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Concha Betrán,
University of Valencia

Maria A. Pon,
University of Valencia

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Concha Betrán,
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Abstract

Among the characteristics of Spanish financial crises over the last 165 years, we highlight their relatively high frequency and, since 1973, their severity (including 2008, the most severe crisis yet). By analysing monetary policy regimes, financial structure, and the main crisis determinants (factors associated with crises), as well as the resolution to the crises, we can conclude that capital flow bonanzas are a key factor in most financial crises; when a capital flow bonanza occurred, it increased both the probability of a subsequent crisis and its severity.

JEL Codes: G01, N20 , F32

Keywords: Capital flow bonanzas, Financial crises, Spain

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1. Introduction

This paper presents historical evidence of the causes and resolution of Spanish financial crises, considering their frequency and severity within the context of the different financial and monetary policy regimes over the last 165 years. It is our interpretation that although capital inflows can have positive effects on the economy (especially when the level of domestic savings is low), by providing additional financing and enabling the country to import intermediate goods and technology, it can also have adverse effects. Capital flow bonanzas fuel asset booms, encouraging excessive risk-taking when banks invest in booming sectors and, consequently, increase both the probability of a crisis occurring and its severity. Countries that are less dependent on foreign capital are less vulnerable to these effects.

In this paper, we consider different types of crises: banking (financial problems affecting banks' balance sheets lead to bailouts, suspensions, mergers and government interventions), currency (a major devaluation of currency or government intervention triggers a rise in interest rates to maintain the value of the currency), stock market (a fall in assets prices of more than 15%) and sovereign debt (when government cannot face budget deficit and public debt payments, and thus default or restructures old debt)[1]. In Spain's financial history, these different types of crises have often occurred simultaneously[2].

Spain follows a similar pattern to the world average in terms of the frequency of its crises, but differs in terms of severity. As in the rest of the world, Spanish crises occurred most frequently in the interwar years, 1919-1935, followed by the recent period of 1973-

[1] In our definition of sovereign debt, we only consider public debt problems and not private debt difficulties (the latter was not relevant until the 2008 crisis).

[2] For a classification of crises and an account of Spanish, crises see Betrán, Martín-Aceña and Pons (2012).

2015; in line with international patterns, there were fewer crises during the Bretton Woods period. Conversely, during the period 1850-1913, the frequency of crises in Spain was significantly higher than in the world as a whole. However, the severity of the crises, measured as output loss, indicates a different pattern. The recent period, 1973-2015, and the nineteenth-century crises (1850-1913) have, by this measure, registered the most severe crises in Spanish financial history. This result contrasts with the world average, where the interwar period was the worst in terms of crisis severity. Why did this happen in Spain? What common characteristics link these two periods (1850-1913 and 1973-2015)?

In this paper, we present an in-depth analysis of the most important Spanish financial crises in the last 165 years. We examine how the combination of different characteristics occurred in each episode. We consider how the monetary policy regime (in terms of capital controls and the type of exchange rate) and financial structure (the regulatory framework, banking expansion and financial innovation) affected financial stability. In addition, we explore whether the central bank acted as a lender of last resort (LLR), whether there was deposit insurance, whether there were factors such as external imbalances, credit expansion and public sector problems prior to the crisis, and whether the Spanish crisis coincided with an international one. As the resolution of the crisis (in terms of banking restructuring and fiscal contribution) and its effects on the financial and public sector affect crisis severity, we also take them into account. In short, we study both the causes and the resolution of the crises, in order to explain their frequency and severity.

The main conclusions are twofold. First, the monetary policy regime affected the frequency but not the severity of Spanish crises. Second, net capital flows (or scarcity of savings and substantial current account imbalances) prior to the crises made them more frequent and disruptive, and required tougher adjustments to the economy, leading to

larger output losses. These capital flow bonanzas were associated with processes of liberalization and financial expansion that contributed to financial crises. The lessons from history are that although capital flow bonanzas positively affected economic growth they also increased financial vulnerability, making crises more likely to occur and more severe.

2. Spanish crisis frequency and severity: an international perspective

Table 1 shows the number, frequency, severity and duration of crises in Spain and the world average in different periods. We divide the whole period of 165 years into 4 subperiods relating to phases in the international monetary system: 1) 1850-1913, the period of bimetallism and the gold standard; 2) 1919-1935, the interwar years and the establishment of the gold exchange standard in 1926; 3) 1945-1972, the Bretton Wood system, with the dollar standard (with monetary autonomy, stable or fixed-but-adjustable exchange rates and capital controls); and 4) 1973-2015, after Bretton Woods and with most currencies in a managed float regime.

As Bordo et al. (2001) point out for the world in general, frequency is measured by the number of crises as a percentage of the number of years in the period in question, while severity is the cumulative loss of output (output loss), estimated by calculating the differences between pre-crisis trend growth and output growth (GDP growth) up to the point when annual output growth has returned to its pre-crisis trend. Trend growth is estimated differently, using the average growth for periods delimited by two peak years (Prados 2003) instead of the five year previous GDP growth average estimated by Bordo et al. (2001). Duration is considered as the number of years until GDP growth returns to its pre-crisis trend (Figure 1).

The main differences are that Spanish crises have been more frequent than in the world as a whole, with the exception of the Bretton Woods period when both Spanish and world crises were relatively uncommon. However, crisis severity has been higher in Spain since 1973 than in previous periods, not only due to the major impact of the 2008 crisis; indeed, it was higher in both the 1973-2000 and 1973-2015 periods (-14.3 and -16.9 per cent respectively). By contrast, internationally the most severe crises occurred in the interwar years. In terms of the type of crisis, banking and currency (twin crisis) but combined with other type of crises are the most frequent. The high frequency of stock market crises can also be observed.

Table 2 shows the severity of each crisis. The average severity masks important differences between crises in each period. In general, as we can see in Table 2, banking and triple crises including a banking one are the most severe in Spanish history. A crisis is considered twin or triple when different types of financial crises occur within less than two years of each other. Banking and currency crises are normally twinned, meaning that their incidence is correlated (Kaminsky and Reinhart 1999).

During the interwar years, Spanish crises were not very severe, as a consequence of its neutrality during WWI; however, the Great Depression resulted in a high output loss (around -13 per cent). Similar output losses were produced in some of the nineteenth-century crises, such as those of 1866, 1882 and 1892, with an output loss of -11.3, -13.52 and -11.8 per cent respectively. Nevertheless, world interwar crises were more severe, especially after WWI, with the Great Depression affecting most countries, both developed and developing ones.

As mentioned above, Spanish crises have been significantly more severe since 1973. The financial crises of 1976/77[3] and 1982 resulted in output losses of close to 26 per cent and 24 per cent, respectively. Moreover, these GDP losses were surpassed by the 2008 crisis, with an output loss of 27.3 per cent. To compare Spain with the world average, we use the calculation proposed by Laeven and Valencia (2013) for a representative world sample. Although the 2008 crisis was a major international crisis, it predominantly affected developed countries. Latin American and Asian countries were not impacted (although they suffered severe crises in the 1980s and 1990s, respectively): this could be the reason why the world average severity of the Great Recession was lower than in Spain. If we consider the severity estimates reported by Laeven and Valencia (2013)[4] for Spain and the world average for the period 1970-2011, we observe in Table 1 that Spanish crises were more severe; indeed, their impact was double that of the world average reported by Bordo et al. (2001). Nevertheless, the impact of post-1973 Spanish crises was greater than those in the pre-Bretton Woods period, irrespective of whether or not the 2008 crisis is included. Duration is also correlated with severity; crises last longer in the post-Bretton-Woods period (1973-2000 and 1973-2015). Looking at the impact by crisis, the most severe crises (1882, 1892, 1976, 1982 and 2008) typically lasted between five and six years. As Table 2 and Figure 1 indicate, with the exception of the 1945-1972 period, banking crises occurred most frequently (alone or combined with other types of crisis) and crisis duration was longer in the nineteenth century (1850-1899) and after 1973.

[3] A currency crisis in 1976 and a banking crisis in 1977. In 1982, there was a major devaluation of currency that triggered some bank interventions and bailouts, such as in 1985 with the Rumasa group.

[4] Laeven and Valencia (2013) used a similar approach to calculate output loss but considering the trend growth as the mean of the previous three years' GDP growth obtained by means of an HP filter. However, their crisis dataset only includes the main systemic banking crises.

The question we seek to answer is why the crises followed this pattern of frequency and severity in the Spanish case. To that end, the first step is to examine the financial stability prior to each crisis episode and its links with the main characteristics of the pre-crisis monetary policy regime as well as the financial and banking structure. Further, we explore how each crisis was resolved.

3. Monetary policy regime and financial structure as a source of financial instability

This section explains how the monetary policy regime and financial structure could have affected financial stability throughout the period 1850-2015. The monetary policy regime is characterized by the restrictions that exchange rate and capital controls impose in terms of three objectives: stable exchange rates, free international capital mobility and autonomous monetary policy. Moreover, these objectives require a trade-off; only two out of the three desirable policy goals can be achieved (Obstfeld, Shambaugh and Taylor 2005). Foregoing one of these objectives could be a source of vulnerability. Table 3 shows the main characteristics of the monetary policy regime, in particular, whether there was a fixed or a floating exchange rate regime in the different crises, as well as the existence or absence of capital controls.

In relation to exchange rates, the literature considers that fixed exchange rates should help financial stability (Bordo et al. 2001, Eichengreen and Rose 2004), although according to Eichengreen (1998) there is not a simple correlation between the exchange rate regime and banking crises; rather, it depends on the source of disturbance. Regarding capital controls, Bordo et al. (2001) maintain that whereas banking crises are less likely with capital controls, as was the case during the Bretton Woods period, currency crises are more frequent when capital controls are in place.

How is financial structure associated with financial stability? With respect to the role of the central bank, financial stability is one of the key policy objectives of this institution and the incidence of crises could be related to the presence of an LLR, especially pre-1930s when banking crises took the form of banking panics. However, the introduction of deposit protection schemes[5] led to a reduction in banking panics; moreover, banking crises tended to be fiscally resolved by governments providing fiscal support to bail out banks considered "too big to fail" in order to prevent a credit crunch. Table 3 also provides information about factors that determine the financial structure, such as the regulatory framework, financial and banking expansion, and financial innovation. Processes of liberalization and banking expansion could boost credit growth (Table 4) due to a loosening in banks' lending standards, which could in turn trigger a crisis.

There are other factors that can also affect financial instability, such as the current account imbalances and public sector problems in the years prior to each crisis (Table 4). Large capital inflows may produce an appreciation of the currency, which in turn may lead to a contraction of exports that reduces output and triggers a reversal of capital flows. Another potential mechanism is the inability of the financial sector to efficiently absorb these inflows, which could lead to the formation of bubbles and increase instability. Public deficits and fiscal shocks also destabilize the financial system by increasing interest rates, affecting lending conditions and risk, and consequently lowering investment and generating inflation (especially when deficits are financed by monetary expansion). Finally, as crisis severity also depends on the resolution of the crisis, Table 4

[5] The US was the first country to adopt deposit insurance after the Great Depression (in 1934), with another nine countries (including Canada, Germany and Norway) introducing this measure in the 1960s. However, it was more widely adopted in the 1970s and 1980s (Dermigüc-Kunt, Karocaovali and Laeven 2005).

offers information about the impact of the crisis on the banking sector (number of affected banks and/or failures) and the financial system size (whether or not each crisis resulted in a contraction of total financial sector assets), whether the crisis was fiscally resolved, whether there was an increase in public debt after the crisis, and finally, how regulation changed in response to the crisis.

1850-1913

Regarding the monetary policy regime, Spain had a bimetallic monetary system until 1883. In the mid-nineteenth century, there was a wide variety of different coins in circulation and between 1848 and 1868 successive reforms attempted to create a silver coin to bring Spanish coinage closer in line with that of France. In 1868, the *peseta* was established as the official monetary unit of the country and notes were convertible at the official rate into both gold and silver (Martín-Aceña 2017). In 1883, gold convertibility was suspended to protect the metallic reserves of the Bank of Spain after the 1882 crisis. This generated a sharp contraction in the inflow of foreign capital, and the *peseta* entered into a floating exchange rate system. The subsequent period, 1882-1913, was characterized by a floating exchange rate which coincided with capital mobility (Table 3), unlike the general situation in most other countries over this period (which had fixed exchange rates and capital mobility). In the period 1850-1881, with fixed exchange rates, Spain had three crises, representing a frequency of 9.4 per cent. When the country changed to a floating exchange rate, the frequency rose to 12.5 per cent (four crises in the period from 1882 to 1913).

Regarding the role of the central bank, the Bank of Spain was strongly constrained by the Treasury and its financial needs[6]. Since 1856, a bank in each province had held the

[6] Public deficits were especially large at the end of the century as a consequence of the colonial wars in Cuba, Puerto Rico and the Philippines. The public debt to GDP ratio increased

right to issue; only in 1874 was the Bank of Spain granted the monopoly of issue, thereby achieving a dominant position in the financial system. The Bank performed many functions on behalf of the State, such as being responsible for the collection of direct and property taxes or servicing the public debt. However, the Bank did not assume the responsibilities of LLR until 1914 (Martín-Aceña 2017).

The financial structure was shaped by the 1856 law that established a relatively open and liberal financial framework, and allowed an increase in the number of credit institutions and issuing banks (1856-1866), leading to a significant credit expansion (Table 4). Financial expansion was also linked to foreign capital inflows, which, in addition to the banking sector, went mainly to railway construction, mining, and public budget deficits covered by foreign debts.

The main question that arises in relation to the period 1850-1913 is why the frequency of crises is above the world average. As we see in the next section, there are a number of potential sources of the higher instability in this period relative to international standards. These include the monetary policy regime (with the floating exchange rate); the globalization of capital, which enabled the government to borrow from abroad; capital flow bonanzas in railways and mining, which facilitated the creation of bubbles and were followed by sudden stops; and the banking expansion linked to the 1856 liberal regulatory framework. Regarding crisis severity, some of the nineteenth-century crises were particularly severe, measured by output loss, such as those of 1882 (-13.5 per cent), 1890/92 (-11.8 per cent), 1866 (-11.3 per cent) and 1874 (-10.6 per cent), which surpassed both the Spanish average (-8 per cent) and the world average (-9.8 per cent) for the period 1850-1913.

enormously from 1866 to 1875 (from 71.2 to 154.8 per cent), with the foreign debt to GDP ratio rising from 15.9 to 51.4 per cent in the same period (Comín 2017).

1914-1935

WWI gave rise to high levels of financial instability. Most countries suspended convertibility and introduced capital controls; indeed, the Spanish monetary regime was not so different to other countries in this regard. As a consequence of having remained neutral during the war, Spain's gold reserves rose from 720 million gold pesetas in 1914 to 2,554 million gold pesetas in 1921, and it ranked as the world's fourth largest gold reserve (Martín-Aceña 2001). This increase in gold reserves prompted the Spanish Government to assess the possibility of joining the gold standard (*Comisión del Patrón Oro* 1929). However, this was eventually ruled out due to tensions in international markets starting in 1928, and especially after the 1931 crisis, when the pound sterling abandoned the gold standard. There was a floating exchange rate system in place but partial exchange controls were introduced in 1919 to contain the depreciation of the *peseta;* it remained stable from 1922 to 1925, and even appreciated in 1926 and 1927. However, in 1928 it again entered a persistent decline, leading to the introduction of systematic exchange rate controls characterized as a "dirty" or managed float system (Martín-Aceña, Martínez and Nogues 2012). The floating exchange rate may be a factor in the high frequency of crises in this period, although their severity was relatively low by international standards. Regarding capital mobility, capital controls were introduced from 1919 (Eguidazu 1978, Table 3).

Current account surpluses, which were especially high from 1915 to 1919, even higher than in the 1890s (Figure 2), were used in the repatriation of foreign public debt, the acquisition of Spanish private assets abroad, the purchase of gold and stocking foreign currencies by the Bank of Spain (Sudrià 1990). In the case of foreign public debt, an amount of 500 million current *pesetas* was expatriated and bought by Spanish citizens; in some cases it was converted into domestic debt encouraged by the Spanish government.

As a result, foreign private assets and foreign public debt, which was high throughout the nineteenth century, disappeared.

The financial structure was also affected by neutrality because capital accumulation in the hands of entrepreneurs and speculators during war times stimulated banking expansion. It is worth noting the growth of big banks established at the beginning of the twentieth century, such as the *Banco Hispano Americano* (1900), *Banco Español de Crédito* (1902) or *Banco Central* (1919), the rise in the number of banks between 1915 and 1920 (from 52 to 91) and the increase in total bank assets, bank deposits and loans (Table 4). However, a problematic aspect of this expansion was that it occurred with no kind of specialization, very low capital, unprofessional managers and without the supervision and intervention of the Bank of Spain to prevent banking problems (Massó Escofet 1917). When the war finished, there was a wave of bank insolvencies, mainly in Catalonia.

The main effect of the 1920 crisis was a regulatory change, the 1921 law, that created a new legislative framework for the Spanish financial system[7] and established certain controls and supervision of banking operations, along with a declaration assigning the function of the LLR to the Bank of Spain (Martín-Aceña, Pons and Betrán 2014). However, the reforms did not prevent the banking crises that emerged in 1924 and 1931, and the Bank of Spain was still reluctant to act as the LLR (Martín-Aceña 2013, 2017)[8]. Although the banking crisis did not lead to regulatory reform, the 1931 Banking Law was established to increase the government's control over the Bank of Spain. Specifically, this

[7] The interwar period was also a turning point for banking regulation in many countries such as Denmark (1919), Austria (1924-25), Czechoslovakia (1924), Norway (1925), Portugal (1925), Italy (1926) and Japan (1927).

[8] The Bank of Spain helped the Banco Central in 1914 and also intervened in the 1931 crisis. Despite of this, the Bank decided to provide a very limited LLR approach to helping those banks with temporary liquidity restrictions.

law enabled the government to protect the exchange rate by allowing the use of the gold reserves when a currency crisis occurred.

The frequency of crises during the interwar period was high (even higher than the world average) but the 1914, 1921 and 1924 crises had little impact (zero in terms of output loss in the case of the 1921 and 1924 crises), as can be seen in Table 2. The low severity of these crises could be related to Spain's neutrality, as well as the huge positive trade balance and large accumulation of reserves from 1914 to 1919, which enabled the country to pay debt, assets and bonds in foreign hands, both public and private (Sardá 1948, Sudrià 1990, Betrán and Pons 2019). This high frequency but low severity of crises (with the exception of the 1931 crisis, which was more severe and had an output loss similar to other nineteenth-century crises, such as that of 1882), happened in a context of dirty floating and significant banking and credit expansion.

1940-1972

In terms of its monetary regime, the Spanish economy during this period was not unlike that of most other countries: the *peseta* was subject to a fixed exchange rate and capital controls. However, with respect to the Bank of Spain's role, although it remained a private bank during most of the period, this institution was entirely subordinated to the government's interests.

Regarding the financial structure, from the end of WWII onwards, financial regulation generally became more intense, but Spanish regulation was even more interventionist than other European legislations. The 1946 Banking Law introduced barriers to entry and a wide-ranging package of regulations (Martín-Aceña, Betrán and Pons 2014). Although liberalization got underway in Spain during the 1950s, it was only weakly reflected in the 1962 Banking Law, and later on in 1969. In 1962, the Bank of

Spain was nationalized and some monetary instruments were implemented, such as cash and liquidity ratios, and a new public-debt ratio and reserve requirement. Despite this, the Bank of Spain was not given full autonomy, with monetary policy remaining in the hands of the Ministry of Finance (Martín-Aceña 2017). The Spanish case has all the features, without exception, that characterize a repressed financial system, according to the definition provided by Bordo (2018): interest controls, quantitative controls on credit, state interventionism or ownership of the financial system, government intervention in the allocation of credit and requirements that commercial banks hold government bonds. The financial structure was characterized by a concentrated banking sector in which the so-called Big Five banks achieved a dominant position.

As in the rest of the world, from 1940 to 1972 there were relatively few crises in Spain. According to Bordo et al. (2001), regulation of domestic and international markets suppressed banking crises while capital controls increased currency crises. In Spain, there were no banking crises because struggling banks and savings banks were systematically rescued by the Bank of Spain. Mergers and acquisitions of banks in trouble by sound banks was the other alternative used to avoid bankruptcies[9]. The timid reforms introduced in 1962 and 1969 had no consequences in terms of financial stability. The three crises that occurred in this period were currency crises, with the 1958 crisis being the most severe (a currency crisis as well as a stock market and debt crisis).

1973-2015

As in many countries, the post Bretton Woods era (1973-2015) in Spain was characterized by a slow but continuous process of liberalization. A floating exchange rate was in place from 1974 until 1989, when the peseta returned to a fixed exchange rate as

[9] There was a total of 109 mergers between 1941 and 1970, although there were no mergers between the core banks.

a consequence of joining the European Exchange Rate Mechanism (Martín-Aceña 2017). In addition, capital controls were in effect until the late 1980s and they were full liberalized in 1994[10].

The financial structure was shaped by the liberalization process; in particular, interest rates and other controls were reduced in 1977, and the entry of foreign banks was allowed in 1978. There was an increase in banking competition that resulted in banks expanding their geographical and business areas, which in turn drove up their operational costs. In Spain, as in other countries, there was an increase in financial instability because the above mentioned process of liberalization was not accompanied by an efficient system of regulation and supervision. The main difference between Spain and other countries was the higher frequency as well as the higher severity of crises.

The Bank of Spain assumed the role of a modern central bank[11] and for the first time the bank became the *de facto* monetary authority, acting as the LLR (Martín-Aceña 2017). However, when the 1977 crisis erupted, the Ministry of Finance and the Bank of Spain were caught unprepared: the authorities had neither the legal instruments, nor the institutional mechanisms to face the turmoil caused by the massive banks' insolvencies. The Bank had to implement emergency measures to prevent bank runs, to provide limited guarantees to depositors with the adoption of a deposit insurance scheme (1977), and to establish an appropriate, rapid mechanism to intervene in banks,[12] thereby playing a crucial role in the process of restructuring the banking sector (Table 4).

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[10] Capital controls ended earlier in countries such as Denmark and Germany, but Spain was in line with other countries such as France and Italy, where capital controls ended in the late 1980s (Forero-Laverde 2018).

[11] That culminated with the Law of Autonomy of 1994, which guaranteed the autonomy of the Bank with respect to the government.

[12] In 1977, a Deposit Guarantee Fund (*Fondo Garantía de Depositos*) was established and in 1978 the Banking Corporation (*Corporación Bancaria*) was created. The objective of this corporation was similar to that of the Fund: to intervene in institutions in trouble, remove and substitute the administrators, reorganize the banks, and in due time, to return them to the private sector.

Spain's entry into the European Economic and Monetary Union in 1999 and the loss of certain policy instruments, in particular the monetary and exchange rate policies, was pivotal: monetary policy was defined by the European Central Bank, and the Bank of Spain had the function of implementing the Eurosystem's monetary policy (Martín-Aceña 2017). Monetary integration along with the acceleration of the globalization of capital can explain the growing current account imbalances Spain experienced in those years.

From the 1990s to 2007, there was also a process of deregulation and re-regulation of the financial sector aimed at adapting it to European Union regulations. As a consequence, the expansion of banks—on this occasion saving banks—happened at the same time as low interest rates produced an aggressive, risky lending policy, especially in the building sector (mortgages and loans to real estate developers). The result was the creation of a housing bubble, which burst in 2008.

Regarding the period 1973-2015, the key question that arises is why the frequency and severity of Spanish crises was above the world average, when its monetary conditions were not so different to other European countries. There are two possible explanations: first, the level of financial repression in the previous period was higher than in other countries, which could raise the likelihood of crises following liberalization; and second, other factors such as the expansion of the banking sector and the growth in loans fed by the high current account imbalances.

The main conclusion that can be drawn is that in Spain the monetary policy regime affected the frequency of crises but not the severity. As mentioned above, and just as in other countries, the frequency of crises is higher in periods with a floating exchange rate regime and globalisation of capital. Regarding the financial structure, the change towards

more liberal regulation in some periods, without an improvement in supervision, increased banking expansion and/or risky financial innovations (sometimes with a credit expansion and sometimes without), which could provoke financial crises. However, in terms of severity, the period with the most severe crises (1973-2015), featured a similar monetary policy regime to other countries. Therefore, it would appear that the higher instability and severity of Spanish crises are rooted in other factors.

4. Determinants of Spanish financial crises: historical narrative of the main crises

Empirical evidence shows that the factors behind each financial crisis are unique to the crisis in question; moreover, financial crises have multiple, varied causes (Bordo 2018). An inaccurate evaluation of risk, poor banking practices, excessive risk concentration, changes in regulation, financial innovations, asset booms (stock market or housing) or macroeconomic difficulties could all be related to banking crises. Exchange rate problems and current account imbalances are behind most currency crises, although banking and currency problems are strongly related as the third-generation models indicate (Krugman 1999). Most debt crises are related to public finance problems and public debt management but they could also be influenced/caused by banking and currency problems (Bordo and Meissner 2016). Finally, stock market crises could be the result of banking problems (and there is bidirectional causality between these two phenomena) but also are linked to public debt difficulties (Comín and Cuevas 2018).

In this section, we use a narrative approach to disentangle the importance of the main determinants of the most severe Spanish financial crises. To this end, we select some of the most characteristic crises of each period, with different monetary policy regimes and financial structures, as shown in Tables 3 and 4. We survey the main assessments of the Spanish literature on financial crises, contemporary views and some recent empirical

studies (Betrán, Martín-Aceña and Pons 2012, Betrán and Pons 2017, Betrán and Pons 2019). As representative crises of the pre-1913 period, we describe two of the most severe in terms of output loss and repercussions on the financial sector and the economy: 1866 and 1882. For the interwar years, we present the narrative of the 1931 crisis, the most severe of the period but also the most relevant in international terms. In the last period, 1970-2015, we explain the two foremost Spanish financial crises in history: 1976/82 and 2008, which in addition to high output losses also entailed major restructuring of the financial sector.

1866:

There were two main factors involved in this crisis: first, the change in the institutional framework towards a more liberal regime that positively affected the economy and prompted financial expansion and foreign capital inflows; and second, the foreign capital inflows which partly financed the investment in infrastructures and the public deficits. This source of financing was interrupted by the bankruptcy of Overend Gurney in London, which produced a sudden stop with huge implications in terms of GDP loss.

After the liberal revolution[13], in the 1850s, there was a great economic expansion that has been interpreted as the start of capitalism and industrialization in Spain. Institutional change aimed at promoting economic growth was accompanied by several laws such as the Disentailment Act[14] in 1845 and 1855, the Railway Law in 1855 and the Bank of Issue Law and the Credit Company Law in 1856. Railway construction was fed by foreign capital inflow, but this industry also received numerous benefits and

[13] Between 1832 and 1869, there were passed some liberals reforms that undermined the Old Regime (Disentailment Acts, abolition of the feudal regimen, a tax reform….).

[14] This law privatized land formerly owned by the Catholic Church, religious orders and communal land owned by municipalities.

government subsidies. The 1855 Railway Law allowed the importation of all construction materials and tax-free fuels for the following 10 years. In the period 1860-1870, foreign capital accounted for an average of around 27 per cent of total investment and around 50-60 per cent of total railway investment[15] (Tortella 1994). Foreign capital inflows increased, and as a result, in 1861 the Bank of Spain reduced the interest rate to moderate foreign capital inflows and the debt burden, a measure which was considered exceptional at the time (Pastor 1866).

Railway construction was very rapid but dependent on imports[16] (Tortella 1973, Nadal 1975, Gomez Mendoza 1989) and produced huge trade deficits (2.5 per cent of GDP in the period 1862-1866[17], see Figure 2). High current account imbalances along with public budget deficits covered by foreign debts, were considered by a contemporary industrialist to be the main reason for the severity of the 1866 crisis (Guell y Ferrer 1869).

Institutional change promoted financial expansion. The 1856 Bank of Issue Law and the Credit Company Law established a relatively open and liberal financial framework[18], which enabled an increase in the number of credit societies (rising from 3 to 21) and issuing banks (from 6 to 32) between 1856 and 1866. Six savings banks were also established (Martín-Aceña 2005, Table 3). Banks and credit societies invested in the

[15] French and Belgian investors, such as Péreire and Rothschild, came to Spain; these investment groups were related to the *Bourse* of Paris.

[16] The lack of a well-developed iron and metal industry limited the possibility of supplying the railway industry with national products. In 1875-79 railway materials represented around 3.6 per cent of total imports (Prados 1988), but other sectors were also affected by the railway expansion, such as coal, iron and steel, wood and machinery.

[17] This was similar to the trade deficit caused by the loss of the Spanish colonies in the 1820s (Carreras and Tafunell 2003)

[18] This regulation was linked to the liberal ideology of the period but also to the need to promote the development of the Spanish financial system (Tortella 1973, Tedde 1974, Martín-Aceña, Pons and Betrán 2014).

railway sector and implemented high-risk financial innovations[19], which fostered the expansion of credit and fiduciary money (Navas and Sudrià 2007, Sudrià 2014, Sudrià and Blasco 2016).

The international context during the 1860s was unstable[20]. In Britain, the Bank of England increased the interest rate from 4 to 9 per cent from October 1863 to October 1864, in order to prevent the flight of capital. Similar measures were adopted by both the Bank of France and the Bank of Spain. In these negative circumstances, the heavy losses suffered by most railway firms in Spain[21] precipitated the stock market crash on the Paris Stock Exchange and a sudden reduction in capital inflows in 1864. The situation worsened further still in 1866 as a consequence of the failure of Overend, Gurney & Company, a London discount bank (Tedde 2010 and Table 3). The stock market crash mainly affected credit societies involved in the railway sector.

The public sector problems began to appear in the early 1860s, when the Spanish government started facing serious financial difficulties. Financial funds were raised through the sale of disentailed land at public auctions, but when the money had been spent and public deficits returned, the government was forced to seek financing through domestic public debt and loans from the Bank of Spain. The international crisis put a stop to the sale of public bonds in foreign markets[22].

The loans given to the Spanish government by the Bank of Spain, the banking

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[19] The main financial innovation was that credit societies could issue bonds with term maturity of between 30 days and a year, and these short term bonds circulated as banknotes and contributed to the Spanish monetary expansion (Tortella 1973, Navas and Sudrià 2007).

[20] Instability was related to the depressive effects of the end of the American civil war, British industrial problems due to the lack of cotton imports and the lack of vitality of the international Stock Market (Broder 2000).

[21] As Luis Pastor (1866), who was Ministry of Finance in the 1850s, explained, the "railroads built did not produce high enough yields to pay interest to either the shareholders or the bondholders; and there was a lack of capital to finance future railroad constructions".

[22] Foreign debt represented around 15-17 per cent of total public debt in the mid-1860s.

expansion and some financial practices[23] which stimulated credit and fiduciary money growth all led to financial instability and produced a scarcity of metal from 1863 onwards. The Bank of Spain (1877) affirmed that the lack of metallic money was due to government restrictions on importing gold and silver. When the crisis hit, the government authorized metal imports but by this time the price of silver had increased so much that the government could not afford it (Bank of Spain 1877). This situation affected the Bank of Spain, and when it could not make payments, a bank panic ensued[24]. By the end of the crisis, 40 per cent of Spanish banks had officially been liquidated. This represented the first restructuring of the Spanish financial system, to a degree that remained unmatched until the bank restructuring process of the 1970s.

There was no consensus among contemporary observers about the origin of the 1866 crisis. Whereas Pastor (1866) emphasized the public deficit as its main determinant, Vazquez Queipo (1866) insisted on the problems associated with speculation and the issue of money, while Guell y Ferrer (1869) linked it to public budget deficits covered by foreign debts and to what he viewed as an extremely open or liberal trade tariff policy. The most recent works about the 1866 crisis have centred on the debate about the internal versus external origin of the crisis. Navas and Sudrià (2007) and Sudrià (2014) consider that the international contagion was not relevant to Spain; instead they concentrate on the impact of banking expansion, the implementation of high-risk financial innovations[25], the

[23] According to Vázquez Queipo (1866): "How does the government return to the shareholders the capital taken dishonestly by the director or the cashier of the credit society? How can one prevent a railway that fraudulently squandered double its budget from yielding a meagre if not non-existent return for its shareholders? And finally, how does one return to the market the wasted capital lost through fraud or recklessness?"

[24] It affected to the The *Compañia General de Crédito*, that was the first credit society to be liquidated in 1864, followed by the *Banco de Valladolid*.

[25] The main financial innovation was that credit societies could issue bonds with a term maturity of between 30 days and a year. The amount of bonds and deposits and current accounts could not be higher than two times the paid-up capital. Eventually, these short term bonds circulated as

unscrupulous and illegal practices of many financial institutions, the high-risk concentration in the railway sector and the growing public sector deficit. Tedde (2010) and Moro, Nuño and Tedde (2015), however, emphasize the role of capital inflows, which fuelled speculative booms, and the sudden stop that occurred in the mid-1860s as a consequence of the international crisis[26] (see Figure 3).

1882:

Behind the 1882 "triple" crisis was the so-called *febre d´or* (gold fever in Catalan), and the bursting of the stock bubble created by the boom in Spanish wine exports due to the French phylloxera plague. The market bubble coincided with a railway construction boom in the south-east of Europe, which fuelled a stock market bubble in France. The crash began in the Paris stock exchange in January 1882 but the contagion soon spread to the Barcelona and Madrid stock exchanges, primarily affecting railway securities, and to a lesser extent banking, other industrial securities and finally, public debt. When the international crisis erupted, interest rates rose, foreign investment halted, Spanish banks experienced huge withdrawals and the Bank of Spain saw a major fall in its gold reserves (Catalán and Sánchez 2013). The stock market crash caused a banking crisis (as a consequence of withdrawals and the large industrial portfolios of the Spanish banks) and between 1882 and 1884, 20 banks disappeared, most of them from Barcelona (see Table 3).

The stock market boom was fuelled not only by credit expansion (especially between 1877 and 1881, with an increase in the real credit growth in the three years prior

banknotes and contributed to the Spanish monetary expansion (Tortella 1973, Navas and Sudrià 2007).

[26] Recently, Martín-Aceña (2013) and Martín-Aceña and Nogués (2013) have incorporated two new variables into the debate: the generation of a construction bubble (not only linked to the railways construction but also to housing) and a credit boom in the years prior to the crisis. Finally, Comín and Hernández (2013) consider that the crisis was also associated with a depressive agrarian trend which started in 1864.

to the 1882 crisis of 35.76 per cent, as seen in Table 3) but also by foreign investment; although the net capital inflows were clearly below those of the 1860s, they did reach high levels in certain years, particularly 1876[27]. Foreign capital inflows financed the railways and the booming mining sector[28].

The Spanish economic situation had begun to deteriorate even before the crash: in 1881, the government decreed a massive conversion of public debt (the Camacho restructuring) as a consequence of the huge public debt-to-GDP ratio, which peaked at 171.73 per cent in 1879. Public debt was divided into national and foreign debt, with only the latter being paid in gold in order to guarantee the payment in gold to foreign bondholders (Comín 2013). This resulted in a massive capital flight and a strong sudden stop in 1880 (Prados 2010). As gold flowed out of the country, the Bank of Spain, faced with large reserve losses, was forced to suspend gold convertibility. Since convertibility was never resumed, Spain remained off the gold standard in 1883 and detached from the international monetary system throughout the period (Martín-Aceña 1994).

The 1866 and 1882 crises shared some common characteristics. First, there was an institutional change that fostered economic growth (especially in some specific sectors such as railways, mining and wine exports) as well as financial expansion (banking expansion and credit growth). Second, there was an asset boom fuelled by foreign capital

[27] The average ratio of net flows of foreign capital to total gross investment in Spain from 1856 to 1873 -the period with more accurate data for Spain- was around 32 per cent (Moro, Nuño and Tedde 2015). This ratio is markedly lower than in Argentina (70 per cent) or Mexico (75 per cent) in the globalization period (1870-1910) but fairly similar to the rate in Canada (37 per cent) (O'Rourke and Williamson 2002).

[28] The mining sector experienced a boom thanks to a change in legislation in 1868 and to the public deficit difficulties that finished with the disentailment of the Riotinto mines in 1873 (Pérez de Perceval 2012). From 1876 to 1900, Spain was at the forefront of the lead and copper industries (Harley and Taylor 1987) and produced more than 86 per cent of iron ore, 90 per cent of the sulphur sold abroad by European countries and 40 per cent of world's mercury (Escudero 1996). Mining and railway booms fed back because foreign investment in the mining sector also built mining railways or branches to national trains (Escudero 1996).

inflows that financed part of this economic growth and that also went to finance the growing public debt deficits. There was a sudden stop that was exacerbated by an international crisis (the failure of Overend, Gurney & Company in 1866 and the Paris stock exchange crash in 1882). As we observe in Figure 4, one of the most important characteristics of the nineteenth-century crises was the existence of sudden stops or capital reversals in the years surrounding the crisis (considering three-year windows before and after the crisis), with this being a major source of vulnerability.

1931:

The 1931 crisis was related to the international context but also to domestic conditions such as the institutional and political change and the financial expansion. With respect to the international context, the 1929 US stock market crash dragged down European stock markets, including the Spanish stock market, whose index decreased around 65 per cent from 1928 to 1934. The main transmission channel for the international crisis was the fall in exports (linked to the contraction of international demand and the increase in protectionism). However, the depreciation of the *peseta* allowed for an improvement in external competitiveness; this helped reduce current account imbalances and avoid international deflation. In the early 1920s, the *peseta* floated around official parity (established in 1868), but from 1927 its value dropped. The fall in the nominal exchange rate between 1927 and 1931 was -34.76 per cent with respect to the pound, and more than -50 per cent with respect to the franc and the dollar. Initially, the Bank of Spain refused the use of gold reserves to stabilize the exchange rate (Martínez Méndez 2005), but later on there were some attempts to intervene to guarantee the value of the *peseta* with a resulting loss of gold reserves (Martínez Ruiz and Nogués 2014). Despite these efforts, the *peseta* continued its depreciating trend until 1932.

In addition to foreign contagion, the 1931 crisis coincided with an important institutional change; namely, the fall of the Monarchy and the proclamation of the Second Republic, marking the change from a dictatorship to a democracy. This political change generated political instability and depressed business expectations. The new government introduced some key critical political and social reforms that also had economic consequences; these included the separation of Church and State, land and labour reforms, and an educational project, among others. There was a rise in wages in agriculture and in the industrial sector linked to labour and social reforms, which boosted workers' purchasing power and consequently consumption, but reduced business profits. The increase in social and labour disruptions as well as profit reductions during the Second Republic damaged entrepreneurs' confidence, with a resulting fall in investment. This depressive trend, triggered by internal and external problems, stemmed from an economic recession that generated banking difficulties and capital outflows (Ventosa i Calvell 1932). The deposits-currency ratio, which is used to measure panic or deposit withdrawals, decreased by 23 per cent between 1930 and 1931, but only by 9 per cent from 1929 to 1933. These figures contrast with the 53 per cent of decrease deposit withdrawals in the US in the same period[29]. The end result was that seven banks disappeared (three in 1930 and four between 1934-1935), a small banking crisis in comparison to other countries[30].

In relative terms, the banking crisis was not particularly harsh because the Bank of Spain provided banks with all the cash they needed to convert deposits into currency; as a result, there was no monetary contraction as in other countries. The Bank of Spain

[29] Data for the US from the Federal Reserve Bank of St. Louis, Economic Data.

[30] The banking crisis mainly affected the *Banco de Cataluña*, *Banco de Reus* and *Banco de Tortosa*. With the exception of the *Banco de Cataluña*, which held 25 per cent of all deposits in Catalonia, the rest were small banks. Therefore, the banking crisis did not major repercussions on the Spanish financial structure.

acted as an LLR by lending a total of 1.2 billion *pesetas* from March to December 1931, in comparison to the 500 million *pesetas* lent in 1930 (Martín-Aceña 2013). Since the crisis coincided with a flight from the *peseta*, the government also authorized a rise in interest rates to stop the outflow of capital. However, Spanish banks were loaded with gilt-edged securities and they pledged their unused portion of government paper to obtain cash (Martín-Aceña, Pons and Betrán 2014).

Estimates reported by Betrán and Pons (2018) show that Spain did not face high current account imbalances during this period. The current account deficit was low in 1925 and there were current account surpluses in 1926 and 1927. Subsequently, there were relatively smaller deficits before the crisis (see Table 3), which may have moderated the intensity of the 1931 crisis. The lack of external imbalances happened in a context of financial expansion, with an average growth of real credit from 1926 to 1929 of more than 10 per cent (Table 3) and an increase in the ratio of financial institutions' assets to GDP from 0.91 in 1920 to 1.28 in 1929.

Contemporary observers (*Servicio de Estudios del Banco de España* 1934) did not regard the 1931 crisis as particularly severe. However, Prados (2017) affirms that the impact of the Great Depression was milder than in the US but similar in intensity to the rest of Western Europe on average. Moreover, he claims that this finding challenges the notion that the impact was weaker in Spain due to its relative international isolation and backwardness. As mentioned above, comparisons with other crises show that in terms of output loss the impact was lower than the international average. This milder severity could be the result of minor external imbalances, with a big accumulation of gold reserves and no foreign public debt (features that characterized the nineteenth-century crises).

1976 and 1982[31]:

These two crises are linked to the oil shocks and happened after a period of economic expansion financed by foreign capital. From the end of the 1950s, Spain moved gradually to an open economy and experienced economic growth primarily based on domestic demand. Spanish economic exports remained weak, while raw materials and capital goods imports increased due to rapid industrialization. The result was a trade deficit to GDP ratio of around -5.55 per cent between 1965 and 1973, but these trade deficits were easily covered by the surplus balances for services and transfers, thanks to tourism revenues and migrant remittances (see Figure 4).

The situation changed when oil prices doubled between 1973 and 1975, and grew even worse with the second oil shock in 1979. From this moment on, Spanish current account deficits were mainly the result of the foreign trade deficit, which increased by around 50 per cent, and was closely linked to oil imports, which represented around two-thirds of total energy consumption. Moreover, trade deficits were not offset by tourism revenues and migrant remittances, as had happened before. Political conditions and the weakness of the Franco regime influenced the response to the oil shock, with the government initially attempting to intervene to smooth the impact of the oil crisis with price interventions. The result was that this international crisis hit Spain later than the rest of the world (Betrán, Cubel, Pons and Sanchis 2010). There was a currency crisis with a deterioration of the exchange rate between 1974 and 1985, from 58 *pesetas*/dollar to 160 *pesetas*/dollar. The government decided to sacrifice the external sector to reduce the impact of the oil crises on prices, employment and domestic activity—a policy that initially had the blessing of the IMF (Muns 1986). Unfortunately, the crisis was deeper

[31] We jointly examine these two crises because the Spanish literature generally holds that the banking problems of the 1980s were also a consequence of the 1977 banking crisis.

and had a longer-term impact than the government had predicted (García Delgado and Serrano Sanz 1990).

In addition to rising oil prices, increasing labour costs produced a serious cost-push inflation. Technical obsolescence, lack of competitiveness, a low level of self-financing and a high dependence on credit put industrial companies and banks in a precarious situation, and many firms were unable to survive. The economic recession damaged the quality of banking assets and the ratio of non-performing loans to total loans increased from 1.1 in 1973 to 3.3 in 1981 and 5.40 in 1984 (*Boletín Estadístico del Banco de España*, several years). The crisis was transmitted from the industrial to the banking sector through an increase in failed industrial firms and unpaid clients. The crisis was further aggravated by a stock market crash that strongly deteriorated the balance sheets of those Spanish banks with large industrial portfolios (Cuervo 1988).

As mentioned in the previous section, the process of economic liberalization and deregulation of the financial sector which started in the mid-1970s produced a great financial expansion, with real credit growth increasing by around 36 per cent from 1970 to 1976. Given the lack of prudential regulation and supervision (Poveda 2012), banking and credit growth were accompanied by bank mismanagement, with a large number of risky, speculative and even illegal banking practices (Cuervo 1988).

The 1976/77[32] and 1982 crises were primarily banking related. In total, 56 banks out of 110, representing 20 per cent of total banking system deposits, experienced solvency problems; indeed, the 1976/77 crisis was categorized as one of the so-called recent "Big Five Crises" by Caprio et al. (2005) and Reinhart and Rogoff (2009). Although the crisis started in smaller, younger banks (90 per cent of the banks that were involved in the crisis

[32] Although Table 2 shows a triple crisis occurring in 1976, the currency crisis took place in 1976 while the banking crisis erupted in 1977.

had been founded between 1973 and 1978), in 1982/1983 it eventually affected *Rumasa*, a large industrial holding company with 20 banks that had to be nationalized by the government, as well as *Banco Urquijo*, an industrial bank that was among the eight biggest banks in Spain (Caruana 2009). The end result was a banking restructuring that led to an increase in concentration (because the larger banks purchased those banks in difficulties) and a strengthening of the regulatory framework (see Table 3).

2008:

From the mid-1990s to 2007, Spain experienced a period of rapid growth, benefitting from the Economic and Monetary Union convergence process in the 1990s and the adoption of the euro in 1999 a stable macroeconomic framework (with low interest rates and an adjusted exchange rate) and favourable financial conditions. This economic growth was sustained by foreign private debt and strong current account deficits (Maudos 2012, Betrán and Pons 2017). In this context, a number of bubbles were created, such as the tech bubble from 1997 to 2001 or the construction bubble that started in 1985 but grew substantially from 1996 to 2008.

In addition to economic expansion, other factors also fed these bubbles. First, low interest rates and credit facilities played a key role. As a consequence of liberalization and international competition, the banking system was even more concentrated than it had been in the 1970s. During the 1980s there was a process of banking concentration and restructuring (Santos 2014) that allowed the big Spanish banks to increase their presence in the international markets (Bergés, Ontivero and Valero 2012). However, it also incentivized the adoption of riskier practices by financial institutions. Saving banks were particularly notable in this regard, attempting to gain market share by opening new branches, implementing more aggressive, riskier lending policies, and increasing their involvement in the building sector. In terms of credit, the rate of growth of real credit rose

to more than 15 per cent in the three years prior to the crisis (Table 3). Second, the financial difficulties faced by municipalities encouraged them to push the housing sector to raise their financial resources[33] and the saving banks (controlled by local authorities) were used to expand the construction sector.

Economic growth was accompanied by a decline in competitiveness (Escrivá and Correa 2010) and growing imbalances, which ultimately undermined the foundations of this expansion (Jimeno and Molina 2009). The main imbalances accumulated prior to the 2008 crisis were current account deficits (Carballo-Cruz 2011) and high levels of private debt (Maudos 2012). The studies of Escrivá and Correa (2010), the European Commission (2012) or Jimeno and Santos (2014), among others, put the emphasis on the build-up of strong current account imbalances in the pre-crisis years. Additional factors in this regard were the inflows of foreign capital into Spain after joining the euro in a period of capital globalization (De Grauwe 2013) and low interest rates that exacerbated the growth in household debt and non-financial corporations' debt, which rose by 97 percentage points—from 94 per cent of GDP to 191 per cent of GDP—in the period 2000-2007 (Bank of Spain 2017). In particular, the problem was the reversal in these international capital inflows when the banking crisis worsened (Jimeno and Santos 2014). After the crisis, there was also a fiscal deficit that transformed into a debt crisis (Comín 2012, 2016).

In 2008, the housing bubble burst, damaging banking institutions (the savings banks involved in the construction sector), which then stopped lending. This change in the macroeconomic environment (and in particular the large increase in unemployment rates)

[33] In 1998, a new law was passed to facilitate the supply of land and trying to reduce house prices, but it did not seem to have an effect.

had a direct impact on public finances (producing a sovereign debt crisis) and on banking balances. The international context was crucial in the bursting of this bubble and the associated banking problems. In 2007, the US housing bubble burst, resulting in the subprime mortgage crisis. The crisis worsened in 2008 with the rescue of certain banks such as Bear Stearns, the partial nationalization of Fannie Mae and Freddie Mac and the collapse of Lehman Brothers. The crisis spread initially to Europe and then to emerging countries, mutating into a global financial crisis. The international financial crisis restricted the access of Spanish banks and the government to international markets, and internal problems led to a rise in defaults.

In Spain, the 2008 crisis was a banking crisis that mainly affected the savings banks (Martín-Aceña 2013) although other banks also suffered consequences[34]. The crisis decimated the saving banks (of the 45 savings banks operating in 2007, only two remained by 2010) and led to a restructuring of the Spanish financial system, with saving banks being merged with or acquired by other entities and transformed into new commercial banks (Table 4). The crisis affected around 35 per cent of total financial assets and around 50 per cent of total loans and deposits (Martín-Aceña, Martínez Ruiz and Pons 2013). As the Bank of Spain (2017) pointed out, the Bank of Spain and other international organizations such as the IMF and the OECD had identified the main macroeconomic imbalances of the Spanish economy as risks to continuing along the economic growth path; however, there was no anticipation of the severe economic downturn that started in 2008.

[34] Banks have also been exposed to toxic real estate assets (defaults on mortgages and loans to property developers) and most of them keep repossessed properties, which are overvalued, on their balance sheet (García Montalvo 2014). Moreover, banks have accumulated a large amount of sovereign bond holdings, since borrowing cheap money from the European Central Bank and using it to buy high-yield sovereign debt from the Spanish government represents an easy source of profit (Comín and Cuevas 2017).

There are certain parallels between the two crises that occurred in the second half of the twentieth century in terms of their origin (Betrán and Pons 2017). In both cases, Spain accumulated high imbalances (current account deficits and public deficits in 1976 and current account deficits and high levels of private debt in 2008) after a period of economic growth. There had previously been a process of liberalization of the banking system that lacked adequate banking supervision, resulting in a very similar credit expansion in both pre-crisis periods. The main difference, however, relates to the resolution to the crisis. Whereas in 1976 the authorities devaluated the *peseta* and managed to secure current account surpluses in 1978 and 1979, in 2008 Spain had lost the monetary instruments it needed to face the crisis. In both cases, there was an international or external shock that precipitated the crisis (the 1973 oil crisis and the 2007 bursting of the US housing bubble).

The main conclusions to be drawn from this narrative account of the crises is that there are some common factors appearing in the most severe Spanish crises. First, a previous economic expansion, which in some cases was linked to an institutional or political change, and which promoted the development of some specific sectors such as railways, mining, wine, manufacturing or housing. Second, a change in the regulatory framework towards financial liberalization. Third, a process of financial expansion due to economic growth and financial liberalization. Fourth, inflows of foreign capital to finance economic expansion, which tended to generate high current account imbalances. In fact, most of the particularly severe crises in Spain took place in periods of capital globalization, when there was easy access to foreign capital. Fifth, the emergence of an asset bubble. Sixth, a process of banking risk concentration. Seventh, a sudden stop in the years leading up to or around the crisis, especially in the nineteenth-century crises. Finally, an external shock, which occurred in most of these crises. The combination of all

these factors led to a financial crisis, but the degree of severity seems to be related to the importance of the external financing or foreign capital flows.

5. Current account and net capital flows

In this section we analyse why external imbalances could produce financial instability and make crises more likely. The balance of payments identity holds that current account surplus (CA), net capital flows (KA) and changes in the official reserves are equal to 0.

$$CA + KA + \Delta R \equiv 0$$

When a country runs a current account deficit, it must finance this deficit by a private capital inflow or by a reduction in its official reserves; in both cases, the country runs down its net foreign wealth (Reinhart, Reinhart and Trebesch 2016). For this reason, when there is a current account deficit, the country has an external lending scheduled denominated in a foreign currency (the major exception to this is the euro system). Moreover, when interest rates in major financial centres are low, foreign capital can be attracted to invest in countries with higher interest rates (Reinhart and Reinhart 2008, 2015). It is like saying that countries with excess savings are interested in investing in countries with a scarcity of savings or an excess of investing. As we have seen in previous sections, this was the case with Spain during the nineteenth century and the 1973-2008 period. Figures 4, 5 and 6 show the current account balance as a share of GDP (deficits and surpluses) in Spain in relation to other European countries and the US in the periods 1850-1913, 1914-1935 and 1940-2015. In most of these periods, Spain was among the countries with the highest current account deficits[35].

[35] As data started in 1870, these occurred especially in 1870-1890,1900-1905, 1922-1925, 1928-1932, 1956-1959, 1974-1979, 1990-1995 and 2000-2010.

Excessive global saving depresses interest rates and contributes to price bubbles in the borrowing countries (Bernanke 2005, Caballero et al. 2008). This happened in Spain in the nineteenth century with the investments in railroads, mining and public debt (bonds), and during the twentieth century, especially in the 1990s and 2000s in housing and other sectors (the reduction in interest rates seems to happen around 1994). However, during the 1970s and 1980s there were high nominal interest rates that coincided with inflation due to structural changes that arose in response to the oil shocks and the increasing liberalization of the economy.

Lending booms caused by external borrowing from financial centres and defaults were also characteristic in Spain in the nineteenth century. However, over the course of the twentieth century Spain turned inward, relying more heavily on domestic savings, until the 1990s when capital globalization accelerated. The degree of vulnerability may differ depending on the currency denomination of the loans. In the nineteenth century, borrowing was denominated in gold and Spain was not on the gold standard, which could increase the cost of taking on debt. As a consequence of Spanish neutrality during WWI and its adverse experience with sovereign defaults in the nineteenth century, Spain paid all its foreign debts and increased its official reserves, with its gold reserves becoming the fourth largest in the world. Therefore, during the interwar years Spain did not have any foreign public debt, any other types of foreign assets or private debt; moreover, its current account deficits were not very high, although there were some considerable trade imbalances from 1920 to 1929. Finally, by far the largest net capital flows were registered in the period from 1973 onwards, and especially in the period 2000-2007.

Figures 2 and 3 depict the composition of the current account balance for the periods 1850-1935 and 1940-2015, respectively. As we can observe, the source of the current account balance is different pre-1945 and post-1945. Prior to 1945, there was a

trade balance surplus throughout most of the period, with substantial deficits afterwards. This means that important capital reversals occurred. However, post-1945 most of the external imbalances were related to trade imbalances. This change in current account composition could lead to increased vulnerability: trade deficits might weaken the currency and also could fuel massive capital inflows. It is possible to run huge deficits when foreigners are willing to lend, but if foreign banks withhold their credit facilities, it can produce a severe recession.

Moreover, as Figure 8 illustrates, the periods with higher current account deficits as a percentage of GDP coincided with increasing investments (proxied by gross fixed capital formation as a share of GDP) in the Spanish economy. This is especially evident in the 1850s, 1920s, 1960s and 2000s, periods with increasing industrialization/structural change and economic growth.

As mentioned above, foreign capital flows may lead to more crises. Following Reinhart and Reinhart (2015), we calculate the probability of a crisis having a capital flow bonanza (%). Reinhart and Reinhart (2015) describe a capital flow bonanza as when an economy receives larger-than-normal capital flows relative to its own history. They measure it when the current account balance is in deficit, considering its level relative to nominal GDP in the lowest 20th percentile of experience. Using our new estimation for the current account balance for Spain (Betrán and Pons 2019), we have calculated these capital flow bonanzas for the period (1850-2015), revealing 85 years with capital flow bonanzas. Table 5 lists the years with capital flow bonanzas and crises in each of the periods under study. We observe that the period with the most capital inflows is the most recent (1973-2015), the period with the second-highest frequency of crises after 1919-1935, and the period with the highest severity of crises.

We consider episodes in which a capital flow bonanza and a financial crisis coincide within a window of three years before and after the crisis. According to Reinhart and Reinhart (2008), if capital flow bonanzas make a country more crisis-prone, the conditional probability, $P(Crisis_i \mid Bonanza)$ should be greater than the unconditional probability of a crisis, $P(Crisis_i)$, where i refers to all the ith "types" of crisis (banking, currency, stock market and sovereign default, etc.). For Spain, the unconditional probability of a crisis is 0.11 (11 per cent) (19 crises/165 obs. years) and the conditional probability of crises is 0.19 (19 per cent) (16 crises/85 years with capital flow bonanzas). This means that the probability of a crisis when a capital flow bonanza has occurred (the conditional probability) is higher than the unconditional probability.

This result is supported by Betrán and Pons (2019),'s estimations using local projection methods, showing that current account imbalances produced more severe crises. The LP methods enabled the estimation of the dynamic effect of financial crises on real output and also addressed potential endogeneity or causality problems. The period 1850-2015 was considered, divided into non-recession and recession years, with the latter consisting of both financial and normal recession. It was found that current account deficits in periods of financial crisis have a significantly higher impact than in periods of normal recession and non-recession years, after controlling for other possible factors affecting crises (real credit growth, fiscal or public budget on GDP and investment on GDP). Therefore, the main conclusion we obtained is that Spain has been more prone to crises, and the crises have been more severe, after a previous capital flow bonanza.

Figure 9 shows the relationships or interconnexions among the different variables that led to most of the Spanish financial crises. Following Reinhart and Reinhart (2008), our interpretation of Spanish crises indicates that in periphery countries, with a scarcity of savings, there are a number of common factors underlying financial crises. Expansion

phases have been preceded by institutional changes that include the liberalization of the domestic market, the foreign sector and the financial system. These institutional changes foster financial expansion and attract capital inflows that lower the interest rate. Capital flow bonanzas feed bubbles because there is an increase in the demand for some assets (such as shares, houses, …) causing an increase in asset prices. Financial liberalization and capital inflows increase the total available amount of credit, while banks tend to lower their lending standards and engage in excessive risk-taking by concentrating their investments is those sectors that offer high returns in a context of low interest rates. The problem of misallocation of resources could be more serious in countries with less developed financial systems or banks that are extremely involved in particular sectors. The formation of bubbles is driven not only by liberalization but also by the authorities establishing incentives that divert investment towards specific sectors that are not always the most productive (as happened in Spain in the nineteenth century with the railway or mining sectors, or in the twentieth century with housing). When the bubble bursts (due to a change in macroeconomic conditions, such as increasing interest rates, or in investors' preferences), the risk increases and there is a sudden stop; since the banks have been particularly exposed to these problematic sectors, it can lead to a banking crisis and a credit crunch. As the country is very dependent on foreign capital, a capital reversal raises risk and the cost of indebtedness (domestic and external), producing a severe crisis. In some cases, it may even lead to a debt crisis (as a consequence of the increase in public financial difficulties, the need to rescue banks or the higher cost of indebtedness) and a painful adjustment in the economy. In most cases, a banking crisis is accompanied by a currency crisis (with the two types of crisis reinforcing each other in a vicious spiral), which is the result of the current account imbalances and a loss in confidence in the currency. Furthermore, a debt crisis could be related to a currency crisis; primarily when

public deficits are financed with an expansion of money, aggravating the loss of value of the currency. Finally, burst bubbles could also produce a stock market crash, which could be exacerbated by lower economic activity and bank difficulties.

6. Conclusions

Focusing specifically on the case of Spain, we document the crises, their frequency and severity in different periods of monetary policy regimes and financial structure, in an attempt to identify a relationship between financial stability and crises. It seems that the monetary policy regime may affect the frequency of crises but not their severity. Regarding financial structure, financial expansion after a change towards more liberal regulation but without the necessary control and supervision by the central bank was also a source of instability in some of crises in the nineteenth century, the 1920s, the 1970s and early 1980s, and the years leading up to the 2008 crisis. This financial expansion was also accompanied by financial innovation and riskier banking practices. We also analyse the main determinants or drivers of financial crises by means of an in-depth narrative of the main representative Spanish crises. We find that most of the crises were associated with capital inflows in emerging sectors in a liberal regulatory framework. Capital flow bonanzas resulted in both a higher likelihood and greater severity of crises. The crises are more severe because external borrowing produces harsher adjustments to the economy in terms of lending conditions and financial costs denominated in another currency. But higher severity is also due to sudden stops, the consequences of which can be worse given their side effects: scarcity of capital inflows, exchange rate depreciations producing currency crises, and the resulting increase in the cost of indebtedness (due to the higher interest rates linked to the risk premium).

The study of Spanish crises, as in the case of those studied by Bordo (2018), shows that major financial crises do not tend to coincide with credit booms. Indeed, credit booms only played a role in a few crises, and when they did, there were also other factors at work. However, as Reinhart and Reinhart (2008, 2015) emphasize, capital flow bonanzas are a key factor and a good predictor of different types of crises: banking, currency and debt. Likewise, crises associated with current account imbalances are found to be more severe (Betrán and Pons 2019). As this paper shows, capital flows helped finance industrialization and economic growth, but did not have positive effect in terms of financial stability. The cost has been very high for the Spanish economy, by increasing both the likelihood and the severity of crises.

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Table 1: Spanish financial crises compared with the World crises

Period	Spain				World		
	Number	Frequency	Severity	Duration	Frequency	Severity	Duration
1850-1913	7	11.1	-8	2.8	4.4	-9.8	2.4
1919-1935	4	18.8	-4.1	1.7	13.2	-13.4	2.4
1945-1972	3	7.4	-5.8	2.3	7	-5.2	1.8
1973-2000	4	14.8	-14.3	4	12.2	-8.3	2.5
1973-2015	5	11.9	-16.9	4.6			
1970-2011			-48.6*			-23.2*	

Note: Frequency, percentage of the number of crisis in relation to the number of years. Severity or GDP loss: cumulative loss of outputs, estimated by summing the differences between trend growth before the crisis and output growth until annual growth has returned to its pre-crisis trend (real GDP per capita). Duration: years until to reach the pre-crisis trend.

Source: Spain, from Betrán and Pons (2019) and World, from Bordo et al (2001), with the exception of * from Laeven and Valencia (2013), p. 224, Table 4 for the World mean and p. 258 for Spain as a mean between the 1977 and 2008 crises' output losses. However, Laeven and Valencia (2013) compute differently output loss as the cumulative sum of the differences between actual and trend real GDP over the period (T, T+3) for the 1970-2011 period and trend real GDP is obtained by means of a HP filter over the 20 years prior to a crisis (or fewer years if data are not available)

Table 2: Duration and Depth of Crises in Spain , 1850-2015

Crisis year	Type of crisis	Duration (years)	Depth (%)
1855	Stock Market + D	3	-5.62
1866	Twin 2 (B+SM) +D	3	-11.28
1874	Stock Market + D	1	-10.58
1882	Triple (C+B+SM) + D	6	-13.52
1892(*)	Triple (C+B+SM)	5	-11.77
1899	Currency + D	1	-0.25
1905	Stock Market	1	-3.24
1850-1913		2.83	-8.04
1914	Twin 2 (B+SM)	2	-3.46
1921	Triple (C+B+SM)	1	0
1924	Banking	1	0
1931	Triple (C+B+SM)	3	-13.04
1919-1935		1.75	-4.12
1943	Currency	1	0
1948	Twin 3 (C+SM)	3	-7.97
1958	Twin 3 (C+SM)+D	3	-9.57
1945-1972		2.33	-5.85
1976	Triple (C+B+SM)+D	6	-25.97
1982	Twin 1 (C+B)	5	-23.62
1991	Twin 3 (C+SM)	4	-6.25
1995	Currency	2	-1.48
2008	Twin 1 (C + B) + D	6	-27.33
1973-2015		4.6	-16.93

Note: C: Currency, B: Banking, SM: Stock Market, D: Debt, Twin 1 is a combination of currency and banking crises. Twin 2 is a combination of banking and stock market crises. Twin 3 is a combination of currency and stock market crises. Triple is a combination of currency, banking and stock market crises. (*) 1892 stock market crisis and 1890 banking crisis. Depth or GDP loss defined as cumulative loss of output estimated by summing the differences between trend growth before the crisis and output growth until the time when annual output growth has returned to its trend.

Source: Betrán, Martín Aceña and Pons (2012), Betrán and Pons (2017), Comín (2012), Martínez and Nogues (2014) and Reinhart and Rogoff (2010)

Table 3: Financial Crises in Spain, 1850-2015. Monetary policy regime and financial structure

	Monetary policy regime		Financial structure				
Crisis year	**Capital controls**	**ER regime**	**LLR**	**Regulation**	**Banking structure**	**Banking expansion (before crisis)**	**Financial innovation**
1850-1913							
1855	Absence	Fixed Silver-Gold	No	Repressive 1848- 49 Banking Laws		No	
1866	Absence	Fixed Silver-Gold	No	Liberal Bank of issue law and Credit Company law, 1856	Multiple banks of issue Banks and credit societies	Expansion (small banks and credit societies with low own resources)	New financial instruments (short term bonds)
1874	Absence	Fixed	No	Liberal	Only one bank of issue	Expansion	No
1882	Absence	Floating	No	Liberal		Expansion (small banks)	No
1892(*)	Absence	Floating	No	Liberal		No	No
1899	Absence	Floating	No	Liberal		No	No
1905	Absence	Floating	No	Liberal		Expansion	No

	Monetary policy regime		Financial structure				
Crisis year	**Capital controls**	**ER regime**	**LLR**	**Regulation**	**Banking structure**	**Banking expansion (before crisis)**	**Financial innovation**
1914-1935							
1914	Absence	Floating	Yes	Liberal	Mixed banks	No	No
1921	Controls	Floating	Yes Ineffective	Liberal	Mixed banks	Expansion	No
1924	Controls	Floating	Yes	Self-regulated 1921 Banking Law	Mixed banks	Expansion	No
1931	Controls	Floating	Yes	Self-regulated 1931 Banking Law	Mixed banks	Expansion	No
1940-1972							
1943	Controls	Multiple *(de facto)*	Yes	Interventionist 1939 Decree	Mixed banks	No	No
1948	Controls	Multiple	Yes	Interventionist 1946 Banking Law	Mixed banks + Oligopolistic	No	No
1958	Controls	Fixed	Yes	Interventionist	Mixed banks + Oligopolistic	No	No

	Monetary policy regime		Financial structure				
Crisis year	**Capital controls**	**ER regime**	**LLR**	**Regulation**	**Banking structure**	**Banking expansion (before crisis)**	**Financial innovation**
1973-2015							
1976	Less controls	Floating	Yes	Slight Liberalization, 1962 Banking Law	More competition	Expansion of branches	?
1982	Absence	Floating	Yes	Liberalization Savings banks reform, 1987	More competition Mergers (1981)	Expansion of branches Saving banks expansion	Yes Foreign banks
1991	Absence	Floating peg	Yes	Liberalization 1987 reforms	More competition Mergers (1991, 1994)	Expansion of branches	
1995	Absence	Floating peg	Yes	Liberalization	More competition		
2008	Absence	Euro Floating	Yes	Liberalization	More competition	Savings banks expansion Banking internationalisation	Yes New financial products

Note: ER regime, exchange rate regime, **LLR,** lender of last resort.

Table 4: Financial crises in Spain, 1850-2015. Pre-crisis factors and crisis resolution

Crisis year	Pre-crisis factors				Crisis resolution				
	External Imbalances (years before)	Credit expansion (years before)	Public sector problems (years before)	Global crises	Banking resolution	Financial system contraction (after crisis)	Fiscal resolution	Public Debt increase (after crisis)	Regulation consequences
1850-1913									
1855	No	n.d	Yes			No	No	Yes	
1866	Yes (-3.68)	Yes (5.14) Railways	Yes	Failure of Overend, Gurney & Co (London)	40% banking affected 25 banks disappeared	No	No	Yes (very high)	
1874	Yes (-0.99)		Yes Debt default	German and Austrian Stock markets collapse, 1873		No	No	Yes	Bank of Spain monopoly of issue (as a consequence of the public sector problems)
1882	No	Yes (35.76) Railways, Mining	Yes Debt restructuring (Camacho reform)	Banking panic and Stock market crash in Paris	22 banks disappeared	No	No	No	
1892(*)	No	Yes (9.58) Railways, Mining	Yes	Baring Crisis, 1890	2 banks disappeared	No	No	Yes	
1899	No	Yes (2.52) Railways, Mining	Yes loss in 1898 of Cuba, Puerto Rico, Philippines Debt restructuring (*affidavit)*			Yes	No	Yes	
1905	Yes (-0.33)		Yes			Yes	No	No	

Crisis year	Pre-crisis factors				Crisis resolution				
	External Imbalances (years before)	**Credit expansion (years before)**	**Public sector problems (years before)**	**Global crises**	**Banking resolution**	**Financial system contraction (after crisis)**	**Fiscal resolution**	**Public Debt increase (after crisis)**	**Regulation consequences**
1914-1935									
1914	No			First World War financial crisis	1 bank affected	No	No	No	
1921	No	Yes (16.79)		Post First World War crisis	1 bank disappeared	No	No	No Repatriation	1921 Banking Law, reaction to banking instability
1924	Yes (-2.13)	Yes (11.82)			10 banks disappeared	No	No	No Repatriation	
1931	Yes (-1.30)	Yes (9.43)		1929-31 Wall Street stock market crash and banking crisis	7 banks disappeared	No	No	No	1931 Banking Law, to increase the government´s control of the Bank of Spain to defend the exchange rate
1940-1972									
1943			Yes			No	No	No	
1948			Yes		No	No	No	No	
1958	Yes (-1.99)	Yes (2.86)	Yes		No	Yes	No	No	1959 Stabilization Plan (IMF)

Crisis year	Pre-crisis factors				Crisis resolution				
	External Imbalances (years before)	**Credit expansion (years before)**	**Public sector problems (years before)**	**Global crises**	**Banking resolution**	**Financial system contraction (after crisis)**	**Fiscal resolution**	**Public Debt increase (after crisis)**	**Regulation consequences**
1973-2015									
1976	Yes (-3.89)	Yes (6.72)	Yes	UK and USA currency crises	53% banks affected (small and medium banks) Banking restructuring: Big Five banks	Yes	Yes	Yes (high)	FGD (Deposits Guarantee Funds) 1977 Banking Corporation 1978 Bank DGB 1980
1982	Yes (-2.53)	Yes (4.99)	Yes	UK and USA currency crises	20 banks disappeared (holding *Rumasa)*	Yes	Yes	Yes (very high)	
1991	Yes (-3.16)	Yes (7.44)	Yes	European Monetary System Crisis		No		Yes (high)	
1995	Yes (-0.65)		Yes	UK and USA currency crises		No		Yes	
2008	Yes (-9.22)	Yes (15.48) housing bubble	No	2007/8 banking crisis	Savings Banks disappeared (from 45 to 2)	No	Yes	Yes (very high)	New international regulation: Basel III 2009 CEBS (stress test) 2010 Spain: FROB I (Fund for Orderly Bank Restructuring) 2009, FROB II 2011 SAREB (Company for the Management of Assets proceeding from Restructuring of the Banking System), 2012

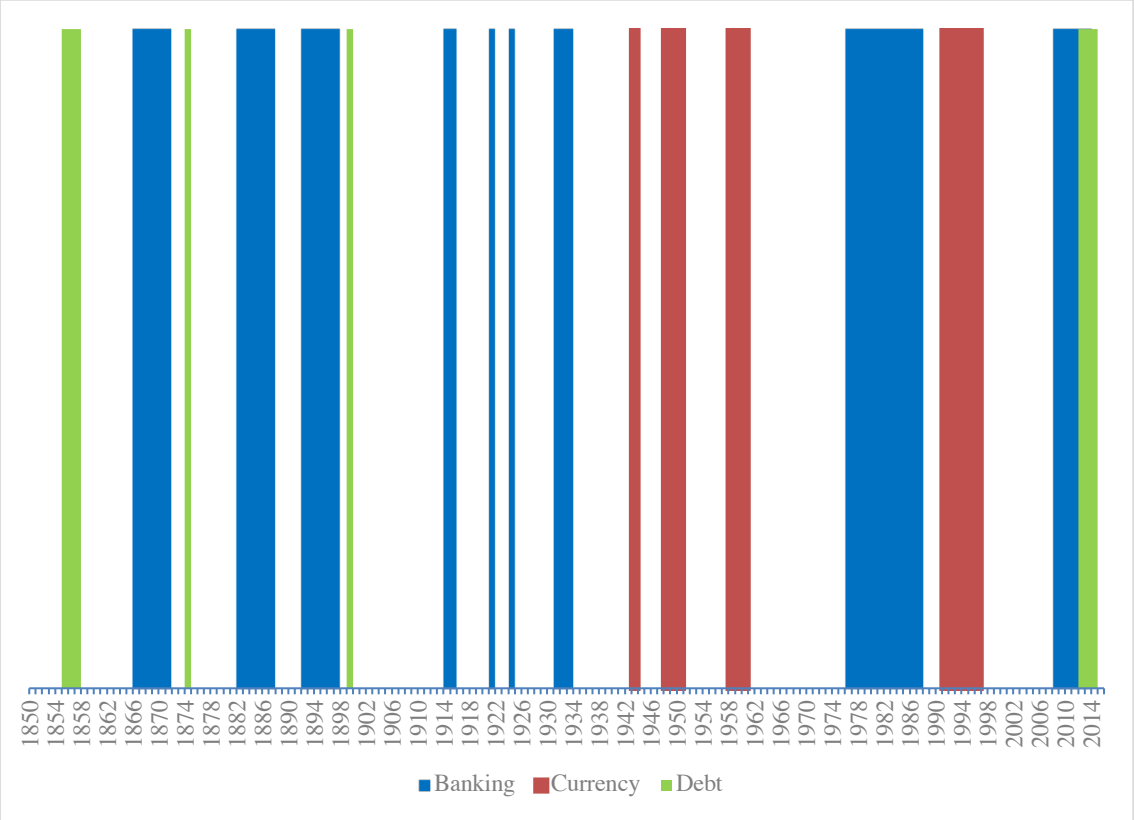
Note: External imbalances: Current account on GDP, average of the three years previous to the crisis, Credit expansion: average of the real credit growth the three years previous to the crisis and Public problems: a combination of public deficits on GDP and Public Debt on GDP average of the three years. Banking expansion: an increase in the number of banks, savings banks or branches the years previous to the crisis, Financial system size: rate of growth of the total financial assets on GDP the three years after the crisis, Public debt: rate of growth of the ratio Public debt on GDP three years after the crisis. **Source:** Own elaboration. See text.

Table 5: Capital flow bonanzas and crises in Spain, 1850-2015

Period	Years with capital flow bonanzas	Number of years with capital flow bonanzas by period	Years with capital flow bonanzas in relation to total years	Crises when capital flow bonanzas	Number of crises when capital flow bonanzas	Conditional Probability P(crisis/bonanza)	Unconditional Probability P(crisis)	Crises when capital flow bonanzas in relation to total crises
	1850-1853			1855				
	1857-1866, 1868			1866				
	1870-1872, 1874-1876, 1879			1874				
1850-1913	1883-1884, 1899, 1900-1903	29	0.45	1882, 1899, 1905	6	0.21	0.11	0.86
	1920, 1922-1925			1921, 1924				
1919-1935	1928-1931	9	0.53	1931	3	0.33	0.24	0.75
	1949			1948				
	1950-1953, 1955-1958			1958				
1945-1972	1963, 1965-1969	15	0.54		2	0.13	0.11	0.67
	1974-1977			1976				
	1980-1983, 1988, 1989,			1982				
	1990-1994, 1999			1991, 1995				
1973-2015	2000- 2015	32	0.74	2008	5	0.16	0.12	1
1850-2015		**85**	**0.51**		**16**	**0.19**	**0.11**	**0.84**

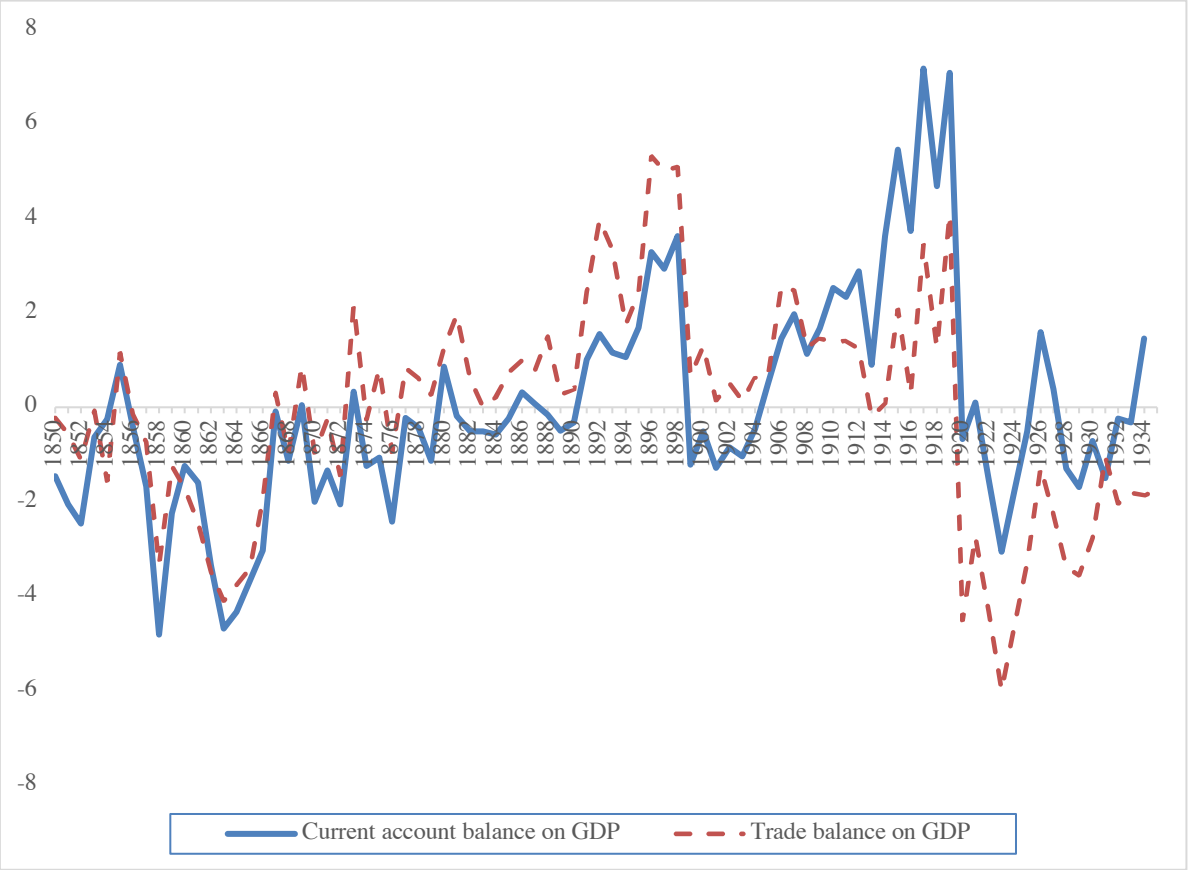
Note: Own elaboration considering Reinhart and Reinhart (2009)' s definition of capital flow bonanzas. See text.

Figure 1: Duration and type of crisis, Spain 1850-2015



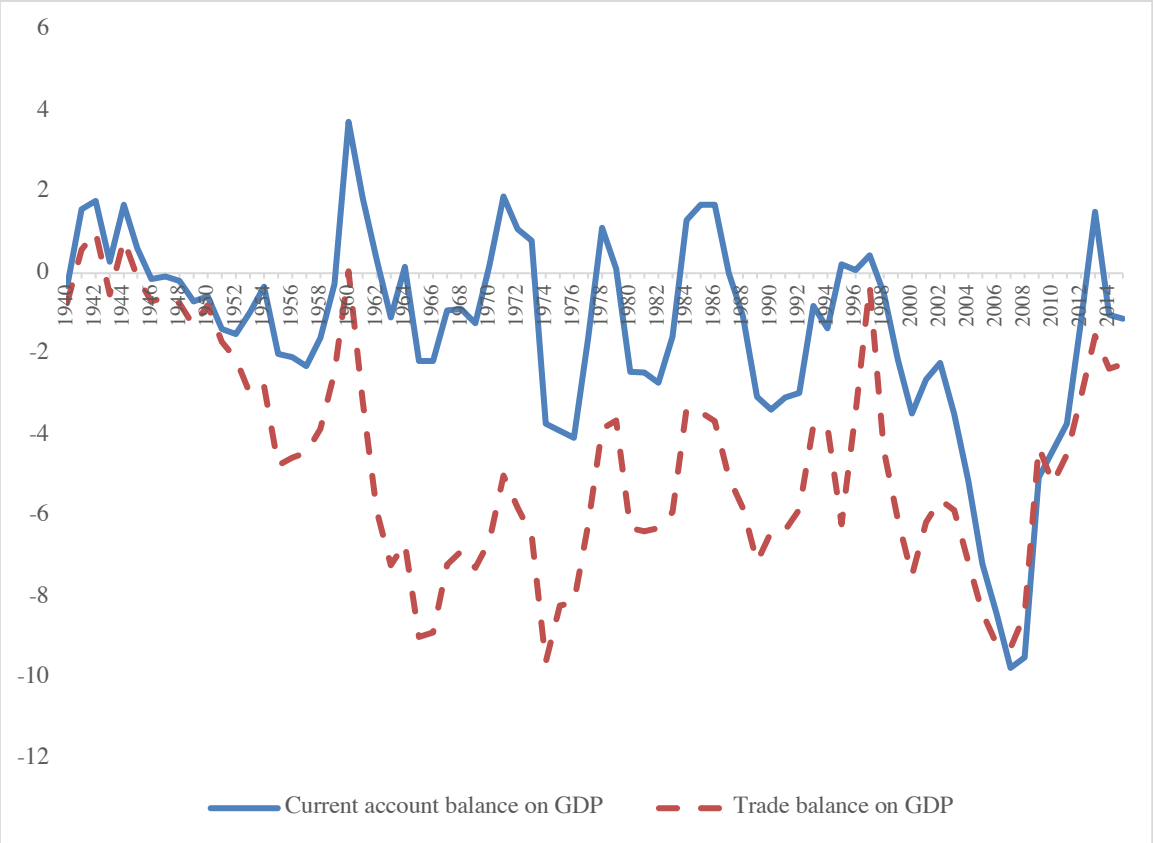
Note: we classify as a banking crisis when also a combination with other types of crises is produced simultaneously
Source: Betrán, Martín Aceña and Pons (2012)

Figure 2: Current account balance and Trade balance on GDP, 1850-1935



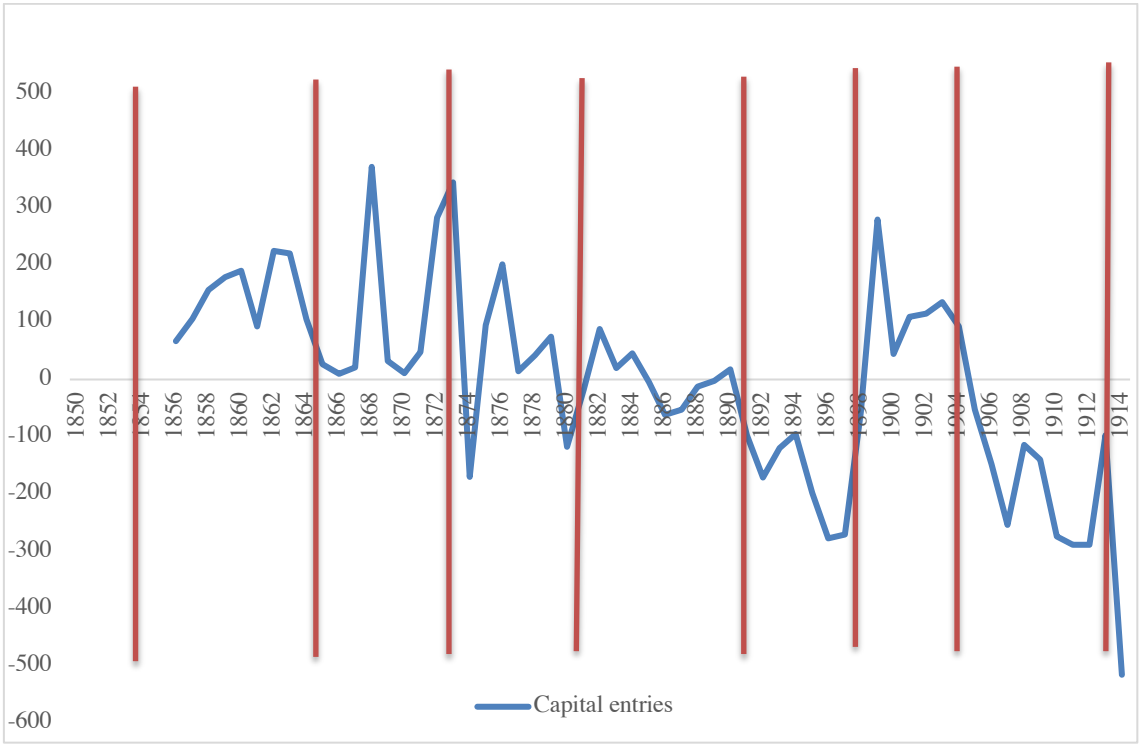
Source: Tena (2005) and Betrán and Pons (2019)

Figure 3: Current account balance and Trade balance on GDP, 1940-2015



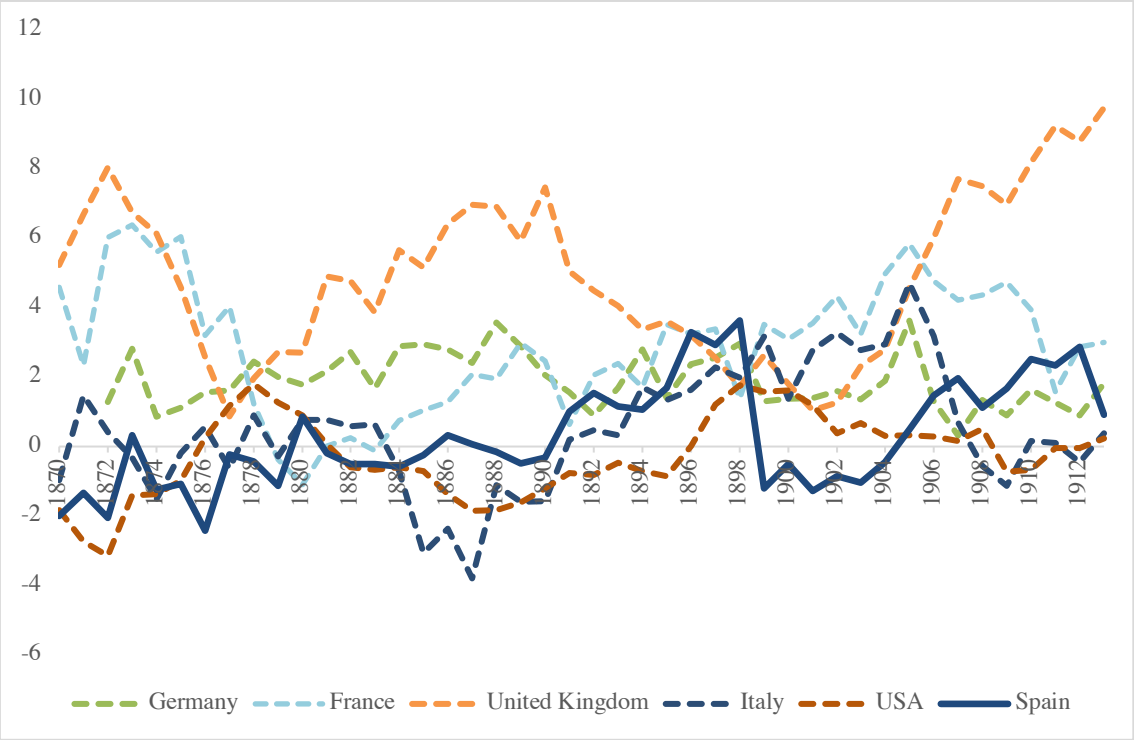
Source: Tena (2005)

Figure 4: Foreign capital entries and financial crises, 1850-1914



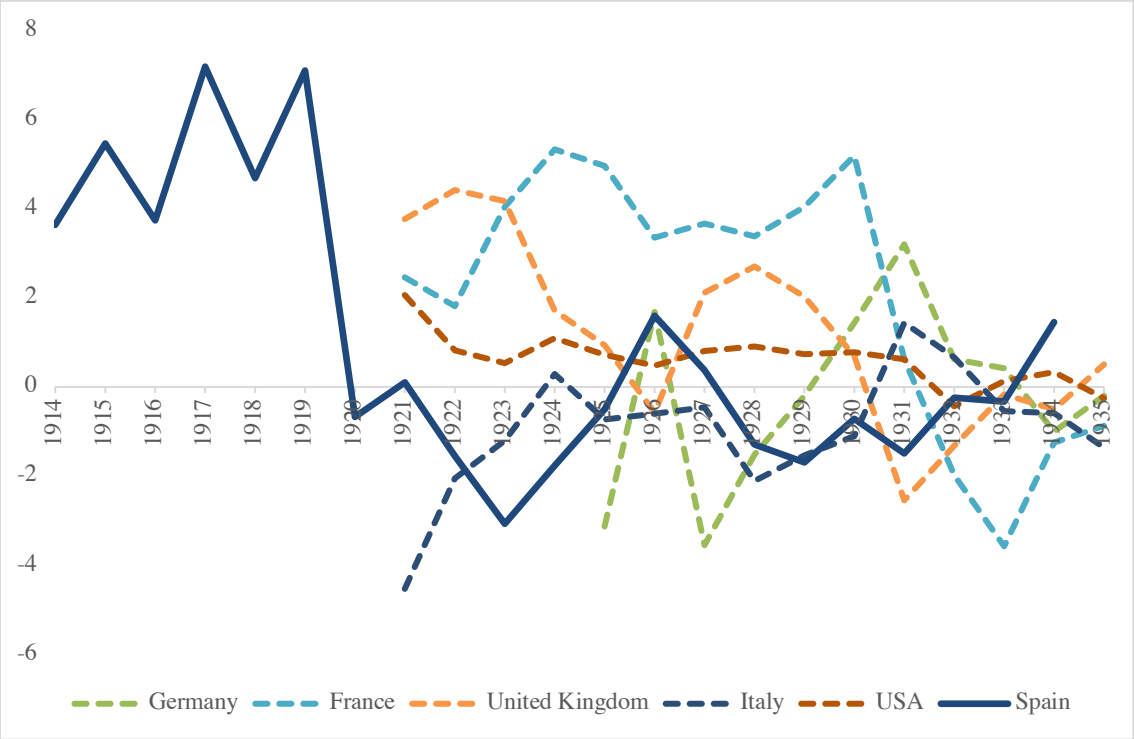
Source: Foreign capital entries 1856-1873 Moro, Nuño and Tedde (2015) and 1874-1914 Prados (2010).

Figure 5: Current Account on GDP (%) in Spain and other countries, 1850-1913



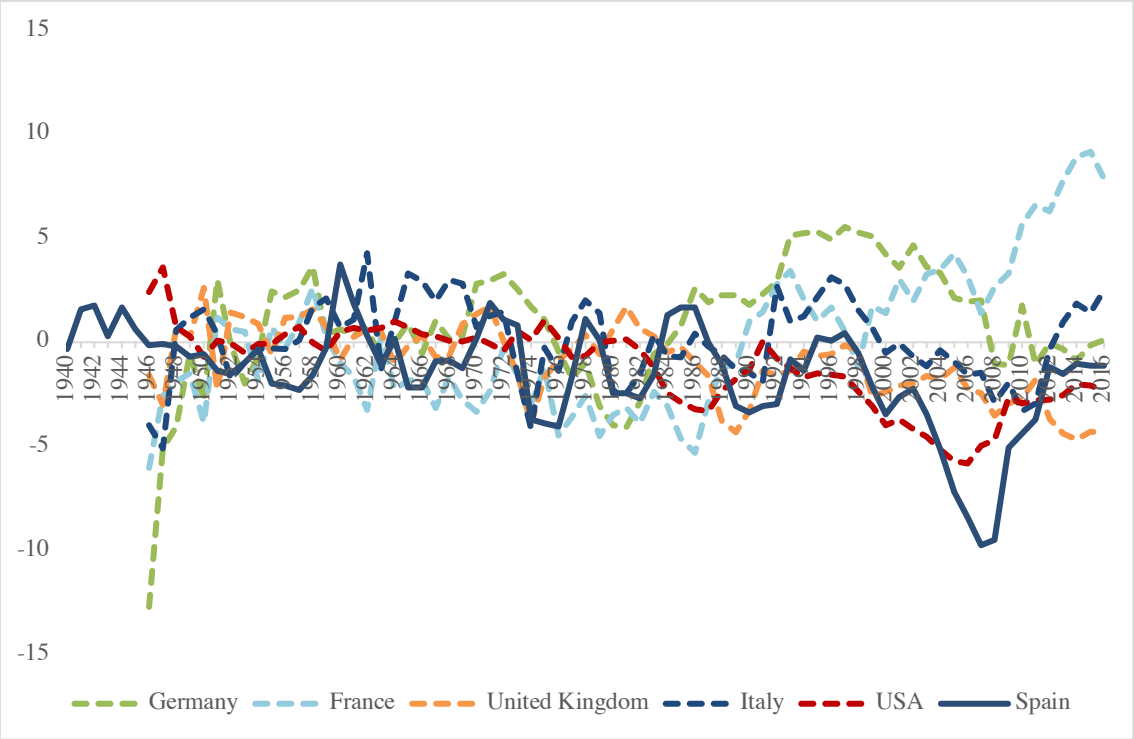
Source: for Spain, see Figure 2 and for the rest of countries, Jordà, Schularick and Taylor (2017).

Figure 6: Current Account on GDP (%) in Spain and other countries, 1914-1935



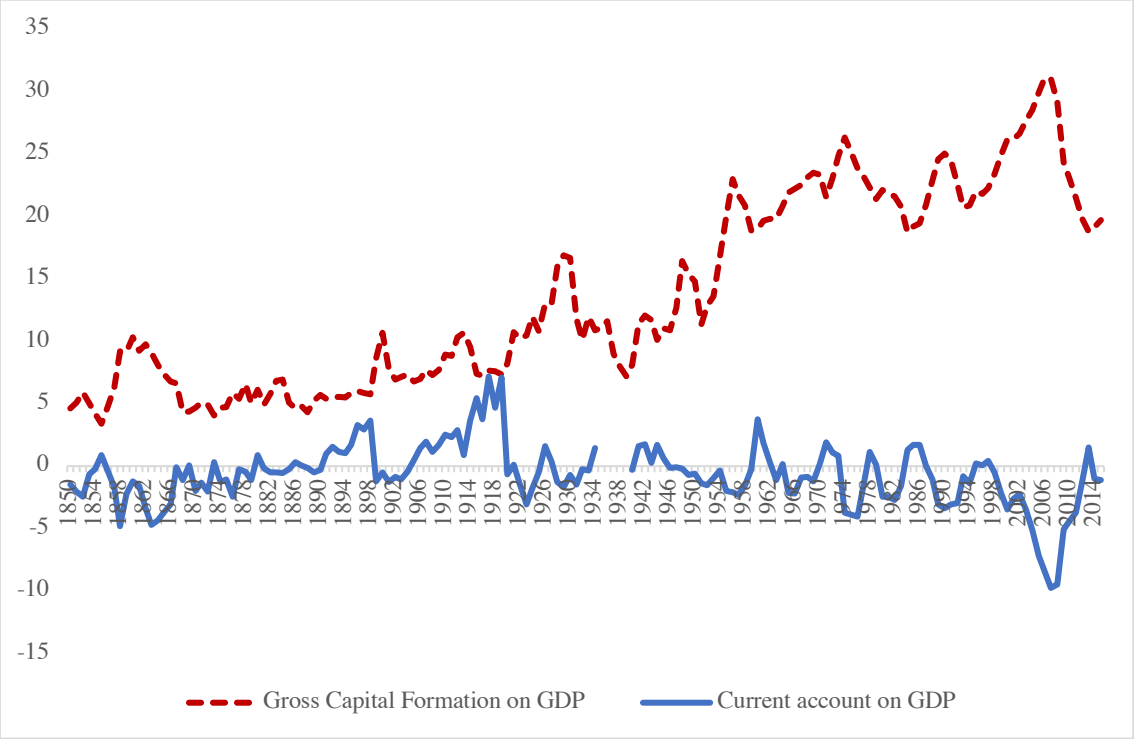
Source: for Spain, see Figure 2 and for the rest of countries, Jordà, Schularick and Taylor (2017).

Figure 7: Current Account on GDP (%) in Spain and other countries, 1940-2016



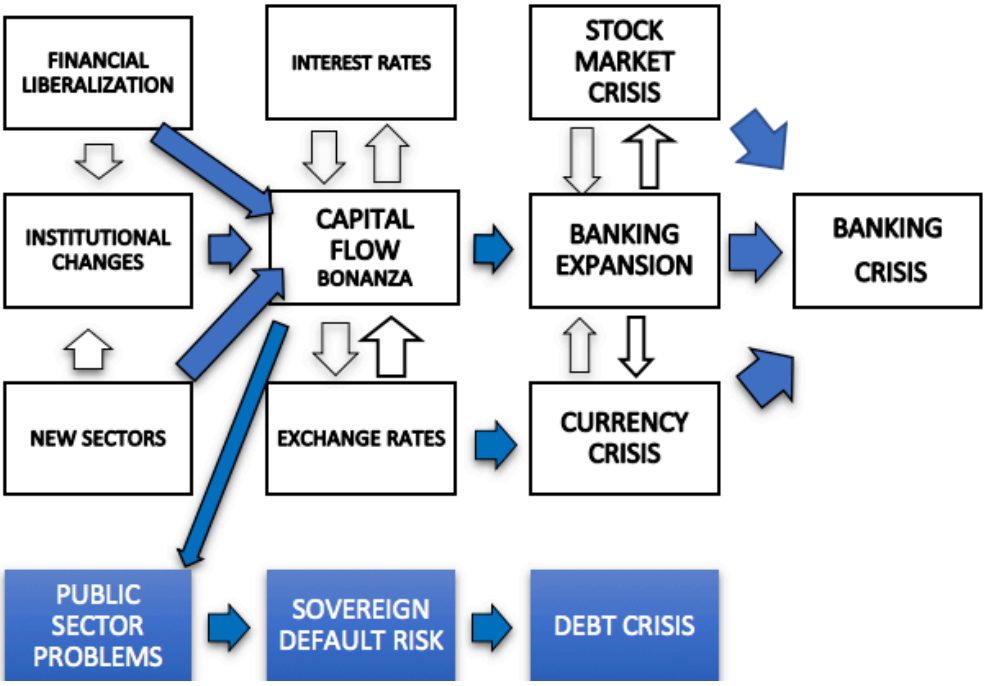
Source: for Spain, see Figure 2 and for the rest of countries, Jordà, Schularick and Taylor (2017).

Figure 8: Gross Capital Formation and Current account balance on GDP, 1850-2015



Source: for the Current account balance on GDP, see Figure 2 and for the Gross Capital Formation on GDP, Prados (2017).

Figure 9: Capital flow bonanza and crisis sequence in Spain



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