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Maximizing Profits or Pursuing the Public Good?

The Bank of Spain as a Central Bank

Pablo Martín-Aceña
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MAXIMIZING PROFITS OR PURSUING THE PUBLIC GOOD? THE BANK OF SPAIN AS A CENTRAL BANK*

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Abstract

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Keywords: Bank of Spain, central banks, banking market structure, issuing monopoly, profit-maximizing issuing banks.

JEL Classification: D42, G21, L12, M2, N13, N23, N83.

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Introduction

The Bank of Spain was established in 1782, under the name of Banco de San Carlos. It changed its name to the Banco de San Fernando in 1829, and adopted its current denomination in 1856. A period with various issuing banks began in that year, and continued until 1874, when the Bank of Spain was finally awarded the monopoly of banknote issue for the entire country. Between its founding and its final nationalization in 1962, the Bank was a private credit company, but it was subject to heavy government intervention since 1939. Although the role of the Bank of Spain in the Spanish economy and its transformation into a genuine central bank responsible for monetary policy has been studied on various occasions (Anes, 1974; Tortella, 1970 and 2006; Tedde, 1988, 1999 and 2015; Martín-Aceña, 2000, 2006 and 2018; Castañeda, 2001; Bank of Spain, 2006, Martín-Aceña et al. 2013), a great deal of research remains to be done.

The purpose of this study is to examine whether the transition from a system of various issuing banks to a monopoly system was a step in the Bank of Spain becoming a central bank in the true sense of the word (a non-profit maximizing financial institution); or on the contrary, whether the Bank used its privilege as the only private issuer to obtain extra profits, and neglected its duties as a central bank. According to the canonical study of Goodhart (1991), issuing banks established in the nineteenth century gradually became genuine central banks, responsible for the monetary and financial stability of their respective economies. The first task, at least until 1914, consisted of ensuring exchange rate stability and guaranteeing the convertibility of banknotes. Central banks in the nineteenth century were committed to maintaining the convertibility of their notes into a certain amount of specie: holders of banknotes could exchange them at the bullion window of the institution for gold or silver coins, and vice versa. Convertibility was considered essential for the institution's financial and social
prestige, and a key feature of its “modus operandi”. The ability to maintain parity of the currency has often been described by both contemporary and later researchers as a test of good behaviour. The question then was how to bring into line currency convertibility and exchange rate stability, the two overriding objectives of any nineteenth-century private issuing banks, with profit maximization.

First, we discuss the dilemma faced by all European issuing banks with a monopoly of issue, between the private interest (profit maximization) and the public good, represented by the maintenance of the value of the currency. The second section deals with the period between 1856 and 1874, when a system of near free banking with various issuing banks was in place. The third section focus on 1874 - the year the monopoly was granted. The fourth analyzes the period between 1874 and 1914, and compares the Bank's profitability before and after the monopoly and also compares it with other private banks. The fifth section looks at the relationship between profits, overissue and the exchange rate. The conclusions end the paper.

The study shows that thanks to the monopoly, the Spanish issuer obtained extraordinary profits (above the average for the sector). We also show that the Bank's "private interest" prevailed over the "public interest" (convertibility into gold) and that the monopoly was not a decisive step in its becoming a genuine central bank. The Bank of Spain was a very profitable financial institution for its shareholders, but demonstrated little concerned with the public interest. History shows that the Bank of Spain's transformation into an institution responsible for monetary and financial policy did not occur until well into the twentieth century.

1. Between the private interest and the public good

National banks were established on the initiative of the public authorities, which gave them special privileges that included some kind of monopoly on banknote issue in exchange for financial support. The granting of the monopoly of issue was the first step in these institutions becoming genuine central banks. However, the early issuers were set as commercial private financial institution, and they acted as such as soon as they were established, due to their natural desire to maximize their profits. As a result, they tried to use their founding privileges in the most advantageous possible manner in order to increase the scope of their business and expand their political and economic

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1 Today by contrast, central banks are assigned inflation targets (Bernanke and Mishkin, 2007).
2 Feiertag and Martín-Aceña (1999); Martín-Aceña (2000 and 2018)
influence; in some cases they attempted to prevent or limit competition from other lending institutions. For example, the Bank of England unsuccessfully tried to maintain its status as the only corporation in the London area, and the Bank of France made strenuous efforts to prevent competitors from emerging.3

Over time, their dual status as State bankers and privileged issuing banks, on one hand, and private profitmaking commercial institutions on the other, led to a dilemma that was not easy to resolve. They were forced to choose between their obligations as "national banks," and their corporate purpose as private companies that had to be accountable to their shareholders. The extraordinary profits they could obtain from their privilege of issue led to behaviour that was not in accordance with the "common good." A private company that the public authorities had delegated to provide the economy with high-powered money could use this power for its own benefit, without taking general welfare into consideration. The most irresistible temptation was overissue. Since the profits of the issuing bank would increase in line with its ability to place a greater volume of revenue-generating assets into circulation, it was logical to assume that directors and shareholders would abuse their position of privilege. A second risk also emerged: the use that governments made or could make of central banks as providers of financing. The conflict in this case arose between banks which as issuer had to guarantee the value of their notes, and governments that relentlessly demanded liquid resources to finance their spending, especially when this spending increased during periods of war. As a result, relations between the central banks and the monetary authorities were not easy, and were subject to heavy strain.

A powerful institution emerged to avoid these two risks: convertibility. The issuing banks agreed to convert their notes into a specific amount of gold and silver and vice versa. Adherence to some sort of metal-based standard, negotiated between officials of the Bank and the Treasury, should have minimized the risk of over-issuance. Convertibility limited the central banks' scope for implementing discretionary policies, increasing the issue at will, while providing governments with a means to control the monetary management of the institution responsible for providing the system with its money base. The public function of a national issuing bank, even if privately owned, was to ensure monetary stability, i.e. stability of the exchange rate. Moreover, the

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3 A most recent overview of the creation of major central banks in Edvinsson, Jacobson and Waldenström (2018).
4 Flandreau (2008, pp 11-17).
convertibility of the currency and the maintenance of a fixed exchange rate gave the country credibility abroad, and were regarded by contemporaries as evidence of good financial performance (Bordo and Rockoff, 1996).

Nonetheless, convertibility interfered with the private interests of the issuing banks: profit maximization. On the one hand, ensuring convertibility limited the institution's ability to generate profits, since joining a metal standard acted as a restraint on over-issuance. On the other, it involved maintaining a large volume of fixed assets (gold and silver on hand) from which no return was obtained. Flandreau (2008) considered whether private central banks in the nineteenth century preferred convertibility or whether they favoured inconvertibility. In his opinion, the answer is obvious, as maintaining specie reserves on hand entails maintaining a non-profitable asset on the balance sheet with a high opportunity cost, which is at least equal to the income that could be obtained from loaning the unproductive gold and silver kept on the metallic reserve. The “corso forzoso” would enable the reserves to be reduced or eliminated, and all resources allocated to profitable investments. In the most extreme case, profit maximization would be achieved with a reserve ratio of zero. For owners of the issuing bank, this would be an ideal situation: they could place banknotes in circulation without simultaneously having to cover the issue with specie. In fact, an issuing bank that placed its private interests before the "common good" would choose a regime of inconvertibility. This preference would distance it from the definition of a central bank. However, an issuing bank willing to prioritize maintenance of the exchange rate (monetary stability) would be much closer to the ideal model of a central bank.

Our aim in this study is to examine the conflict between maintaining monetary stability and the goal of any private company - to maximize its profits. One way to study the duration and intensity of this conflict of interests and objectives is to consider the changes in the Bank's profits and its relationship to the issue of notes. Our basic objective is to ascertain whether the extra profits earned by the Bank of Spain were generated as a result of an excess or abuse of issue, and whether the excess emission was itself a consequence of the non-convertibility of the peseta into gold. We show that unlike other European central banks, the Bank of Spain as a monopoly issuer did not develop towards the traditional model of a central bank, because its private interests (as a business institution seeking to maximize profits) prevailed over the public interest (the
common good), as represented by monetary stability (the exchange rate and gold convertibility).

2. From plurality of issue to monopoly of banknotes, 1856-1874: 150 years ago

The modern history of Spanish banking began in 1856, with the approval of the Issuing Banks Act and the Credit Companies Act. The former established the principle of plurality of issue, and at the same time changed the name of the Banco de San Fernando to the Bank of Spain, a name that it retains today. The 1856 issuing banks law ended the “de facto” monopoly enjoyed by the Banco de San Fernando since 1849, by authorizing the creation of an institution with the capacity to issue in each province. As a consequence, a large number of banks were established under the terms of this legislation, and from the three existing issuers (San Fernando, Banco de Barcelona and Banco de Cádiz) there were 21 already by 1866.

Table 1 shows the number of issuing institutions operating in 1857 and 1873. In the latter year, just prior to the Bank of Spain being granted the monopoly, the country had 15 issuing institutions. Although there were many issuers, the Madrid based bank was far bigger than the others. Its 50 million pesetas of paid-up capital was more than six times greater than that of the Banco de Barcelona, the country's second largest credit company. Financial institutions such as those of Bilbao and Santander, which are today major international financial players, were tiny by comparison. If we consider the quantity of notes in circulation, the conclusion is the same. The Bank of Spain's banknotes accounted for 64 and 56 percent of the total in circulation in 1857 and 1873 respectively.

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5 The law of 1856 established a twofold limit on the banks' issuing capacity. They could issue an amount of notes equivalent to three times their paid-up capital, and were required to maintain a reserve in specie (gold and/or silver) equivalent to one third of the notes in public hands. The second law - the Credit Companies Law - led to the emergence of a number of institutions capable of carrying out a wide range of activities, ranging from discount and trade credit to long-term loans and investment in industrial stocks and bonds. In little more than a decade, the number of credit and discount institutions rose from none in 1855, to six in 1856 and 32 in 1866. The Bank of Spain between 1856 and 1874 in Tedde de Lorca (2015). A detailed and complete study of the provincial banks of issue in Sudrià (1994), and Sudrià and Blasco (2016).
Figure 1 shows that the amount of Bank of Spain notes was greater than all the provincial banks combined. Although it had only two branches, in the cities of Valencia and Alicante, by the middle of the century the Bank of Spain was already a national and parastatal financial institution, not only in terms of its name but because of its size, because its notes were beginning to be used as a reserve but also due to its close relations with the Treasury, which included tax collection services and its role as the State’s cashier. These links, which dated back to the institution's origins, had increased over time: in 1857, a 59 percent of its total assets were loans, advances and discounts of bills of exchange and promissory notes to the Treasury; and in 1873 the proportion was 70 percent. Although the Bank defended its independence as a private credit institution, contemporary observers acknowledged that the government had a major influence over the decisions taken by the members of the institution's Board, since it not only appointed the governor but also used the Bank's resources to meet the Treasury's...

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The Spanish unit of currency was the real, until the adoption of the peseta in 1868. In order to present amounts in pesetas for the entire period, the real has been converted based on its equivalence (one peseta for four reales).
financial needs. In return, the Bank's directors demanded special treatment and repeatedly asked for the "de iure" privilege of sole issue.

Figure 1. *Banknotes in circulation, 1856-1873* (thousand pesetas)

![Banknotes in circulation, 1856-1873](image)

Sources: Banco de España, *Ensayos sobre la economía española mediados del siglo XIX*, appendix 1

The plurality of issue and the increase in the number of credit companies all over the country generated a degree of competition that did not exist prior to 1856, especially considering the existence of many private bankers and merchant bankers who met the demand for local credit and even loaned money to the government. Despite its position of dominance and near monopoly in Madrid, the Bank of Spain had to share the market with new competitors. Nevertheless, the "de facto" loss of the monopoly did not lead to a decline in its profits. The annual average for the period 1833-55, before the creation of multiple issuers, was 2.9 million pesetas, while in the subsequent seventeen years, when there were various issuing banks, it was around 6 million pesetas and there were some years - such as 1872 and 1873 - when the figure reached 10 million pesetas (figure 2).

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As for the comparison of the financial profitability (ROE)\(^8\) between the same two periods, the annual average of the Banco de San Fernando was around 12.2 percent, below the figure for the Bank of Spain in the next decade and a half, when the annual average was 15.2 percent. These figures would suggest that despite the complaints of the directors of the Bank, plurality of issue had no negative effects on the profits of the institution. One explanation for this is the more dynamic policy of the Bank of Spain after 1856, compared to the parsimony with which the Bank of San Fernando, a somewhat sluggish institution, operated\(^9\). It was also partly due to the exceptional economic situation between 1856 and 1873, during which the construction of the railways and investments in the mining sector and in modern manufacturing boosted industrial production and gross domestic product. Despite the financial crisis of 1866 and the stagnation of the following three years, the industrial production index increased by more than 70 percent and GDP\(^10\). Furthermore, the Bank of Spain's high profitability was due to the increase of its portfolio of government securities, from 74 million pesetas in 1856 to 114 million in 1873, a consequence of the over-present State's financial weakness.

\(^8\) Return on Equity (ROE) is calculated by dividing net profits by paid-up capital.
\(^9\) Tortella (1970); Tedde de Lorca (1999)
\(^10\) On the economy of the period, see Tortella (1973). The figures for GDP and industrial production are taken from Estadísticas Históricas de España (2005), vol. II and vol. III, series 1214 and 4730.
Another result that sheds a favorable light on the Bank of Spain as a private corporation, also in the era of near "free banking," arises from a comparison of its financial performance with that of other issuers (the banks of Barcelona, Bilbao and Santander). Figure 3 shows the estimated ROE for the four institutions. Leaving sharp fluctuations aside, it can be observed that rates of return for the Bank of Spain and Barcelona were similar, at an annual average of 15.2 percent and 14.7 percent respectively, and slightly higher than the estimated rate for the Banco de Bilbao (13 percent), while for the Banco de Santander, a smaller institution located in a peripheral provincial city, the average rate was lower but not negligible: 7 percent. The Bank of Spain therefore obtained a return similar to that of the main provincial banks with which it was competing in the national market for bank-notes. However, as it will be shown, gaining the monopoly of issue, the Bank’s benefits would be much higher than those of the provincial banks.

Figure 3. Return on Equity (ROE):
the Bank of Spain and three issuing provincial banks, 1856-1873 (%)

Sources: Banco de España, Memorias, 1856-1873; Banco Santander, Martín-Aceña (2007), pp. 28, 53 and 70; Banco de Barcelona, Blasco and Sudrià (2010), pp. 368-375; Banco de Bilbao, Memorias, 1856-1973.

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11 *Stricto sensu* the term "free banking" applied to the plurality of issue banks in Spain from 1844 to 1874 must be taken cautiously since the banks did not compete among them in the entire country, being limited in its transactions to the provincial limits (Sudrià and Blasco, 2016).
3. 1874: the beginning of the national monopoly of issue

On 19 March 1874 the Bank of Spain obtained the monopoly of issue, a privilege that it had been seeking since the 1856 law was passed. The decree radically changed the Spanish financial system, so 1874 is a true milestone in Spanish financial history. The end of the plurality of issue saw the disappearance, not without some resistance, of fifteen institutions which were given the choice between merging with the Bank of Spain or, continuing as credit and discount companies\(^\text{12}\). Almost all chose the merger, four of them decided to go their own way\(^\text{13}\). The granting of the monopoly was not a surrender to the Bank by the State, but the result of the Treasury's circumstances, as it was unable to finance its rising expenditures, which had increased from 678 million pesetas in 1868 to 789 million pesetas in 1873. Three simultaneous wars (civil, cantonal and colonial) had led to a considerable rise in military spending, from 111 million pesetas in 1870 to 329 million in 1873 (almost half the budget). The stagnation of public revenue, due to the rigid tax system, led to an increase in the budget deficit to 227 million pesetas (about 3 percent of GDP) and the public debt increased from 7,289 million pesetas in 1870 to 11,416 million pesetas in 1874 (145 percent of GDP)\(^\text{14}\). Political instability since the 1868 revolution and the proclamation of the First Republic in 1873 made borrowing abroad difficult and expensive, and the interest demanded by private Spanish bankers reached unbearable levels. Although other measures had been taken, such leasing the mercury mines at Almadén for around 42 million pesetas, and the Rio Tinto copper mines for 94 million pesetas, and the Banque de Paris et des Pays Bas had been authorized to establish a Mortgage Bank in return for a loan of 100 million pesetas, the Treasury was virtually bankrupt. Salvation was sought from the Bank of Spain: an urgent loan was requested in exchange for the monopoly of issue.

The justification provided by the finance minister in the preamble to the decree granting the monopoly leaves no room for doubt that the Treasury's problems were what led to the end of the plurality of issue: “our credit has been lost due to abuse, taxes have been exhausted due to administrative vices, the payment of our debt is at present frozen, and as a result we are forced to use other means to consolidate the floating debt and to withstand the huge costs of war that has afflicted most of our provinces for two years…”

\(^{12}\) On the resistance of the Banco de Santander, see Martín-Aceña (2007, pp. 34-41) and on that of the Banco de Bilbao, see González, Anes and Mendoza (2007, p. 58 et seq.)

\(^{13}\) Banco de Barcelona, Banco de Bilbao, Banco de Santander and Banco de Reus.

\(^{14}\) The figures are taken from Estadísticas Históricas de España (2005), Vol. II. The study of public finance of the period in Comín (1988)
The only possible solution sought was to "establish a National Bank based on the Bank of Spain...as a new financial power that can assist the Treasury"\(^{15}\).

In exchange for granting the monopoly, the Treasury received an advance of 125 million pesetas at the low interest rate of 3 percent, which it agreed to return within two years, but which was never repaid and remained forever on the Bank's balance sheet\(^{16}\). The funds were used to avoid bankruptcy and free the Treasury from the greed of private bankers. For the Bank of Spain, this process was similar to being founded anew, and the privilege made it into a genuine national bank and an unmatched financial power. At a stroke, it had fourteen branches, enabling it to expand its scope and its geographical operating area. The Bank was also authorized to double its share capital to 100 million pesetas, which it did a few years later, and to increase it to 150 million pesetas when the economic conditions made this advisable (the increase took place in 1883). Its capacity for issue also significantly increased to five times the capital (instead of the three times set in 1851), while the reserve ratio to notes in circulation fell from 30 percent (also set in 1851) to 25 percent\(^{17}\).

The decision of 1874 made the Bank a powerful financial institution and placed it in a completely dominant position within the Spanish financial system. In 1900, the issuer's assets amounted to 2,706 million pesetas, which accounted for 68 percent of the country's entire credit system\(^{18}\). It also made the Bank into one of the country's most successful trading companies, as will be seen in the next section. The Bank of Spain became the most important public-private institution, and the only one present all over Spain by means of its branches and banknotes. It was a kind of (financial) state within the State.

However, if the monopoly of issue placed the Bank of Spain in a privileged position for making extraordinary profits, as the theory of imperfect markets suggests, the same monopoly made the institution responsible for being the supplier, with the Treasury (the issuer of metal coins), of the money base or high-powered money, and for guaranteeing currency convertibility and exchange rate stability. But as it will be seen in

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\(^{15}\) The monopoly of issue granted to the Bank of France in 1842 was also driven by the need to obtain urgent financial resources for the Treasury. See Ramon (1929), Dauphin-Meunier (1936) and Leclercq (2010).

\(^{16}\) For the financial conditions of the loan and the contract between the Treasury and the Bank of Spain, see Martinez Pérez (1922), p. 94

\(^{17}\) Tortella (1970, pp. 285-87); Anes (1974, pp. 125-133)

\(^{18}\) Martín-Aceña (1987, table 6.1, p. 113)
the next section, despite its monopoly of issue throughout the entire country, the Bank of Spain did not fulfil the latter responsibility.

Once the plurality of issue ended, the Bank of Spain reinforced its dominant position within the national financial system. Excess issue was then, as we have suggested, an irresistible temptation. Profits could be easily raised by expanding its earning (private and government) assets in its portfolio. The risk of overissue was real and the result would be price inflation and currency depreciation, unless GDP could grow at the same pace that the increase in money supply. The only check to such pervasive behaviour was convertibility forcing the Bank to increase its metallic reserves to balance the expansion of its short-term liabilities (notes and deposits). Moreover, with a convertibility rule and the need to maintain an adequate level of gold reserves, the Bank might have been less prepared to finance passively the Treasury budget deficits. Hence any variety of gold standard monetary regime would have performed as a check to both overissue and fiscal profligacy.

What is the evidence for Spain? What did happen to prices and the exchange rate of the peseta? Did the Bank of Spain place its profit-maximizing goal as private company before its public duty as a guarantor of the external value of the national currency? Did the Bank of Spain assumed its role as a real central bank assuming the responsibility for monetary policy? What the evidence shows in the next sections is that the Spanish central financial institution overissued, recorded historical high profits, distributed very handsome dividends to its shareholders and paid little or no attention whatsoever to its public duties. And the Treasury instead of raising taxes (by reforming the fiscal system) to cover its increasing budgetary expenses resorted to the issue bank to obtain the necessary cash to cover the deficits.

4. The Bank of Spain between 1874 and 1900: a central bank or a profit-maximizing private company?

Figure 4 shows the net profits of the Bank of Spain between 1874 and 1914. They initially increased: from 14 million pesetas in 1874 to 50 million pesetas in 1899. Over the subsequent fifteen years, they fell gently but continuously, to a low of 36 million pesetas in 1913, for reasons that will be explained below. Likewise, dividends increased (taking 1875 as the starting point) until 1899 and then declined\(^{19}\). The Bank’s

\(^{19}\) Nevertheless, the average of the last thirteen years (112.6 million pesetas) remained over the average of the previous twenty years (110.1 million pesetas).
share prices reflected the strong performance of its business: the rise in share prices shadowed the rise in dividends; first, there was a sustained increase to a high of 502 in 1900, followed by a moderate decline. Comparing Bank's share prices in 1874 and 1913 yields a remarkable increase of 200 percent. The institution's shareholders could not complain about the performance of their investment: they received good annual dividends and their equity tripled. Further evidence of the prosperity that the monopoly of issue provided for the Bank is the return on equity (ROE), which increased until 1899; between 1874 and 1899 the rise was spectacular: from 15 percent to 33 percent (figure 6). The average annual ROE for the period was around 25 percent and over the next fourteen years, 1900-1914, it rose to 28.6 percent, although after the financial reforms of the early 20th century, the trend was downwards. All in all, the average ROE for the entire period was 25 percent.
Figure 4. Profits, dividends and the market price of the Bank's shares

In the banking industry a widely used measure to assess the monopoly rents is the "Tobin's Q" or charter value\(^{20}\). According to Guttentag and Herring (1983) the charter value can be interpreted as the present value of future profits that a bank is expected to earn. A positive charter value arises either because an institution enjoys a special privilege, such as the monopoly of issue, because it operates in a protected environment or because it has gained a good market reputation due perhaps to its past performance. In the Bank of Spain’s case obviously the monopoly of issue provided the bases for, as figure 5 shows, a considerable increase in its charter value, estimated as the

\(^{20}\) Linderberg and Ross (1981) proposed to used the "Tobin's Q" to assess monopoly rents.
ratio of its shares’ market to its shares’ book value. After 1874 it can be observed a sharp rise in the Bank’s charter value which, with the exception of the early eighties, continued steadily until 1900. Moreover, the charter value not only increased but also reached considerable high levels throughout.

![Figure 5. Charter value of Bank of Spain](image)

From 1856 to 1873 monthly frequency (first of month quotation) and from 1874 to 1914 weekly frequency (Fridays quotation)

Sources: Banco de España, Memorias, 1856-1913; Boletín de cotización oficial del Colegio de agentes de cambio, 1856-1913; and Banco de España, La banca española en la Restauración (1970), Table III-13.

The Bank of Spain also posted higher returns than those obtained by the shareholders of non-issuing banks. Figure 6 shows the ROE for three competitors which became credit and discount banks after losing their issuing capacity in 1874: the banks of Barcelona, Bilbao and Santander. The differences are significant: compared with the Bank of Spain's average annual return of 25 percent, the Catalan bank's rate was 12 percent, the Basque bank's rate was 15 percent and the Santander's was 10 percent; i.e. fourteen, eight and fifteen points less. There is therefore no doubt that with the monopoly of issue, the Bank of Spain obtained extraordinary results, far exceeding those it had obtained in the period of plurality of issue or "free banking".

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21 Saunders and Wilson (1994) explain why the market to book value of bank assets equity prices can be used as a measure of Tobin's Q.
Should the exceptional financial returns of the Bank of Spain only be attributed to its monopoly of issue, or did its high profits also come from other sources? Did the Bank of Spain overissue in order to maximize its profits? To put it another way, did the Bank of Spain sacrifice the public good, as represented by maintaining the value of the currency, to higher profit levels? What determining factors or causes, if any, explain the overissue? The monopoly of issue enabled the Bank of Spain to expand its activities throughout the country. With thirty branches open in Spain's major cities, it was able to attract clients, both companies and individuals, and increase the discount of bills, personal loans and credits with various guarantees. Its portfolio of private investments increased "pari passu" with its portfolio of investments in public or sovereign debt. As a consequence, the Bank's assets grew exponentially: from 254 million pesetas in 1874 to 2,525 million pesetas in 1900 and 2,838 million pesetas in 1914. However, as shown in figure 7, most of the bank's portfolio consisted of government securities until the early twentieth century. While the private portfolio increased with the granting of the monopoly that was not the main source for the extraordinary profits.

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22 The Bank of Spain also took deposits which were lent out, so that the profits from issuing notes were necessarily intertwined with those of regular banking intermediation.
The close association between notes in circulation, profitability and portfolio is shown too in figure 7. Banknotes expanded continuously and rapidly between 1874 and 1899, from 72 million to 1,592 million pesetas. The increase continued afterwards, albeit at a slower pace, until it reached 1,974 million pesetas. Profits and dividends distributed also increased, as we have seen, but only until 1899. In the last decade and a half, the relationship between the increase of banknotes in circulation and profits ended.

After the loss of the Philippine islands and the last colonial territories in America (Cuba and Puerto Rico) in 1898 the government reduced its budgetary expenditures, introduced a fiscal reform to raise new income, and repaid a very significant proportion of the bonds that it held in the Bank's portfolio. It also prohibited government borrowing without prior written authorization by a parliamentary law. However, the Bank did not reduce the notes in circulation proportionally to the reduction of the public portfolio since part of the latter was replaced by an increase in its private asset holdings. Yet there was not enough turnover in the short term to completely substitute the public-asset portfolio with an expansion in loans and investments to the private sector.

Figure 7. The Bank of Spain's notes, earning assets and ROE

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23 The increase was possible because the treasury raised the issue threshold beyond the five times the amount of paid-up capital. In 1891, the government raised the limit on circulation to 1,500 million pesetas, and again in 1898 to 2,500 million pesetas. In both cases, the increase in the issue was related to the financial needs of the State, which required further assistance from the Bank.
5. Bank’s profits, overissue, prices and the exchange rate.

The close relationship between banknotes in circulation and the trend in profits demonstrates that the Bank of Spain abused its issuing privilege, at least for the period 1874-1899. Further evidence of overissue can be found in the positive differential between Spanish prices and international prices, as well as in the depreciation of the peseta during the same period, and particularly from 1891 onwards. As it can be seen in table 2, Spanish prices were stable between 1874 and 1880, while international prices fell; both indexes subsequently recorded a negative inflation rate until the late 1890s, although the rate of decline in Spanish prices fell short of the international rate; in other words, Spanish deflation was milder than the deflation in other European economies. The peseta depreciated from a peak of 24.6 in 1874 to the pound sterling to 30.4 in 1896, and then collapsed to a low of 39.2 pesetas per pound sterling in 1898. In fact, this monetary instability linked to the non-gold convertibility of the Spanish currency is what enabled the Bank of Spain to conduct an independent monetary policy not subject to the rules of the gold standard.

The situation changed after 1900, when steps were taken to stabilize the economy (elimination of the public deficit, reduction of the national debt, increases in interest rates). Prices fell, the differential with international prices decreased, and the peseta appreciated. The banknotes in circulation continued its upward trend, albeit at a slower pace than in the previous period, and the Bank's profits declined. The contrasting trends in the circulation of banknotes and profits corroborate our argument. In the first decade of the twentieth century, the Spanish authorities implemented a monetary stabilization programme to halt the decline of the peseta and to adopt the gold standard. Excess issue ended and the extraordinary profits of the Bank fell, as did the market price of its shares. The government's attempts to reduce its financial dependence on the Bank of Spain undoubtedly affected the profitability of the institution that consequently tried by all means to resist, or slow down, the liquidation of public assets in its balance sheets foreseen in the adjustment programme (Martínez-Ruiz and Nogues-Marco, 2014). Due to the impossibility of replacing them with other profitable assets, cash began to accumulate in the Bank's balances. At any rate, the Bank's attitude partly frustrated the alleged deflation desired by the government, preventing the complete success of the adjustment plan. Nevertheless, although the gold standard was finally not adopted, the Treasury's plans to restore the gold convertibility of the peseta (the common good) were
sufficient to cut the pervasive association between note issue and the Bank's financial returns.

Table 2. *Wholesale prices and the peseta exchange rate*

<table>
<thead>
<tr>
<th>Year</th>
<th>Spanish wholesale price index (1913=100)</th>
<th>British wholesale price index (1913=100)</th>
<th>Nominal exchange rate (pesetas per pound sterling)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1874</td>
<td>92.6</td>
<td>126.1</td>
<td>24.6</td>
</tr>
<tr>
<td>1875</td>
<td>84.1</td>
<td>120.5</td>
<td>25.0</td>
</tr>
<tr>
<td>1876</td>
<td>90.7</td>
<td>117.7</td>
<td>25.0</td>
</tr>
<tr>
<td>1877</td>
<td>92.2</td>
<td>120.5</td>
<td>25.3</td>
</tr>
<tr>
<td>1878</td>
<td>93.4</td>
<td>112.5</td>
<td>25.2</td>
</tr>
<tr>
<td>1879</td>
<td>94.9</td>
<td>107.3</td>
<td>25.3</td>
</tr>
<tr>
<td>1880</td>
<td>90.0</td>
<td>110.7</td>
<td>24.9</td>
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<td>109.6</td>
<td>25.7</td>
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<td>97.9</td>
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<td>86.8</td>
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<td>78.1</td>
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<td>99.5</td>
<td>84.3</td>
<td>34.7</td>
</tr>
<tr>
<td>1905</td>
<td>100.0</td>
<td>83.8</td>
<td>32.9</td>
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<tr>
<td>1906</td>
<td>97.3</td>
<td>86.5</td>
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<td>1907</td>
<td>101.4</td>
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<tr>
<td>1913</td>
<td>100.0</td>
<td>100.0</td>
<td>27.1</td>
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Non-convertibility into gold was good business for the Bank of Spain. Neither its directors nor its shareholders complained about the depreciation of the peseta, although plenty of criticism was aimed to the latter phenomenon. A recurring theme
among contemporary observers is that the Bank preferred to look after its own interests (maximizing its profits) before concerning itself with the common good, which in this case was the stability of the currency's external value. In fact, for the Bank of Spain's shareholders, non-convertibility into gold (the expensive metal) was good news. Convertibility into silver was not bad news either, because although it required the maintenance of an adequate level of reserves, the cost was lower and fell as the price of silver on the international market fell. As we know, the profits and dividends followed trends that contrasted with the depreciation of the peseta and the declining price of silver.

Off the gold standard and therefore without any responsibility for exchange rate stability, the managers of the Bank were only concerned with having enough silver to ensure convertibility. As the price of silver collapsed in the last quarter of the century, the public's incentive to go to the Bank window and exchange their banknotes, a convenient means of payment, for a depreciated metal disappeared in practice. The movements of the Bank's specie show that except in occasional years, there were very few outgoings of silver in exchange for notes. The issuer was thereby able to save its metal resources and devote its capital to more productive investments.

Moreover, it could have dispensed as well with the gold stock, maintaining the minimum required of it under the Decree of 1874 and subsequent legislation. However the Bank's directors were concerned about increasing the gold reserve after it fell to a low of 50 million pesetas in 1882, which was one of the reasons why the convertibility of notes into gold was limited thereafter. After the end of that decade, but especially in the following two decades and until 1914, the Bank carried out a continuous policy of buying gold to bolster its stock, which stood at 395 million pesetas in 1899 and 7,674 million pesetas in 1913 - a considerable amount. Prestige, increase confidence in the peseta value, and the attempts of Finance ministers to stabilize the peseta from 1900 onwards and adopt the gold standard lie behind the Bank's policy. In fact, the actual specie reserve (total silver and gold) was always above the legally established limit, which suggests that the Bank did not minimize its holding of such unprofitable asset. However, the level and changes in the reserve ratio (gold and silver in the Bank's safe

24 Martin-Aceña (1994); Serrano Sanz (2004); Ródenas and Bru (2006); Martín-Aceña, Martínez-Ruiz and Nogues-Marco (2011)
25 A detailed examination of the legislation concerning minimum and maximum reserves ratios for the Bank of Spain in Galvarratio (1932), pp. 212-15, 236-37; and Martín-Aceña, Martínez-Ruiz and Nogues-Marco (2011)
compared to notes in circulation and checking accounts) corroborates our initial argument. Despite the strengthening of the gold reserve and maintaining a large stock of silver, the Bank of Spain's reserve ratio was not high and was in fact lower than those of other European issuing banks, as can be seen in table 3. The Spanish reserve ratio was far below that of France and that of the Reichsbank, and even lower than that of the Bank of Portugal. Indeed, the Bank of Spain's saving on metallic reserves channelled a larger part of its available resources to income generating assets.

Table 3. Gold reserve ratios of some European central banks (%)

<table>
<thead>
<tr>
<th>Year</th>
<th>Bank of France</th>
<th>Reichsbank</th>
<th>Bank of Norway</th>
<th>Bank of Denmark</th>
<th>Bank of Portugal</th>
<th>Bank of Spain</th>
</tr>
</thead>
<tbody>
<tr>
<td>1880</td>
<td>85</td>
<td>61</td>
<td>na</td>
<td>56</td>
<td>30</td>
<td>54</td>
</tr>
<tr>
<td>1885</td>
<td>74</td>
<td>61</td>
<td>64</td>
<td>56</td>
<td>30</td>
<td>22</td>
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<tr>
<td>1890</td>
<td>80</td>
<td>60</td>
<td>69</td>
<td>62</td>
<td>39</td>
<td>22</td>
</tr>
</tbody>
</table>

na: not available
Sources: Reis (1999, tables 5.2 and 5.3) and Martín-Aceña (1994)

The Bank's high returns, a consequence of its extraordinary profits, can also be explained looking at the changes and evolution of its paid-up capital. Despite the fact that paid-up capital increased twice, it never exceeded 150 million pesetas, while total assets and banknotes in circulation increased to a much greater extent. The consequence was that the estimated solvency ratio, measured as the quotient between paid-up capital and total assets, significantly decreased from 36 percent, a normal ratio for financial institutions in the nineteenth century, to a low of 5.3 percent in 1914, which was obviously a too low a level not only for both historical and current standards. Profitability and solvency behaved therefore quite differently and in marked contrast, as shown in figure 8. The monopoly of issue, together with its relationship with the State, which implicitly guaranteed its stability and continuity, gave the Bank a privilege and a special statue that other private financial institutions lacked. As it was inconceivable that the State would allow the issue institution to go bankrupt, it could operate with very low solvency ratios. It could even be argued that the higher returns recorded were obtained at the expense of solvency levels that would today be considered very dangerous.

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26 However, the evolution of the Bank of Spain's solvency ratio is similar to that observed for the other three banks.
Figure 8. Bank of Spain: Solvency Ratio and ROE. In percentages

Solvency = paid-up capital / total assets
Sources: Banco de España, Memorias, 1874-1913

Conclusions

The Bank of Spain was one of the cornerstones of the State, in a country in which modern administrative mechanisms developed late\textsuperscript{27}. By becoming the State's Treasury in Spain and abroad, and the sole issuer of banknotes throughout the country and gradually extending its network of branches throughout the provinces, the Bank of Spain was a key player in the process of market integration and one of the essential pillars of the State.

This "nation-building" task was not unlike the role played by other national banks similar to the Bank of Spain that were established to meet their Treasury's financial needs. As highlighted by Capie, Goodhart and Schnadt (1994) in their historical review of the development of central banks, both the older ones, as the Bank of England (established 1694) and the Bank of France (1800), and those who followed them all over Europe, such as the Bank of Portugal (1846), the Reichsbank (1876) and the Banca d'Italia (1893), helped to shape national identity and consolidate territorial unity, by nationalizing and unifying the monetary system, establishing national systems of payment, and of course, assisting the financing of the countries' public treasuries.

\textsuperscript{27} Fusi (2000), pp. 165-66.
However, our study has shown that the Bank of Spain did not become a true central bank, despite being granted the monopoly of issue as early as 1874. The Bank's notes were distributed throughout the country and by 1900 accounted for 67 percent of the currency in circulation and 49 percent of the money supply (M2). They were the primary means of payment in the country. The monopoly of issue enabled the Bank of Spain to obtain high returns and extraordinary profits, but it did not lead it to assume some of the traditional roles assigned to central banks, such as being a lender of last resort and the guarantor of exchange rate stability. As a private business institution, the Bank of Spain used its position to maximize profits. It prioritized its own private interest over the public interest. It maintained the convertibility of its notes into silver, which was irrelevant in a world dominated by the gold standard. The Bank of Spain was comfortable with a monetary system with a quasi "corso forzoso", given the strong depreciation of silver, and never wanted to alter a "status quo" that enabled it to obtain healthy profits and distribute generous dividends. It was only from 1900 onwards, when the State sought to adopt the gold standard, balancing public accounts and limiting the Bank's issuing capacity, that profits and notes in circulation failed to march in step. Indeed, it was in the twentieth century when gradually, and not without some resistance, the Bank of Spain ceased to be a commercial financial company seeking to maximize profits and began to concern itself with the "common good".

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