Volume Title: Straining at the Anchor: The Argentine Currency Board and the Search for Macroeconomic Stability, 1880-1935

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Volume Publisher: University of Chicago Press

Volume ISBN: 0-226-64556-8

Volume URL: http://www.nber.org/books/paol01-1

Publication Date: January 2001

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Chapter URL: http://www.nber.org/chapters/c8835

Chapter pages in book: (p. 37 - 64)

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Anchors Aweigh: The Drift toward Crisis in the 1880s

As we have just seen in the last chapter, the predominant economic problem facing Argentina in the decades after independence was sporadic runaway inflation. Or perhaps, more accurately, we can say that inflation was the most serious symptom of deeper institutional and political problems that forestalled the creation of a stable macroeconomic regime.

Frequent bouts of inflation in the Province of Buenos Aires coincided with economic crises—commonly during wars and the fiscal consequences associated with sudden bursts of government expenditure. The inflation experience was quite similar in other jurisdictions. All provincial governments lacked the fiscal tools to perform "tax smoothing." They had no significant access to international bond markets and no capacity to float debt on a domestic bond market. They had weak powers of taxation except in trade taxes—the very source likely to fail in times of war or crisis.[1] Consequently, until alternatives could be found, the authorities resorted all too often to the only tax device left: the inflation tax, or seigniorage.

Of course, a coordinated solution to these problems was hindered by sectional divisions among the provinces. Each province has its own monetary system and banking structure, but all suffered from similar difficulties. This epoch has been characterized as one in which national money did not exist:

> Each province had its own money, and the same money had a different value between one province and another, and even between cities in the same province. In Buenos Aires there were four varieties of paper, as well as foreign coins. In the other provinces, Chilean, Bolivian, Peruvian, and other gold, silver, and copper coins circulated side by side with provincial paper, with the notes of the Banco Nacional, the notes of private bankers, and even of ordinary houses. There was convertible and inconvertible paper. Of the silver coins, many were from Chile, Bolivia and Peru; and of these many were underweight.[2]

1. See Amaral (1988), della Paolera (1988), Cortés Conde (1989), Bordo and Végh (1998), and Irigoin (1999).
2. Williams (1920, p. 31).

The fledgling banking system had to cope with monetary instability and bank failures were common in times of crisis. The only banks sure to survive were the banks owned and operated by the provincial governments. For economic agents acting in this environment such volatility confounded any solid expectations of stability and any long-term forecasts of prices and economic conditions. The various monies in circulation hindered exchange and prevented the smooth operation of domestic commerce within the national free-trade area comprising the Province of Buenos Aires and the other provinces that were united in the Argentine Confederation. The payments system and banking channels were weak and unreliable in hard times and the circulating paper currency could not be counted on as a useful store of value.

This period has often been referred to as one of "monetary anarchy." Yet, once the wars subsided, and political union was achieved and consolidated in the 1860s and 1870s, political leaders turned their attention away from matters of security, territorial expansion, and internecine conflict. Instead, they began to focus on the welfare of the nation state and sought to put Argentina on a path toward civilization through modernization, education, economic growth, and stability.

Economic reforms were a key element of this agenda. If Argentina were to modernize it was readily appreciated that a stable economic environment would be needed, so as to facilitate the activities of commerce and finance, both domestically and with the rest of the world. All sides appreciated the need for institutional reforms to achieve that result, and as more and more countries in the rest of the world began to adopt metallic standards as their monetary system, an obvious path forward seemed to open up.

A Failed Convertibility Experiment

In 1862 the recently inaugurated first national administration, led by President Bartolomé Mitre (1862–68), began the process of monetary reform when it decreed that only paper money issued by the Banco de la Provincia de Buenos Aires was to be accepted as legal tender by the Customs Office. The parity was set at 20 paper pesos per *peso fuerte*, the latter (the "hard peso") being the specie *numéraire* of the economy. This was clearly an attempt to force a financial innovation to encourage the use of paper money as a means of payment. The plan also aspired to increase confidence in the paper money because on the foreign exchanges the market rate at that time stood at 24 paper pesos per *peso fuerte*. Institutional innovations would be needed to make the regime more credible in the wake of a period of profligate monetary and fiscal activity. The Banco de la Provincia, the single bank of issue, was still under provincial jurisdiction and operated under a charter that specified neither a limit on paper note issues nor the type of assets to be held against its note issue liabilities.

Thus, to redress the expectations of devaluation in the foreign exchange market was not an easy task. As shown in Table 2.1, paper money had depreciated rapidly from 22 paper pesos per *peso fuerte* in 1861 to 29 in 1864. Memories of reckless paper printing were fresh. The Banco de la Provincia had expanded the quantity of paper money by 88 percent to permit the Province of Buenos Aires to finance military expenditures in 1859 and 1861, notably for the decisive civil war battles of Cepeda and Pavón fought against the other provinces of the Argentine Confederation. A commitment was made to buy back the notes at the end of the conflict. Still, once the wars ended, the commitment was in doubt when the national administration of the new Argentine Republic failed to negotiate with the Province of Buenos Aires a plan to amortize the paper notes consistent with the targeted exchange rate of 20 paper pesos per *peso fuerte*.

At the national level, the government announced in 1863 that consolidated budget deficits would be covered with issues of convertible bonds and presented a plan with two alternatives for the future operations of the Banco de la Provincia. Under Plan A, the state would take over the privilege of issuing paper notes from the Banco de la Provincia. Under Plan B, the government would establish a regime of competitive banks of issue for issuing bond-backed convertible notes.[3] However, neither plan was approved by Congress and so the Banco de la Provincia formally retained its independent control of monetary policy. As we shall see, the nation would have to wait thirty years until a crisis led to the issue of fiduciary currency being centralized in a decisive reform.

In the meantime, a piecemeal evolution of the monetary and financial institutions was underway. In 1864 the government agreed with the Banco de la Provincia to establish a Conversion Law to take effect on July 1, 1865. This deadline was not met. It turned out that nobody had thought to figure out where to find the real resources needed to fund the necessary specie reserves. The starting date for the convertibility plan was put back to 1867. While the plan had failed in the short run, it sent a clear signal of the new direction of money and banking policy. In 1864, knowing that it would have to meet the eventual limits that would be imposed by the law, the bank began to retire paper notes. As Table 2.1 shows, the tightening of credit in the money market was dramatic and loans denominated in paper pesos declined by 51 percent in the 1864–67 period. The monetary situation reached peak illiquidity in 1865. Outstanding credit in paper pesos declined by 27 percent in one year while domestic activity, as proxied by the semisum of exports and imports, increased by 21 percent.

The political economy reaction to the new policy was sharp. The export sector (the ranchers, or *hacendados*) argued with the authorities over the inconvenience

3. See Cortés Conde (1989, p. 31).

Table 2.1. *Real Activity, Monetary Variables, and Interest Rates, 1861–82*

				Banco de la Provincia							Internal
	Exchange			Money	Specie		Money		Deposit Interest Rate		Bond
Year	Rate	Exports	Imports	Base	Reserves	Deposits	Supply	Loans	Gold	Paper	Yield
1861	22.1	—	—	—	—	263	—	179	9.8	7.9	—
1862	24.0	16.1	22.1	—	—	296	—	154	8.0	6.8	—
1863	28.0	18.2	25.2	354	14	344	711	241	11.3	10.6	—
1864	29.0	18.8	21.8	342	32	334	718	252	10.0	10.0	15.0
1865	27.4	22.0	27.1	347	48	321	679	183	10.5	12.2	15.0
1866	24.3	26.7	37.4	431	112	251	762	129	9.8	14.2	14.7
1867	24.9	33.2	38.8	536	30	296	978	123	7.0	7.0	11.6
1868	25.0	29.7	42.4	588	90	324	1,045	260	7.5	8.0	12.6
1869	25.0	32.4	41.2	558	15	348	1,157	307	7.0	7.0	10.4
1870	25.0	30.2	49.1	639	45	367	1,247	372	—	—	9.2
1871	25.0	27.0	45.6	802	93	372	1,423	449	—	—	8.7
1872	25.0	47.3	61.6	964	138	486	1,824	581	6.0	6.0	8.0
1873	25.0	47.4	73.4	827	63	487	1,653	687	6.0	6.0	7.6
1874	25.0	44.5	57.8	787	110	457	1,563	569	—	—	7.8
1875	25.0	52.0	57.6	717	85	615	1,619	544	8.0	—	8.9
1876	29.4	48.1	36.1	895	4	622	1,835	546	8.0	—	12.8
1877	29.5	44.8	40.4	790	4	734	1,832	675	—	—	10.6
1878	32.4	37.5	43.8	870	4	744	1,862	704	—	—	10.7
1879	31.9	49.3	46.4	853	10	801	1,937	775	—	—	9.2
1880	28.6	58.4	45.3	864	4	814	1,836	820	—	—	7.9
1881	25.0	57.9	55.7	828	128	—	1,921	785	—	—	7.0
1882	25.0	60.4	61.2	740	22	959	2,065	1,005	—	—	6.9

Notes and sources: Exchange rate in paper pesos per *peso fuerte*. Exports and imports in millions of gold pesos. Balance sheet data in millions of paper pesos. Interest rates and bond yield in percent. From República Argentina (1916); della Paolera (1983); Cortés Conde (1989).

of a contractionary monetary policy combined with a floating exchange rate regime. At the height of the business cycle they favored a fixed exchange rate regime that would stop the appreciation of currency, since specie inflows would then have increased the quantity of money. The appreciation of currency was strongly correlated with the rise in domestic nominal interest rates as shown in Table 2.1. Even more striking was the fact that the ex post real interest rate in the economy skyrocketed: it went from 6 percent in 1864, to 18 percent in 1865, and a high of 29 percent in 1866.[4]

The behavior of real interest rates prompted the government to put an end to the appreciation of paper money. By 1867, two new monetary laws had passed. First, the Banco de la Provincia was authorized to issue metallic notes up to a maximum of 100 million paper pesos.[5] Second, an Office of Exchange *(Oficina de Cambios)* was established on January 3, 1867, *within* the most important official, albeit provincial, bank, the Banco de la Provincia de Buenos Aires. The new Office of Exchange was intended to be functionally equivalent to the Office of Exchange at the Bank of England on which it was modeled. The Law established that the Bank would stand ready to automatically exchange paper pesos for hard pesos at a rate of 25 paper pesos per *peso fuerte.*

What were the expectations surrounding this new monetary institution? The historian of the Banco de la Provincia de Buenos Aires, Osvaldo Garrigos, writing in 1873, was quite emphatic when he explained why the Office of Exchange, a precursor of the Conversion Office, was established as an entity quite separate from the other business areas of the bank:

> The name given to the Office of Exchange is due, without doubt, to its function, independent from other functions, and hence it stands as a separate division within the bank.[6]

Garrigos and his contemporaries understood very well that the Office of Exchange function dealt with variations in outside money, or the outstanding amount of money in circulation in a clean gold standard, and not with inside money or secondary money creation:

> The paper money that the Office of Exchange was putting in circulation, did not multiply money, rather it was just a public signaling of exchange. The issue was limited and had as backing an equal amount of gold.[7]

The question still remained whether this clean separation of the inside and outside money functions would be respected, a question that would pervade

4. The ex post real interest rate was calculated using the exchange rate as a proxy for domestic prices. This approach assumes purchasing power parity and stable world prices, both reasonable assumptions. See della Paolera (1983).
5. Specie reserves backing the so-called metallic notes were set at 33 percent of outstanding circulation. See Cortés Conde (1989, p. 50).
6. Own translation from Garrigos (1873, p. 147).
7. Own translation from Garrigos (1873, p. 148).

Argentine monetary history from that day forward. As we shall see next, the Office of Exchange's automatic mechanism functioned well in the first four to five years after its inception; but thereafter the Banco de la Provincia was "used" in a discretionary way by Sarmiento. The mechanical rules were no longer respected, and it evolved into what we might call a managed gold exchange standard.

To sum up the 1860s experience, we can ask how well did the disorganized regime function? The period from 1862 to 1868 can be divided in two subperiods: 1862–64, a period dominated by inflationary expectations; and 1865–68, a period characterized by the revaluation of paper money and an increase in nominal and real interest rates. This set the stage for a stable period from 1867 to 1876 when Argentina formally adhered to the international gold standard.

The years of President Domingo Sarmiento's term in office (1868–74) can certainly be characterized as an era of prosperity and economic stability. From 1868 to 1872, exports and imports increased on average by more than 50 percent. Aggregate demand was also expanding, mainly driven by public investments at the federal level: the cumulative deficit of the national administration for 1868–72 amounted to 2.5 times fiscal receipts.[8] Deficits were covered with external loans and bank advances. Interestingly enough, public expenditures seemed to have had no sizeable contemporaneous crowding-out effects. Yields on financial assets were steadily declining throughout the convertibility period. From an average level of 15 percent in 1866, domestic interest rates fell to 7.5 percent in 1872, a sign of loosening monetary policy. In 1871, commercial paper rates and yields on public bonds had started to converge toward levels observed in the U.S. economy.[9]

The adjustment was a corollary of the large role of capital imports in the economy, stimulated in part by the convertibility regime. Sizeable balance of payments surpluses increased the stock of money in the economy and, in turn, this reinforced the downward pressure on domestic interest rates. From 1868 to 1872 the monetary base increased at an average annual rate of 16 percent. The large increase in the demand for money was also met with an expansion of banking money at an average annual rate of almost 20 percent in the same period; clearly the broad money supply expansion was not solely the result of the automatic gold-standard mechanism.

Using conventional accounting procedures to perform a decomposition of the sources of money growth, one can infer that 68 percent of the increase in the money base was explained by gold inflows to the Office of Exchange.

8. The deficit is measured as fiscal receipts minus total outlays of the public sector, a concept termed *uso del credito*. Data from Cortés Conde (1989, p. 86).
9. The table shows the commercial deposit rate was 6 percent in 1872; call money rates (lending rates) in the United States stood at 8 percent in the same year. See Friedman and Schwartz (1982, p. 122).

Bank issues of metallic notes explained only 17 percent of the growth in the monetary base. While this expansionary of the fiduciary issue was not quantitatively important in 1872, it reflected a fundamental weakness in the monetary and banking institutional arrangements and showed that, on the margin, the monetary base was not fully backed as in a strict gold standard.

In this sense Argentina was on a "managed" gold standard regime, with both rules and discretion in play. The Banco de la Provincia could manage two instruments of monetary policy.[10] First, the reserve-deposit ratio, a means to control the elastic relationship between inside and outside money. Second, the supply of fractionally backed metallic notes, the elastic supply of outside money itself. The potential for conflict and collapse arose from this ill-designed system. Recall that there was still no national currency per se. The notes of the Banco de la Provincia were supposed to be the de facto convertible currency of the country, but this reputation rested on the additional presence of the Office of Exchange and its commitment to the international monetary standard.

Thus, the degree of discretion in one element of the system could pollute the clean, rule-based structures put in place elsewhere. This very primitive example of inconsistent policies in the Argentine case will set the tone for much of the history we discuss in the rest of the book; it was a case, so to speak, of bad monetary institutions driving out good.

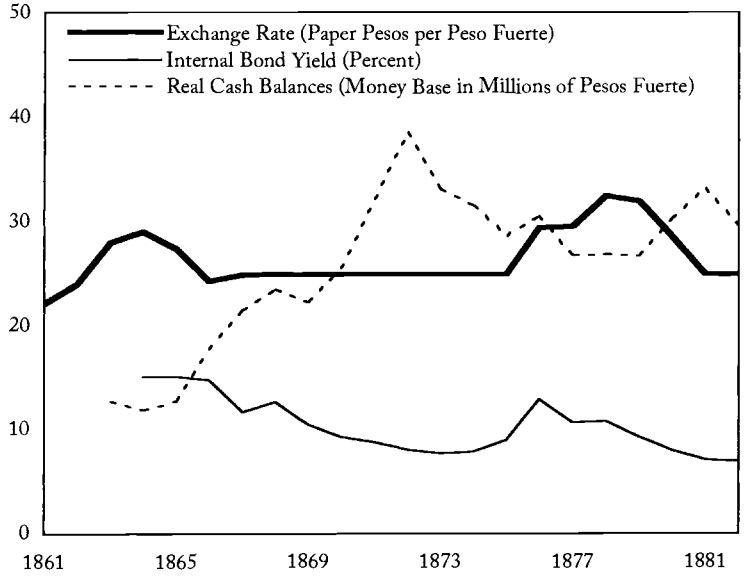
During the 1868–72 period of economic expansion and capital inflows the level of specie reserves and the money supply moved together, and expanding credit fed into an already liquid money market. Adverse domestic and international conditions took hold in 1873. The government reacted to the contraction in the gold-backed money supply by expanding the stock of metallic notes, that is, by pursuing a policy of sterilization.

It was hoped that the expansionary monetary policy would not just prevent a fall in the domestic money stock but also replenish the exhausted banking reserves of the Banco de la Provincia. At the start of the monetary crisis the bank tried to decrease its level of reserves, but the external drain quickly became an internal drain as depositors tested the convertibility of deposits into cash. This is shown clearly in Table 2.1. The reserve-deposit ratio declined from 20 percent in 1872 to 3 percent in 1876. Only the issue of more metallic notes prevented the Banco de la Provincia from collapsing.

Predictably, the attempt to sterilize the negative effects of gold outflows failed and convertibility was abandoned in May 1876, with the state of suspension being known by the curious term *curso forzoso*. Figure 2.1 describes extremely well some of the dynamics of this period. In particular, under a credible convertible regime with a fixed exchange rate there was a fall in nominal interest

10. There were other small banks, including the newly founded Banco Nacional, but they amounted to less than 10 percent of the banking system. Hence, we focus our attention in this section solely on the Banco de la Provincia.

Figure 2.1. The First Convertibility Experiment



Notes and sources: See Table 2.1.

rates coupled with a rise in the real level of monetization of the economy (the period 1868–72). Subsequently, the process of monetization was halted when the economy was overheated by an expansionary fiscal policy that was inconsistent with the convertible regime (the period 1873–76). This latter episode is characterized by a decline in real cash balances as agents converted money to specie, ending in a final speculative attack à la Krugman and a collapse of the fixed exchange rate.[11]

The incoming administration of President Nicolás Avellaneda (1874–80) thus had to cope with a depreciating currency, capital outflows, and a precarious budgetary situation.[12] The real sector of the economy adjusted almost instantaneously to the credit-rationing situation. Trade deficits were reversed and sizeable surpluses emerged to cope with the burden of external debt service. The adjustment was promoted by the implementation of restrictive monetary and fiscal policies: public expenditures were reduced by 40 percent in real terms in 1877, the money base remained fixed, and the nominal exchange rate appreciated to its earlier level of 25 paper pesos per *peso fuerte*. The new economic equilibrium prepared the way for a fresh monetary experiment and yet another attempt to get the monetary and financial institutions right.

11. Krugman (1979).
12. In 1876, the budget deficit was 93 percent of fiscal receipts (Cortés Conde 1989, p. 112).

Cartoon 2.1. *¡16 de Mayo 1876! El cuadro consolador de nuestra feliz situación.* (The comforting picture of our happy situation.)
Notes: The cartoon conveys the idea that the 1876 suspension of convertibility called *curzo forzoso* (written on the guillotine) is in breach of the constitution (the already decapitated body on the scaffold). At left, President Nicolás Avellaneda, the executioner, holds the head of the constitution. *Agio* (written on the blade) is the gold premium, or, equivalently, the devaluation relative to par. Under the platform a group of masked men fill up their bags with gold. At the top of the steps, the priest administering the last rites to the next victim, public credit, is Finance Minister Santiago Cortinéz.
Source: El mosquito, no. 698, May 21, 1876.

Another False Start

We now turn to the 1880s and 1890s, focusing on institutional developments in the realms of money and banking that contributed to a major macroeconomic crisis and its eventual resolution. Serious legislative efforts to devise a new monetary system began in 1878. Congress debated the establishment of a national monetary system that would put an end to the period of monetary anarchy. Plans were drawn up and finally, in 1881, Congress voted for a currency reform law.

The Monetary Law of November 5, 1881, was intended to put Argentina on a new kind of monetary regime, a bimetallic standard. It was decreed that units of gold and silver pesos would exchange with new paper peso notes at given par values, and fixed exchange rates against key international currencies would thus be established.[13] In addition to establishing the units of the currency, the law stipulated that, after eight million gold pesos and four million silver pesos were coined, the use of foreign metallic coins as legal tender was to be prohibited. Only national minted coins and "accepted national money" could serve as legal tender for all debts, private and public. A mint was to be created and foreign metallic coins were to be accepted at their bullion value in exchange for gold and silver pesos.[14]

The transition to this new regime was not smooth, however, and the law supplied few details as to the implementation of the plan. The problem was how to replace the stock of old paper notes in circulation, 882 million inconvertible paper pesos, for new paper notes exchangeable at par with the gold peso. In 1881, the vestigial notes represented 73 percent of the total currency in circulation. The law only indicated an accounting device: banks of issue were required, within two years, to replace their paper notes with the new monetary unit based on the prevailing market rate of exchange between old paper pesos and the new gold peso.

Another provision of the law sharply curtailed "wildcat banking" tendencies by limiting the capacity for monetary expansion in the banking system as a whole. In a drastic change, the privilege of issuing the new notes was restricted to just five banks. Four of these were publicly owned (state and provincial) banks: Banco Nacional; Banco de la Provincia de Buenos Aires; Banco Provincial de Santa Fé; and Banco Provincial de Córdoba. The fifth was Otero & Co., the only private bank accorded the privilege.[15]

13. The monetary units were to be the gold peso, of 24.89 grains, 9/10 fine, and the silver peso, of 385.8 grains, 9/10 fine (Article 1). At these definitions of content, the legal ratio of gold to silver was 15.5 and the following parity rates were established with the key currencies of the major countries on the gold standard: one British pound = 5.04 gold pesos, one U.S. dollar = 1.04 gold pesos, and 5 French francs = 1 gold peso.
14. See Article 5. Agote (1882, p. 212) estimated that, by the end of 1881, foreign metallic currencies represented 27 percent of total currency in circulation including paper notes.
15. Williams (1920, p. 35).

Absent direct government control of the money supply, the behavior of the banks of issue would determine the viability of the new regime. Could they be relied upon to adhere to sound practices and so maintain convertibility of the notes they issued into specie? There was the usual problem that banks have little incentive to maintain non-interest-bearing reserves above the required level. Specie was not to be solely confined to use as backing for paper note issues. Since national minted coins were to be legal tender, banks could choose to make loans and discounts in metallic coins as long as they did not violate the monetary reserve requirements.

In short, specie holdings were to have a double purpose: first, as an asset held to ensure convertibility and, second, as an asset held to meet liabilities payable in specie; thus, profit maximization would lead banks to make the reserve requirements a binding constraint most of the time. In a crucial omission, the new law was silent with respect to the specie reserves that banks would have to hold to back their paper note issues. Thus, the only rules regulating the relationship between paper notes and specie would be the self-imposed rules laid down in the respective charters of the banks themselves.

These rules varied considerably from case to case. For example, under its 1872 charter, the issue of convertible notes by the Banco Nacional could not exceed 200 percent of bank capital, and the bank had to maintain a specie reserve of 25 percent of all notes issued. The original charter of the Banco de la Provincia de Buenos Aires was much more lax: it specified neither a limit on note issue nor the assets to be held as reserves. This lack of regulation was soon rectified, and in March 1883 the Board of Directors passed a special motion stating that "the specie held by the bank will be increased to a minimum of a third of the circulating bank notes." At the Banco Provincial de Córdoba specie reserves were to be 45 percent of the note issues. The Banco Provincial de Santa Fé was subject to a more vague requirement that "the bank could increase its emission in proportion to its capital and resources."[16] Were these reserve requirements sufficiently strict? By international comparative standards of prudent banking regulation, we think not: note issues certainly did not require anything like the 100 percent marginal bullion reserve as under the British specie standard.

The law went into effect in July 1883. From that time Argentina operated under a mixed specie and fiduciary standard where the paper peso exchanged at par with the gold peso. Yet the system was unlike many metallic standards in that it was still very decentralized. No national monetary authority existed and all control over the convertibility of notes rested with the five banks of issue.

The period of convertibility lasted only seventeen months. From late December 1884 the banks of issue refused to exchange gold at par for notes. The de facto suspension of convertibility was soon accommodated by the government,

16. Agote (1887, pp. 212–15, 218–25); Piñeiro (1921, p. 247); Cuccorese (1972, p. 297).

since, having no institutional power over the monetary system, there was little they could do to prevent it. In March 1885, the federal Government decreed *curso forzoso* again, that is, the inconvertibility into gold of paper money, with a promise that convertibility would be restored in December 1886.

Lacking any direct control over the monetary system, the government could do little more than resort to moral suasion. Banks were exhorted "to discount in gold, to take exchange with gold, or to carry out any other legal operation intended to raise the value of the currency and devoting new elements to commerce and to the industries."[17] But there was no direct intervention, and no steps were taken to repair whatever it was that had ailed the banks and left their balance sheets so fragile that they had been forced to suspend in the first place. The strategy of the government was one of hoping and waiting, trusting that an upswing in economic conditions might boost the health of the banks enough to permit a resumption of convertibility.

As one might have guessed, resumption was never achieved. When December 1886 arrived, convertibility was suspended indefinitely. What happened afterward is succinctly captured by Figure 2.2. From 1884 to 1899, the Argentine monetary regime was a de facto paper standard in which the paper peso floated against gold, and hence against the key currencies. The gold premium remained fairly stable in the first two years that followed the suspension of convertibility but, thereafter, it skyrocketed until 1891. Moreover, as one would expect in a small open economy feeling a powerful influence of purchasing-power parity, the price level moved in tandem with the exchange rate.

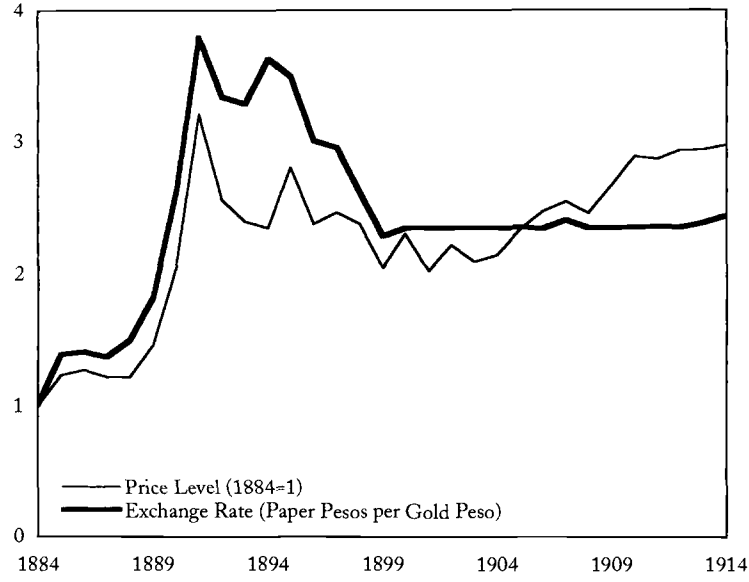
Toward a Working Currency Board

A major theme of this book is to show how the record of monetary instability prior to 1890 played a critical role in shaping the design of new institutions. A cursory outline of these events will set the stage for what follows. The opportunity for redesign came after a peculiar banking experiment, which is discussed in the next section, gave way to a financial crash and a major recession in 1890–91, the Baring Crisis, which is discussed at greater length in the next chapter. Argentine economic policymaking was to live in the shadow of these events for decades to come.

Following the Baring Crisis, the government sought to cast off, once and for all, the monetary anarchy of the nineteenth century by tying its hands as firmly as possible. Adopting a rigid commitment device—that is, a "hard" gold standard rule—the government stuck to a strict disinflation policy in the 1890s in an attempt to reestablish the gold standard at the old parity. In November

17. Agote (1887, p. 627).

Figure 2.2. Prices and the Paper-Gold Exchange Rate, 1884–1914



Notes and sources: See Appendix 1.

1891 Congress approved the October 1890 Conversion Office law proposed by the Executive.

The centerpiece of the law was a new national monetary authority, one under direct government control. This was to be called the Conversion Office *(Caja de Conversión)*. It would have the sole right to engage in note issues, a privilege that was to be withdrawn from the banks following their dismal record of irresponsible note issues that had left a trail of increasingly worthless paper in economy and established a pattern of chronic inflation. The Conversion Office was to function as a currency board, or redemption bureau, modeled after the issue department of the Bank of England. It would simply and mechanically exchange national paper notes for gold, or vice versa, on demand, and at a fixed exchange rate.

As is apparent from Figure 2.2, deflation took place until 1899, though it was insufficient to force prices and exchange rates back to their levels under the old parity. That being so, resumption was going to require some form of devaluation. After long and protracted arguments—to which we shall return in due course—the exchange rate was fixed at 2.27 paper pesos per gold peso. That rate, being the market rate, meant that Argentina, instead of debasing the gold peso created in 1881, opted to devalue the paper currency as a way to achieve convertibility. Under this new regime, convertibility was successfully

maintained until the outbreak of the First World War, and the currency board itself operated until the 1930s.

To summarize, the institutional developments in the Argentine monetary system from the 1880s until 1913 can be briefly restated.[18] Argentina legally adopted gold and silver as the basis for its monetary system in 1881, and operationally in 1883. This metallic standard, in which specie coins would circulate side-by-side with paper notes, soon failed in 1884. An inflationary boom-and-bust cycle ensued. Following the crisis, in 1891 a completely new design brought the monetary system under the central control of a currency board. After a period of inconvertibility, in 1899 Argentina reentered the gold standard system, but under a regime very different from, and more robust than, the initial bimetallic standard envisaged in 1881.

Money, Banks, and Currency Substitution

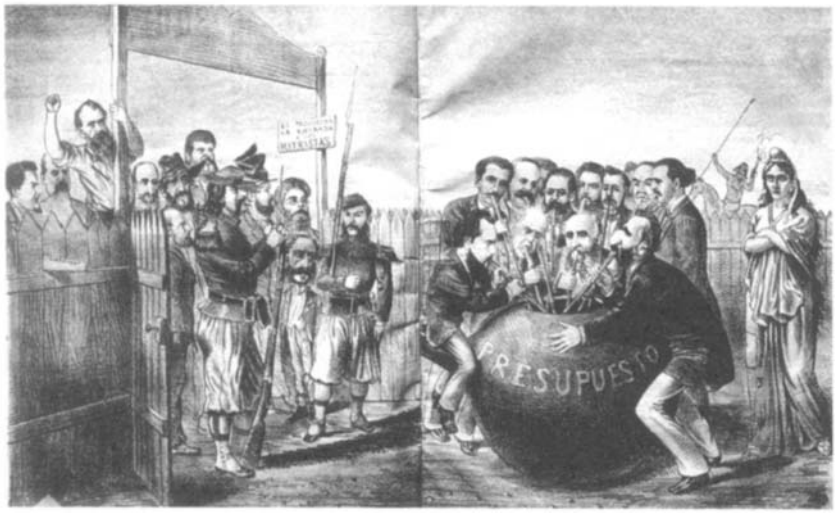
Having surveyed the major institutional developments at the level of the monetary regime, we now seek to appraise how changes in institutional structure affected the expectations of economic agents. A useful way to attack this question is to assess the role and use of specie by the public.

The willingness of the public to hold notes rests on their confidence in convertibility. If the public ever suspects that convertibility will be suspended, or that their holdings of paper might be susceptible to devaluation, then banks might face a sudden run on gold reserves as agents seek to convert paper into specie. Such runs could cause bank failure if the reserves are insufficient to cover deposits. If a crisis looms, a government then faces the question of what it will (or can) do about it. After such crises, and even if banks resume convertibility, cautious agents may still prefer to hold the cumbersome metal rather than paper notes for fear that the same might happen again.

At the start of our period there are few quantitative measures of public holdings of gold and silver. However, contemporary scholars did report that gold and silver coins were never widely used in domestic monetary transactions: specie in hands of the public in 1881 was estimated to be 3 million gold pesos. Such a figure would correspond to about 5 percent of the total currency in circulation in that year (defined as the sum of paper notes and metallic coins).[19] Moreover, within a short span of time silver ceased to play an active monetary role. It seems that the mint ratio was set at a level that drove silver out of circulation given the (world) market price for silver, a classic case of Gresham's

18. For more details, the reader may refer back to Table 1.2.

19. Agote (1882, p. 211) estimated the currency in circulation at the end of 1881 at 56.1 million gold pesos; of this, fiduciary notes represented 41 million, specie in banks 12.1 million, and public holdings 3 million.



Cartoon 2.2. *Los unos chupan con una gana asombrosa, los otros se chupan los dedos, mientras tanto, nuestra pobre República, que es la que ceba el mate, espera que los chupadores se recuerden que ella esta muy enferma y espera el cuidado y el ayudo de todos.* (Some of them are sucking with great pleasure, others are sucking their fingers, while in the meantime our poor Republic, who made the *mate*, is waiting for the suckers to remember that she is very sick and needs the help of all of them.)
Notes: The *mate* is a traditional drink of Argentina brewed from hot water and herbs *(yerba)*, and the term also refers to the bowl from which it is drunk through straws. This *mate* is labeled *prosupuesto* (budget), a reference to the politicians' ability to drain the public coffers. Sucking at the *mate* are many politicians, including (front row, left to right) President Nicolás Avellaneda, former President Domingo Sarmiento, Finance Minister Santiago Cortinéz, and former governor of the Province of Buenos Aires Adolfo Alsina. All those inside the stockade are of the same political party, the PAN *(Partido Autonomista Nacional)*. Outside the gate, stands former President Bartolomé Mitre and his rival faction who were opposed to the PAN, behind the sign that says *es prohibida la entrada a las Mitristas* (no entry to Mitristas). Someone is forcing through the fence a saw that bears the name *libertad* (liberty). Meanwhile, an Indian rides by in the background.
Source: El mosquito, no. 682, January 30, 1876.

Law at work. Argentina was soon a de jure bimetallic country, but a de facto monometallic country, as was typically the case.[20]

Subsequently, net flows of silver with the rest of the world were insignificant; hence, silver coins may safely be excluded from the definition of the Argentine currency stock for the period under study.[21] By contrast, bank notes were issued in smaller denominations.[22] Therefore, it appears that even the five gold peso coin was inferior to the five gold peso note for transaction purposes.

What happened next? For the period after the demise of the bimetallic

20. From 1881 to 1884, silver coins worth 2.8 million gold pesos were minted. During the same period the outflow of silver was equal to 2.8 million gold pesos (Lorini 1902, p. 366).
21. For 1886–99 the cumulative net import of silver from the rest of the world amounted to 0.3 million gold pesos.
22. For example, at the most important bank of issue, the Banco de la Provincia de Buenos Aires, metallic notes up to five gold pesos were issued in eight small denominations: 8, 10, 16, 20, and 40 cents; and 1, 2, and 4 pesos. Cuccorese (1972, p. 283).

standard, recent scholarship takes the view that specie in circulation was still insignificant relative to the currency stock, and stayed that way. For example, Ford stated that "by 1896 when the coinage of gold ceased, gold coins to the value of 31.7 million gold pesos had been issued (nearly four times the original issue planned), yet in 1896 no gold coins circulated, any more than they did in 1881."[23] However, we are not satisfied with such an incomplete account. Ford does not explicitly report the evidence on which his assertion is based. Moreover, as we show below, the use of specie as a means of payment does not tell the relevant story for the interim years during the crisis.

To assess specie holding by the public we have to distinguish the use of specie as a *means of payment* and its use as a *store of value*. First, the fact that the authorities discontinued minting of coins would not have precluded domestic residents from holding specie (just as, today, the fact that the Argentine government is not empowered to issue U.S. dollars does not preclude residents from holding and hoarding U.S. dollars in significant amounts). Second, even if gold did not circulate as a generalized means of payment, one should not leap to the conclusion that its role as a store of value was insignificant.

To try to resolve the question, we now present new estimates for the specie in hands of the public for the period 1884–1914.[24] The data for 1883–99 are displayed in Table 2.2 and Figure 2.3. The evidence suggests that public hoarding was due to the failure of the monetary regime. In every year from 1884 until the financial crash of 1891 we can see that the public, as asset holders, attempted to restore their portfolio balance in the face of expected paper money depreciation, demanding gold as hedge against inflation. This trend became especially prominent after 1888.

An important issue here is that if people attempt to flee from the paper peso and into gold, and the monetary authorities do not precommit to fix the paper-gold exchange rate, then, under the assumption that the stock of gold is reasonably steady, one should expect the gold premium to rise. That the public distrusted the regime may seem all the more surprising given the spectacular economic boom that took place in the late 1880s, but subsequent events were to confirm the public's suspicions that a crisis was at hand.

23. Ford (1962, p. 93).

24. The method used is very simple. Briefly put, at each moment in time there is a given stock of specie in the country. Because Argentina is not a specie producer, this stock of specie gets increased or decreased by the net flows of specie from abroad. Hence, with data for specie flows and an initial stock of specie for the year 1883, we can generate a time series on the stock of specie for the remaining years. The specie stock may be held by three categories of holders: the monetary authorities, the banks, and the public. Elsewhere, we can obtain the holdings of specie by the domestic financial system including monetary authorities, and then, as a residual, we obtain public hoarding of specie.

Table 2.2. *Argentine Specie Stock, 1883–99*

Year	Initial Specie Stock	Net Specie Flow	Terminal Specie Stock	Specie Held by Banks	Public Hoarding of Specie
1883	—	—	22.5	19.5	3.0
1884	22.5	0.4	22.9	20.7	2.2
1885	22.9	-2.1	20.8	17.4	3.4
1886	20.8	12.3	33.1	26.5	6.6
1887	33.1	-0.1	33.0	21.9	11.1
1888	33.0	36.1	69.1	52.7	16.4
1889	69.1	-16.7	52.4	22.0	30.4
1890	52.4	1.9	54.3	10.0	44.3
1891	54.3	7.5	61.8	7.9	53.9
1892	61.8	4.5	66.3	9.1	57.2
1893	66.3	3.7	70.0	11.8	58.2
1894	70.0	2.9	72.9	10.7	62.2
1895	72.9	4.6	77.5	13.0	64.5
1896	77.5	3.9	81.4	12.9	68.5
1897	81.4	-4.3	77.1	12.3	64.8
1898	77.1	5.7	82.8	13.4	69.4
1899	82.8	1.7	84.5	18.4	66.1

Notes and sources: Units are millions of gold pesos on December 31. See Appendix 1.

Monetary and Fiscal Policy Inconsistencies

To better understand the public's reaction we must step back and survey the broader macroeconomic picture of Argentina in the 1880s and the rising role of international finance.

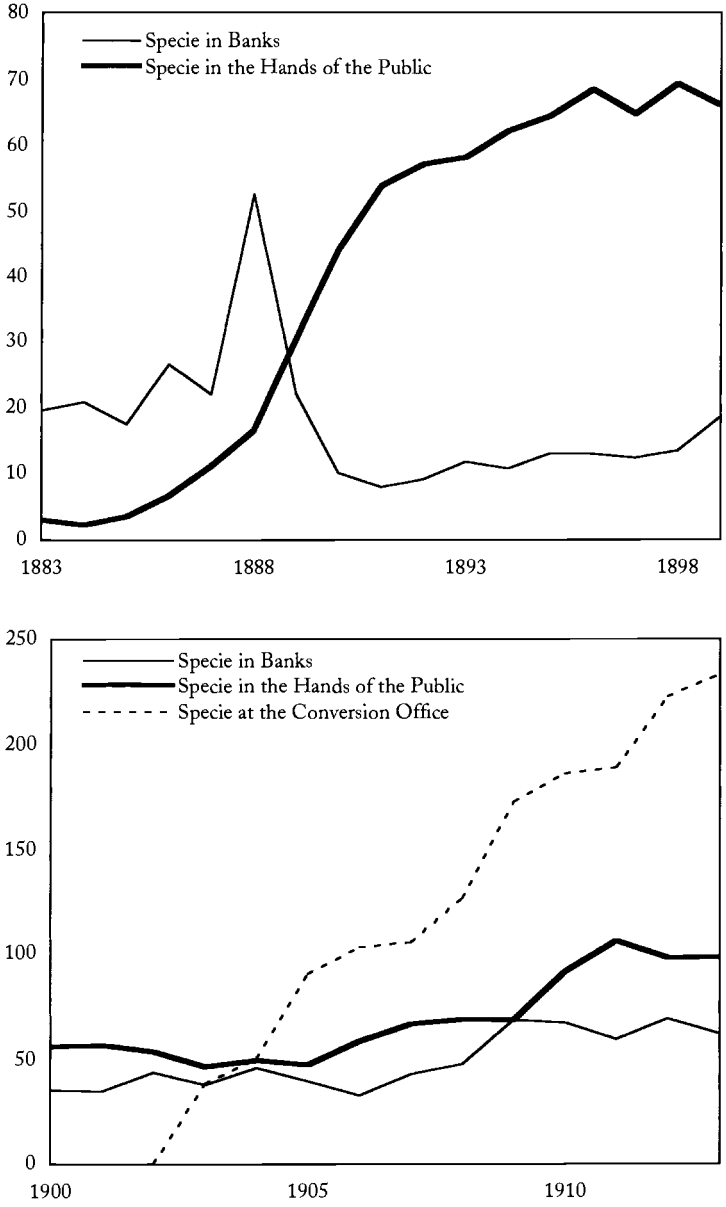
Even as the first attempts to reform the monetary system ran into difficulties, the new spirit of modernization in the country had been noted on a global level. Foreign investors were alert to the untapped potential of a rapidly growing economy with abundant land, an open frontier for expansion, and a seemingly more stable macroeconomic environment. Growth and investment surged in the boom years of 1884–90, a period that Williams called one of "heavy borrowing" with massive capital inflows from abroad:

> The borrowing was maintained throughout the eighties, culminating in loans of such extent as have probably never been equaled, by a country of so small a population as was that of Argentina.[25]

Argentina's rise to prominence in the London capital market was impressive. In these years the country absorbed 11 percent of the new portfolio issues of the London market; North America, with a population twenty times that of Argentina, absorbed only 30 percent of London's new issues.[26]

25. Williams (1920, p. 3).
26. London issues for Argentina from Ford (1962, p. 148); total London issues from Simon (1968, p. 38). North America includes Canada and the United States.

Figure 2.3. Public Hoarding of Specie, 1883–1914



Notes and sources: Units are millions of gold pesos on December 31. See Appendix 1.

To put it differently, a very rough estimate is that the current account deficit of Argentina averaged *20 percent* of gross domestic product (GDP) in the years 1884–89, before collapsing to almost zero in 1890 itself as the crisis hit. This is a phenomenal ratio, the like of which has probably not been seen in any emerging market boom before or since.[27] Most of the foreign capital inflow was used to finance works associated with shifts in the composition of production of the newly settled country. The bulk of the investment went to the construction of social overhead projects, the improvement of cultivable lands, and the expansion of the railroad network.

When, by the middle of the eighties, European investors had become especially enamored with Argentina as a target for foreign investment, federal and provincial governments seized the opportunity, capitalizing on the momentum to borrow for fiscal purposes. During the boom period, the federal administration augmented the level of public indebtedness relative to real output from a ratio of 64 percent in 1884 to 101 percent in 1890.[28] The ease with which Argentina could obtain loans from the London capital markets had important consequences for fiscal debt management: the ability to float government bonds externally began to significantly augment the other, relatively restricted, sources of fiscal revenue, namely foreign trade taxes and inflationary finance.

At the beginning of the boom period one of the aims of fiscal policy was the resumption of the specie standard. Resumption was seen as a necessary step to encourage the inflow of private capital from abroad by reducing exchange-rate uncertainty. From Tables 2.3 and 2.4 one is tempted to conclude that the (unfulfilled) precommitment of the monetary authorities to return to parity had a positive impact in several aspects.

Banks increased their level of reserves in the short run prior to the promised resumption of convertibility. From Table 2.4, we see that for 1884–87 the reserve-ratio contributed negatively to the growth in money supply. That is, banks were replenishing their vaults after the convertibility crisis of December 1884. Despite the demise of the specie standard, the level of specie hoarding by the public stayed low, at around 5 percent of the monetary base or 2.5 percent of the total money stock. In addition, the economy benefited as domestically created inflation was attenuated by the worldwide deflation trend.[29]

27. Taylor (1998).
28. The level of public debt is defined as the stock of outstanding funded debt in pesos and hard currency. For 1884 it amounted to 198 million gold dollars or 3,218 million 1950 pesos. Real output was estimated at 4,992 million 1950 pesos. For 1890 funded debt was 361 million gold dollars or 7,398 million 1950 pesos; real output was 7,348 million 1950 pesos. Figures for debt are revised estimates from *Memorias de Hacienda* and Vázquez-Presedo (1971, p. 93). Real output from Appendix 1.
29. We performed a conventional test of purchasing-power parity on the levels and on the first differences of domestic and foreign common-currency prices for the period 1884–1913, and subperiods 1884–99 and 1900–1913. In each case the slope coefficients of the foreign price level were not statistically different from one. The formal results are presented in Appendix 4.

Table 2.3. *Statistical Summary, 1884–1913*

Period	1884–87	1887–89	1884–89	1890	1891	1892–99	1884–99	1892–13	1900–13	1884–13
Number of Years in the Period	3	2	5	1	1	7	15	21	13	29
A. Percentage Change in:										
(1) Money Stock	47.3	58.2	105.5	11.1	-25.8	18.0	101.2	146.4	124.5	229.6
(2) Monetary Base	53.0	25.5	78.5	40.4	6.4	3.4	136.1	107.2	102.6	239.9
(3) Banking Money	42.7	80.2	122.9	-8.1	-63.9	48.9	60.6	208.8	151.7	220.6
(4) Real Output	17.2	25.3	42.5	-4.5	-11.7	30.6	65.5	109.0	80.8	143.9
(5) Prices	19.7	18.4	38.1	33.9	44.5	-22.3	71.5	14.0	24.3	107.8
(6) Exchange Rate	30.0	28.8	58.8	36.0	37.1	-38.0	81.1	-37.1	-1.7	82.0
(7) U.K. Prices	-14.4	4.6	-9.8	-0.1	3.4	-9.2	-21.3	14.2	15.3	2.1
B. Percentage Change Per Year in:										
(8) Money Stock	15.8	29.1	21.1	11.1	-25.8	2.6	6.7	7.0	9.6	7.9
(9) Monetary Base	17.7	12.8	15.7	40.4	6.4	0.5	9.1	5.1	7.9	8.3
(10) Banking Money	14.2	40.1	24.6	-8.1	-63.9	7.0	4.0	9.9	11.7	7.6
(11) Real Output	5.7	12.7	8.5	-4.5	-11.7	4.4	4.4	5.2	6.2	5.0
(12) Prices	6.6	9.2	7.6	33.9	44.5	-3.2	4.8	0.7	1.9	3.7
(13) Exchange Rate	10.0	14.4	11.8	36.0	37.1	-5.4	5.4	-1.8	-0.1	2.8
(14) U.K. Prices	-4.8	2.3	-2.0	-0.1	3.4	-1.3	-1.4	0.7	1.2	0.1
C. Average Level of:										
(15) Multiplier	2.1	2.6	2.4	2.2	1.6	1.5	1.9	1.7	1.9	1.9
(16) Income Velocity	1.8	1.5	1.6	1.7	3.1	2.8	2.3	2.5	2.3	2.3
(17) Gold Stock/Base (%)	26.0	37.0	32.0	22.0	24.0	26.0	28.0	35.0	40.0	33.3
(18) Hoarding/Base (%)	5.0	13.7	8.6	18.0	20.0	22.0	16.6	16.4	13.3	15.0
(19) Nonperforming Assets/Loans (%)	6.8	5.6	6.2	19.5	21.0	1.5	—	1.3	1.2	—

Notes and sources: See Appendix 1.

Table 2.4. *Money Supply, 1884–1913*

Period	1884–87	1887–89	1884–89	1890	1891	1892–99	1884–99	1892–13	1900–13	1884–13
A. Money Stock Change (%)	47.3	58.2	105.5	11.1	-25.8	18.0	101.2	146.4	124.5	229.6
B. Proximate Determinants of the Change in the Money Stock:										
(1) Monetary Base	53.0	25.5	78.5	40.4	6.4	3.4	136.1	107.2	102.6	239.9
(2) Currency Ratio	1.2	6.4	8.4	-31.9	-32.2	10.4	-18.5	18.6	11.6	-0.3
(3) Reserve Ratio	-6.9	20.3	14.4	-2.6	-8.0	2.4	-27.4	9.3	6.9	-10.6
(4) Interaction of Ratios	0.0	6.0	4.2	5.2	8.0	1.8	11.0	11.3	3.4	0.6
C. Fraction of Change in Money Stock Attributable to Change in:										
(5) Monetary Base	1.12	0.44	0.74	3.64	-0.25	0.19	1.34	0.73	0.82	1.04
(6) Currency Ratio	0.02	0.11	0.08	-2.87	1.25	0.58	-0.18	0.13	0.09	0.00
(7) Reserve Ratio	-0.16	0.35	0.14	-0.23	0.31	0.13	-0.27	0.06	0.06	-0.05
(8) Interaction of Ratios	0.00	0.10	0.04	0.47	-0.31	0.10	0.11	0.08	0.03	0.01
D. Fraction of Change in Money Stock Consisting of a Change in:										
(9) Monetary Base	0.51	0.17	0.28	1.44	-0.13	0.13	0.73	0.42	0.44	0.50
(10) Bank Created Money	0.49	0.83	0.72	-0.44	1.13	0.87	0.27	0.58	0.56	0.50
E. Fraction of Change in Monetary Base Consisting of Change in:										
(11) Domestic Credit	0.84	1.62	1.15	1.08	1.00	1.00	—	—	0.00	—
(12) Monetary Specie	0.16	-0.62	-0.15	-0.08	0.00	0.00	—	—	1.00	—

Notes and sources: See Appendix 1.

The macroeconomic situation so far appeared to be manageable, but in 1887 the financial scenario drastically changed for the worse after the government launched a new monetary experiment, the Law of National Guaranteed Banks. The framers of the law intended to create a national banking system that would mirror the U.S. National Currency Act of 1867, whereby any banking organization with a required minimum level of capital could issue bond-secured notes. In the view of the government,

> Capital, both internal and foreign will find in this manner a sure investment, and will be attracted by the guarantee represented by the public funds purchased and by the security and stability possessed by any bank legislated for by the Nation and protected by the same before the Court.... This system, in its fundamental form, has been employed with the most admirable success by the Government of the United States, the Constitution of which country formed the model of that of the Argentine Republic, though the accompanying bill has certainly deviated from that system in many respects.[30]

In fact, this new monetary experiment was to fail because the bill deviated from the American one in two very fundamental and serious respects. First, the American bond-secured paper notes were redeemable in gold, while in Argentina the specie standard was in suspension. Second, in the United States, eligible public bonds came from active secondary markets while in Argentina eligible bonds were specially created for the purpose of backing new paper issues.

At best, the Argentine plan implied the creation of significant new public debt to support an ambitious financial development strategy. At worst, it established a highly leveraged government-backed Ponzi scheme disturbingly reminiscent of John Law's infamous manipulations of the French economy that had led to the Mississippi and South Sea Bubbles of the early eighteenth century. Or, if one admits multiple equilibria, it could have implied both![31]

To summarize, the rules of this new game for banks issuing bond-secured notes worked in the following way. Banks could issue paper money provided that they purchased National Gold Bonds to the full amount of the notes to be emitted. The bonds—this is an important detail—were to be paid for with bullion from the banks, and the bullion and the bonds were to be deposited in the Banco Nacional. If the banks remained solvent, they were entitled to the interest payments on the bonds; in the case of bankruptcy, the government would sell the securities and reimburse creditors out of the proceeds.[32]

30. Proposal presented by the Executive Power to the Congress in September 1887 (Agote 1887, pp. 405–13).
31. Garber (2000) forcefully points out that the common characterization of the Mississippi and South Sea phenomena as bubbles deserves careful scrutiny with respect to the timing of investors' changing perceptions in a situation of uncertainty and possibly asymmetric information. In a similar vein, Duncan (1983) has stood up for the view that the Juárez Celman administration had a bold but feasible development strategy in mind that was not ex ante destined to be a bubble. While, ex post, the Baring Crisis proved to be a bubble that burst this particular plan, it is not clear that it was always destined to end so.
32. A detailed explanation of the Law of National Guaranteed Banks appears in Appendix 2.

By December 1888, sixteen banks, mostly provincial and mixed banks, had invoked these rules to issue 39 million pesos in guaranteed notes up to the ceiling prescribed by the law. Critically, they contracted foreign loans to purchase the guaranteed bonds with gold.[33] Thus, in essence, the scheme was an arbitrage operation by which foreign investors were implicitly partners in the business of issuing paper money via a credit boom at the Argentine banks.

Financial operations such as these entailed all the kinds of dangerous asset mismatches now commonly associated with such arbitrage in emerging markets—as seen, for example, in the Asian Crisis of 1997. The foreign loans to the Argentine banks were liabilities in gold, but some of the domestic loans they funded were assets denominated in paper pesos, creating a currency mismatch that would make for a leveraged position that would be very vulnerable to devaluation. There was also the potential for a maturity mismatch: some of the domestic loans by banks funded long-term investment projects, and their terms would far exceed the shorter maturity of the foreign loans, leading to problems if the foreign creditors refused a rollover and the domestic loan was illiquid or insolvent.

From the macroeconomic point of view, the new scheme acted like a "one-way gold standard": the issue of 39 million paper pesos was backed by a gold inflow of 33 million gold pesos. The rules of the game were more or less respected in that most new note issues were backed with a 100 percent marginal bullion reserve. But the scheme had its limits and these were soon encountered. From early 1889 foreign investors became reluctant to absorb additional Argentine government debt and, moreover, quite a few of them were dumping Argentine bonds in the London market.[34] It seemed that Argentina had hit a debt ceiling, and the shift in market sentiment was soon apparent. In Buenos Aires, the public started a relentless attack on the "guaranteed" paper peso, depreciating its value relative to gold.

Unnerved by the sliding exchange rate, and seeking to calm expectations of devaluation, the government decided to intervene in the foreign-exchange market. They employed the national gold stock (that is, the gold deposited in the Banco Nacional) to defend the value of the paper peso, thus setting the exchange rate on a "dirty float." In March 1889, for example, 5 million gold pesos were spent in such a defense. Yet, like most such defenses, the enterprise proved futile and by December of that year defeat was near. The stock of gold

33. These loans amounted to 47 million gold pesos; by the end of 1888 the stock of bullion in guarantee of the notes sitting at the Banco Nacional amounted to 33 million gold pesos. See Williams (1920, p. 58) and Appendix 1.

34. According to Kindleberger (1984, pp. 258–59): "Germans sold off Russian bonds to France, and even unloaded Argentine bonds in London in 1888 and 1889. Various explanations had been given for dumping Argentine bonds: investors became uneasy about Argentina and enamored of gambling in industrial shares at home; or they were disturbed by instability in the Argentine exchange rate, at a time when British investors were slow to see its implications."

remaining in the vaults of the Banco Nacional was valued at only 6 million paper pesos, but the still-outstanding emission of "guaranteed" notes amounted to 73 million paper pesos.

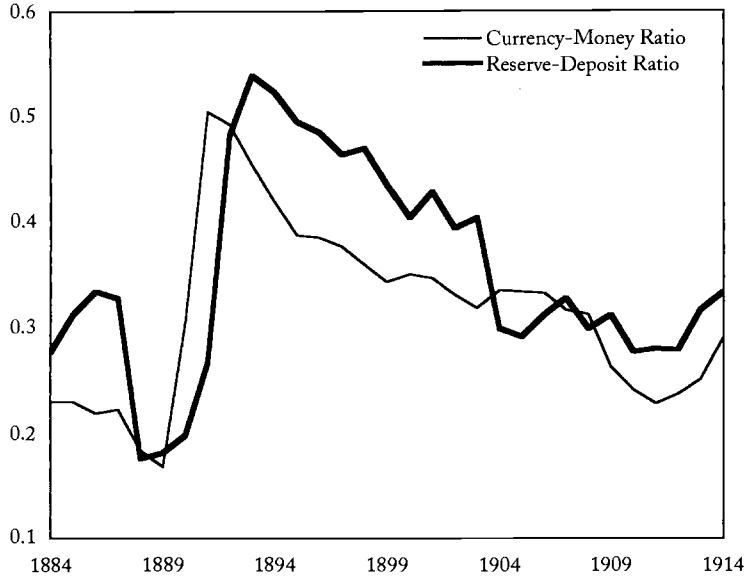
The futility of the "defense" is revealed more clearly once it is understood that the government elected to sterilize the effects of their own open-market intervention operations by rediscounting the bills initially absorbed, thus perpetuating the excess supply of paper notes. That is, the intervention made for no macroeconomic adjustment, merely a reserve outflow of gold from the government's coffers! It was, one might argue, a classic first-generation currency crisis waiting to happen.[35]

One possible ex ante rationale for this policy was that, by rigging the gold market to try to maintain a flat gold premium, the government believed that it could signal to foreign investors that resumption at par was still a feasible outcome. As in second-generation models of currency crisis one could appeal to the notions of multiple equilibria and self-fulfilling crises as a justification for the interventions. We have already alluded to such possibilities. In a "bad equilibrium" the markets could have deemed Argentina "unworthy" and the resulting capital outflow and crash would validate the belief, and unworthy it would be.[36] The government might have felt that a "bad equilibrium" could be avoided if steps were taken to bolster the belief of market participants. The government likely assumed that with a steady foreign inflow of gold, any losses in the national gold stock would be easily replenished.

This assumption proved false. Capital flows ebbed and by 1889 the government could not avoid using notes for fiscal purposes even without gold backing. Once the government began to sterilize the gold outflow in this fashion the inelastic link between the gold stock and the supply of notes by the Banco Nacional was broken.[37] Simply put, with this turn of events the rules of the game of the Law of National Guaranteed Banks were broken, and the Banco Nacional began acting out the all-too familiar role of a money-printer to the state.[38] Despite attempts to prevent excessive depreciation during the ensuing "dirty float," Argentine macroeconomic and banking policy was from that moment virtually rudderless and an eventual wreck was only to be expected.

35. Krugman (1979).
36. On self-fulfilling crises see Obstfeld (1994; 1996) and Calvo (1996; 1998).
37. The government's choice of policies, and the flight from the paper peso by the public, probably derived from a combination of unclear rules of the game plus a change in the fiscal scenario. For the sake of tractability, we postpone our account of the fiscal policies of the period until Chapter 4.
38. In fact there were two sources of increase in unbacked paper notes: the already-mentioned national government issues, and similar issues from the provincial state-chartered banks of issue. These latter received a special authorization to emit paper notes without depositing gold as collateral (Williams 1969, pp. 58–59).

Figure 2.4. Proximate Determinants of the Money Multiplier, 1884–1914



Notes and sources: Currency-Money Ratio is the ratio of currency in the hands of the public to the money stock. Reserve-Deposit Ratio is ratio of banks' cash reserves to deposits. See Appendix 1.

A Longer Run Statistical Perspective

A statistical view of monetary expansion in the period throws some of these developments into sharper relief. We consider here the accounting shown in Tables 2.3 and 2.4, and the time series data shown in Figures 2.4 through 2.5. (A detailed explanation of these statistics can be found in Appendix 3.) Several features warrant discussion.

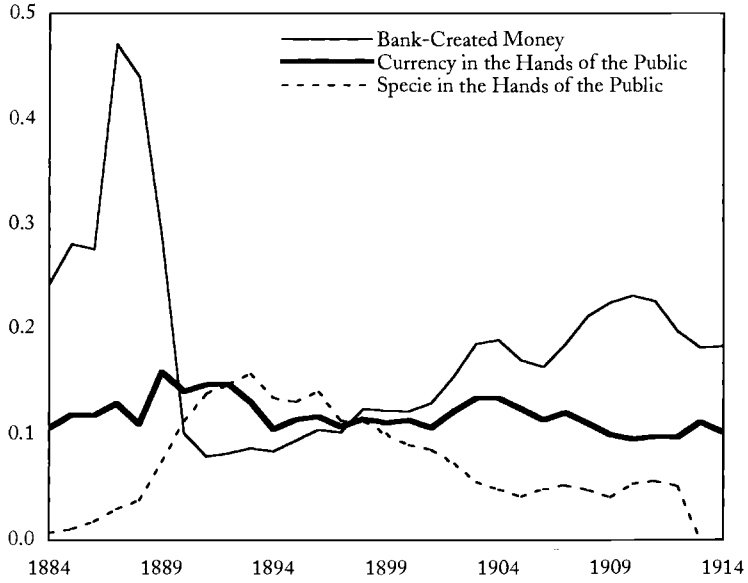
First, we note that there was a dramatic change in the portfolio composition of the issuing banks. There was an inverse association between monetary specie and paper (Table 2.4, part E). Banks expanded their paper liabilities, which were nominally backed with public bonds, but there was no bullion backing the National Gold Bonds.

Second, bank-created money, a proxy for private sector credit to the real sector, increased by 80 percent in the period 1887–89 reflecting in part the multiplier effect of a sustained entry of new institutions into the banking system.[39]

Third, a falling reserve-ratio accounted for 35 percent of the growth in the

39. The increase in bank credit resulted in an economic boom of considerable proportions. The nominal value of the declared capital of new companies registered in the Public Commercial Register grew as follows (in millions of paper pesos): 1882–83, 19; 1884–85, 24; 1886–87, 129; and 1888–89, 574 (Williams 1920, p. 72).

Figure 2.5. Currency, Bank Money, and Specie Hoarding, 1884–1914



Notes and sources: Units are as a fraction of gross domestic product (GDP). See Appendix 1.

money stock. A possible explanation is one aspect of banking regulation that allowed already established banks of issue to "dispose of half the specie reserve provided by the law in order to purchase public funds."[40]

Finally, the level of specie hoarding by the public as a percentage of the monetary base quickly rose from a steady level of 5 percent to 15 percent in 1888. Especially striking is the acute reallocation of specie to the public from the banking system in 1888–91.

The public demand for gold was financed by the banking sector, in particular by the banks of issue. They provided specie in order to defend their notes against expectations of devaluation, but this could not go on forever. The "dirty float" abruptly ceased once the banks' specie stock was depleted in 1890. By 1891, the year of the financial crash, public holdings of specie amounted to 90 percent of the entire stock in the country, while at the beginning of the monetary experiment they had represented only 15 percent. For rest of the century confidence in the banking system was not restored, and roughly the same relative shares were maintained.

Looking ahead for a moment, how did Argentina recover from this dramatic shift in the use of specie? Did the public's lack of faith in the banking system

40. See Articles 26 and 27 of the proposed law in Agote (1887, pp. 421–22).

and paper money persist? We can examine the evolution of specie holdings during the gold-exchange standard regime after 1899, and the pattern shown in Figure 2.5 is clear. Public holdings of specie lost relative importance, a result one expects to see after the creation of credible convertibility under a fixed exchange rate regime. It is also reasonable to conclude that it took some time for confidence in paper money to redevelop, since during the first three years of the new regime gold reserves for backing the monetary base were nil.

In what follows, we will apply an economic model to the behavior of the public in a more general framework. For now, the evidence from the crisis on specie holdings suggests that people were not always convinced that paper money was as good as gold, with important implications when we analyze the demand for real cash balances. But before we get ahead of ourselves, the question of the moment that we must consider next is how the late 1880s currency crisis spread into a real, full-scale financial collapse. In the next chapter we therefore turn to the analysis of the Baring Crisis.

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