{\partial D_i} + \frac{\varepsilon^*}{1-\varepsilon^*}[r_D(1+\delta/\varepsilon^*)] - r_E^*(1+\delta)] - \frac{\varepsilon}{1-\varepsilon}[r_D - (r_E - \delta)] + \left(\frac{\varepsilon^*(1+\delta)}{1-\varepsilon^*} - \frac{\varepsilon(1+\delta)}{1-\varepsilon}\right)\tau \quad (12)$$

This expression states that, in equilibrium, and given that deposits in different currency denomination are substitutes from the bank's stand point, the interest rate spread between these deposits is a function of:

a) The difference of marginal costs of obtaining these deposits;
b) The difference between the deposit interest rates and the remuneration to reserve requirements;
c) The tax rate on the bank's assets;
d) The reserve requirement rates;[30]
e) Devaluation expectations.

Since under a currency board with free capital mobility, the U.S.-dollar denominated deposit rate will converge to the parametric "world" interest rate, equation (12) yields the equilibrium interest rate paid by local banks on peso-denominated deposits.

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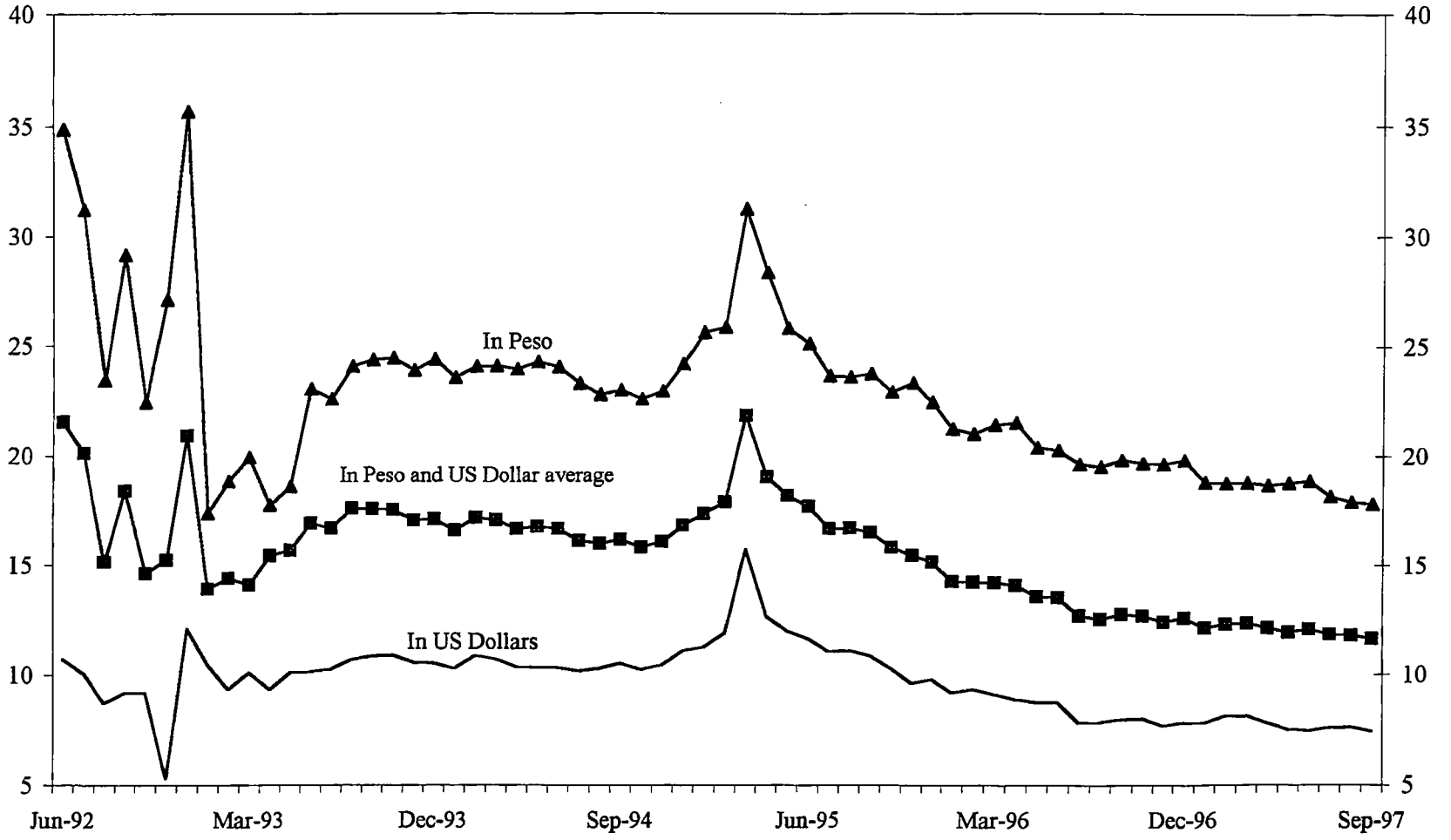
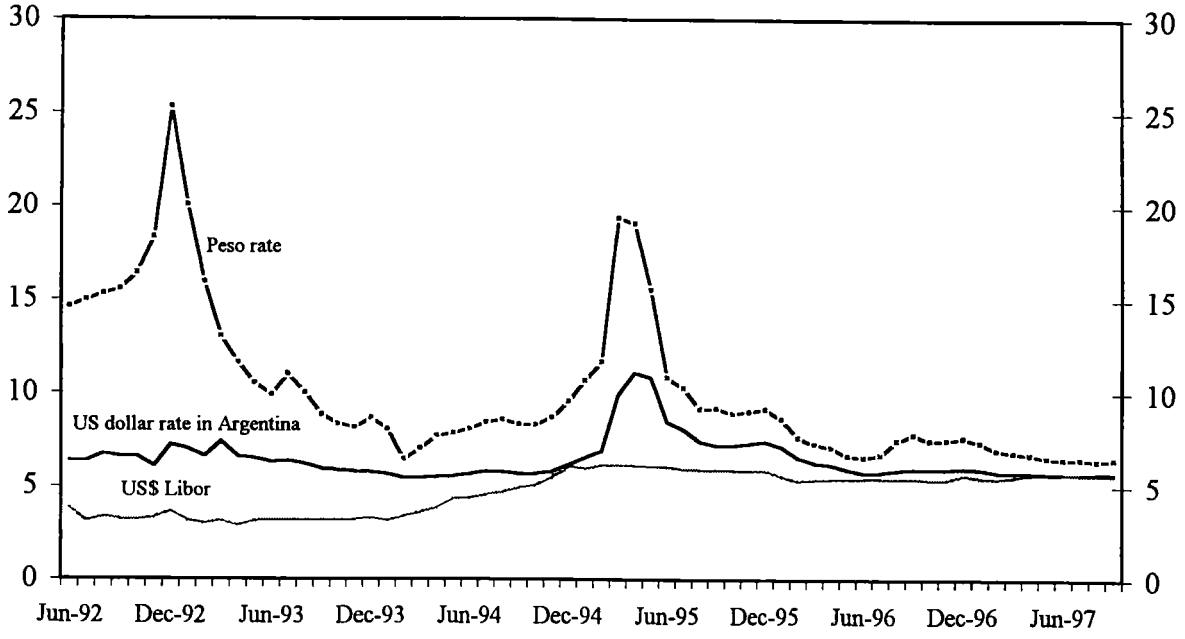
[30]In the particular case in which the reserve requirements are equal across currencies, i.e. $\varepsilon = \varepsilon^*$, the asset tax rate drops out.

Figure 1. Argentina: Intermediation Spreads of the Banking Sector
(in percent)



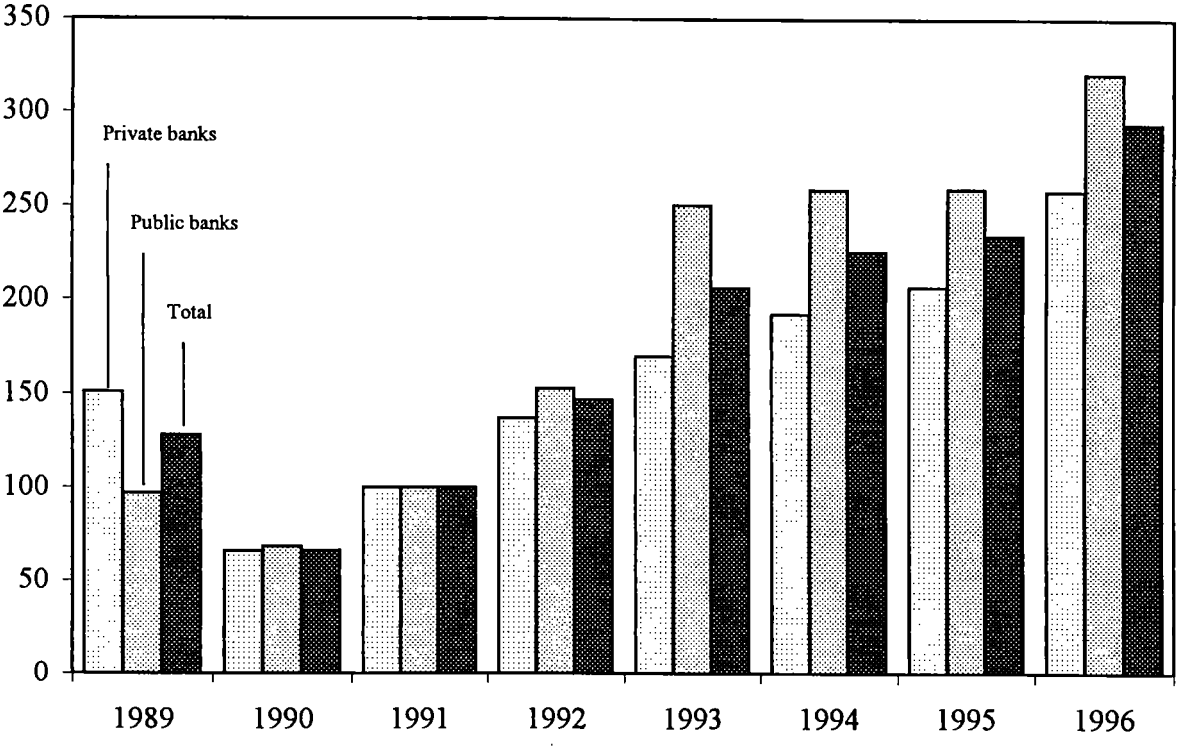
Sources: Central Bank of Argentina; and Fund Staff estimates.

Figure 2. Argentina: Interest Rate on 30-day Term Deposits and US$ Libor
(in percent per annum)



Sources: Central Bank of Argentina; and Fund Staff estimates.

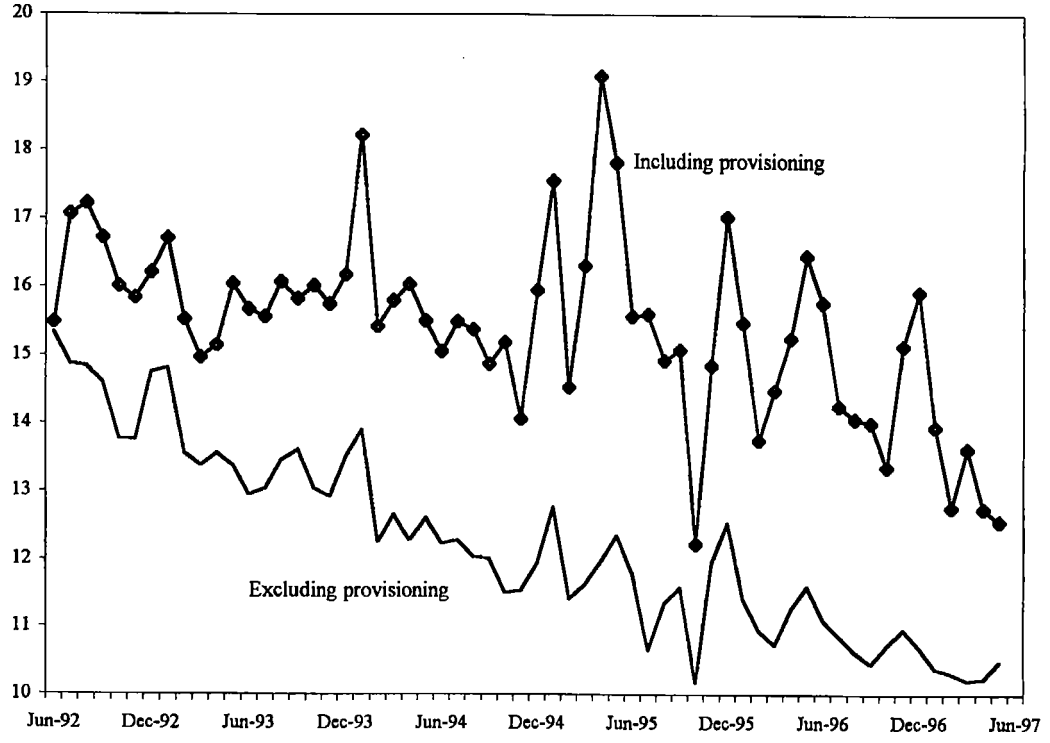
Figure 3. Argentina: Deposits by Employee in Real Terms[1]
(1991=100)



Sources: Central Bank of Argentina; and Fund Staff estimates.

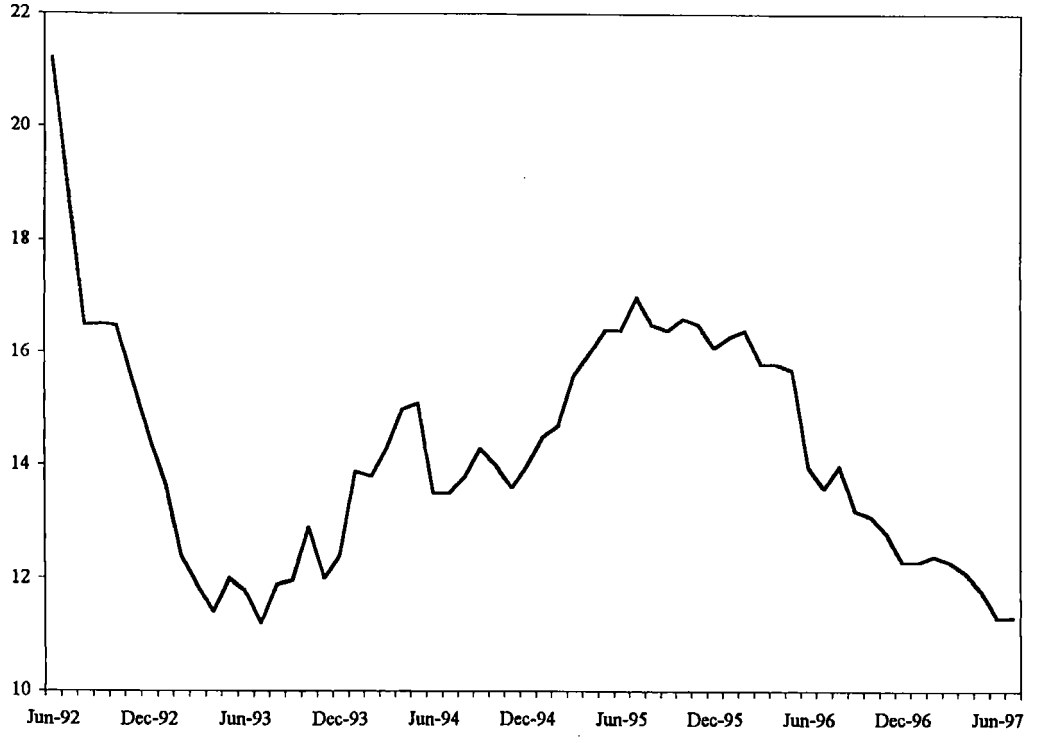
[1] Data refer to end-of-period balances.

Figure 4. Argentina: Operational Expenses of the Banking Sector
(in percent of total loans)



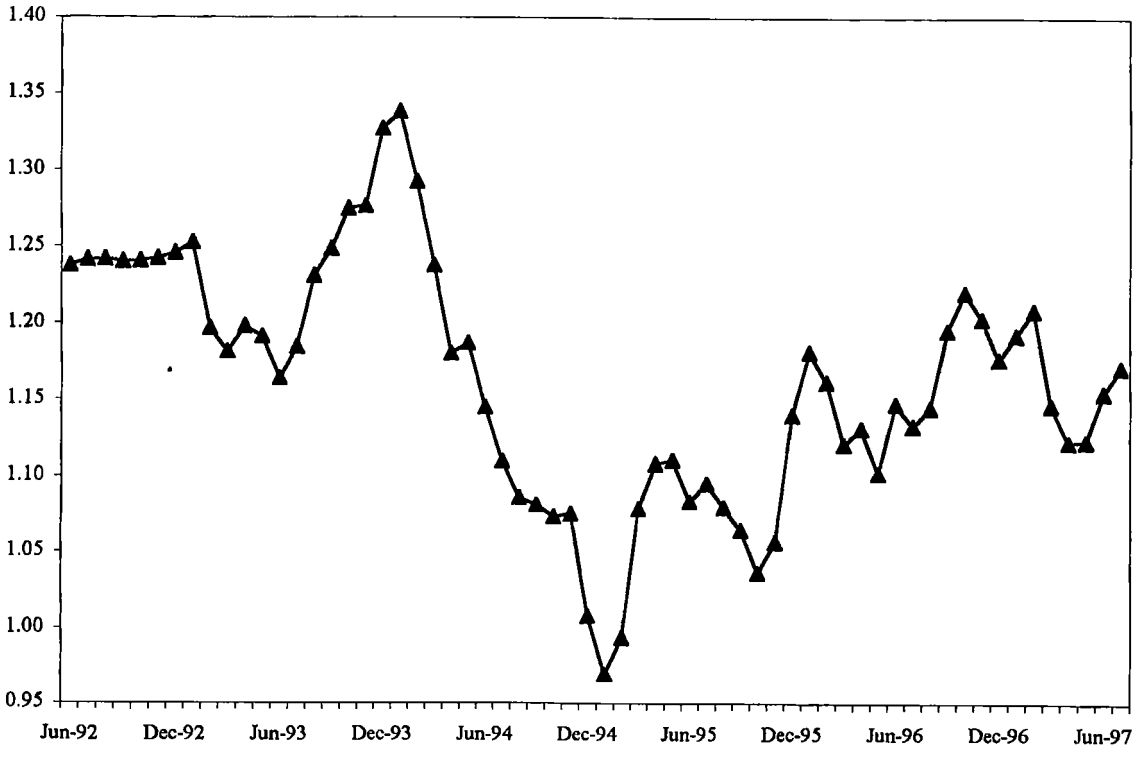
Sources: Central Bank of Argentina; and Fund Staff estimates.

Figure 5. Argentina: Problem Loans of the Banking Sector
(in percent of total loans)



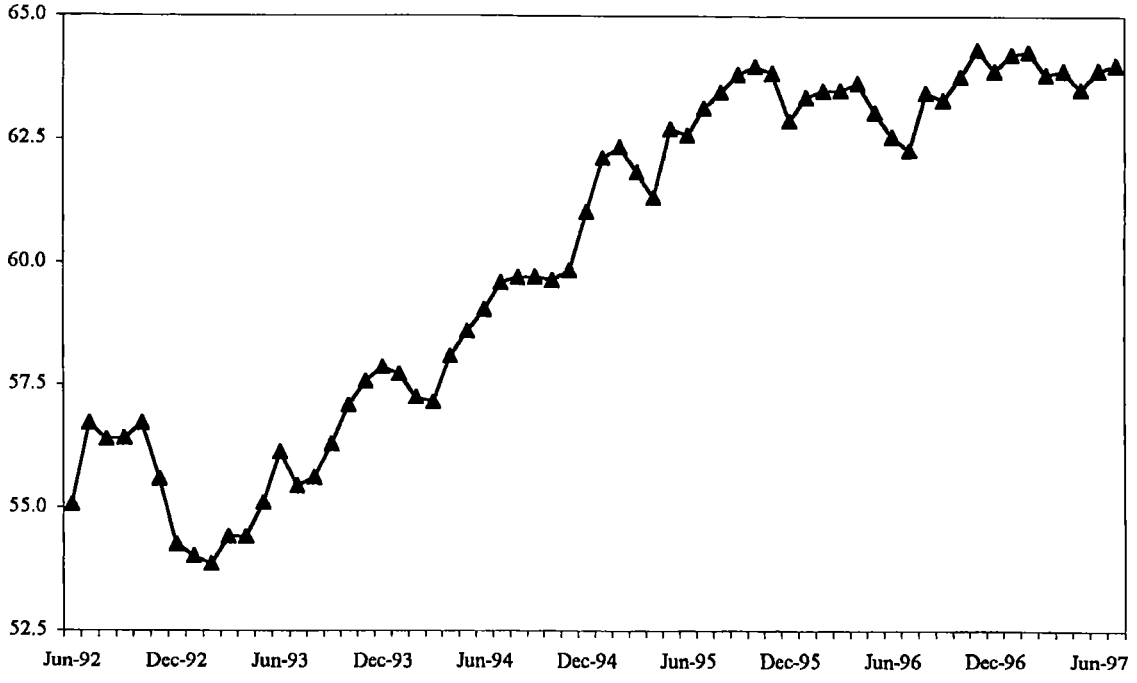
Sources: Central Bank of Argentina; and Fund Staff estimates.

Figure 6. Argentina: Tax Expenses of the Banking Sector
(in percent of total loans, annualized)



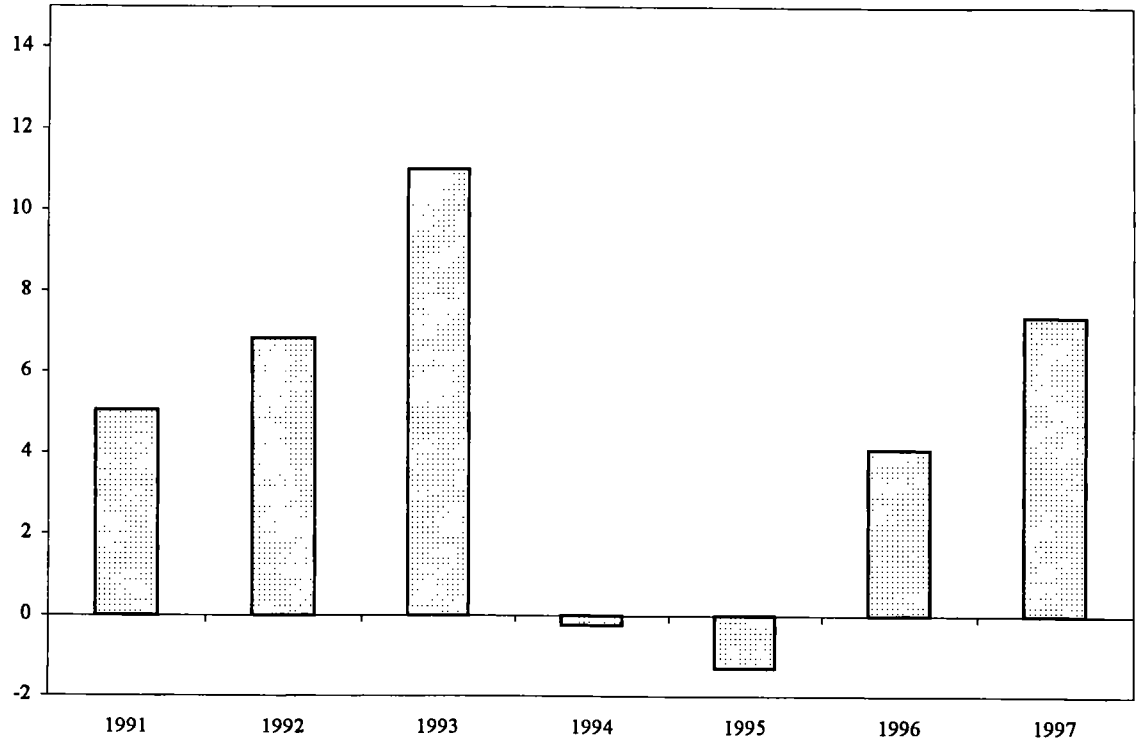
Source: Central Bank of Argentina; and Fund Staff estimates.

Figure 7. Argentina: Share of U.S. Dollar-denominated Loans
(in percent of total loans)



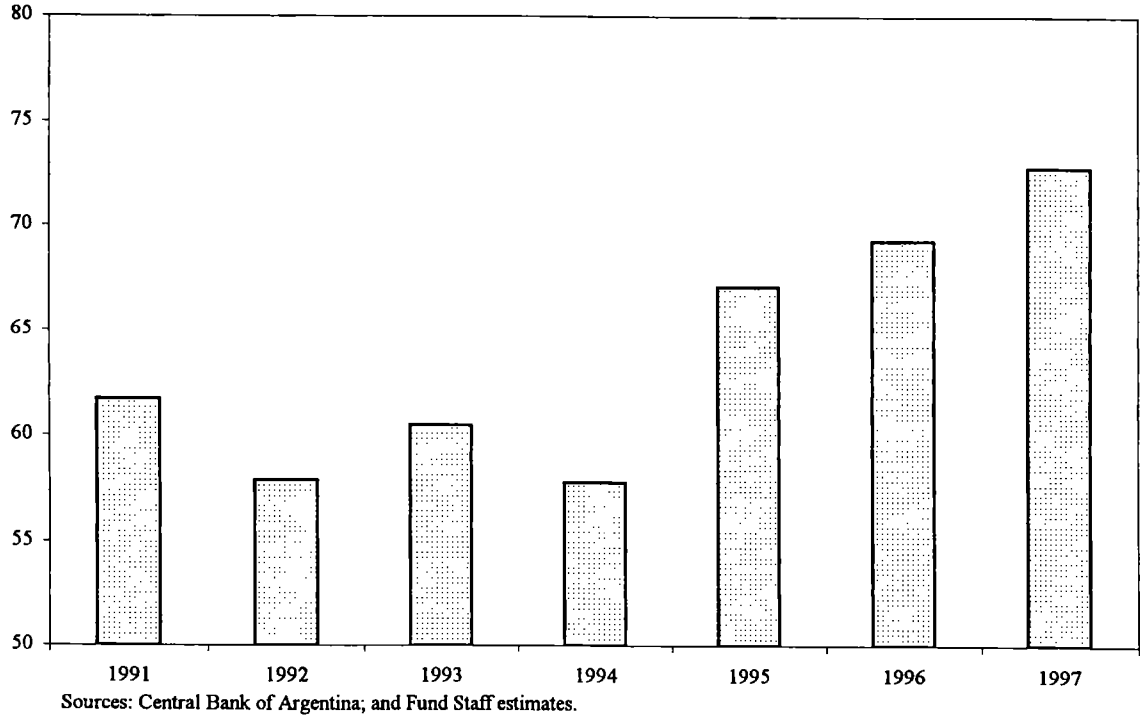
Source: Central Bank of Argentina; and Fund Staff estimates.

Figure 8. Argentina: Rate of Return on Equity of the Banking Sector
(in percent)



Sources: Central Bank of Argentina; and Fund Staff estimates.

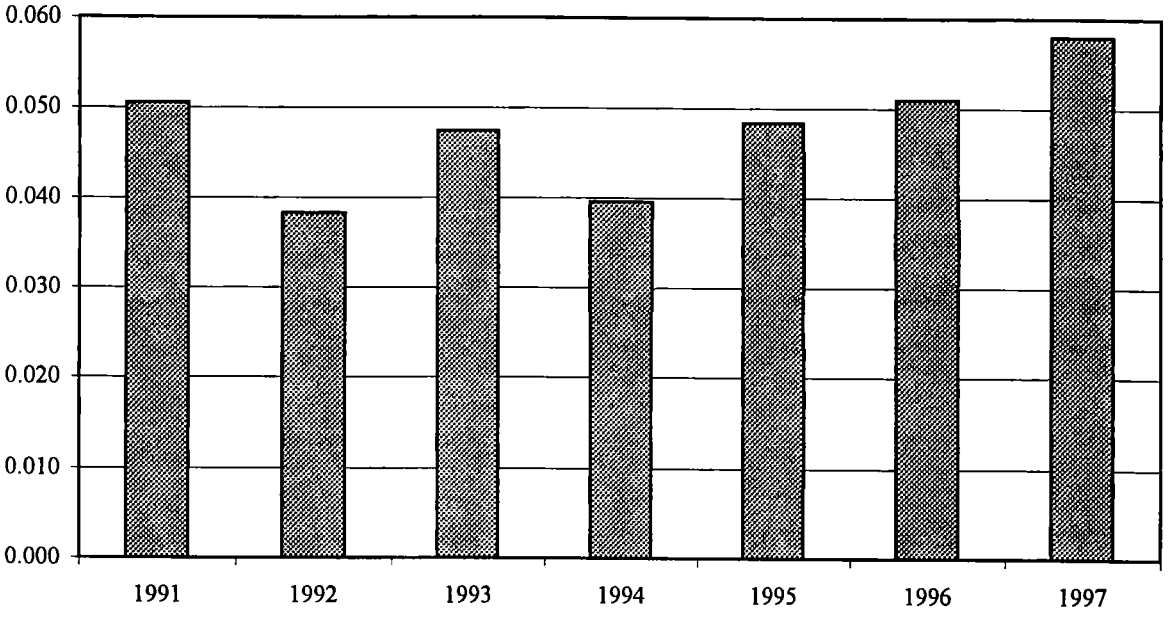
Figure 9. Argentina: Concentration Ratios [1]
(in percent)



Sources: Central Bank of Argentina; and Fund Staff estimates.

[1] Participation of the fifteen largest banks in total deposits; end-of-period through October 1997.

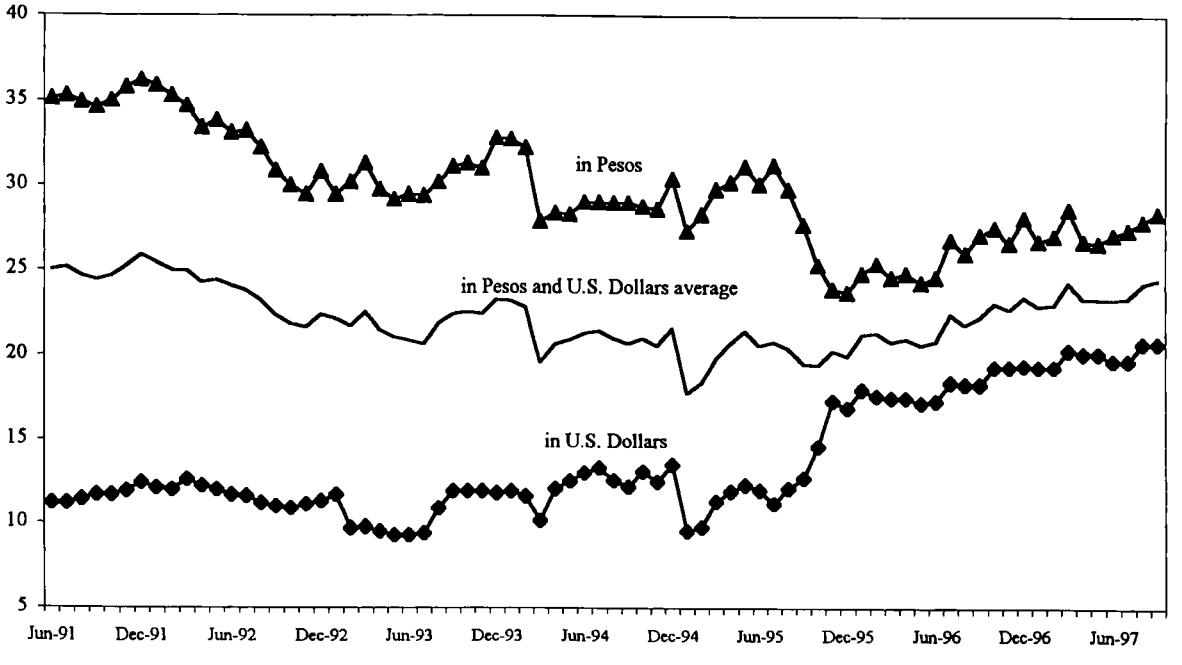
Figure 10. Argentina: Herfindahl Index for the Banking System[1]



Sources: Central Bank of Argentina; and Fund Staff estimates.

[1] Based on end-of-period deposits through October 1997.

Figure 11. Argentina: Reserve Requirements of the Banking System[1]
(in percent of total deposits)



Sources: Central Bank of Argentina; and Fund Staff estimates.

[1] Legal reserve or liquidity requirements held at the Central Bank or at an international custodian, e.g., Deutsche Bank, plus banks' cash in vault.

Figure 12a

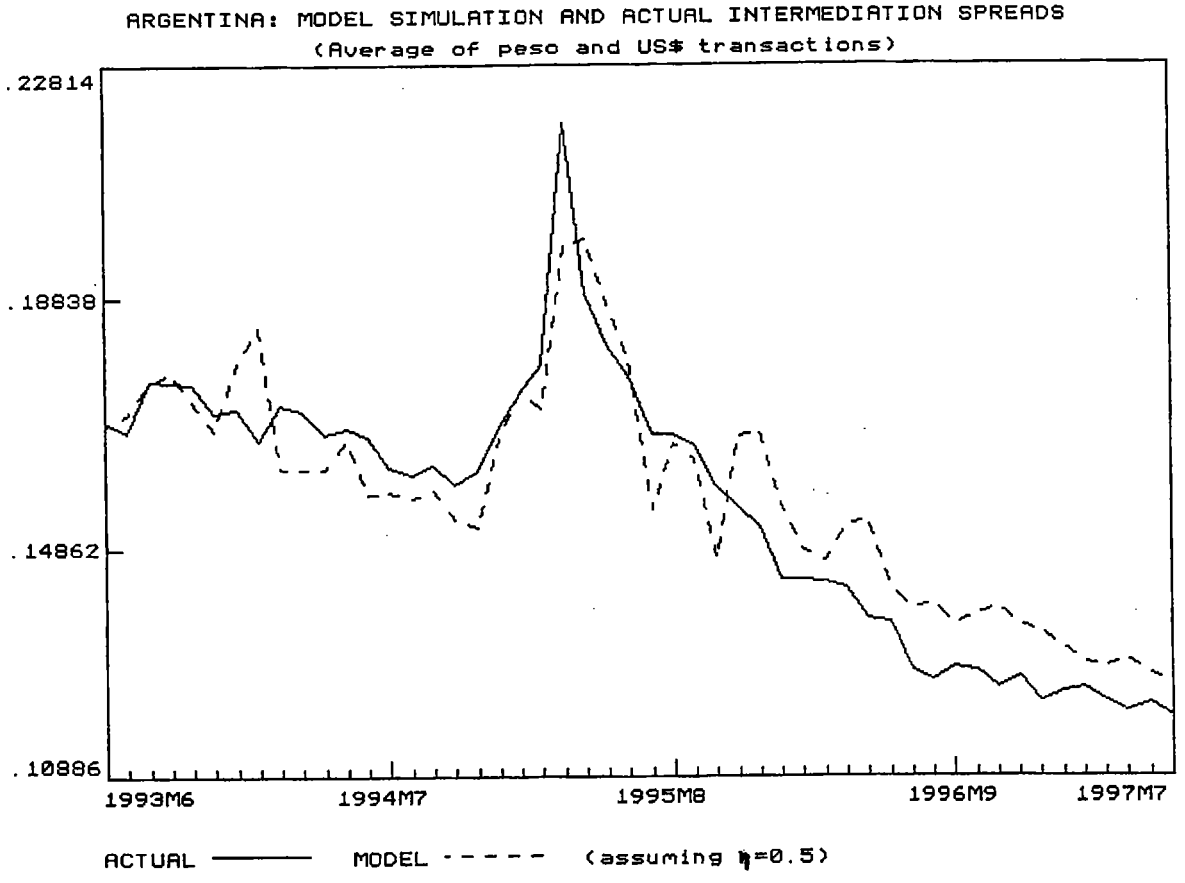

ARGENTINA: MODEL SIMULATION AND ACTUAL INTERMEDIATION SPREADS
(Average of peso and US$ transactions)
.22814
.18838
.14862
.10886
1993M6
1994M7
1995M8
1996M9
1997M7
ACTUAL
MODEL
(assuming η=0.5)

Figure 12b

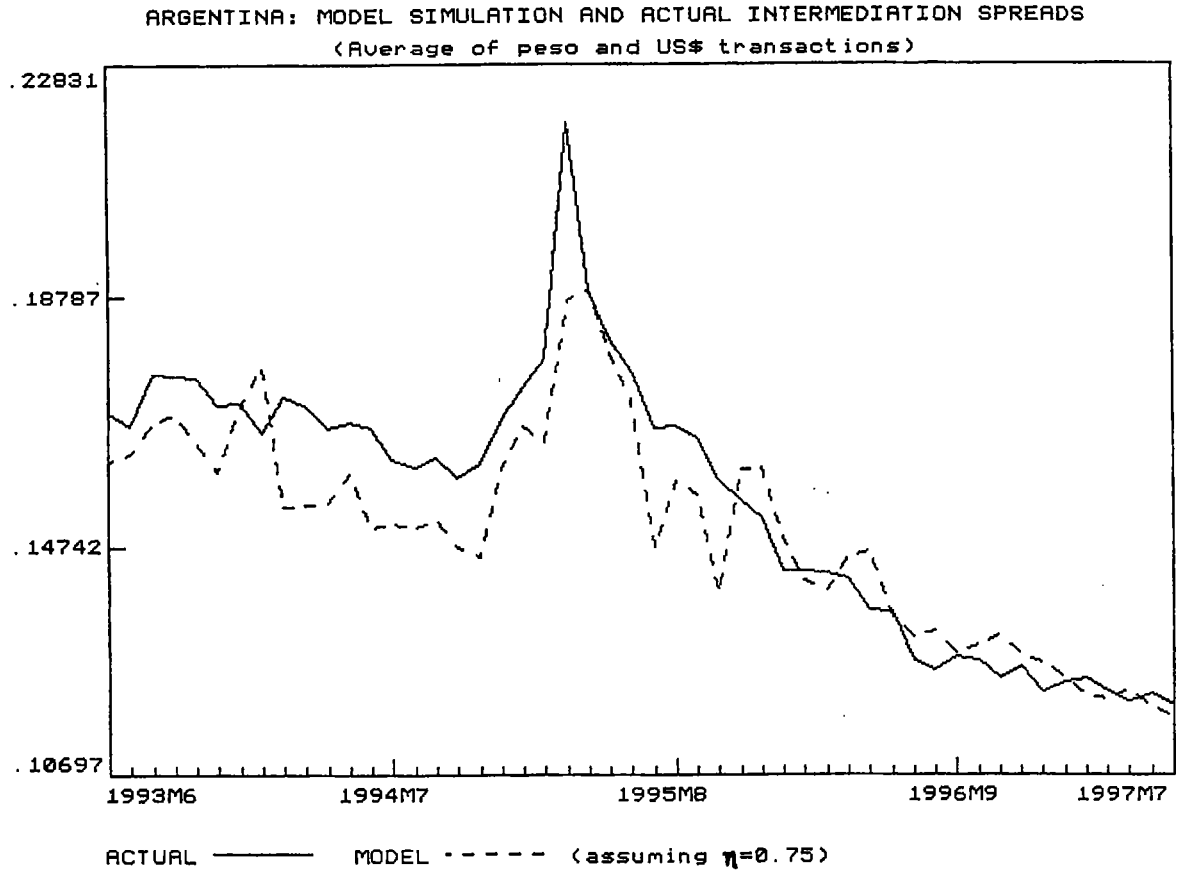

ARGENTINA: MODEL SIMULATION AND ACTUAL INTERMEDIATION SPREADS
(Average of peso and US$ transactions)
.22831
.18787
.14742
.10697
1993M6
1994M7
1995M8
1996M9
1997M7
ACTUAL
MODEL
(assuming η=0.75)

Table 1. Consolidated Income Statement of Commercial Banks in Selected Countries

(End-1994)

	Argentina		France		Germany		Italy		Japan	
	(Billion pesos)	% of loans	(Billion Francs)	% of loans	(DM billion)	% of loans	(Trillion Lira)	% of loans	(Billion Yens)	% of loans
Net interest earnings	5.2	10.0	227.2	3.5	121.4	3.9	62.2	6.0	9,166.0	2.0
Interest receipts	8.9	17.0	1,206.3	18.8	382.1	12.4	166.9	16.1	28,158.0	6.2
Interest receipts	3.8	7.3	979.1	15.3	260.7	8.4	104.7	10.1	18,992.0	4.2
Noninterest income	3.8	7.3	126.3	2.0	29.3	0.9	19.3	1.9	-295.0	-0.1
Gross income	9.0	17.2	353.5	5.5	150.7	4.9	81.5	7.9	8,872.0	2.0
Operating expenses	6.5	12.5	259.8	4.0	91.4	3.0	53.0	5.1	6,773.0	1.5
Provisions	1.9	3.6	89.9	1.4	30.0	1.0	18.9	1.8	1,305.0	0.3
Pre-tax profit	0.5	1.0	3.8	0.1	29.3	0.9	9.6	0.9	793.0	0.2
Taxes	0.5	1.0	13.8	0.2	14.3	0.5	8.9	0.9	585.0	0.1
After tax profit	0.0	0.0	-10.0	-0.2	15.0	0.5	0.7	0.1	208.0	0.0
Memorandum										
		(US$ billions)		(US$ billions)		(US$ billions)		(US$ billions)		(US$ billions)
Average stock of loans	52.2	52.2	6,416.6	1,155.7	3,093.4	1,906.2	1,034.2	641.6	452,057.5	4,422.8
Average deposits	44.4	44.4	4,252.0	765.9	2,817.1	1,736.0	921.3	571.5	537,880.6	5,262.5
No. of Employees ('000)	120.0	120.0	407.5	73.4	...	...	340.0	210.9	414.0	4.1
Deposits ($)/Employee	370.0	370.0	10,434.4	1,879.4	...	...	2,709.7	1,681.0	1,299,228.5	12,711.4
Exchange rate to US$ (av	1.000		5.552		1.623		1.612		102.210	

Table 1. Consolidated Income Statement of Commercial Banks in Selected Countries (Concluded)

(End-1994)

	Mexico		Peru		Spain		United Kingdom		United States	
	(Billion pesos)	% of loans	(Billion soles)	% of loans	(Billion pesetas)	% of loans	£ billion	% of loans	US$ billion	% of loans
Net interest earnings	31.4	8.2	0.9955	9.7	3,274.0	7.1	16.5	4.4	146.5	6.3
Interest receipts	104.3	27.2	2.0	19.7	9,251.0	20.2	43.0	11.4	257.4	11.0
Interest receipts	72.9	19.0	1.0	10.0	5,977.0	13.0	26.5	7.1	111.0	4.7
Noninterest income	8.7	2.3	1.5	14.6	902.0	2.0	12.5	3.3	76.6	3.3
Gross income	40.1	10.5	2.5	24.3	4,176.0	9.1	29.1	7.7	223.1	9.5
Operating expenses	25.7	6.7	1.8	17.4	2,493.0	5.4	18.6	5.0	145.1	6.2
Provisions	9.6	2.5	0.3	3.0	845.0	1.8	2.3	0.6	11.0	0.5
Pre-tax profit	4.7	1.2	0.4	3.9	838.0	1.8	8.1	2.2	67.0	2.9
Taxes	1.0	0.3	0.2	1.6	197.0	0.4	2.7	0.7	22.4	1.0
After tax profit	3.7	1.0	0.2	2.4	641.0	1.4	5.4	1.4	44.6	1.9
Memorandum										
		(US$ billions)		(US$ billions)		(US$ billions)		(US$ billions)		(US$ billions)
Average stock of loans	383.1	113.5	10.2	4.7	45,857.0	342.3	375.7	245.2	2,342.3	2,342.3
Average deposits	433.0	128.3	14.7	6.7	58,567.0	437.2	498.4	325.3	2,640.0	2,640.0
No. of Employees ('000)	129.0	129.0	17.3	3.1	246.5	151.9	365.6	226.8	1,486.0	1,486.0
Deposits ($)/Employee	3,355.3	994.2	846.3	385.6	237,642.5	1,774.0	1,363.5	890.0	1,776.6	1,776.6
Exchange rate to US$ (av	3.375		2.195		133.96		1.532		1	

Sources: OECD (1996); and Fund staff estimates.

Table 2. Argentina: OLS Estimates of Model on Intermediation Spreads
(Sample: 1993m6 to 1997m7)

		Explanatory Variables 1/						R^2	DW	DF 2/	ADF 3/
		Tax/Loans	ε (r_d-r_e)	dc\dl	Problem Loans	Dev. Risk	H index				
1. Average Spread		1.20	0.02	0.82	0.29	0.21	-0.08	0.92	1.72	-5.77	-4.83
		(1.73)	(7.37)	(5.15)	(4.01)	(4.51)	(-0.32)				
2. Peso Spread		0.60	0.02	0.58	0.54	0.22	1.19	0.92	1.62	-5.59	-5.92
		(0.79)	(10.55)	(3.37)	(5.52)	(4.60)	(3.23)				
3. US$ Sprea	a.	0.82	0.03	0.78	0.32	0.27	-0.04	0.85	1.79	-6.19	-4.79
		(1.12)	(5.32)	(4.24)	(1.25)	(6.71)	(-0.10)				
	b.	0.79	0.03	0.77	0.3	0.28	...	0.85	1.80	-6.2	-4.81
		(1.18)	(5.38)	(5.33)	(2.87)	(7.25)	...				

Source: Fund staff estimates.

1/ t-ratios in brackets. The variables tax/loans and the Herfindahl index entered the regressions with a one-period lag.

2/ Dickey-Fuller test for unit root of regression residuals.

3/ Augmented Dickey-Fuller test including first and second lags of the dependent variable.

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