



Facultat
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Universitat de Barcelona



Centre d'Estudis
Antoni de Capmany
UNIVERSITAT DE BARCELONA

Departament d'Història Econòmica,
Institucions, Política i Economia
Mundial
Av. Diagonal, 690
08034 Barcelona

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Gastón Díaz (Universidad de la República, Uruguay)

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The Gold Standard under a Free Banking System: The Uruguayan Experience

Gastón Díaz

Programa de Historia Económica y Social, Facultad de Ciencias Sociales,
Universidad de la República, Uruguay

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One of the main findings of the Gold Standard literature of the last decades has been to dispel the myth that central banks abided by the so-called “rules of the game”. These rules required that they act to change the money supply in the same direction as gold flows, thus ensuring paper currency was always backed by a gold and guaranteeing fixed exchange rates. This, however, would have forced these countries to expose the domestic economy to the vicissitudes of balance of trade shocks. What economic historians in fact have found is that central banks in many countries shielded their economies from external shocks by sterilizing gold inflows and by expanding domestic credit when facing gold drains. In countries without central banks, however, adjustments were processed through commercial banks, which “had less discretion than central banks and, indeed, were more wholehearted followers of the rules of the game, as popularly interpreted (Ford, 1989: 209).” This paper sheds doubt on this last assertion, through the study of Uruguay, a small, peripheral Gold Standard country with no central bank before 1907.

The main finding of this paper is that two of the most important private banks, -the Banco Comercial and the Uruguayan Branch of the London and River Plate Bank-, consistently broke the rules of the game, changing their volume of credit in the opposite direction as gold reserves. In doing so, they likely smoothed domestic volatility for their client base, the businessmen involved in international commerce. In this sense, they appear to have, in some ways, acted similar to the central banks in other Gold Standard countries.

Introduction

One of the main findings of the Gold Standard literature of the last decades has been to dispel the myth that the central banks abided by the so-called “rules of the game”, that is, the set of actions required to maintain external balance and defend the fixed exchange rate (Eichengreen, 2008: 27). These rules required that they act to adjust the money supply in the same direction as gold flows, thus guaranteeing paper currency was always backed by gold. This, however, would have forced these countries to expose the domestic economy to the vicissitudes of balance of trade shocks. However, as first argued by Nurske (1944), and later by Bloomfield (1959), central banks in many countries shielded their economies from international shocks by sterilizing gold inflows and by expanding domestic credit when facing gold drains. Central banks were able to do this due to their monopoly on paper currency emission, which allowed them to manipulate the discount rate and affect the volume of credit (Bloomfield, 1959: 27). In countries without central banks, however, adjustments were processed by commercial banks, which “had less discretion than central banks and, indeed, were more wholehearted followers of the rules of the game, as popularly interpreted (Ford, 1989: 209).” This paper sheds doubt on this last assertion, through the study of Uruguay, a small, peripheral country that adhered to the Gold Standard almost continuously from 1876 to 1914, with no central bank before 1907.

One important aspect of the Gold Standard world was that peripheral countries had certain disadvantages in maintaining fixed exchange rates, which explains why so many of these countries struggled to stay on the Gold Standard (Ford, 1962). For core countries, long-term capital outflows tended to generate demand for exports, relieving pressure on the balance of payments, while short-term capital flowed in during critical moments, under the expectation that the monetary authorities would do everything necessary to maintain gold parity and preserve their reputation. In the periphery, there were no such equilibrating forces. A fall in exports often coincided with a reduction of capital inflows, and being primary goods exporters, these countries faced fixed international prices for manufactures and capital goods, meaning adjustments had to occur through changes in income rather than internal prices (Ford, 1962).

Furthermore, core countries tended to have large, long-established institutions, -central banks-, that helped manage monetary affairs and maintain the fixed exchange rate. These institutions were less common in peripheral countries. Some countries in the European periphery, such as the Scandinavian countries, also had large banks with privileged relationships with the state that took on central banking functions. These countries had a certain degree of success in adhering to the Gold Standard. In Latin America, central banks were generally not established until the 20th century (Goodhart, 1988; Marichal and Fuentes, 1999).

This view of the asymmetries between core and peripheral countries, and the role of central banks, in regard to the Gold Standard predicts that a small, peripheral country like Uruguay, with no central bank for most of the period, should have had a difficult time maintaining a fixed exchange rate. Uruguay was particularly open to external shocks due to its trade

openness¹ and dependence on capital inflows. However, the country managed to link its currency to gold at a fixed rate from 1876 until 1913, with only a brief departure during the 1890 crisis, after which it returned to gold backed currency at its previous par value. In fact, it was the only Latin American country to maintain the Gold Standard for more than a short period of time.² Uruguay did not have anything like a central bank for most of this period. Multiple currency emitting banks operated until 1907, the year when the state-owned Banco de la República (BROU) acquired a monopoly on currency emission. Adhering to the Gold Standard under these conditions should have implied great sacrifice in terms of internal stability. The country was self-sufficient in food, but imported most manufactures and capital goods. External shocks would have been processed through changes in incomes and non-traded goods prices, as described by Ford's (1962) model for peripheral countries.

This paper explores the operation of banks in Uruguay under the Gold Standard. It looks primarily at the banking sector, and the behavior of specific banks in terms of reserve management with respect to credit and bank created money. In particular, it examines the question of whether banks played strictly by the rules of the game, thus subjecting the economy to the full brunt of balance of payments disturbances, or whether actions were taken by some banks that could have insulated their clients, and the economy, from external shocks. The main finding is that two private banks, -the Banco Comercial and the Uruguayan Branch of the London and River Plate Bank (LRP)-, consistently broke the rules of the game, changing their volume of domestic assets (credit) in the opposite direction as international assets (metallic reserves) and, in doing so, smoothing fluctuations in the money supply. In this sense, they appear to have behaved in a way similar to that of central banks in other Gold Standard countries.

The traditional answer to how the country stayed on the Gold Standard found in the Uruguayan historiography has been that the banking sector was dominated by forces that staunchly defended currency convertibility, at the expense of the credit needs of the domestic economy (Barrán and Nahum, 1971: 444-52; Barrán and Nahum, 1987). Specifically, for most of the period, banks directed their resources primarily towards short-term commercial transactions, shying away from longer-term, higher risk credit that could have aided the rural sector, especially smaller scale establishments. The authors that defend this position tend to see the country's development during the period in a negative light; they say modernization was slow and thus agricultural and industrial development was retarded. They lay part of the blame for this on the class of men engaged in international commerce and the banks they controlled. The main culprits of this narrative are the Banco Comercial and the LRP, mentioned above. They were the two oldest banks in operation during the period, and historically had been defenders of gold backed currency, resisting attempts by the government to ease credit or found state banks which may abuse their position and put the Gold Standard at risk (Barrán and Nahum, 1971).

¹ Uruguay had the highest ratio of exports to GDP in 1870-74 and 1910-1914 of the eight largest Latin American economies in those years (Bértola and Ocampo, 2010).

² Argentina has the second longest record, maintaining the Gold Standard from 1899 to 1913. It was also on gold from 1882 to 1884 (Della Paolera and Taylor, 2001). Other countries were on gold for less time, with many Latin American economies joining only in the early 20th century.

The hypothesis of this paper regarding these two banks and the rules of the game is not necessarily at odds with the view detailed in the preceding paragraph. These banks may well have restricted credit to certain sectors that were deemed too risky and focused resources on short-term trade finance, but they also behaved in a way that smoothed volatility for their clients that otherwise would have been imported through the balance of payments. The point is that these two banks did not behave in a single-mindedly competitive way. They appear to have taken a long-term view, perhaps sacrificing a degree of profitability, in order to maintain stability of financial resources for their clients.

What follows is a brief description of the evolution of the monetary and banking system in Uruguay from its founding in the 1850s up to 1913. The paper then at the actions of the banking sector, examining the balances of several banks, showing that the Comercial and the LRP displayed behavior different to that of other banks, cushioning the impact of gold flows on credit. The next section discusses the impact of this policy on bank liabilities, and discusses some possible explanations for this behavior. The final section offers some concluding remarks and agenda for further research into the topic.

The evolution of the monetary and banking system in Uruguay

The general outlines of Uruguay's monetary system were established in the 1862 Monetary Law, which fixed the gold value of the Uruguayan peso, and the 1865 Banking Law which, among other things, officially instituted gold convertibility, thus putting Uruguay on the Gold Standard (Acevedo, 1903: 287).³ Silver and other metals were still allowed to circulate and to be used in payments, but only in small fractions of the total amount owed, thus serving as way to augment the supply of small denomination coins.⁴ Although minting of gold coins was provided for in the law, it never occurred in Uruguay during the period. The economy relied on the circulation of foreign coins and bills, as well as the emission of gold-backed paper currency by local banks.

The 1865 Banking Law limited note emission to three times the level of capital for all banks. Gold convertibility was strictly imposed; the inability to convert paper currency on sight would mean the immediate closure of the bank, with note holders having first claim on the bank's assets. Charters were to be given for twenty years at a time, and the government was prohibited from forcing banks to offer it credit or from offering privileges to specific banks (Acevedo, 1903: 307-08). No other restrictions were placed on bank balances; in particular, minimum metallic reserves in relation to note emissions or deposits were not required.

³ Throughout the 19th century, several laws upheld a bimetallist standard; an 1854 Law permitted the circulation of French, Spanish and Latin American gold and silver coins, as well as the minting of domestic pieces (Devoto, 1976: 79-80). The 1862 Law updated the system, redefining the metal content of the peso and establishing the exact exchange rates with different foreign coins based on their weight and metallic content, this time including US, British and other European currencies (Acevedo, 1903: 268-290). The Uruguayan peso was defined as 25.48 milligrams of silver at 917 fine, while the Uruguayan gold doubloon (valued at 10 pesos) was to contain 16.97 grams of gold at 917 fine. This implied following exchange rates:

Currency	Value in Uruguayan pesos	Currency	Value in Uruguayan pesos
Ounce of gold	15.12	Spanish doubloon (100 reales)	4.82
British pound	4.7	20 marks	4.6
Argentine gold peso	0.93	20 francs	3.73

Source: Acevedo 1934 (volume IV): 73

⁴ For example, for payments of over 5,000 pesos (about 1,064 pounds), only 2% of the total could be paid in silver coins. Copper coins could also be used in small amounts, replaced by nickel in 1900 (Acevedo, 1903: 287).

While these aspects of the monetary regime remained relatively unchanged over the period, the banking system evolved over time. 1857 saw the founding of Montevideo's first banks: the Banco de Mauá, named after the Brazilian financier who promoted it, and the Banco Comercial, established by local merchants. The Mauá bank would be the main actor in the sector until its collapse and liquidation in 1876. A third bank, the London and River Plate (LRP), of British origin, began operating in 1863. Along with the Comercial, it was one of the major players in the banking sector throughout the period. All were headquartered in the capital, Montevideo, with some opening branches in the port cities of Mercedes, Paysandú and Salto, on the Uruguay river (BROU, 1918: 15).

However, in this early period, civil war threatened periodically, and external shocks, such as the 1866 Overland Gurney crisis in England, upset local markets. Between 1865 and 1868, in order to save overextended banks (primarily the Mauá bank), the government decreed the inconvertibility of paper currency no less than four times.⁵ In March of 1875, due to another crisis, convertibility was suspended once again (Acevedo, 1903: 240). This act was resisted by most banks, in particular the Comercial and the LRP, as well as most of the other financial and commercial houses, a pact being signed not to accept the inconvertible bills in circulation and to operate only in gold.

1876 was a key year. A military government which had taken control the previous year reversed the inconvertibility decree and instituted a policy of purchasing and burning all the old inconvertible bills (Acevedo, 1903: 456-57).⁶ It also reintroduced the Gold Standard, guaranteeing convertibility of paper currency to gold, and reducing the use of silver coins in payments to minimal amounts. The liquidation of the Mauá that year left only two banks in operation: the Comercial and the LRP. These banks tended to act conservatively, shying away from lending to the government and other risky ventures, concentrating on financing commerce through short term lending and discounting of bills, and operating in the foreign exchange market (Joslin, 1965: 54; Banco Comercial, 1957). Throughout the period under study, these two banks continued to operate and remained important players in the banking sector.

They were joined by several more banks in the decade after the 1875 crisis, the total number of establishments reaching seven by 1887. An economic boom began in this year, fueled by foreign investment, in which at least 25 other banks were founded, as well as dozens of utilities, land, investment, and other companies, with a total capital estimated at 400 million pesos (about 85 million pounds) (Acevedo, 1903: 261-63).

⁵ In 1865 it was as a result of the blockade and bombardment of Montevideo by rebel forces. In 1866, inconvertibility was declared due the bank run caused by news of the Overland Gurney crisis in England. In December of 1867, cholera outbreaks, trouble in the livestock and agriculture markets and commercial shocks due to Argentina's insistence that goods shipped from Uruguayan ports to the war zone in Paraguay pay duties in the Argentine river port of Corrientes, combined with over emissions by certain banks, prompted the government to declare inconvertibility for six months, and in June of 1868 again, this time for twenty months. (Acevedo, 1903: 217-18).

⁶ These were slowly amortized over the following years, with some still in circulation in 1890 (Acevedo, 1934a: 559).

The boom created demand for credit. It was argued that the Comercial and LRP, too conservative in their business strategies, were monopolizing the country's metallic reserves in order to maintain their profits, at the cost of rural producers, the urban middle class and entrepreneurs, who would build new enterprises if only they could access credit on easier terms. The demand for a "national" bank, with a large amount of capital, special privileges and government support, could no longer be resisted by the conservative forces (Barrán and Nahum, 1971: 460-62). Several proposals were studied by the government, including some from the conservative sectors, which tried to limit the negative impacts of a "national" bank and restrict its ties to the state. These proposals lost out, however, to less conservative sectors, who were not necessarily opposed to the maintenance of the Gold Standard, but did hope to eliminate the traditional banks' stranglehold on credit, if necessary by expansion of paper currency beyond customary limits.

Thus, in 1887, the Banco Nacional was founded, brainchild of the Spanish entrepreneur Emilio Reus and a cadre of Anglo-Argentine capitalists (Barrán and Nahum, 1971: 464).⁷ The project was supported by industrialists, the urban middle class and owners of small and medium sized rural landholdings (Barrán and Nahum, 1971: 453-56). The purpose of this bank was to extend credit to customers that had thus far been shut out, and at rates that would promote the productive use of the country's resources.

The traditional banks reacted apprehensively to the Banco Nacional's entrance and expansion in the banking market. Indeed, the Comercial, whose paper currency had circulated uninterrupted for 30 years, gave up its right to emission in 1887, so as not to expose itself to what it considered the imprudence of the new bank and the risks this involved for the entire sector (Barrán and Nahum, 1971: 475). It was supplanted by the Banco Italiano, founded that year, which took the Comercial's place as a note emitting bank. The Comercial and the LRP also carried out a policy of presenting the Banco Nacional's notes for conversion on a daily basis,⁸ forcing the bank to maintain a sufficient specie reserve and limiting their exposure in case disaster struck (Barrán and Nahum, 1971: 474).⁹

The boom of the late 1880s turned to bust towards the end of 1889. The stock market collapsed, in part due to knock on effects from the crisis in Argentina that same year. In July of 1890, the overextended Nacional was not able to convert 400,000 pesos presented by the LRP, and the bank was forced to suspend convertibility (Bertino and Millot, 1996: 448). As a

⁷ The bank was to have a capital of 10 million pesos and would venture into activities which until that moment had been underserved by the banking community. It could emit paper currency up to two times its capital and was obligated to maintain a 25% specie reserve. It also would have a monopoly on the emission of small bills, with a limit of 40% of its capital. It would be divided into a commercial department and a mortgage department, the latter being able to make secured loans for up to 30 years and to emit "cedulas", a financial instrument designed to facilitate land investments. A network of branches in every department was to be established. The Director of the bank was to be appointed by the government. In addition, the bank would run a current account for the government of up to 1.5 million pesos and handle public debt service at home and abroad (Barrán and Nahum, 1971: 465).

⁸ This, despite the government's request for a pact to only convert bills once a week (Barrán and Nahum, 1971: 475).

⁹ Barrán and Nahum suggest that this strategy was designed to bring down the Banco Nacional. However, this could have been merely a defensive strategy, so as not to be left holding inconvertible bills when the bank inevitably collapsed, rather than an attack on their competitor.

result of the crisis, the government was forced to suspend debt service in the second semester of 1891 (Bertino and Millot, 1996: 414). In 1892 a deal was reached in which a 20-million-pound loan would be made available to refinance the Uruguayan government's debts, allowing the it to resume debt payments (Nahum, 1991: 41-43).

The only currency emitting banks to make it through the crisis were the LRP, the Banco Italiano and the Banco de España y Río de la Plata (founded in 1887, during the boom years). The Comercial, which had given up its role as a currency emitting bank, still offered other banking services, such as deposits, short term loans and discounting of commercial bills. Of these banks, the LRP quickly became the most important, occupying the vacuum left by the Nacional and English Bank of the River Plate, which were liquidated after the crisis (Joslin, 1965: 137). A return to the conservative banking strategies of the late 1870s and early 1880s meant a restricted money supply and limited credit.

However, by the mid-1890s, attitudes of landowners had changed (Barrán and Nahum, 1971: 523; Barrán and Nahum, 1987: 86-87), and calls for a more flexible monetary system were answered by the founding of a new bank: the Banco de la República (BROU). It had some similarities with the Banco Nacional: it would operate as the state's bank, handling the government's accounts, debt payments and operating a current account for the government of up to 5 million pesos. However, it was to be a mixed bank, with half of the initial capital of 10 million pesos to be paid by the government, while the other half was to be raised through the sale of shares to private investors.¹⁰ It could emit paper currency up to twice its capital. However, once the charters of the LRP and the Banco Italiano expired, they would not be renewed as emissions banks, and the BROU would have a monopoly on paper currency emissions. The restrictions on emissions were somewhat tighter than they had been for the Banco Nacional; a specie reserve of 40% of bills in circulation plus deposits was to be kept at all times.¹¹ Furthermore, it was prohibited from investing in company shares or in speculative activities.

The LRP emissions charter ran out in 1904, while that of the Banco Italiano expired in 1907. Thus, in 1907, the BROU, as the sole note emitter left in the market, effectively became a central bank, ending the era of free banking in Uruguay. It was charged with defending the exchange rate and promoting development of agriculture and industry. It had legal permission to rediscount bills from other banks, although this was never put into use before 1914, and then only in small amounts during the first world war. From the time of the BROU's founding up to 1913, it grew in importance as a commercial bank, extending credit to the countryside and to the middle classes. By the time it assumed its role as sole note emitter in 1907, it had about 40% of the metallic reserves of the banking sector and 33% of credit. By 1913, these proportions were closer to 60% and 45%, respectively. Beginning in the early 20th,

¹⁰ The board of directors was to be made up of a President, appointed by the government, and six members, also appointed by the government until the private shares were sold, at which time only two would be government appointees, while the rest elected by the shareholders. However, local investors were skeptical about the venture, and never purchased the shares which were to make up the other half of the bank's capital. This meant that, in effect, the BROU was a state-owned bank, and in 1911 the bank's charter was changed to institutionalize this fact, eliminating the possibility of private investment and increasing the bank's capital through reinvestment of profits and through state funds (BROU, 1917: 93).

¹¹ Reserve requirements were not established for private banks until 1938 (Díaz and Moreira, 2015).

new banks joined the market, reaching a total of 24 in 1913, more than double the number of institutions in existence immediately after the 1890 crisis.

Bank credit and reserve management in Uruguay under the Gold Standard

Under Hume's price-specie-flow model, changes in gold reserves act on prices in such a way as to return external balance to the economy after balance of payments shocks. Exports and imports were paid in gold, and a fall in the former, for example, would lead to a gold outflow, decreasing the money supply and thereby lowering the domestic price level. Falling prices would then move the balance of payments back into equilibrium as domestic goods became cheaper vis-a-vis imports. The same is true for models that include banks and paper money backed by reserves. Banks would have adjusted money creation and credit in the same direction as changes in their reserves in order to ensure sufficient gold backing for their notes, and external balance would be achieved through the impact of the changing money supply on prices (Eichengreen, 2008: 24-25). Under a free banking system, competition between banks would naturally lead them to increase credit when metallic reserves entered their vaults, while the need to maintain sufficient gold to back note issue would demand a decrease in loans when banks lost reserves.

Where central banks existed, they would have to play by the "rules of the game", which required that these institutions act to adjust the money supply in the same direction as gold flows, thus guaranteeing paper currency was always backed by sufficient gold. In fact, a central bank could accelerate this process by raising or lowering interest rates (Eichengreen, 2008: 27), inducing rapid price changes, meaning that little gold had to be actually shipped across borders in order for equilibrium to be achieved. Central banks were free to do this due to their relative autonomy. Weak labor organization in the 19th century meant wages could adjust rapidly, and those left unemployed when a higher discount rate depressed investment had little power to voice their objections (Eichengreen, 2008: 30).¹²

However, as argued by Nurske (1944), and later by Bloomfield (1959), central banks in many countries in fact shielded their economies from the vagaries of international shocks by expanding domestic credit when facing gold drains, and reducing holdings of domestic assets when capital flowed in. That is, they did the opposite of what the rules of the game prescribed. Bloomfield presented evidence for 11 countries during the classical Gold Standard period, showing that, overall, central bank domestic and international assets (that is, credit and reserves) moved in opposite directions in 60 percent of years between 1880 and 1913. Bloomfield (1959: 50) admitted that, from this evidence, it could not be inferred that this was necessarily by design, but concluded that "the results are so striking as to cast some measure of legitimate doubt upon the common view that central bank action under the pre-1914 gold standard had the effect of tending to reinforce the effects of gold flows on the domestic credit base".

Scholarship over the last several decades has confirmed Bloomfield's intuition, showing that countries with central banks rarely played by these "rules of the game". Numerous country case studies confirm this result (see, for example, Ogren and Oskendal, 2012, for the cases of

¹² International capital flows also played a role. In countries where the commitment to the fixed exchange rate was unquestioned, when the balance of payments was in deficit, short-term capital flowed in with the expectation of reaping the benefits of increased interest rates, offsetting the pressure on the exchange rate.

Norway and Sweden). Bazot et al. (2019) show for a sample of 21 countries with central banks, both core and peripheral countries consistently cushioned their domestic money supply from international shocks. These central banks used a variety of strategies, sterilizing gold inflows that may otherwise have adversely affected prices and ensuring credit availability for agriculture, industry and commerce, even during episodes of gold outflows. In practice, they balanced the objective of maintaining exchange rate stability with smoothing economic fluctuations (Bloomfield, 1959; Eichengreen, 2008).

Figure 8 reproduces Bloomfield's approach, but for several banks operating in Uruguay between 1885 and 1913. It shows, in the last column, the percentage of years for which international (metallic reserves) and domestic (credit) assets moved in opposite directions. For most banks, this figure is no higher than 50%, and for some, significantly less. For the sector as a whole it is 39%. However, for two banks, -the Comercial and the LRP-, international and domestic assets moved in opposite directions in 61% of years.

Figure 8: domestic and international asset co-movement for several Uruguayan banks, 1885-1913

Bank	Years for which data is available (number of year-to-year changes)	Percent of years for which reserves and assets move in different directions
Banco Comercial	1885-1913 (28)	61%
London and River Plate Bank	1885-1913 (28)	61%
Banco Italiano	1887-1913 (25)	31%
English Bank of the River Plate	1886-1890 (4)	50%
Bank of Spain and the River Plate	1888-1892, 1898-1903 (10)	33%
Banco Nacional	1887-1891 (4)	50%
BROU	1896-1913 (17)	41%
Banco Popular	1904-1913 (9)	22%
Total banking sector	1885-1913 (28)	39%

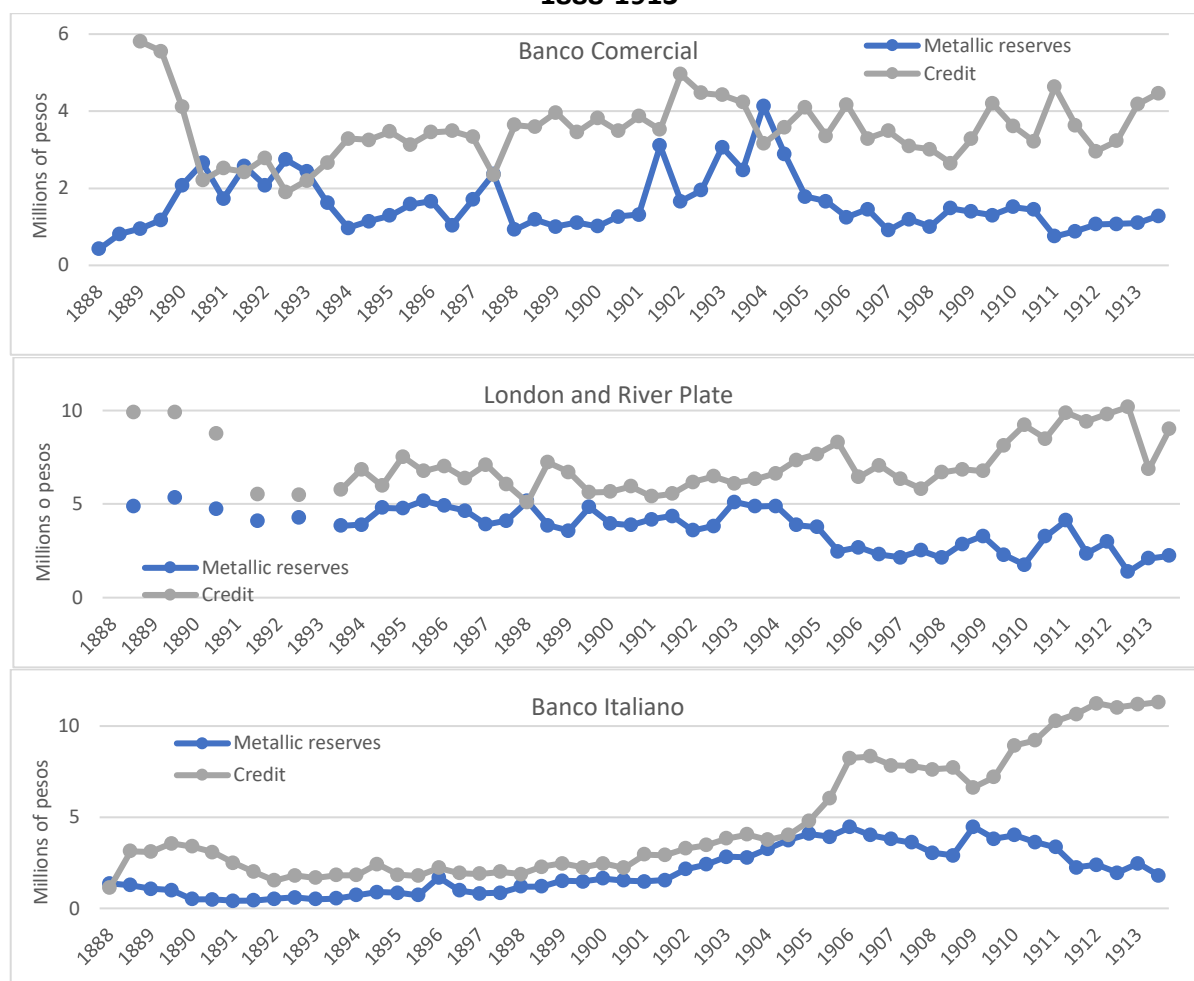
Source: USY and BROU 1917.

The annual data present some limitations. First, there are few data points (in the case of the Banco Nacional and the English Bank of the River Plate, data on only four year-to-year changes is available). Second, there were intra-annual fluctuations in these variables that are not captured by the annual data.

However, there is bi-annual balance sheet data available for three of these banks: the Comercial, the LRP and the Banco Italiano, beginning in the late 1880s. Figure 9 shows bi-annual data on metallic reserves and credit for these three banks from 1888 to 1913.¹³

¹³ For the Banco Comercial, bi annual data on reserves is available from 1865, while credit data is available beginning in the second semester of 1889. The data are for March and September. For the LRP, bi annual data on reserves and credit are available beginning in the first semester of 1894, while for the Italiano, data for these variables are available beginning in the first semester of 1888. For these second two banks, the data are for June and December.

Figure 9: Metallic reserves and credit for the Comercial, LRP and Italiano, semester data, 1888-1913



Source: USY, 1919.

Figure 10 summarizes this data, for each bank from the year data is first available to 1913, showing the percentage of semesters in which the level of credit moved in the opposite direction of the level of metallic reserves. In addition, three sub-periods are shown for each bank: from the initial year up to 1896 (year of the founding of the BROU), from 1897 up to 1907 (the year the BROU became the sole note emitter), and from 1908 to 1913.

This, admittedly limited, evidence shows two very different behaviors. The Comercial and LRP appear to systematically break the rules of the game, similar to what many central banks in other countries did during the Gold Standard period. The percentage of semesters in which reserves and credit moved in opposite directions was high, around 80% for the first bank and 70% for the second. For both banks, the percentage of semesters in which the two variables move in opposite directions is higher in earlier years. For example, for the Comercial, before 1896, reserves and credit moved in opposite directions in 86.7% of semesters. From the founding of the BROU to 1907, these variables moved in opposite directions in 86.4% of semesters. After the BROU gained a monopoly on note emissions, this figure dropped to 58.3%. A similar pattern can be seen for the LRP. In other words, the central bank-like behavior on the part of private banks was more prevalent in the years before Uruguay acquired an institution resembling an actual central bank. The Banco Italiano, on the other

hand, behaved more in line with the rules of the game: domestic and foreign assets move in the opposite directions in only 35% of semesters.

Figure 10: domestic and international asset co-movement for the Comercial, LRP and Italiano, 1885-1913

Bank	Period (number of semester-to-semester changes)	Percent of semesters in which reserves and credit move in opposite directions
Banco Comercial	1889-1913 (49)	79.6
	1889-1896 (15)	86.7
	1897-1907 (21)	86.4
	1908-1913 (11)	58.3
London and River Plate	1894-1913 (39)	70.0
	1894-1896 (5)	80.0
	1897-1907 (21)	77.3
	1908-1913 (11)	58.3
Banco Italiano	1888-1913 (51)	34.6
	1888-1896 (17)	22.2
	1897-1907 (21)	31.8
	1908-1913 (11)	58.3

The Comercial and the LRP were two of the oldest banks in the country, founded in 1857 and 1863, respectively. The Comercial was founded by foreign merchants operating in Uruguay, and this group was heavily represented on the bank's board throughout the period. The LRP was a branch of the British bank of the same name, and also served foreign commercial interests (Barrán and Nahum, 1971: 448-52). They were traditionally defenders of monetary orthodoxy, often resisting attempts by the government to found a state bank (Barrán and Nahum, 1971: 470). For example, they strongly opposed the establishment of the Banco Nacional in 1887, and from the moment it opened its doors, these two banks cleared their holdings of the Nacional's notes on a daily basis (Joslin, 1963: 135; Barrán and Nahum, 1971: 474).

The Banco Italiano, founded in 1887, expanded rapidly up to 1914, especially after 1905 (Jacob, 2000: 224-25), capturing around 22% of deposits and 15% of credit by 1913. This bank tended to expand assets when reserves increased, and reduce them when they fell, in line with the "rules of the game". Only after 1908 (it lost its right of note issue the year before) did it expand credit continuously even as reserves fell. This bank was founded by Italian immigrants, during the 1880s boom, a moment when the number of banks in operation was increasing and competition was intensifying.

The impact on liabilities

If the Comercial and the LRP systematically broke the "rules of the game" in terms of credit and reserve management, it should be reflected in the liabilities side of their balance sheets. Figure 11 shows the coefficient of variation of liabilities, that is bills in circulation plus deposits, for several Uruguayan banks from 1885 to 1913. For most of this period, the only banks to circulate bills were the LRP, the Italiano and the BROU (other banks circulated bills only for a few years before 1892). The Comercial and the LRP have the lowest coefficient of

variation of liabilities (0.39 and 0.20, respectively). For the other banks, the level of this indicator is at least 0.40.

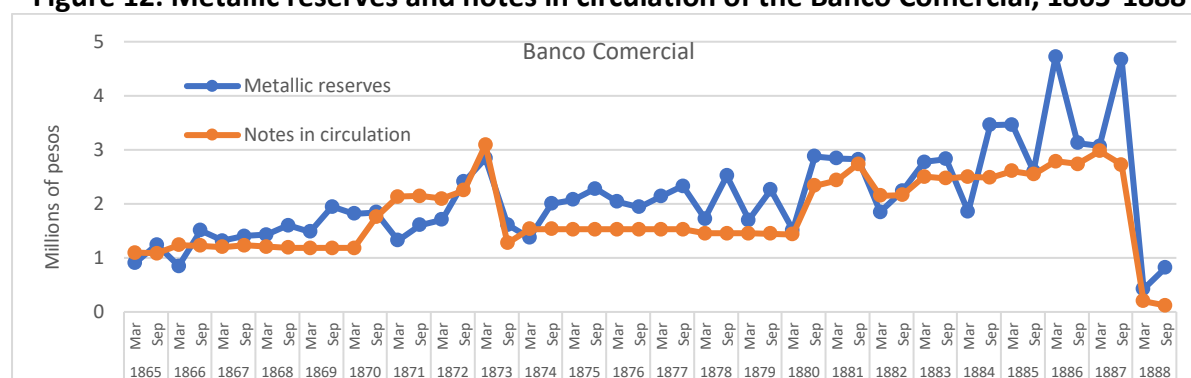
Figure 11: Coefficient of variation of liabilities for several Uruguayan banks, 1885-1913

Bank	Years for which data are available	Coefficient of variation of liabilities
Banco Comercial	1885-1913	0.39
London and River Plate Bank	1885-1913	0.20
Banco Italiano	1887-1913	0.75
English Bank of the River Plate	1886-1890	0.40
Bank of Spain and the River Plate	1888-1892, 1898-1903	0.44
Banco Nacional	1887-1891	0.52
BROU	1896-1913	0.71
Banco Popular	1904-1913	0.63
Total banking sector	1885-1913	0.48

We also have bi annual data for the Comercial, the LRP and the Banco Italiano, with which we can see how total notes in circulation and total liabilities evolved in comparison to reserves data we used in our earlier analysis (see appendix for graphs of the data series). There is also bi annual data on metallic reserves and notes in circulation (but not for deposits) of the Banco Comercial from 1865 to 1888 (shown in figure 12). Although the country was permanently on the Gold Standard beginning only in 1876, the date of first adoption was 1865, the Comercial resisted all attempts to deviate from strict convertibility from at least this date (Acevedo, 1933b).

In general, notes in circulation and total liabilities tended to move in the same direction as reserves, although much less so for the Comercial and the LRP than for the Italiano. For example, from the late 1880s to 1913, the percentage of semesters for which reserves and total liabilities moved in different directions were 43%, 43% and 14% for each bank, respectively. However, although these variables tended to move in the same direction, fluctuations in banknote circulation and total liabilities were smaller than changes in reserves for the Comercial and the LRP. This can be seen most clearly in figure 12, showing the reserves and note circulation of the Comercial. Reserves fluctuated greatly, in some semesters by over 50%, while notes in circulation remained remarkably stable.

Figure 12: Metallic reserves and notes in circulation of the Banco Comercial, 1865-1888



Source: USY (1919)

It appears note circulation for this bank did not adjust in direct relation to changes in reserves. For example, the return of prosperity after the 1869 crisis led the bank to increase note circulation beginning in the second half of 1871, while reserves did not begin to rise until the following year. Both reserves and note circulation fell in 1873, coinciding with a bank run due to the collapse of a small competitor, the Banco Oriental, that year. The reserves of this bank experienced increasingly wild swings from the mid 1870s onwards, while note circulation remained stable through the 1875 crisis and subsequent depression. Notes began rising in 1880, when prosperity returned to the country, trending upwards until the bank gave up its right to currency emission in 1887, but always remained much more stable than the erratic movements seen in reserves.

Figure 13 summarizes the bi annual data by presenting the coefficient of variation for metallic reserves, note circulation and liabilities for the three banks, from 1865 to 1913 (depending on when data is available). The coefficient for note circulation is only for the years in which the banks engaged in this activity, and is compared to coefficients of reserves over the same time periods.

Figure 13: Coefficient of variation of metallic reserves, notes in circulation and total liabilities of the Banco Comercial, LRP and Banco Italiano, 1865-1913

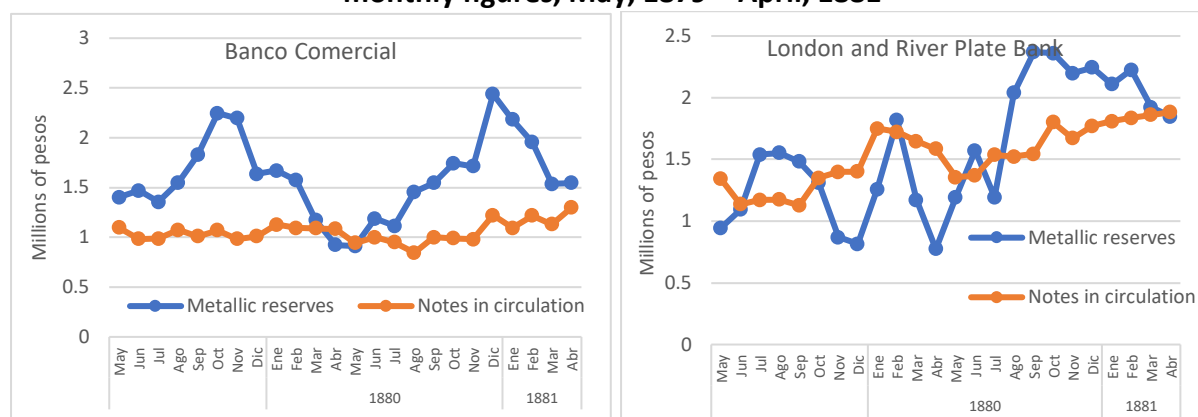
Bank	Period	Metallic reserves	Notes in circulation	Total liabilities
Banco Comercial	1865-1887	0.39	0.33	-
	1889-1913	0.44	-	0.33
London and River Plate	1888-1904	0.13	0.06	0.10
	1888-1913	0.30	-	0.13
Banco Italiano	1888-1907	0.72	0.70	0.82
	1888-1913	0.63	-	0.72

Source: Own calculation based on figures from USY, 1919.

The coefficients of variation for notes in circulation and liabilities for the LRP and the Comercial were far lower than those for reserves. It appears that not only did the note emissions of these banks change less than would have been warranted by a strict rules-of-the-game approach, but deposits also adjusted to a lesser degree. The same cannot be said for the Banco Italiano, which has a coefficient of variation for note circulation (1888-1907) only slightly lower than that for metallic reserves, while the coefficients of variation for liabilities are far higher for both the 1888-1907 and 1888-1913 periods. It appears that different banks chose different strategies for managing their reserve ratios, which suggests different priorities with respect to managing the Gold Standard.

In addition to the bi annual data, monthly data on reserves and notes in circulation is available for the Banco Comercial and the LRP from May, 1879, to April, 1881 (figure 14), and shows the same pattern observed with the bi annual data. Reserves vary much more than notes in circulation. For the first bank, the coefficients of variation are 0.25 for reserves and 0.10 for notes, while for the second they are 0.33 and 0.16, respectively.

Figure 14: Metallic reserves and notes in circulation for the Banco Comercial and the LRP, monthly figures, May, 1879 – April, 1881



Source: Berra et al. 1882: 252.

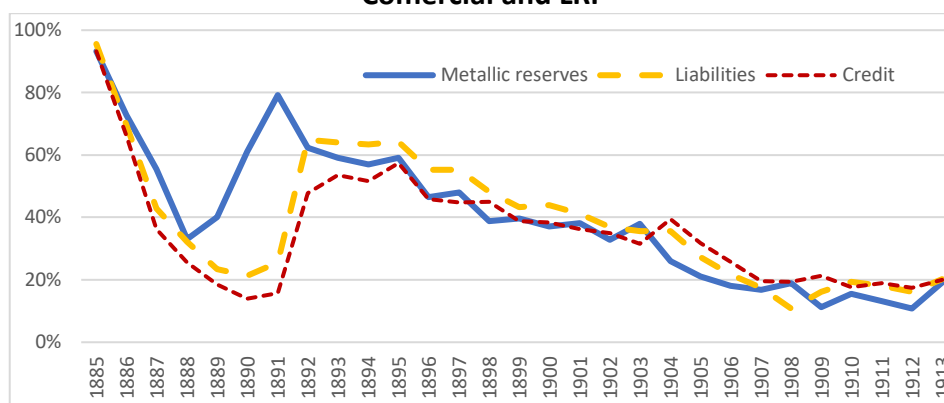
The evidence presented in these sections suggests that the Banco Comercial and the LRP did not manage assets and liabilities in a way consistent with the “rules of the game”. Changes in domestic assets moved in the opposite direction of changes in international assets more often than not. Furthermore, liabilities remained highly stable with respect to the variations in metallic reserves, as well as with respect to the liabilities of other banks. These banks appear to have acted in a way which neutralized movements their metallic reserves and smoothed fluctuations in their note circulation and deposits.

As suggested by Ford (1989: 209), “In those economies with no central bank, commercial banks ... were more wholehearted followers of the rules of the game.” The reason for this is that competitive pressure would have driven them to use gold inflows in order to increase loans, lest they lose market share. In times of gold outflows, they would be forced to decrease loans in order to maintain sufficient reserve cover for their liabilities. Why then would the Banco Comercial and the LRP consistently break the rules of the game then, when doing so would put them at a competitive disadvantage relative to other banks?

One reason may have to do with their dominant position in the banking market. Figure 15 shows the percent of total metallic reserves, liabilities and credit in the hands of these two banks. In 1885, these two banks held over 90% of the metallic reserves of the banking sector, and similar proportions of liabilities and credit. These were surely higher for the 1876-1885 period, since these were basically the two only banks in operation during that decennium.¹⁴ The market share of these banks dropped precipitously through the boom years of the late 1880s, as several banks joined the market, but recovered after the crisis, when several large banks went bust. In the mid 1890s these two banks held over 50% of reserves, liabilities and assets of the sector. These proportions fell gradually over the rest of the period, reaching about 20% by 1913.

¹⁴ These were the only two banks left operating after the liquidation of the Mauá in 1876, until 1880, when they were joined by the London and Brazilian Bank, which had less than 10% of the capital of the sector.

Figure 15: percent of total metallic reserves, liabilities and credit in the hands of the Comercial and LRP



Source: Diaz (2019)

The dominant position of these banks up to 1900 perhaps gave them breathing room to apply more forward-looking policies, protecting their clientele from the vagaries of gold flows. They didn't need to be so worried about gaining market share because they already had it.

Another explanation could have to do with the reputation of these banks as stalwart defenders of the Gold Standard, which perhaps gave them certain leeway in managing their reserves. These banks had been founded during the tumultuous 1850s and 1860s. They both served the merchant class involved in international trade, especially the import of European goods (Barrán and Nahum, 1971: 448-451). This group was highly committed to the Gold Standard because of the nature of their business. Their costs for imports were in gold, and it behooved them to receive their income in a gold-linked currency. They also served many of the British companies that built and operated the country's transport and urban infrastructures, such as railways, tramways and waterworks. Not only that, but often times the same men served on the board of directors of these banks and those of their client companies. For example, the director of the Uruguayan branch of the LRP, George Drabble, was also director of the Central Uruguay Railway Company (Winn, 2010: 21). These companies also faced some costs in gold¹⁵ and received income in local currency, and were thus benefitted by adherence to the Gold Standard.

It may seem counterintuitive that banks committed to the Gold Standard would manage credit and reserves countercyclically. The argument here is that because of their unquestioned commitment to gold convertibility, they could afford to maintain or increase loans during moments of gold drains. For this same reason, they may have tightened credit when gold flowed in, so as not to be in an overextended position when the tide turned.

Conclusions

This paper presents evidence on the operation of the Gold Standard in Uruguay from its adoption in the 1870s up to 1913. Under its free banking system, two banks, - the Comercial and the LRP-, appeared to consistently break the rules of the game by expanding domestic assets in the face of reserve losses, as well as sterilizing gold inflows. Furthermore, the

¹⁵ In Uruguay railway companies imported much of the materials for building and operating the line: rails, locomotives, wagons, metallic structures for bridges and even the sleepers upon which the rails were laid. Coal was also an important input that was imported.

currency in circulation and total liabilities of these two banks appear to have fluctuated far less than did metallic reserves, and less than those of other banks. This indicates that they acted to smooth volatility in gold reserves and shield their clients from changes in gold reserves.

This result is suggestive in light of Uruguay's performance in adhering a fixed exchange rate for almost forty years. Could the actions of the Comercial and the LRP have contributed to Uruguay's success under the Gold Standard? That is, did shielding their clients from volatility in gold movements help ease the burdens imposed by the Gold Standard on the economy?

If these banks were successful at smoothing economic fluctuations imported through the balance of payments, this should be reflected in interest rates. With well-integrated capital markets, a banking system playing by the 'rules of the game' should have fully incorporated shocks in world interest rates into domestic rates. This can be tested with a VAR model which analyzes the effect of world rates (proxied by the Bank of England discount rate) on Uruguayan discount rates. If shocks are fully incorporated, it would mean that Uruguayan banks were not actively trying to smooth volatility, or that they were not successful at doing so. If shocks were not fully incorporated, it could mean that Uruguayan banks were successfully shielding the economy from abrupt movements in gold inflows (Bazot et al, 2019). Carrying out this analysis is a next step in this research project.

Another piece of information that could complement the above analysis is an examination of the records of the LRP and the Comercial to try to identify the reserve management strategies practiced by the banks. Unfortunately, the records of the Banco Comercial have been lost. Those of the LRP are in Loyd's Archive in London. Accessing this material is a further step in this research project, which I hope to carry out later this year.

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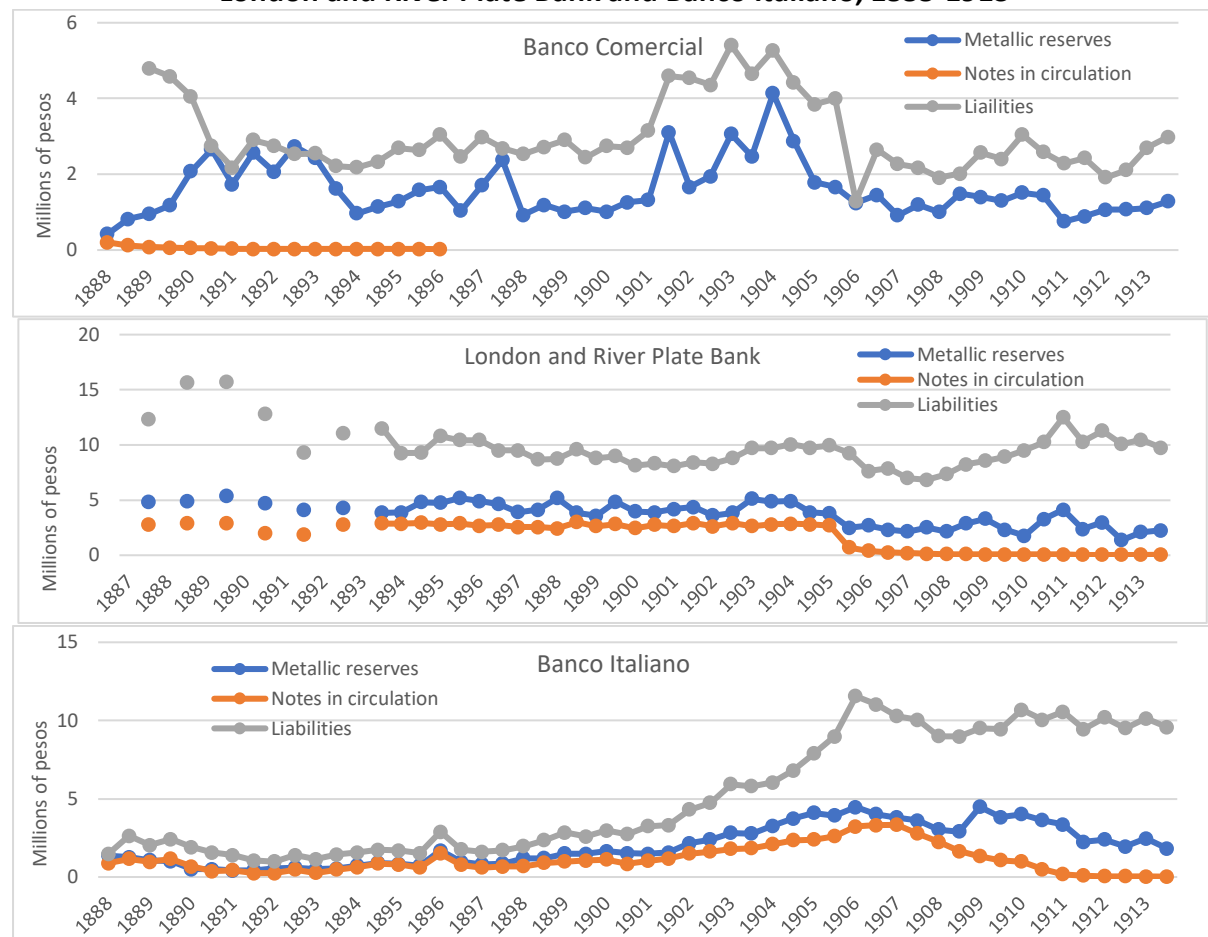
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Appendix

Figure A.1 shows these variables for the Banco Comercial, the LRP and the Banco Italiano from 1888 to 1913. Recall that the Comercial ceased note emissions in 1887, the LRP in 1894 and the Banco Italiano in 1907, which is why this variable drops off for each bank in these respective years.

Figure A.1: Metallic reserves, notes in circulation and liabilities of the Banco Comercial, London and River Plate Bank and Banco Italiano, 1888-1913



Source: USY, 1919.