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HOW THE PANIC OF 1907
PASSED ARGENTINA BY

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Johns Hopkins Institute for Applied Economics,
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About the Series

The Studies in Applied Economics series is under the general direction of Prof. Steve H. Hanke, co-director of the Institute for Applied Economics, Global Health, and Study of Business Enterprise (hanke@jhu.edu). This working paper is one in a series on currency boards. The currency board working papers will fill gaps in the history, statistics, and scholarship of the subject. The authors are mainly students at The Johns Hopkins University in Baltimore. Some performed their work as summer research assistants at the Institute.

Abstract

This paper examines Argentina's Caja de Conversión in 1907 and 1908, when a financial panic affected a number of other financial markets. Through an analysis of the Caja's monthly balance sheets (digitized in an accompanying workbook), it tests the degree of the Caja's currency board orthodoxy and analyzes the effects of the panic on the Argentine economy.

About the Author

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Background on Argentina's Economy

On the tail of a booming nineteenth century, in the early 1900s Argentina's economy was thriving. The country was a main exporter of agricultural products, welcomed European immigration, and began to advocate for social unity, all resulting in increased productivity, more liberal trade policy, and high investment (OECD, undated). According to many, in the early twentieth century, Argentina was the most prosperous Latin American country (Frankema and Visker, 2011: 71). In light of Japan's later rapid rise to prosperity and Argentina's steep relative decline, Simon Kuznets, a Nobel laureate in economics, is said to have stated, "there are four kinds of countries in the world: developed countries, undeveloped countries, Japan and Argentina" (*Economist*, 2014). (Kuznets meant that Japan was an undeveloped country that had become developed, while Argentina was a developed country that had become undeveloped.)

Argentina enjoyed generally strong economic growth in the late 1800s despite financial problems. In 1890 Argentina's problems were the origin of a crisis that reached into the center of world finance, London. In the first quarter of 1890 the Argentine government had bailed out the federally owned Banco Nacional and the Banco de la Provincia de Buenos Aires, owned by Argentina's most important province. The bailout took the form of a new issue of government currency lent to the banks. The exchange rate, which was floating, depreciated about 20 percent. The government was also struggling with high interest payments, which amounted to about 40 percent of its revenues. The financial situation triggered a political crisis that included the resignation of the minister of finance in early July, an unsuccessful insurrection in late July, and resignation of the president in early August. Argentina suspended payments on its foreign debt. The British firm of Baring Brothers & Co., the world's largest merchant bank, had been heavily involved in underwriting Argentine securities, and held a substantial amount of them in its portfolio because it had been unable to sell them to other investors at a profit. In November 1890 Barings lacked the liquidity to pay depositors. The Bank of England quickly organized a rescue mission, which wiped out most of the stockholders' equity in Baring Brothers but prevented a financial crisis in London (Mokyr, 2003: 305).

Argentina was not so lucky: it suffered a recession. The 1890 crisis differed from the characteristic banking crises of the nineteenth century for one main reason: despite the decrease in the nominal stock of money following the collapse, there was simultaneously a growth in both the price level and the income velocity of money (read: ratio of real output to real cash balances). The reason velocity almost doubled was that the public, distrustful of the monetary system, increasingly hoarded gold and silver from 1887 onward. The blame for this situation should be placed upon the monetary authorities for failing to create a system where paper currency maintained its purchasing power. That is, the results of the expansionary monetary policy being conducted were negated by the lack of an effective standard (della Paolera and Taylor, 2001: 70).

In response to the crisis of 1890, the government more or less froze the stock of currency and established a body, the Caja de Conversión (translation: Conversion Office), eventually intended to re-establish a rigid rate of exchange for the Argentine peso into gold (Law 2471). After the

recession at the start of the decade, the Argentine economy grew again. In 1899, the combination of a frozen supply of currency and continued economic growth made the peso appreciate and the gold premium fall, a problem for those whose everyday transactions were dealt in gold: debtors who had contracted liabilities in gold, holders of securities for gold, and those who were paid in gold. Conversely, those who were paid in paper celebrated the increasing value of their money (U.S. Mint, 1909: 163).

This period became known as the Belle Époque, or Golden Age, and it lasted until 1914, the onset of the First World War. During this time, due to its strong growth, Argentina was one of the world's great emerging economies. Foreigners began to view Argentina as an ideal place to invest, and in no time Argentina's economy became one of those most rapidly expanding in the world (della Paolera and Taylor, 2001: 79). One impetus for the influx of foreign investment was that Argentina switched from a floating exchange rate to the gold standard. Real output rose and Argentina experienced mild inflation of the prices of domestic goods (della Paolera and Taylor, 2001: 121). In the period following the Baring Crisis, the Argentine government devoted its resources to stabilization and economic growth, paving the way to becoming an actor in the web of world financial markets (della Paolera and Taylor, 2001: 80). This paper will not discuss in depth the Belle Époque period, except to say that it was beneficial to, and essential for, the recovery of the Argentine economy following the Baring Crisis (della Paolera and Taylor, 2001: 99).

Arguably the most notable law that emerged from this period was the Law of Conversion, or Law No. 3871, proposed to Congress by President Julio Roca. It received influential support from then-senator Carlos Pellegrini, who had been president during the Baring crisis. The law, which passed on October 31, 1899, made the Caja de Conversión into a currency board. The purpose of the Law was to create gold standard convertibility, which the monetary authorities set at a rate of 2.27 paper pesos per gold peso (della Paolera and Taylor, 2001: 120). (The "gold peso" was the definition of the peso as 1.45161 grams of gold established by Law 1130 in 1881.) The Law of Conversion was composed of many sections, the first relating to the type of monetary regime that would be set up. By this article:

The Conversion Office would have the singular responsibility of exchanging paper for specie (and vice versa) at a rate of exchange fixed by law at 44 gold cents per paper peso. Thus, any expansion or contraction in the amount of cash in circulation would exactly match the variations in the level of specie reserves on hand at the Conversion Office. With such a system of 100 percent marginal gold backing for the currency, there was a strict and inelastic relationship between variations in the stock of metallic reserves and variations in the monetary base. Consequently, all key autonomous monetary policy functions were proscribed such as operating on the open market to buy or sell public bonds in order to influence the level of interest rates, or the use of rediscounts to provide liquidity. In addition, there could not be any other types of guarantees offered by the Conversion Office, such as the provision of Lender-of-Last-Resort assistance to the financial system. The money supply had been rendered completely endogenous by this choice of regime. (della Paolera and Taylor, 2001: 120)

Another key aspect of the Law was the level of independence granted to the Caja de Conversión. It was composed of a board of five directors appointed by the executive branch that had to be approved by the Senate, with five-year terms in order to keep the institution politically independent. This clause of the Law proved useful, for during this time the Caja de Conversión remained uninfluenced by the other institutions of government (della Paolera and Taylor, 2001: 120).

How was the rate of convertibility chosen? The Argentine government chose a rate of 44 per cent of the old gold parity, established in the 1880s, by “calculating the average premium on gold during the 6 months preceding the date of the conversion law, which was found to have been 127.2 per cent,” that is, 1 gold pesos = 2.2272 paper pesos (U.S. Mint, 1909: 163).

The Argentine monetary system at this time comprised many different institutions. The Caja de Conversión, the focus of this paper, issued notes (paper currency). Coins were issued by the mint. The Banco de la Nación Argentina, or the Bank of the Argentine Nation, succeeded the bankrupt Banco Nacional as the country’s federally owned bank. It performed certain functions as a fiscal agent and as a politically influenced lender that in other countries were characteristic of central banks, although unlike a central bank it did not issue the monetary base. At this time there were also banks owned in whole or in part by the provincial governments, a bank owned by the city of Buenos Aires, locally owned private banks, and multiple foreign banks (including the British-owned London and River Plate Bank and the Bank of Boston).

The Panic of 1907: Worst in the United States, but Felt around the World

The Panic of 1907 was a financial crisis that originated in the United States but affected many other countries. The tipping point in the United States was the failure of the Knickerbocker Trust Company on October 22 and the closure of several other New York City trust companies and banks. J.P. Morgan, America’s leading financier, personally examined the assets of many of the troubled financial institutions in New York and organized a syndicate to rescue those he judged to be solvent.

The United States by this time was the world’s largest economy, and New York was one of the world’s major financial centers. Tight conditions in the New York money market brought about by the financial crisis affected European markets, and “by November 4, the Bank of England’s [discount] rate would rise to seven percent, the highest since 1873” (Bruner and Carr, 2007: 113). Interest rates in France and Germany achieved similar levels soon after. George B. Cortelyou, appointed Secretary of the Treasury by President Theodore Roosevelt, once stated that there was “‘severe pressure’ on the money markets in those countries, and observed that the grave conditions were not ‘localized in the United States’” (Bruner and Carr, 2007: 113; see also Johnson, 1908: 457). People in countries all over the world felt the effects of the crisis, including Europe, South America, Japan, and Egypt, where the public was “dissatisfied with the comparatively small returns yielded by high-priced railroad and industrial stocks” (Johnson, 1908: 458). As we will see, though, the panic passed Argentina by, unlike the Barings crisis of 1890 and the international crisis that would occur when World War I broke out in 1914.

What is a Currency Board?

The purpose of a currency board is to maintain a fixed exchange rate of domestic currency to a foreign anchor currency. In the case of Argentina, its peso was pegged to gold in this era. The currency board's main responsibility was to maintain the gold standard by overseeing external convertibility of the currency (Nakamura and Zarazaga, 2001: 8).

An orthodox currency board is defined by three major features (see Hanke, 2002: 88). First, there must exist a fixed exchange rate with an anchor currency. For Argentina, the fixed exchange rate for the paper peso was 44 centavos of the 1881 gold peso by the Law of Conversion. Second, there must be full convertibility, meaning no restrictions on exchanging the currency, from either side. During the period under study here, no such restriction existed. Last, net foreign reserves must be 100 percent of the monetary base, at least at the margin. This implies that an orthodox currency board's monetary base and its foreign reserves change one-for-one. The Caja de Conversión had a fixed, unbacked issue of 293 million pesos, and beyond that amount its issues were supposed to be backed one-for-one by gold. (The Caja de Conversión's foreign reserves consisted only of metallic gold, which earned no interest. Unlike other currency boards it did not hold interest-earning securities denominated in gold-convertible foreign currencies. Accordingly, it had no possibility of using interest earnings to eventually cover the unbacked issue. Covering the unbacked issue would have required allocations from the government budget.)

Was the 1907-08 Caja de Conversión an Orthodox Currency Board?

We will determine the orthodoxy of the Caja de Conversión during the 1907-08 period by performing three different tests on the data obtained from the monthly statements for this period published in the *Boletín Oficial*.

Test #1: Domestic Assets

For a currency board to be considered orthodox, it is necessary that domestic assets are zero percent of total assets, or as close to zero as possible. (See Figure 1; data and sources for all graphs can be found in the accompanying spreadsheet workbook.) Commonly, a small amount of domestic assets is held by a currency board for payment of salaries and other expenses. The Caja de Conversión adhered to this standard. Domestic assets began at 1.16 percent of total assets in April 1907 and remained around that level until August 1907 when they increased to 1.25 percent. Similarly, they remained relatively constant for seven months until March 1908, when they dropped again to 1.19 percent. Even though the number spiked from late 1907 into early 1908, the level was close enough to zero throughout this period as a whole for the Caja de Conversión to satisfy this orthodoxy requirement.

Figure 1: Domestic Assets as a Percentage of Total Assets

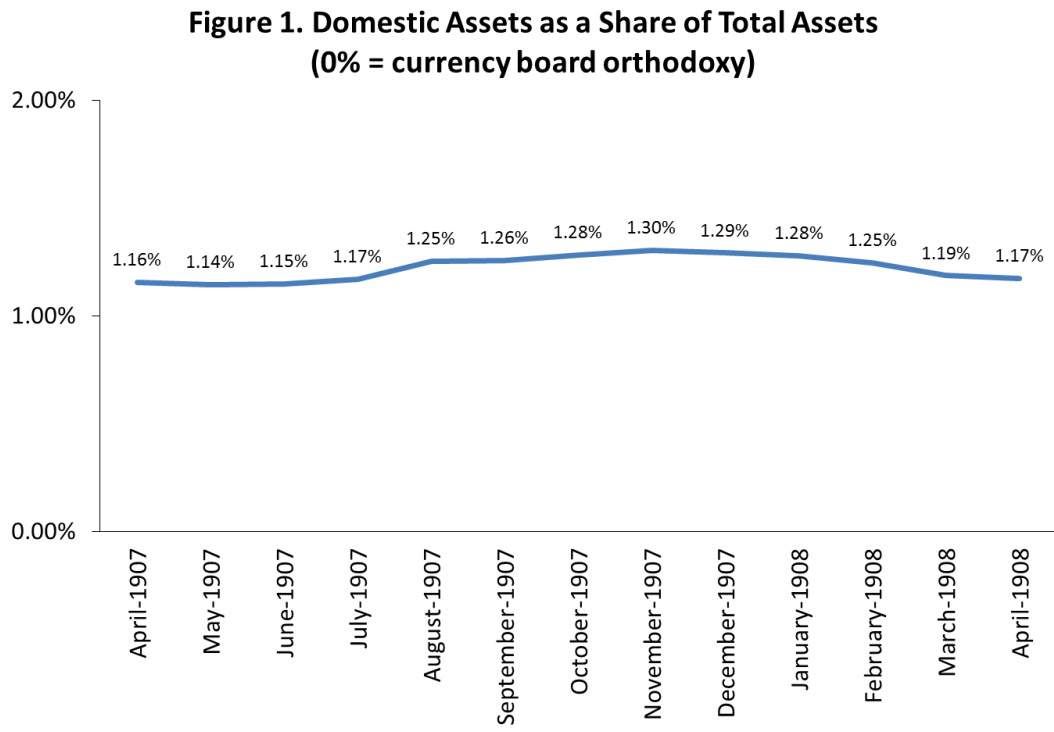
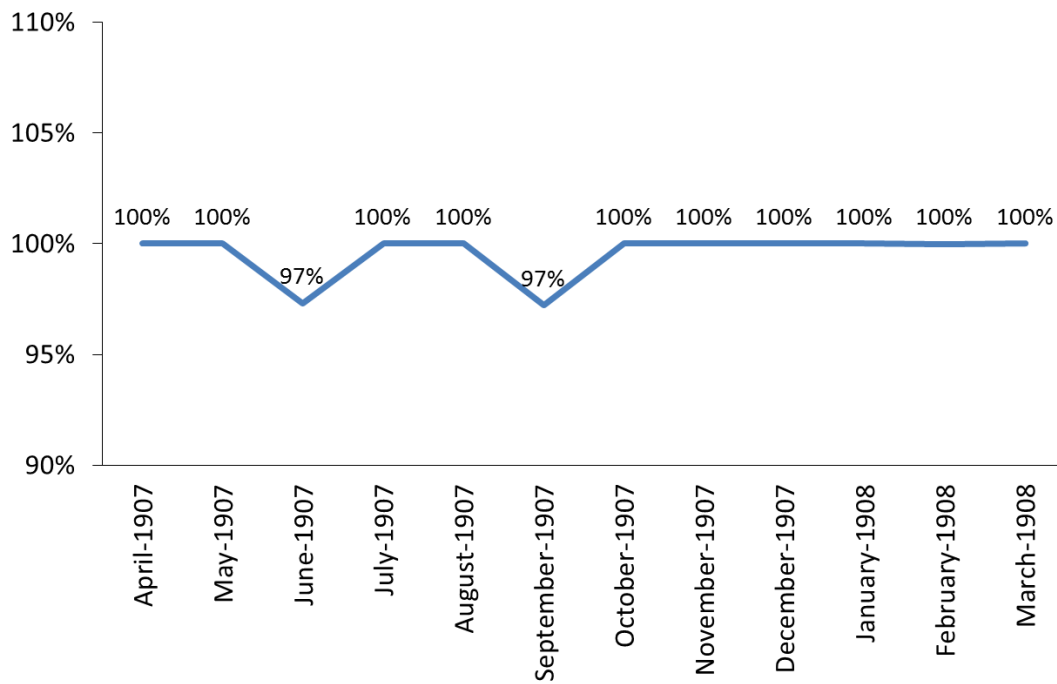


Figure 2. Monthly Reserve Pass-Through (%)
(100% = currency board orthodoxy)

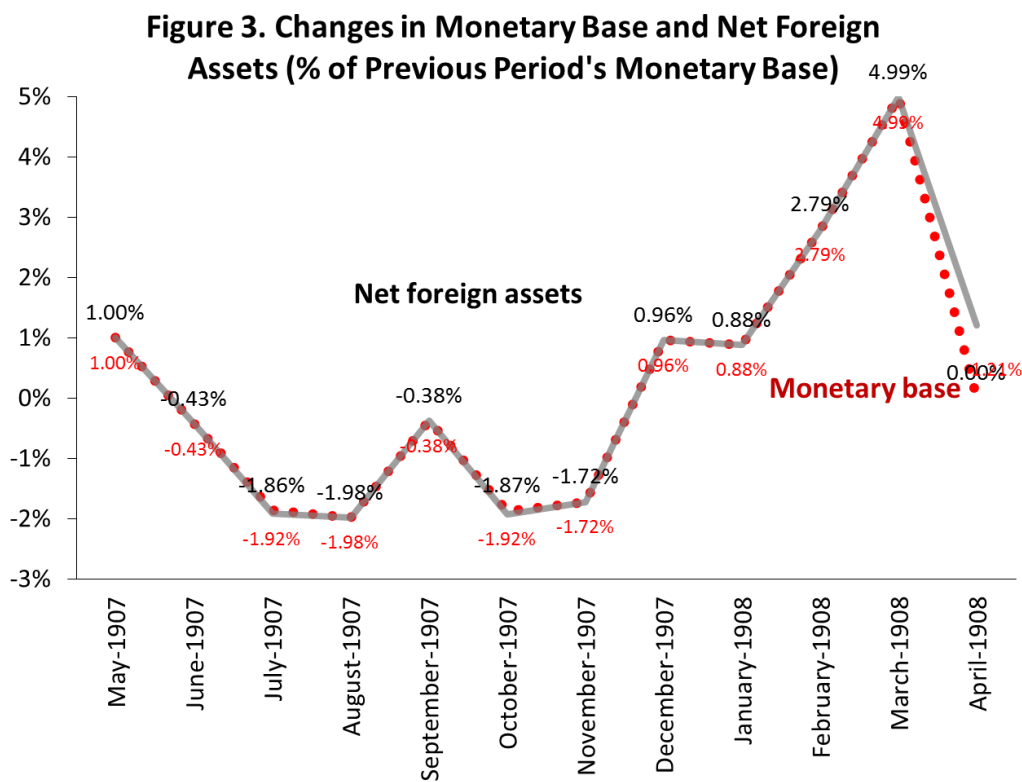


Test #2: Reserve Pass-Through

The reserve pass-through ratio is the change in the monetary base divided by the change in net foreign assets (see Figure 2). For an orthodox currency board, this percentage should be as close to one hundred as possible. The reserve pass-through ratio is characteristically calculated on a year-over-year basis, but for this paper we calculated it on a monthly basis due to the frequency of the data being examined. For the data from 1907-08, the reserve pass-through ratio demonstrates the Caja de Conversión's orthodoxy, as the rate stays relatively constant around 100 percent.

Test #3: Change in the Monetary Base and Net Foreign Assets as a Percentage of the Previous Period's Monetary Base

Lastly, changes in the monetary base and net foreign assets as a percentage of the previous period's monetary base can also be used to prove orthodoxy of a currency board (see Figure 3). Again, many times these data are calculated on a year-over-year basis; however, for this paper we calculated them on a monthly basis due to the short time frame studied. The percentages turned out to be the same for all of the months examined, apart from June-July 1907 where the change in the monetary base as a percentage of the previous period's monetary base was -1.86 percent, while the change in net foreign assets as a percentage of the previous period's monetary base was -1.92 percent. The one discrepancy that stood out was for the last month studied, March-April 1908, where the first calculation was zero percent and the second was 1.21 percent.



Gauge of Economic Performance during This Period

Now that we have established that the 1907-08 Argentine Caja de Conversión was in fact an orthodox currency board, it is important to determine the effects, if any, this institution had on the economy of the country. The original reason for the implementation of the Caja de Conversión was to remedy the financial crisis caused by the shutdown of Barings in 1899. We are now going to look at the effects of the Caja.

One way to determine the effectiveness of the Caja de Conversión during the 1907-08 period is by examining certain indicators. During the time the Caja was operating, the international economy experienced a high level of financial and monetary liquidity because of the amplified international stock of gold in the world (della Paolera and Taylor, 2001: 125). Additionally, the Argentine economy expanded during these years: from 1899 through 1914, the level of real output grew at an accumulated rate of 78.5 percent, or a compound rate of 5.2 percent a year. Additionally, the price level increased 36.3 percent over the fifteen-year period, or a compound rate of 2.4 percent a year (della Paolera and Taylor, 2001: 126). To establish a benchmark to the U.S., bank reserve ratios in the Argentine economy were three times higher than those of the U.S. (della Paolera and Taylor, 2001: 127).

In order to collect a first-hand account of the economic and political situation at this time, we reviewed *La Nación*, then as now Argentina's most highly reputed general-interest newspaper, at the beginning of the financial crisis. The first mention of the turmoil came on Wednesday, October 23, 1907, when the newspaper reported, "Gran alarma había producido esta mañana el anuncio hecho por el directorio del Mercantile National Bank previniendo a sus depositantes que las oficinas del Knickerbocker Trust se encargaban de arreglar sus respectivos créditos, en cuanto se sabía que dicho trust había recibido en depósito más de 60.000.000 de dólares. [...] La desmoralización de la Bolsa neoyorkina repercutió en las bolsas de las provincias y especialmente en las de Pittsburg y Filadelfia" (*La Nación*, 1908: 6). Roughly translated, the story said that "there was a great alarm at that morning's announcement by the board of the Mercantile National Bank warning its depositors that the offices of the Knickerbocker Trust were responsible for settling their claims, as it was known that the trust had received more than \$60,000,000. [...] The demoralization of the New York Stock Exchange impacted the markets of the provinces and especially those in Pittsburgh and Philadelphia." *La Nación* continued to report signs of the beginning of the U.S. financial panic, and only one week later, on October 30, 1907, the newspaper's section about the United States was entitled "La Crisis Financiera: Repercusión el comercio," or "The Financial Crisis: Impact on trade." Translated, this article reports that, according to New Orleans telegraphic reports, the Louisiana Market and that of New Orleans have suspended their operations until the following June (*La Nación*, 1908: 5). On November 4, *La Nación* reported that the principal financial institutions had asked President Roosevelt to discuss the financial situation to reestablish public confidence. Clearly, the situation was worsening each day.

In order to build upon this first-hand account, we reviewed *The Review of the River Plate* from the first half of 1908.¹ The account shows that there was a period of turbulence in Argentina as a consequence of the problems the world was facing. Starting around October 15, 1907, the U.S. financial crisis began, and it affected Argentina for several months. As detailed in the *Review of the River Plate* on January 24, 1908, “Telegrams from Dallas (Texas) report that the banking institution there, known as the Western Bank Trust, has gone into liquidation” (*Review of the River Plate*, 1908). On February 7, it was reported that “the Oriental Bank of New York has closed its doors” (*Review of the River Plate*, 1908: 224), and in Argentina, “it is evident that the market is not quite certain what will be the result of the present political effervescence” and “banks show less interest and prices are a shade weaker” (*Review of the River Plate*, 1908: 245). The last week of February did not bring any progress, as “business in the stock and share market remains very dull, nor are there signs of any improvement in the near future” (*Review of the River Plate*, 1908: 535). (Argentine President José Figueroa Alcorta narrowly escaped an anarchist attempt to bomb him on February 28.) However, as the Southern Hemisphere summer came to a close, the mood in Argentine financial markets improved, with the situation in New York: come April, “the Knickerbocker Trust Company resumed operation on the 26th ult., and the public now has full confidence in this institution” (*Review of the River Plate*, 1908: 865).

Other Economic Indicators

Below, Figures 4 and 5 show total gold in the banks and gold in the banks by sector, respectively. For most of the categories, data is only available starting in April 1907. It is clear that the amount of gold in “other national banks” (locally owned banks other than the Bank of the Argentine Nation) peaked in June 1907, while the amount of gold in other institutions remained constant. At this time, total gold in the banks increased as well, starting at approximately 30.32 million gold pesos in May 1907, soaring to 36.62 million gold pesos in June 1907, and leveling off at 35.53 million gold pesos in July 1907.

Figures 6 and 7 show the bank deposits from January 1907 through December 1908. Data for deposits in other “national banks” and foreign banks begin in April 1907, while data for the Bank of the Argentine Nation and total bank deposits begin in January 1908. From the total bank deposits, it can be seen that in 1908 financial institutions did not experience any major economic crises, as total bank deposits increased almost every month of the year. However, when deposits are broken down into different categories, a different story emerges. Deposits in “other national banks” and deposits in foreign banks move in the same direction, but the monthly change in deposits in foreign banks is much less volatile. The reason for the difference is unclear.

¹ The *Review of the River Plate* was a tri-monthly publication issued between 1892 and 1995 in Buenos Aires, detailing the country’s economic performance over the specified time period. It is widely acknowledged as containing some of the shrewdest contemporary analysis of Argentina’s economy. The *Review of the River Plate* from 1907 was unable to be used for analysis. The book is too brittle and even though it is currently held in the Library of Congress, patrons cannot use it because of its preservation status.

Figure 4. Gold in the Banks: Total (million gold pesos)

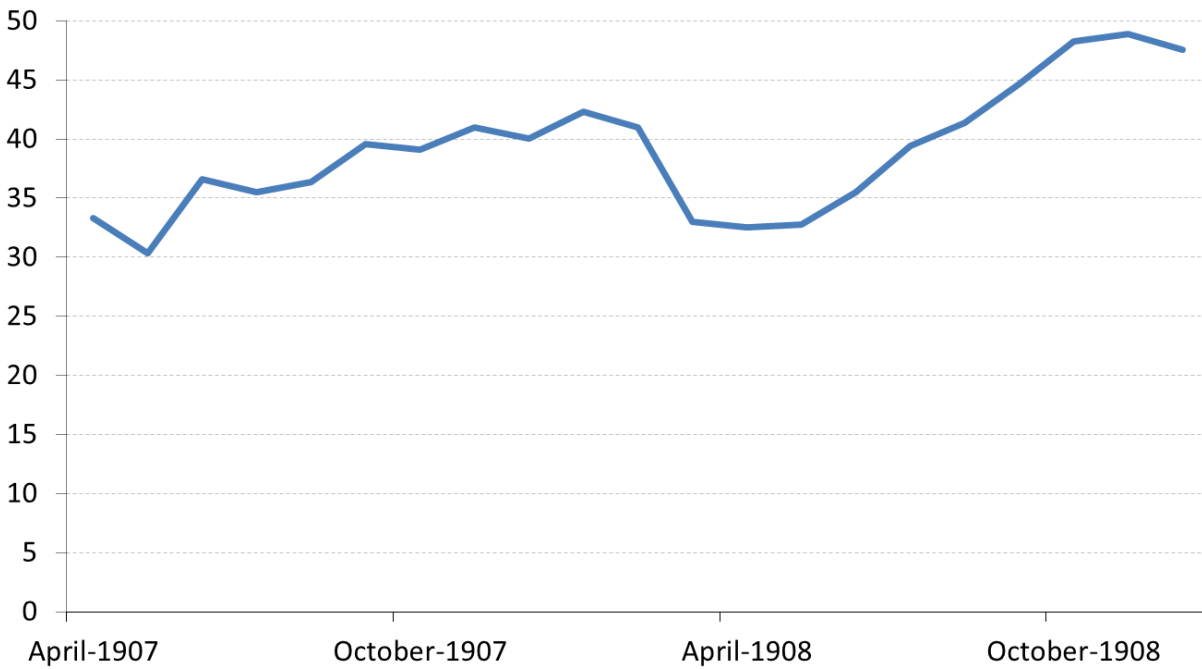


Figure 5. Gold in the Banks: By Category (millllion gold pesos)

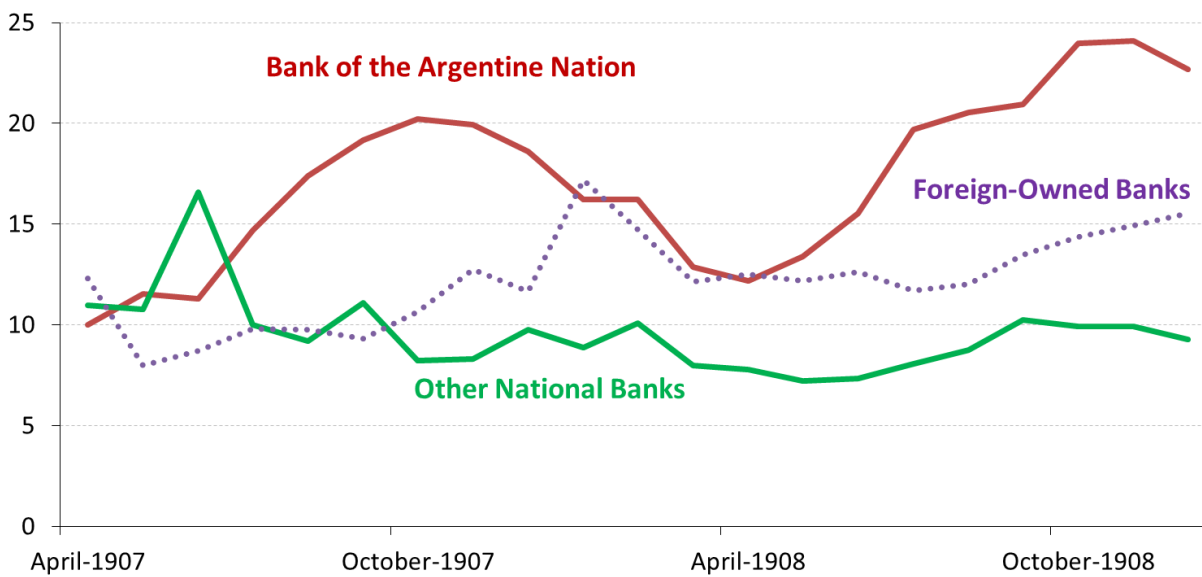


Figure 6. Bank Deposits: Total (million paper pesos)

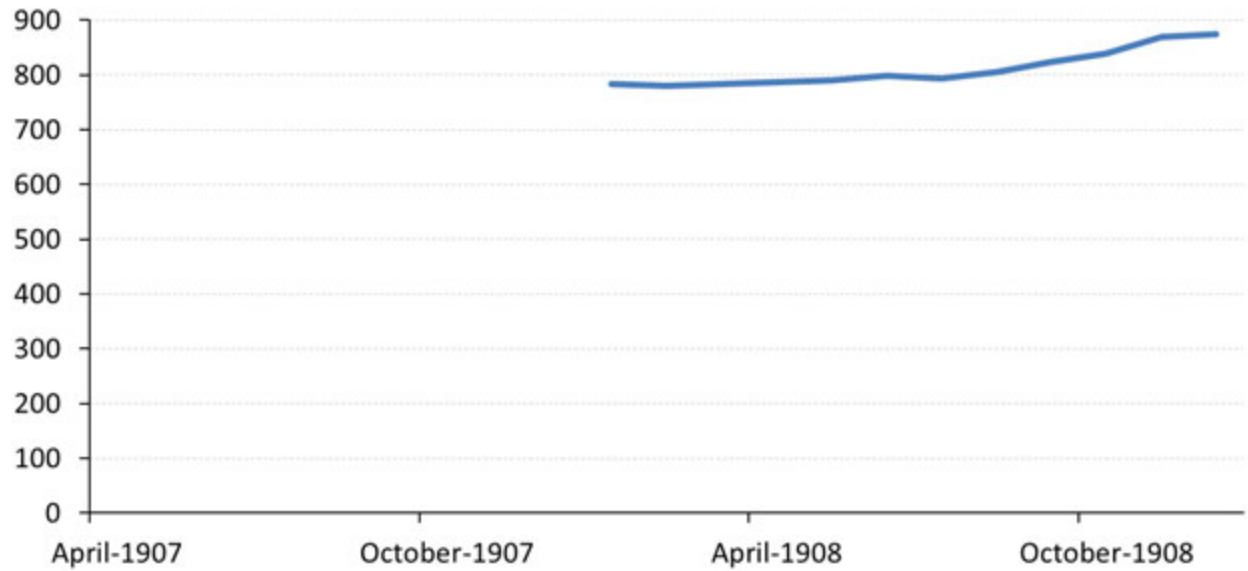
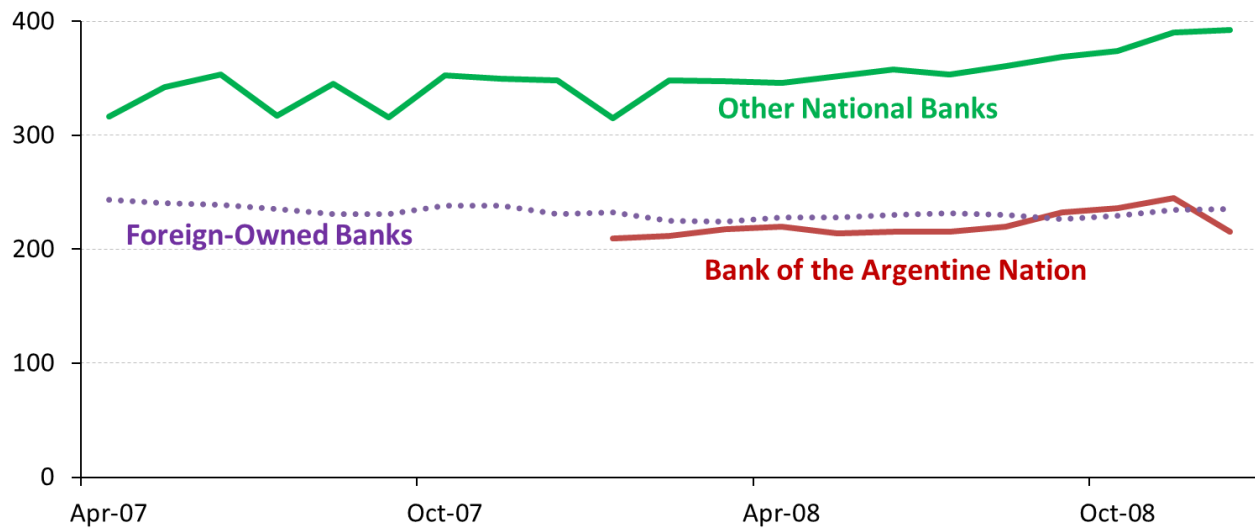


Figure 7. Bank Deposits: By Category (million paper pesos)



Della Paolera and Taylor (2003) detail the progress of a variety of statistics relating to Argentina's 1907 economy. Industrial output was rapidly increasing in the early twentieth century, and this trend did not falter during 1907, totaling 179.12 (note: index 1900 = 100) (della Paolera and Taylor, 2003: 265). Another interesting statistic della Paolera and Taylor studied was the ratio to GDP of credit supply and money supply. For all banks, the 1907 ratio of 0.26 was similar to those of the previous and following years. The ratios of private banks and foreign banks to GDP also remained steady. The ratio of bank loans by Banco de la Nación Argentina to GDP was 0.07 and that of all U.S. banks to GDP was consistent at 0.39. Broad money for Argentina remained constant with a ratio of 0.4. However, 1907 was the last year that this ratio remained at a constant level in the U.S. and U.K. The broad money ratio for the U.S. to GDP was between 0.48 and 0.49 from 1902 to 1907, but in 1908 it rapidly increased to 0.56. Similarly, the broad money ratio for the U.K. to GDP was 0.52 in 1906 and 0.51 in 1907, but was significantly higher in the previous and following years (della Paolera and Taylor, 2003: 314).

Argentina's main exports at the time were wheat and wool, which together accounted for nearly half of all its exports by value. The newspaper sources previously mentioned and subsequent statistical compilations indicate that neither experienced more than the normal variation in prices in 1907-1908.

Conclusion

From the information collected, Argentina escaped spillover from the 1907 United States financial crisis. Figures 4, 5 and 6 show that the effects from the financial panic that hit the United States and some other markets were mild in Argentina, affecting at most only the first few months of 1908. However, Figure 7 demonstrates that bank deposits were choppy throughout most of 1907. Due to the lack of access of the 1907 *Review of the River Plate*, it is hard to form a definite conclusion.

It is clear, however, that the 1907-08 Argentine currency board was an orthodox one. The design of the Caja de Conversión, by Law No. 3871, created an independent entity, uninfluenced by the executive branch, that was responsible for the conversion of pesos into gold at the fixed rate of 44 per cent of the previous gold parity. The Caja was responsible for conversion of pesos on demand. The three key orthodoxy conditions were satisfied by the Caja de Conversión at this time: domestic assets were around zero percent; the reserve pass-through ratio was nearly 100 hundred percent for all months; and the changes in the monetary base and net foreign assets as a percentage of the previous period's monetary base were equal for the majority of the months assessed.²

² It is important to note that many of the conditions for orthodoxy are typically calculated on a year-over-year basis, whereas in this analysis they were calculated on a month-by-month basis. The reason they are usually calculated year-over-year is to reduce the statistical noise arising from monthly variance in expenses. This may affect the significance of the results; however, the calculations proved conclusive enough to study.

Afterword

Economic success followed the 1907-08 financial crisis. The Caja de Conversión continued its functions until the First World War began in 1914, halting Law 3871. However, during the Belle Époque, the fifteen years between the transformation of the Caja de Conversión into a currency board and the First World War, Argentina became a leader in international trade and finance. An annual report of the U.S. Mint remarked, “as regards [to] the staple industries of this country, they are now spread over such an immense area, which is being constantly enlarged, that the Republic maybe considered practically secure against such a general failure of production as to cause a derangement of the monetary system by the necessary outflow of gold in satisfaction of public and private obligations” (U.S. Mint, 1909: 165). Though this pronouncement proved untrue in the long run, it shows the state of confidence in the banking system at the time.

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