

Wheels within wheels within wheels: the importance of capital inflows in the origin of the Spanish financial crisis

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With the creation of the Euro, the Spanish economy established an exchange rate regime similar to that adopted by many emerging economies during the 1990s. At the same time, the Eurozone as a whole adopted a currency system with features similar to the US currency regime. In emerging economies, as in the US economy, the adoption of these models was accompanied by strong growth in capital inflows, as well as severe financial (mostly banking) and/or macroeconomic (mostly trade) imbalances. Several authors have linked capital inflows with imbalances as cause and effect. This work uses some of those arguments, along with statistical data on the characteristics and evolution of capital inflows registered by the Spanish economy, and by the Eurozone as a whole, in order to propose a causal link between post-Euro exchange rate regimes adopted in Spain, capital inflows, and the imbalances that preceded the financial crisis of 2008.

Key words: Exchange rate regimes, Capital inflows, Domestic imbalances, Eurozone, Spain

JEL classification: F32, F36, O52

1. Introduction

Disparate strands found within the economic literature have linked financial crises with the massive reception of foreign capital, as well as with certain characteristics of monetary and exchange rate regimes, both as regards the USA in the early 21st century and for emerging economies in the 1990s.

More specifically, several studies (which we shall term the ‘global imbalances’ literature) have related the US crisis of 2007–2008, which was preceded by significant banking fragilities and trade imbalances, with a monetary and currency regime that optimized the continuous attraction of international capital. At the same time, an extensive literature (hereafter the ‘too much of a good thing’ strand) has argued that fixed exchange rate regimes in emerging economies in the 1990s facilitated the massive inflow of foreign capital, thus fostering banking fragility and trade deterioration.

With the creation of the European Monetary Union (EMU), member countries experienced the anomalous overlap of two exchange rate regimes. In relation to the

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rest of the world, the Eurozone presented a floating exchange rate regime with characteristics similar to that of the USA during the period of ‘global imbalances’. On the other hand, for intra-Eurozone relations, member countries and especially peripheral countries like Spain presented a fixed exchange rate regime comparable to those adopted in emerging economies during the 1990s.

The similarities between the Eurozone and the USA on one side, and peripheral Eurozone countries and emerging economies on the other, could bring forth the links between exchange rate regimes and capital inflows, on the one hand, and capital inflows and imbalances, on the other hand, for the case of the making of the EZ crisis.

The specific and original goals of this work are therefore as follows. First, we seek to confirm similarities between the monetary and exchange rate regimes in the Eurozone and USA in the decade prior to the financial crisis, as well as between exchange rate regimes in peripheral Eurozone economies (particularly Spain) and emerging economies in the 1990s, prior to their own financial crises. This similarity of exchange rate regimes between the peripheral European countries and emerging economies has been suggested, for instance by [De Grauwe \(2011\)](#). But we believe that a detailed comparison between those exchange regimes has not been done in the previous literature. Also, to the best of our knowledge, similarities between the Eurozone and the US exchange rate regimes have not been explored.

Second, we attempt to explain the massive capital inflows into the Eurozone and Spain by virtue of the interaction of the anomalous dual exchange rate regimes. We hope to illustrate that, in the Eurozone, the introduction of a floating exchange rate (along with financial liberalization and autonomous monetary policies that held interest rates at very low levels) facilitated the boom in international capital inflows, just as in the USA. Meanwhile, in the peripheral economies of the Eurozone, and in Spain in particular, the introduction of fixed exchange rates together with full financial liberalization and the loss of monetary autonomy formed the basis of further massive capital inflows from within the Eurozone itself. The relevance of capital inflows in an explanation of the European crisis is not strictly original to our paper. [Baldwin *et al.* \(2015, p. 2\)](#), in a consensus narrative of the Eurozone crisis, states that ‘the real culprits [of the crisis] were the large intra EZ capital flows that emerged in the decade before the crisis’. But this narrative does not explicitly acknowledge the role of extra-Eurozone capital inflows, nor does it try to systematically link the entry of capital (both extra- and intra-Eurozone) to exchange rate regimes.

Third, we present the internal difficulties present in the Spanish economy—banking fragility and trade deterioration—as not only the cause but also a consequence of massive capital inflows from abroad. The literature on the Spanish financial crisis has tended to suggest that economic growth was unsustainable, due to imbalances that required external financing for their sustenance. Here we suggest a different direction of causality: from capital inflows to internal imbalances, which may have overlapped and reinforced the other (from imbalances to capital inflows). The aforementioned studies ([Baldwin *et al.*, 2015](#); [De Grauwe, 2011](#)) have emphasized the perils of capital inflows; perils that would arise from the possibility of sudden stops. Here we try to present capital inflows, not just as subject to volatility, but as contributors to financial and macroeconomic imbalances (such as the ‘too much of a good thing’ literature does for emerging economies).

These three goals can be united into a single general hypothesis, well illustrated by a metaphor used by [Wade \(2000\)](#) in describing the East Asian financial crisis of 1997.

He characterized crisis as resulting from a ‘wheels within wheels’ mechanism: internal imbalances in East Asia had resulted from the wheels of domestic credit intermediation, itself moved by the wheels of international capital inflows. Here our overall hypothesis is that internal imbalances (and ultimately the crisis) in Spain may be explained by a mechanism of ‘wheels within wheels within wheels’: the wheels of domestic credit intermediation moved by the wheels of capital inflows from the Eurozone, moved by the wheels of international capital entering Europe.

This work is based on the logical argument of the aforementioned literature strands (on ‘global imbalances’ and ‘too much of a good thing’), as well as the analysis of capital flows and financial positions in the Eurozone and Spain. These two strands of literature share some arguments, such as that there are possible causal links between exchange rate regimes, capital inflows and financial imbalances. They differ in that the former refers to countries with floating exchange rates and reserve currencies (therefore developed/central economies); and the latter refers to countries with fixed exchange rates and no independent monetary policy (therefore emerging/peripheral economies). To our knowledge, these two strands of literature have not been related in previous studies, neither in general nor applied to the Eurozone crisis.

The paper is organized as follows. First, we present the ‘global imbalances’ literature as applied to the USA and analyse the Eurozone through its perspective (features of the monetary and exchange rate regime and its possible pull effects on capital inflows). Second, we examine the ‘too much of a good thing’ literature as it refers to the emerging economies in the 1990s in order to analyse the Spanish case: the exchange rate regime and its potential impact on capital inflows and financial/banking and macro-economic/trade imbalances.

2. ‘Global imbalances’: Is the Eurozone similar to the USA?

2.1. *The USA: currency regime, capital inflows and imbalances*

2.1.1. *Currency regime and capital inflows.* The Mundell-Fleming trilemma establishes the inability to pursue three policies simultaneously: fixed exchange rates, autonomous domestic monetary policy and free cross-border movements of capital. Simply put, the USA chose to preserve an autonomous monetary policy combined with financial liberalization and a floating currency.¹

Theses like those in [Dooley et al. \(2003\)](#) on ‘Bretton Woods II’, or in [Bernanke \(2005\)](#) on the international saving glut, argue that the combination of financial liberalization with a floating exchange rate does not guarantee the autonomy of US monetary policy, given the particular role of the dollar as the international reserve currency. Following [Triffin \(1960\)](#), Bernanke argued that if US monetary policy is overly restrictive, international demand for liquidity would be unsatisfied. Hence, the monetary authority is forced to opt for expansionary policies, which boost domestic demand. It is this ‘obligation’ which feeds huge external imbalances, offering

¹ The description of the US currency regime in terms of the trilemma is useful for the purpose of exploring consequences of currency regime models on capital inflows, in spite of the facts that the Mundell-Fleming trilemma relates more closely to small and open economies, and that the USA is exceptional insofar as it holds the main reserve currency.

optimal conditions for the entry of portfolio capital from a new periphery that generates savings via the export-oriented growth model, and which values profitable investments (private-sector assets) as well as stowing away wealth in a safe currency (public-sector assets).

However, [Roubini \(2005\)](#) and others (i.e. [Eichengreen, 2004](#)) question the passive and stabilizing character attributed by Dooley and Bernanke to the US economy. These authors believe in the autonomy of American monetary policy and agree with Bernanke that the stimuli towards domestic demand through borrowing has indeed been behind both the attraction of foreign capital and global imbalances; however, they consider that said stimuli have not responded to external factors, but rather to the Federal Reserve's addressing of domestic problems. [Palley \(2013\)](#) proposes something similar: that low interest rates and fiscal deficits were aimed not merely at reviving the economy (following the technology stock crisis in 2000–2002) but also at mitigating the slowdown in aggregate demand caused by rising inequality and stagnant wages. Meanwhile, [Bibow \(2010\)](#) takes this argument further by stating that the overabundance of US dollars (the dollar glut) caused by monetary expansion is the source of global imbalances, in that excess dollars moved abroad and then returned to the USA as savings.

Bibow's thesis places the epicentre of imbalance in the monetary-credit laxity of the USA, then goes on to suggest that in economies with reserve currencies, the attractiveness for capital inflows of the monetary-currency regime (financial liberalization, floating exchange rate and independent monetary policy) is reinforced when monetary autonomy is used to keep interest rates low.

2.1.2. Capital inflows and domestic imbalances. Following Bibow's thesis, as well as Bernanke's and Dooley's, monetary-currency conditions in the USA led to an inflow of international capital. But can a causal relationship be established between that inflow and the financially destabilizing dynamics at work in the US economy? In the literature on the 2008 crisis, we find three arguments in support of this idea.

The first argument concentrates on the positive net balance of the financial account, due to international demand for safe assets denominated in dollars. Under this approach, the appeal of US assets can capture savings without raising interest rates, thus generating an excess liquidity in the system that can be drained outwards only partially. At the same time, it is argued that monetary laxity can be maintained without generating inflationary pressures due to, among other things, capital inflows pushing the exchange rate upward, lowering the cost of imports and thus reinforcing the deflationary trends coming from the new periphery. As noted by Roubini, Bibow and others, a feedback effect takes place whereby low rates facilitate the generation/attraction of foreign savings, and the inflow of savings pushes interest rates downward (decreasing interest rates being one of the main triggers of an asset bubble and the decreasing stability of financial institutions).²

The second argument emphasizes the recycling of safe assets into risky assets. [Caballero and Krishnamurthy \(2009\)](#) argue for existence of a causal link between

² This is similar to [McKinnon and Schnab's \(2004\)](#) argument concerning the Japanese crisis, whereby in Japan the deflationary effect of financial liberalization, coupled with declining export competitiveness due to an appreciation of the currency, brought about lower interest rates. This, in turn, combined with said financial liberalization, led to a rapid asset inflation, which would have dramatic long-term consequences for the Japanese economy.

capital inflows and financial fragility, since demand for safe assets by international savers allowed the creation of riskier assets, which large banks transferred to subsequent savers. This transformation of safe assets into ‘toxic’ assets followed three steps. First, the demand for safe assets facilitated low-cost bank leveraging, therefore stimulating credit supply, with varying degrees of risk. Second, loans were securitized for resale as seemingly safe financial assets. Third, these traded securitized loans re-entered the banking system, feeding credit expansion, the creation and accumulation of toxic assets, and bubbles in those states with better conditions for real estate development.³

[Bibow \(2010\)](#) also draws attention to the transformation of safe assets into risky assets as the reason it became a financial crisis (with imbalances concentrated ‘within’ the USA) instead of a balance-of-payments crisis (as was anticipated by much of the literature on ‘global imbalances’). However, Bibow does not explain such transformation by way of the foreign demand for safe US assets (as [Caballero and Krishnamurthy](#) do), but through the ‘messy’ issuance of loans and securities by US financial institutions.

The third argument extends the reasoning around net inflows of capital to gross inflows. Bank leveraging financed with foreign capital is not defined by an economy’s net financial position: if gross capital inflows raised by the banking system are significantly large, then excess liquidity, financial instability and asset bubbles may follow, even if those inflows are compensated in net terms by outflows of loans and foreign direct investment (FDI). Therefore, the increase of gross capital inflows may appear as a cause (and as a reflection) of uncontrolled monetary and financial dynamics. This is precisely the reasoning that leads [Obstfeld \(2012\)](#) to propose that the relationship between capital mobility and financial crises should be studied in light of gross flows.⁴

In conclusion, although [Aizenman and Jinjark \(2008\)](#) found a strong empirical relationship between the accumulation of current account imbalances and housing bubbles, it is difficult to discern whether the entry of foreign savings is the cause or consequence of domestic dynamics and imbalances ([Wade, 2000](#)). In either case, it can be stated that: (1) in mature economies with currencies that serve as a reserve asset, the liberalization of the financial account together with a floating currency creates conditions favourable for capital inflows; (2) when expansionary monetary policies are added, foreign savings are attracted; (3) these inflows contribute in turn to the use of monetary autonomy, in the direction of low interest rates; and (4) low interest rates, combined with financial deregulation, help massive capital inflows to become destabilizing, mainly through three channels: surplus of the financial account, conversion of safe assets into risky assets and an overabundance of gross capital inflows.

³ [Dooley et al. \(2009\)](#) also agree that capital inflows may have deflationary effects that push interest rates down. However, they explicitly deny the existence of an inevitable causal link between balance-of-payments imbalances and financial crises: in the absence of regulatory failures, credit excesses or housing bubbles would not appear.

⁴ [Obstfeld \(2012\)](#) also warns that contagion effects are closely related to the volume of assets and liabilities exchanged, rather than to net positions between countries. However, few studies address this field (gross inflows and crisis) as yet, and most are focused on the cyclical behaviour of capital flows (see [Broner et al., 2013](#), for the Spanish case).

2.2. *The Eurozone: currency regime, capital inflows, and imbalances*

2.2.1. *Lines of argument from the literature on the USA.* The European Union initially opted for the reconstruction of a monetary system very similar to that conceived at Bretton Woods, but the ultimate decision to fully liberalize financial transactions—arrived at in the 1980s and institutionalized in 1986 with the Single Act—challenged the European Monetary System (EMS). The Maastricht Treaty led Europe toward a very particular solution to the trilemma posited by Mundell and Fleming. In fact, countries within the Eurozone combined two solutions: in the Eurozone, fully fixed and irreversible exchange rates and financial liberalization, sacrificing the sovereignty of monetary policy; and for the rest of the world, an approach similar to that of the USA—a floating (reserve) currency, financial liberalization and ‘autonomy’ of ECB policy.

The Euro as an international reserve currency is not fully comparable to the dollar, and the autonomy of the ECB is severely limited by its anti-inflation mandate, despite which (and following the three arguments previously raised) the evolution of the Eurozone’s financial relations shows some similarities to that of American financial relations.

Looking into the net financial balance, there is a substantial difference between the two spaces, with the USA showing a marked deficit in its current account and the Eurozone a state of equilibrium. However, observing only financial capital (and therefore excluding FDI), the Eurozone shows a debit like the USA, albeit a smaller one. That is to say, the Eurozone has also captured savings from abroad and, like in the USA, this effect may be related to the characteristics of its monetary and exchange rate regime, and to the evolution of interest rates (downward) and the exchange rate (upward).

It might also be argued that, beyond net balances, the gross inflow of capital in search of safe assets may have contributed to increasing liquidity within the Eurozone. Given the role of banks in channelling capital from abroad, foreign capital may have contributed to their increased issuing of credit, thus accumulating assets on their balance sheets while facilitating the development of leverage chains with banks in other countries (chains that in turn fed loans made to households and businesses in some Euro economies) (Borio and Piti, 2011; Lane, 2013).

Regarding the management and transformation of assets, it is worth remarking that central Euro countries captured savings from outside the Eurozone, mostly in the form of safe portfolio assets, and transferred them to peripheral Euro-countries, mostly in the form of loans. This suggests that, not unlike what happened in the USA, there was a transformation within the Eurozone of safe assets into risky assets. One might presume, *à la* Bilbow (2010), that this process had its origin in the demand for financing from debtor Euro-economies—a demand generated ‘from within’ by low interest rates and financial liberalization. But one might also consider, *à la* Dooley *et al.* (2009), that the transformation of portfolio liabilities into loans has been favoured by extra-Eurozone countries seeking safe financial spaces, such as those in central Euro countries like Germany and France.

2.2.2. *Empirical support.*

a) *Net financial balance* The financial account surplus of the USA in 2006 approached 6% of GDP, while the Eurozone financial account (with the rest of the world) remained relatively balanced. However, excluding FDI, the financial account surplus of the Eurozone increased notably after monetary unification, in loans and especially

in portfolio capital: from equilibrium to 2.5% of GDP between 2002 and 2007, reaching 5% of GDP in 2008 (Figure 1). In the USA, this percentage was at 4.5% of GDP in 2008, from a peak of 6.2% in 2005.

A country-level analysis reveals that debtor positions were not limited to Southern countries. France is a striking example: according to Waysand *et al.* (2010), France's accumulated foreign debt was at 10% of GDP in 2008, up from its 2002 creditor position (3% of GDP). Still, the increase in foreign debt was particularly negative in the South: in five years, Italy's debt grew from 15% to 20% of GDP; Greece's from 59% to 71%; Portugal's from 60% to 89%; and Spain's from 47% to 77%.

Figure 2, which refers to net portfolio financial positions vis-à-vis extra-Eurozone countries, confirms that only financial centres such as Ireland and Luxembourg (and, more timidly, the Netherlands and Belgium) recorded a creditor position in 2007. The remaining countries held debtor positions outside the Eurozone, the case of Germany being especially prominent. France and Finland, as well as Spain and Italy, also had debtor positions.

b) *Gross inflows of financial capital* Strong growth of credit and portfolio capital movements is a relevant consequence of monetary unification. Considering investment from only countries outside the Eurozone, inflows quadrupled in just five years, accounting for 60% of US inflows. When capital coming from member countries is also accounted for, inflows multiplied 3.6-fold, reaching 2.35 trillion Euros in 2007. This is an extraordinarily high figure, reaching 90% of capital received by the USA. In other words, following its creation, the Eurozone became one of the great attractors of international financial capital.⁵

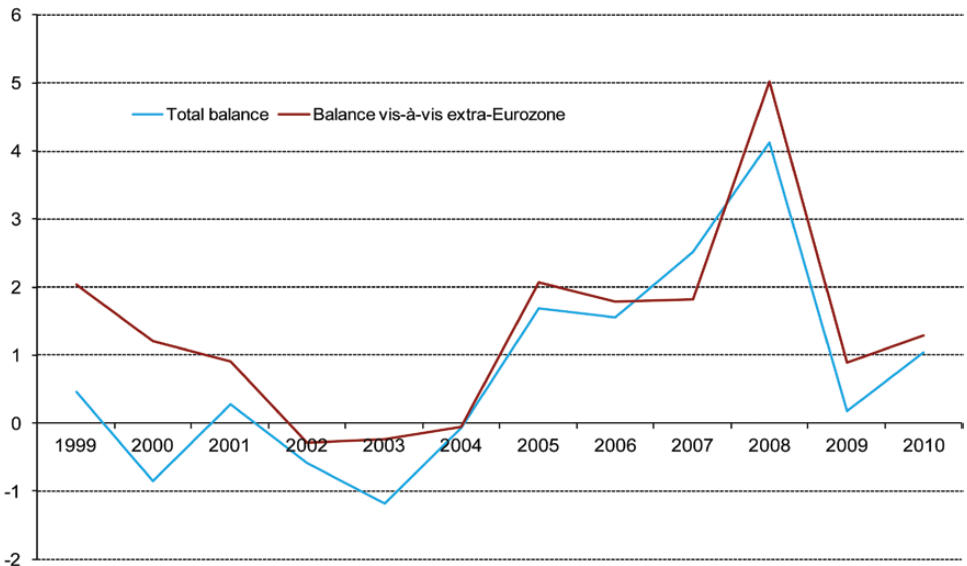


Figure 1. Eurozone's PI and OI joint balances, % of GDP, 1999-2010

Note: Data for total balance correspond to Eurozone-12 and data for balance vis-à-vis extra-Eurozone data correspond to Eurozone-16.

Source: Authors' elaboration with data from Eurostat.

⁵ As in the United States, most extra-Eurozone capital came from financial institutions located in other leading economies. According to Eurostat statistics, more than 40% of portfolio assets held by foreigners

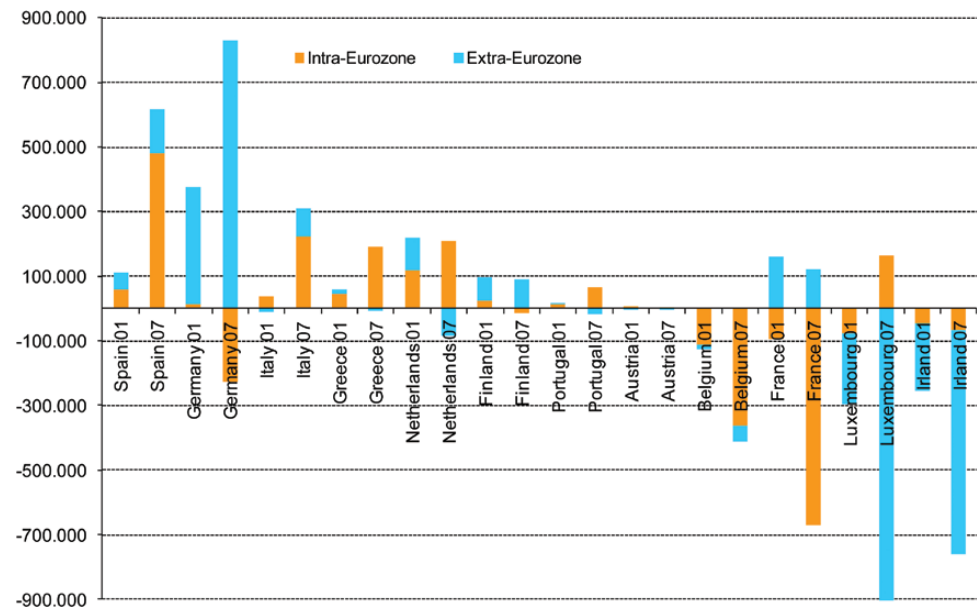


Figure 2. Net portfolio positions, intra- and extra-Eurozone, in millions of US dollars, 2001 and 2007
Source: Authors' elaboration with data from CPIS.

In terms of GDP, financial capital inflows (portfolio and loans) increased over five years from 10% to 26% of GDP in the Eurozone (or from 5% to 17%, excluding intra-Eurozone movements) (Figure 3). Therefore, in terms relative to GDP, the Eurozone figures were even higher than those of the USA (6.5% and 13% of GDP between 2002 and 2007, respectively).

At the country level, growth of inflows was widespread, affecting dynamic economies (like Spain and Greece) as much as others where growth and profitability expectations were smaller. Among the latter, in Germany and France, inflows relative to GDP (including intra- and extra-Eurozone) increased by ten points (from 7.5% to 17.5%) and by seven points (from 17% to 24%), respectively. Meanwhile, in Spain and Greece, said inflows reached 19% and 28%, respectively, in 2007 (rising from 10% and 14% in 2002). In smaller core economies, and even more so in financial centres (Ireland and Luxembourg), increases were much higher. In Belgium, for example, inflows rose from 14% to 47% of GDP, while Ireland's and Luxembourg's inflows surpassed 100%.

c) *Management and transformation of assets* Although capital inflows from outside the Eurozone grew strongly in all countries, most of these investments were concentrated into five economies. Figure 4, which refers to portfolio financial positions, shows how Germany, France and the Netherlands hosted 60% of total extra-Eurozone

was owned by investors from outside the Eurozone, of which two-thirds were owned collectively by investors in the USA (27%), the UK (17%), Japan (11%) and Switzerland (8%). The data offered by Milesi-Ferretti et al. (2010) on total financial liabilities accumulated by the Eurozone confirm this geographical concentration. Following the same source, three locations (the USA, the UK and 'offshore') were the main destinations for investment by Euro-members outside the Eurozone, making net flows between the Eurozone and these core areas fairly balanced.

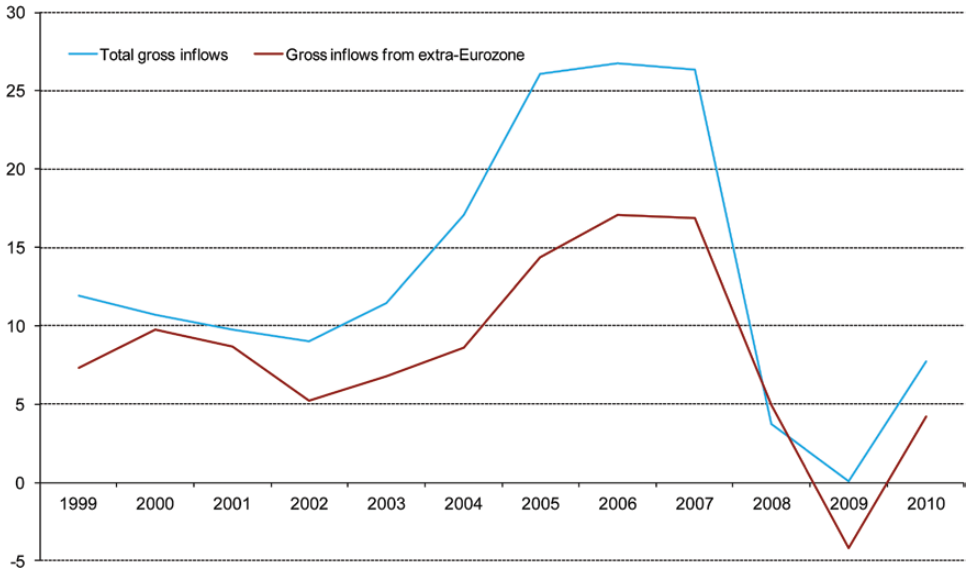


Figure 3. Gross inflow of PI and OI in the Eurozone, % of GDP, 1999-2010

Note: Data for total gross inflows correspond to Eurozone-12 and data for gross inflows from extra-Eurozone correspond to Eurozone-16.

Source: Authors' elaboration with data from Eurostat.

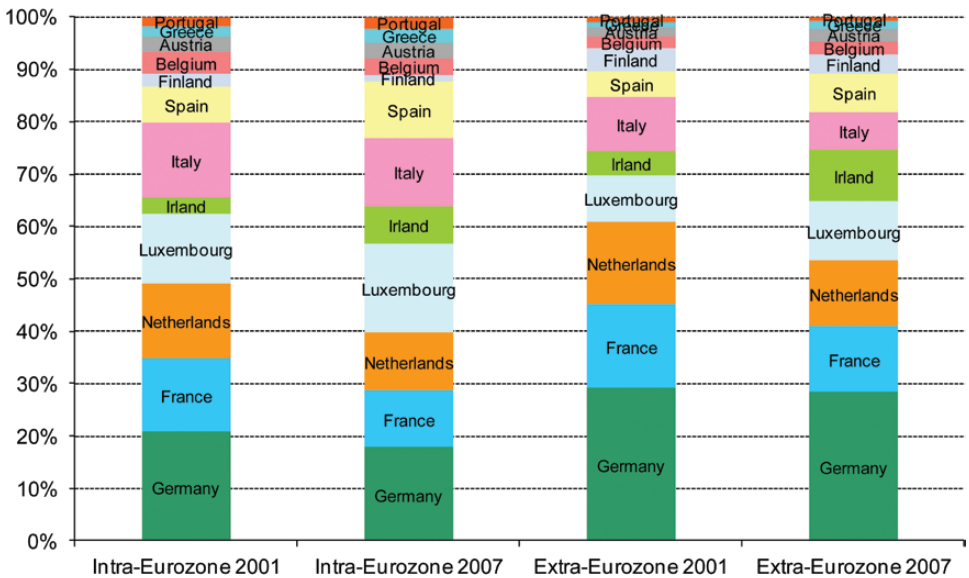


Figure 4. Share of countries in gross PI liabilities, intra- and extra-Eurozone, % of total Eurozone-12, 2001 and 2007

Source: Authors' elaboration with data from CPIS.

investments, while Luxembourg and Ireland (which since the creation of the Euro have increased their role as hubs for financial intermediation) hosted another 20%. With much smaller participation, we find the three small core countries (Belgium, Austria

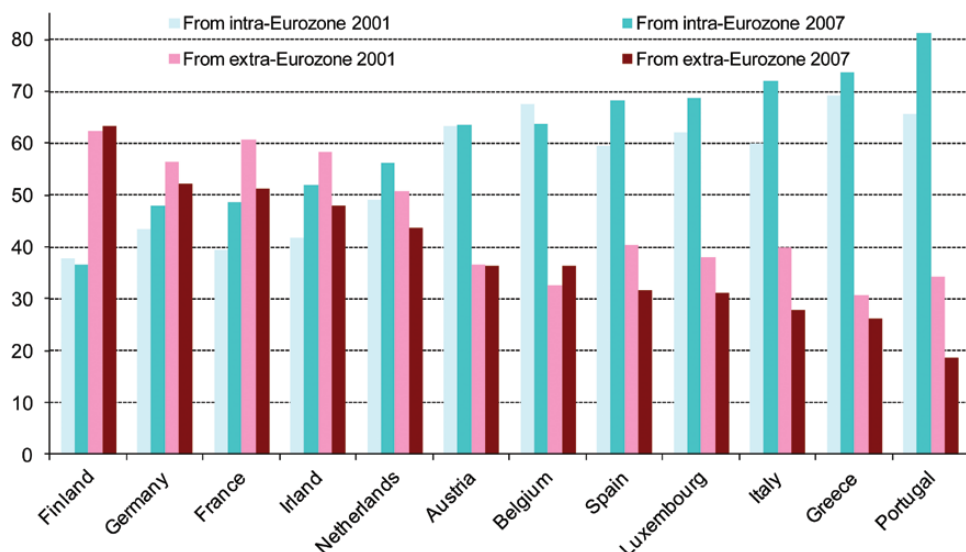


Figure 5. Share of intra- and extra-Eurozone in gross PI liabilities, % of each country total, 2001 and 2007

Note: Total data corresponds to Eurozone-12.

Source: Authors' elaboration with data from CPIS.

and Finland) and the four southern countries (Spain and Italy, and with even smaller positions, Portugal and Greece), whose joint share was of only 12% (furthermore, their individual shares decreased, especially in Italy and excepting Spain).

In contrast, [Figure 4](#) also shows that the share of the four Southern countries was much higher (around 30%) when observing intra-Eurozone capital inflows and, furthermore, that it increased significantly after the creation of the Euro. [Figure 5](#) confirms this: financial relations of the Southern economies were strongly oriented towards the interior of the Eurozone, from which they obtained around three-quarters of incoming capital; in the remaining countries, around half of such flows came from outside the Eurozone.

This asymmetry among core and peripheral countries is consistent with the fact that the portfolio-positive financial positions of Germany and France with economies outside the Eurozone 'transformed' into clearly negative balances (especially for France), vis-à-vis Eurozone countries. This turned the two core countries (together with Belgium and, to a lesser extent, Ireland) into large net lenders within the Eurozone, thanks in part to funding they obtained from the rest of the world.

Spain became a main destination for such funding, along with Italy, Greece, the Netherlands and, to a lesser extent, Portugal. Spain and Italy further combined this 'internal' debt balance with debt balances vis-à-vis the rest of the world. This was not true of Greece and Portugal, financed only from within the Eurozone, or of the Netherlands, which held a creditor position with countries outside the area.

This channelling of extra-Eurozone savings from Northern economies to Southern economies reflects the transformation within the Eurozone of relatively safe assets, captured from outside the zone by core economies, into relatively risky assets, issued by companies and financial institutions in peripheral countries. The risk premium in the latter countries seems to have been perceived outside the Eurozone, due to a preference for financing core economies, but not as much inside the Eurozone.

The data we have at our disposal also suggest that risk transfer involved mostly banks, and not only those of the peripheral economies. As shown in [Figure 6](#), banks were the recipients of almost all credit flows (approximately 80%) and of significant portfolio investment, giving rise to the conclusion that core country banks were the main recyclers of capital, transforming it into loans to institutions located in countries with higher risk of default.⁶

To sum up, the trends of net balances, gross inflows and the transformation of assets from outside the Eurozone show interesting similarities with trends observed in the USA, with which the Euro Area shared a monetary and currency regime based on financial liberalization, monetary autonomy and the floating exchange rate of a currency capable of serving as a reserve asset.

Thus like the USA, the Eurozone stands out as a vast economic area, able to capture massive amounts of financial capital from outside its borders. During the pre-crisis period, such capital was internally channelled towards those economies with net funding needs, which contributed along with downward interest rates to the multiplication of credit (monetary supply) within the overall Euro Area. From this perspective, financial relations within the Eurozone were not limited to those bilateral exchanges between countries needed to settle current account imbalances.⁷ On the contrary: far from being a financially closed area, the Eurozone served as a unified economy open

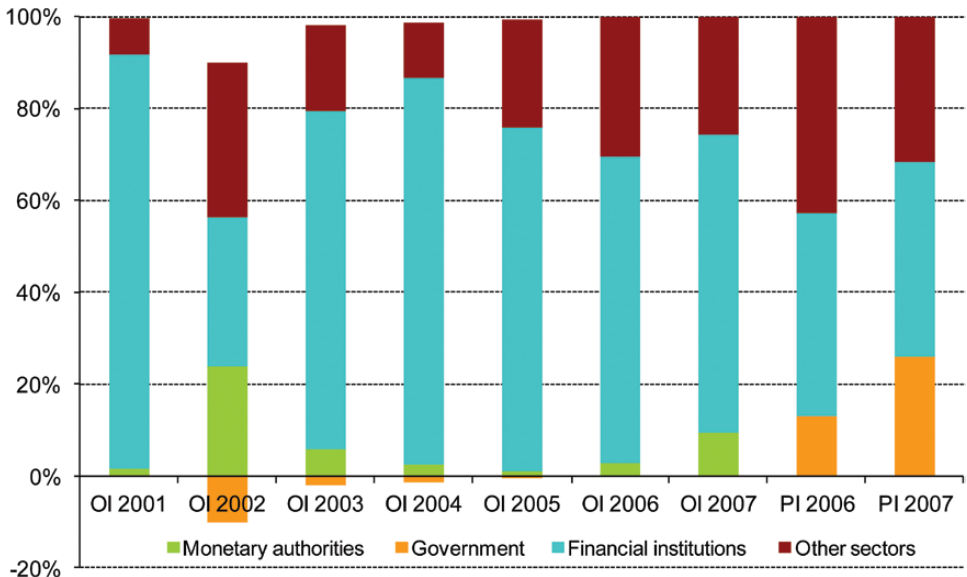


Figure 6. Share of sectors in PI and OI inflows, % of total Eurozone-12, 2001-2007

Note: Data for PI are only for 2006 and 2007 due to the non-availability of additional data.

Source: Authors' elaboration with data from Eurostat.

⁶ In 2007, one-third of the Euro bonds and shares sold to foreign savers were issued by non-financial companies, whereas up to 40% were issued by banks and other financial institutions. Banks prove to have been even more relevant, considering that loans became the leading (and fastest-growing) type of financial instrument during the period: Loans from abroad in 2002 accounted for just 2.4% of the Eurozone GDP (0.9% from extra-Eurozone sources) but reached 15.5% in 2007 (10.5% extra-Eurozone).

⁷ [Milesi-Ferreti et al. \(2012\)](#) show the absence of a bilateral relationship between trade and financial exchanges.

to very active financial relations with the rest of the world, so that neither its ‘internal’ current account imbalances nor the financial relations between its members could be fully understood without reference to the area’s extra-Eurozone financial relations, or those of its many members.⁸

3. ‘Too much of a good thing’, from emerging economies to Spain

3.1. *Emerging economies: Currency regime, capital inflows and imbalances*

The ‘too much of a good thing’ strand of literature is useful as a guide for explaining, theoretically and empirically, how numerous emerging economies in the 1990s implemented a monetary and exchange rate regime ideal for attracting international capital, and how foreign capital inflows were at the origin of trade and/or financial imbalances preceding financial crises in these economies.

Indeed, the literature focused on capital flows to emerging economies in the 1990s, while acknowledging the presence of push factors such as falling interest rates in developed economies (Goldstein, 1995), takes the view that these movements depended mainly on pull factors related to liberalization of the financial account, along with fixed exchange rates (both of which entailed the elimination of autonomy in the management of monetary policy).

This model proved perfect for attracting foreign capital for several reasons (Dooley, 1999). First, capital (and especially volatile capital) was attracted by the (apparent) absence of currency risk (Reinhart and Reinhart, 1998). Second, exchange rate anchors were interpreted as a step towards orthodox fiscal and monetary policies—in other words, as an anti-inflationary commitment by the government. Moreover, in compliance with that commitment, many economies had to implement severe restrictive measures, such as the raising of interest rates, which often became an additional pull factor. Third, the international support (by the IMF, for example) for this monetary and currency regime reduced the expected risk of default on debts taken by the countries implementing such a scheme. And, fourth, the liberalization of international capital movements not only allowed the entry of foreign capital, but was accompanied by deregulation of the domestic financial systems, thus opening channels of intermediation and profitability for said foreign capital.⁹

Initially these inflows probably contributed to stabilization and to economic growth through various channels (financing the current account, local businesses, non-inflationary fiscal deficits...). But at the same time, as the ‘too much of a good thing’ literature explains, capital inflows fed financial-banking and/or macroeconomic-trade imbalances that, in turn, eventually led to the outbreak of banking and/or currency crises.^{10,11}

⁸ Lane (2013, p. 5) highlights this point when he says that ‘the external financial linkages matter for several reasons. Although the aggregate current account balance of the euro area has been relatively small in recent years, net external financial flows can allow the euro area to run collective current account imbalances’.

⁹ See empirical studies on the importance, during the 1990s, of diverse push and pull factors in Sarno and Taylor (1997), Montiel and Reinhart (2001) and World Bank (1997).

¹⁰ For studies on Latin America and East Asia, see Calvo *et al.* (1993a and b; 1996), Fernández-Arias and Montiel (1996), Glick (1998) and, more recently, Reinhart and Reinhart (2008) and Cardarelli *et al.* (2010).

¹¹ The ‘too much of a good thing’ literature not only identifies potential negative effects of capital inflows, but also studies the difficulties in implementing effective policies to prevent such effects.

The financial-banking imbalances referred to in the literature may be classified as excessive credit, market and liquidity risks (Johnston and Ötke-Robe, 1999). Credit risks arise from the exposure of banks to unfulfilled contracts, such as loan defaults; and risk increases when banks take too much capital from lenders and channel it into the domestic economy through excessive credit (over-intermediation) (McKinnon and Pill, 1997; Mishkin, 1998; and Montiel and Reinhart, 2001). Furthermore, over-intermediation may increase market and liquidity risks. Market risks stem from the possibility of losses due to changes in the market value of assets and liabilities—changes that are likely to occur for assets and liabilities (such as stocks or real estate) whose prices are subject to bubble and burst dynamics. Finally, banks or companies suffer liquidity risks when they are unable to reduce their liabilities or increase their assets at a reasonable cost, this cost increasing with the maturity mismatch between liabilities and assets (meaning this risk would grow if liquid assets were transformed into less liquid assets like real estate investments).

The reason a credit boom increases financial risks is that increasing liquidity generates incentives towards risk-taking, therefore decreasing the quality of the investments towards which new credits are intermediated. There can be various and multiple reasons for excessive risk-taking to happen: from the insufficient technical capacity of bank and business managers, to the existence of public guarantees, explicit or implicit, real or perceived (see, for example, Calvo *et al.*, 1993a). In any case, theses such as Minsky's (1977; 1986)—and, for open economies, Kregel's (1998)—suggest that those excessive risks are the result of an inevitable tendency to over-indebtedness in a context of financial deregulation.

What the 'too much of a good thing' literature states is that large foreign capital inflows 'may increase the magnitude, or complicate the management, of those types of risks that banks more typically face in their domestic activities' (Johnston and Ötke-Robe, 1999, p. 8). Panel studies, such as that in Ostry *et al.* (2011), confirm this point, portraying a strong relation between credit booms and surges in capital inflows, as well as between credit booms that end in crisis and surges in capital inflows. A recent study by Blanchard *et al.* (2015) confirms the first of these links, showing that at a given policy rate capital inflows may decrease the rate on non-bonds.

Apart from financial-banking problems, the literature on 'too much of a good thing' also identifies macroeconomic-trade distortions as capital inflows contribute to an expansion of monetary aggregates, which results in an increase in domestic demand. Domestic demand growth culminates, in turn, in deteriorating current account balances and/or inflation (Montiel, 1999). Inflation worsens—as do consequent current account imbalances, via the deterioration in price-competitiveness—if there is an increase in demand for non-tradable goods, while the current account can be directly damaged if the increase in demand is for tradable goods (see Goldstein, 1995; Montiel, 1995; 1999).

As economic policy proves unable to effectively prevent financial and/or macroeconomic problems, capital inflows end up threatening exchange rate stability. In other words, using the terminology of the second-generation models of currency crises, domestic imbalances lead the economy to a multiple equilibrium zone; a state with an open door to a vicious circle between, on the one hand, expectations of default and/or devaluation (and consequent rises in interest rates) and, on the other hand, the deterioration of financial and/or macroeconomic conditions. Hence, expectations of default

and/or devaluation could become self-fulfilling, putting an end to capital inflows and/or the fixed exchange rate.¹²

3.2. *Spain: Currency regime, capital inflows and imbalances*

3.2.1. *Currency regime and capital inflows*

a) *Lines of argument from the experience of emerging countries* Following its entry into the EU (1986) and up to the EMS crisis (1993), Spain experienced a smoother version of the model described above. The peseta became linked to the ECU with a band—quite wide at the beginning (6%) and stricter after 1989 (2.5%); restrictions on capital movements were relaxed to reach full liberalization in 1992, and monetary policy was characterized by a sharp rise in interest rates in an attempt to contain inflation differentials with EU partners. On this basis, the Spanish economy lived an experience similar to that described above, ending with financial speculation against the peseta and a sharp devaluation of the domestic currency.¹³

That crisis was not only the consequence of domestic problems, but also the result of the structural weakness of the EMS. Paradoxically, the ‘solution’ to the endogenous fragility of the EMS model (the Euro) reinforced its most distinctive features: with the Euro, member economies implemented a model of liberalization of the financial account, fixed exchange rates and complete and irreversible loss of sovereignty in the management of monetary policy. It was certainly an extreme case of the former model, but it apparently shielded against the risk of a currency crisis.

This enhanced model met—as in the case of emerging economies in the 1990s—optimal conditions for attracting foreign capital. This attraction stemmed primarily from three sources common to all cases: (1) exchange rate stability (fixed rates), (2) commitment of governments to fiscal and monetary stabilization and (3) financial liberalization and deregulation. But that was reinforced with the Euro, given: (1) the disappearance of the exchange rate risk, (2) the elimination in European financial markets of the premium risk on sovereign debt, with immediate effects on financing conditions in the private sector and (3) the integration of the member countries into a new currency zone which had the capacity to attract capital from the rest of the world.

In turn, these pull factors had a special importance for the Spanish economy, for two reasons.¹⁴ First, the novelties introduced by the Euro were greater for peripheral economies, given that before the monetary union Spain did not enjoy such monetary and fiscal credibility, nor had it reached the extent of financial liberalization of the core countries. Second, Spain was actively enjoying an attractive growth cycle when the Euro was put in place. Both of these factors help explain the asymmetric impact of the enhanced currency model on the Spanish economy, as compared to other Euro members.¹⁵

¹² Calvo (1998) and Obstfeld (1994) published theoretical models with financial fragility and the deterioration of export competitiveness. García (2005) and Olivé (2005), among others, applied those models to the Mexican and East Asian financial crises.

¹³ See in Obstfeld (1996) a second-generation model of currency crises applied to the crisis of the European Monetary System.

¹⁴ Veld (2014) consider similar factors to explain the boom-bust cycle in Spain, concluding that ‘a falling risk premium, a loosening of collateral constraints for Spanish households and firms, as well as the fall in the interest rate spread between Spain and the REA [rest of the Euro Area] fuelled the persistent rise in foreign capital flows to Spain during the boom that preceded the global financial crisis’.

¹⁵ When comparing Spain not to other Euro members but to those emerging economies that received capital in the 1990s, one might wonder how Spain was able to attract so much capital without meeting two

b) *Empirical support* Between 2001 and 2007, Spain became a major destination for foreign capital. Loans and portfolio inflows multiplied by more than three (by 3.2), rising from 9% to 19% of GDP and peaking at 23% in 2006 (Figure 7). As is widely known, both loans and portfolio inflows were received mostly by private companies (at over 80%, up to 90% in some years), as well as by financial institutions (between 40% and 70%) and non-financial institutions¹⁶ (between 20% and 50%) (Figure 8).

As a consequence, Spain in 2007 reached the seventh position in the Eurozone member ranking, ordered by size of total portfolio liability positions. Spain's extra-Eurozone liabilities grew rapidly between 2001 and 2007 (multiplying by 3.7), behind only Ireland (5.6); the main suppliers were the USA (11%), the UK (7%) and Japan (2.5%) (Figure 9). But the growth of intra-Eurozone liabilities increased even faster. In particular, between 2001 and 2007, Spanish portfolio liabilities multiplied by 5.5; again second only to Ireland (8.5) and placing Spain as the sixth largest debtor to other Eurozone members in 2007. As in other peripheral countries, the proportion of intra-Eurozone liabilities rose to around 70%, while in the core countries this share was near or below 50%.

Most of these massive portfolio liabilities were owed to two core countries: Germany (nearly 20%) and France (18%). Far below these, behind even the USA, ranked Luxembourg, the Netherlands, Ireland and Belgium (Figure 9). Also remarkable was

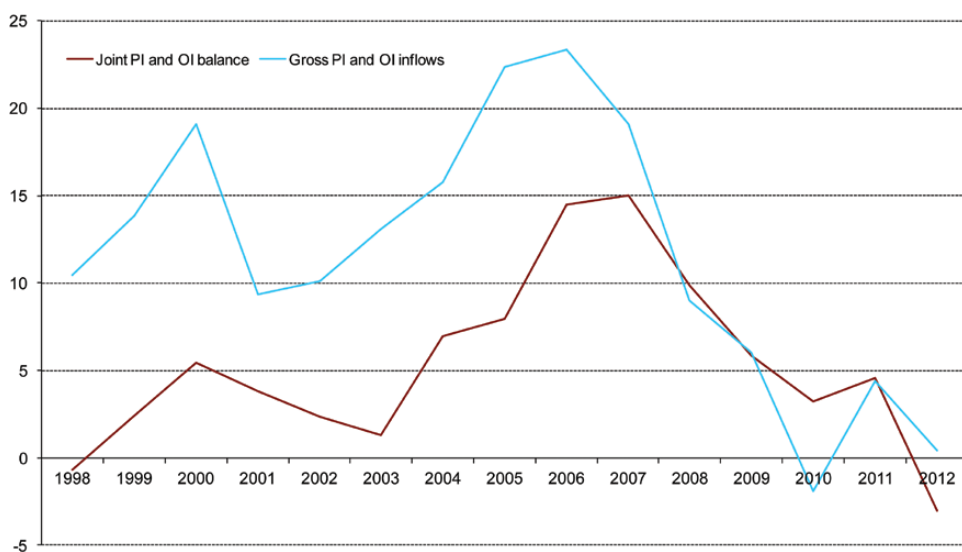


Figure 7. Spain's gross PI and OI inflow and PI and OI joint balance, % of PIB, 1998-2012
Source: Author's elaboration with data from Eurostat.

conditions—competitive fixed exchange rates and high interest rates—that the emerging economies did. First, a relatively uncompetitive fixed exchange didn't hamper trust in the country's ability to repay its foreign debt, probably due to the 'illusion' that the single currency enabled the financing of trade imbalances *ad eternum* (Torres, 2010). Second, low interest rates prevailed not only in Spain, but everywhere, and thus did not preclude capital from entering the country; indeed, high volumes were required to 'offset' the low remuneration of capital.

¹⁶ Monetary Financial Institutions (MFIs), here referred to as financial institutions, include the central banks of the Eurozone countries, credit institutions, money market funds and other financial enterprises. Non-financial institutions, often termed Other Sectors in statistics, include non-financial corporations, households, non-profit organizations and so on.

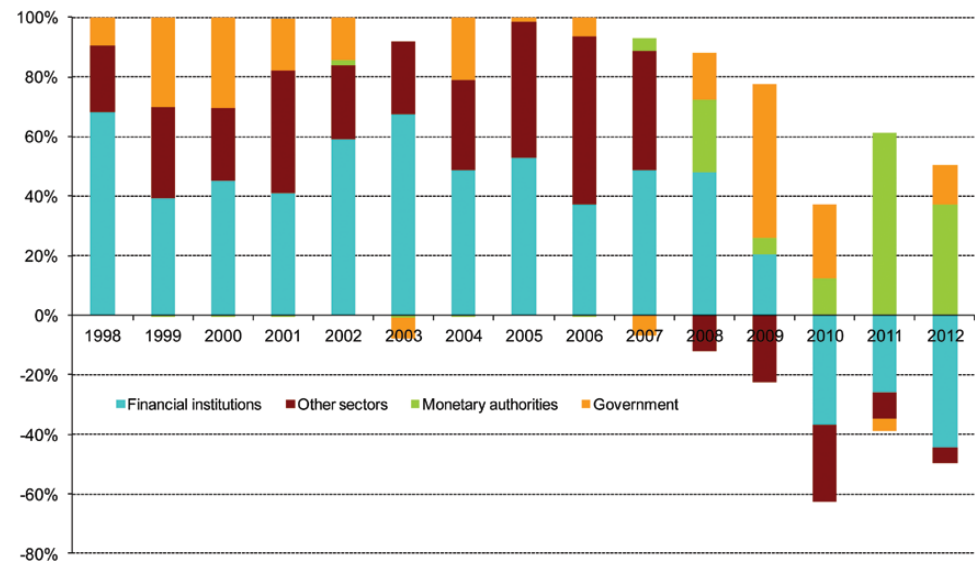


Figure 8. *Share of sectors in PI and OI inflows, % of Spain's total, 1998-2012*
Source: Author's elaboration with data from Eurostat.

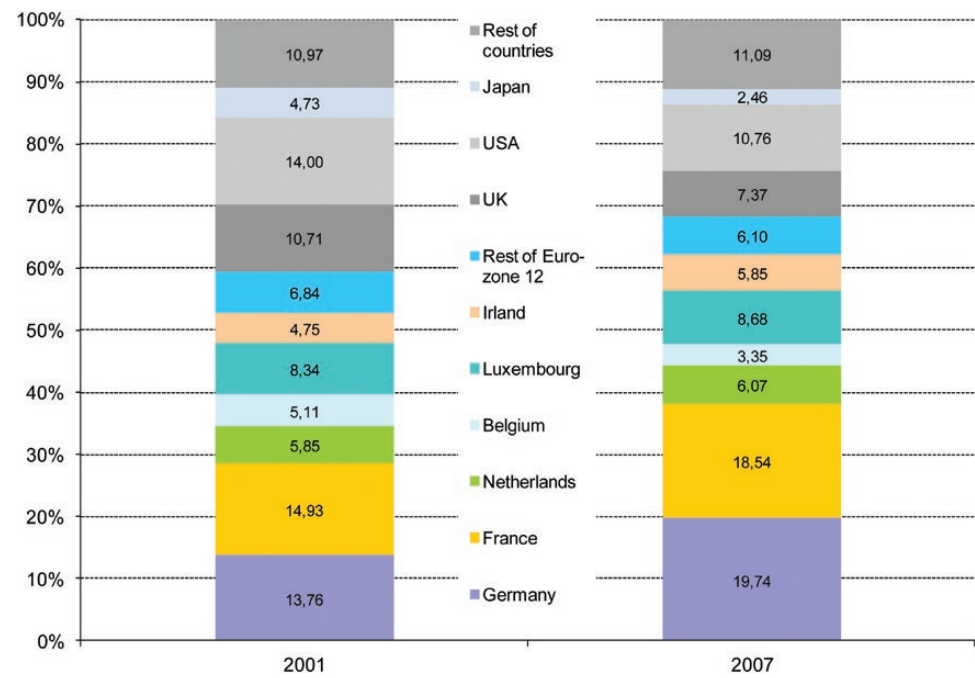


Figure 9. *Share of countries in gross PI liabilities, % of Spain's total, 2001 and 2007*
Source: Authors' elaboration with data from CPIS.

the overall transfer from extra-Eurozone creditors to intra-Eurozone core creditors. In just six years (from 2001 to 2007), while the USA, the UK and Japan collectively lost 8.8 percentage points, Germany and France together gained 9.6 points.

The same trends are observable when examining the financial balance and net investment positions, which illustrate even more clearly Spain's role as a main destination for intra-Eurozone capital. Between 2001 and 2007, the joint balance of portfolio investment (PI) and other investments (OI) multiplied by 6.1, rising from 25,700 to 158,400 million Euros—that is, from 4% to 15% of GDP (Figure 7).

Financial institutions were systematically the main contributors to this positive net balance, with net flows of around 5% of GDP in most of the years considered. Non-financial institutions, however, were the largest contributors to the growth of the financial surplus, moving from negative net flows in 2002 and 2003 to positive flows, above 10% of GDP, in 2006 and 2007.

Looking at net positions for portfolio investment, Spanish debts were acquired from both Euro and non-Euro countries, but the former were in 2007 much greater than the latter, despite having been similar in 2001. During that period, Spain's extra-Eurozone debtor position increased only modestly, from 8.4% to 8.9% of GDP, while debt within the Eurozone rose from 10.0% to 31.3% (Figure 6). The increasing dimension of the net debtor position within the Eurozone is attributable mainly to those same countries previously singled out as leading providers of gross liabilities: Germany and France. The net debtor position vis-à-vis Germany was less than 1% of Spanish GDP in 2001, but 18% in 2007; the same position with respect to France rose from 3% to 14%. Behind these countries, only the net debt position with the USA stood at a significant level (9% of GDP) in 2007.

In sum, Spain was able to attract large amounts of capital (gross and net), mediated by Spanish financial institutions (and, to a lesser extent, by non-financial companies), and increasingly from two large Euro economies. These two economies, Germany and France, were in turn attracting large amounts of capital (gross and net) from outside the monetary area. In other words, using Wade's metaphor (2000), which described the Asian crisis as the result of a 'wheels within wheels' mechanism (the wheels of domestic credit intermediation within international capital movements), it may be said that Spain experienced a mechanism of 'wheels within wheels within wheels', since it was intermediating capital drawn from the Eurozone which, in turn, attracted capital from the rest of the world.

3.2.2. Capital inflows and imbalances. With different emphases, many authors have explained the Spanish crisis as the consequence of diverse domestic imbalances. Here we argue that financial and macroeconomic imbalances in Spain were not very different from those economies mentioned in the previous section as experiencing 'too much of a good thing'. Next, we briefly review those domestic factors that the Spanish crisis literature tends to posit as causing such imbalances; rather than attributing imbalances to the inflow of capital (as does the 'too much of a good thing' strand), this literature tends to find domestic causes for imbalances and even to sometimes suggest the reverse (imbalances resulting in the need for foreign capital). We are aware that the presence of large capital inflows, even if highly volatile, does not in itself prove causality between capital inflows and domestic imbalances. However, as Wade (2000) has done, we rely on logical arguments and empirical information to at least suggest causal links between massive capital inflows and increasing domestic imbalances. We present this information for banking imbalances, and subsequently for trade imbalances.

Many papers have emphasized financial-banking imbalances as an explanatory factor of the Spanish crisis. In particular, rising private indebtedness, as well as a clear

increase in credit risk, was observed through the expansion of bank credit (Calvo and Paúl, 2009; Alonso and Blázquez, 2013). This expansion fed what we have referred to as market and liquidity risks, since a growing share of credit went towards financing a housing bubble¹⁷ (increasing the risk of a sharp downfall on the price of the collateral), along with the building sector (whose returns are long term and dependent on the housing bubble) and public investments (fiscal income also being highly sensitive to the boom in the real estate sector). Finally, easy credit explains, at least in part, the emergence of asset bubbles, whose returns were required by many non-financial institutions in order to cope with their financial debts.

Obviously there are many domestic factors that feed excessive domestic risk-taking. Over-intermediation of credit by banks was undoubtedly supported by the credit demand of companies and households, and this demand was in turn fuelled by increasing returns on investments and relatively high employment levels. Moreover, politicians and civil servants helped strengthen lending through public spending, fiscal stimuli, lax banking supervision and bad governance practices in many (not all) *cajas de ahorro* (saving banks). In any case, we contend that easy access to foreign financing was at least a prerequisite, if not a reinforcing factor, for both excessive borrowing and excessive lending by most financial institutions.

Regarding excessive foreign borrowing, the increase in banks' foreign debt indeed facilitated a credit expansion within Spain that would have been unthinkable if supported by domestic liabilities alone. In fact, 'there was a radical change in the intermediation of financial resources ... No longer were resources drawn from households' savings, toward companies and other borrowers; it was the rest of the world that became the provider of savings, which financial institutions intermediated toward non-financial institutions and households' (Calvo and Paul, 2009, p. 68).¹⁸ Martin-Aceña (2013) and Quaglia and Royo (2015) also refer to the key role played by external wholesale funding in the *cajas de ahorros* crisis.

And the risky intermediation of foreign liabilities can be better understood in light of incoming capital. The sheer size of capital inflows may have fed financial instability 'Minsky-style'. Also, financial capital inflows (PI and OI) had a high degree of liquidity, facilitating liquidity risks (more 'traditional' banking liabilities, such as deposits, although also liquid, show a higher degree of stability).¹⁹ Perhaps more importantly, the geographic origin of flows—Germany and France (gross and net) and the Netherlands (gross)—may have led Spanish actors to incur higher financial risks due to confidence in the stability of inflows. Such confidence probably stemmed from the fact that the lending economies, in particular Germany and the Netherlands, enjoyed increasing current balances and therefore appeared to have continuous financing capacity. In other words, stability of funds was presumed by obviating the international debt chains and the possible contagion risk suggested by gross liabilities in core countries (Wyplosz, 2010; Obstfeld, 2012). Finally, the increasingly European origin of financing to Spain probably increased trust in implicit public guarantees to the exchange rate regime.

¹⁷ On the channelling of credit to consumption and real estate investment, see, for instance, Bernardos Domínguez (2009) and Alonso and Blázquez (2013).

¹⁸ We find the same idea in Borio and Piti (2011) and Lane (2013, p. 11): 'the ability of banks to rise external debt funding allowed domestic lending growth to outstrip domestic deposit growth, which also supported the strong momentum in domestic property prices in some high-deficit countries'.

¹⁹ Lane (2013, p. 4) makes this same point, in particular for Ireland: 'the Irish banking crisis was deepened by external financial activities ... issuing foreign liabilities to fund foreign claims may also facilitate poorly-managed banks to take on excessive risks in particular sectors (real estate)'.

Focusing now on trade imbalances, we note that, just as with financial imbalances, problems of competitiveness are widely considered as possible explanatory factors for the crisis. Partly in response to a branch of literature that was focused on fiscal problems in the countries of Southern Europe, a series of analyses instead emphasized trade imbalances within the Eurozone (e.g. [Arestis and Gutiérrez, 2009](#); [Giavazzi and Spaventa, 2010](#)). Other studies defined the crisis not only as a balance-of-payments crisis, but found an origin in productive imbalances (e.g. [Gracia Santos, 2012](#); [Álvarez *et al.*, 2013](#)).

Again, it is difficult to disentangle whether foreign capital came to finance a trade deficit, already gestated domestically (via lower competitiveness of exports and greater demand for imports), or whether (inverting the causality) easy access to foreign capital contributed to the deterioration of trade balances. Without denying the former, we here emphasize the latter, again in view of the over-intermediation of foreign funds. In particular, access to foreign capital allowed banks to expand credit—and non-financial institutions to obtain funds—which in turn fuelled external consumption (Spain's domestic demand rose clearly above that of its trade partners); provoked a loss of price competitiveness, via an increasing inflation gap (that is, a real appreciation of the exchange rate) and motivated the deviation of credit from tradable activities towards non-tradable sectors. As in [Álvarez *et al.* \(2013\)](#), credit to non-tradables may have produced a crowding-out effect on exportable goods, as this credit was being channelled not to productive activities with the ability to compete internationally, but to activities whose profitability depended on the sustainability of the upward financial cycle ([Reis, 2013](#)). [Gopinath *et al.* \(2015, p. 1\)](#) also somehow support the link between liquidity and lower productivity by illustrating 'how the decline in the real interest rate, often attributed to the Euro convergence process, [led] to a decline in sectoral total factor productivity as capital inflows [were] misallocated toward firms that [had] higher net worth but [were] not necessarily more productive'.

4. Conclusions

This work was inspired by the perceived causal relationships between currency regimes and massive capital inflows, and between massive capital inflows and financial crises, as established in the 'global imbalances' literature (referring to the USA) and in the 'too much of a good thing' literature (referring to emerging economies). Despite Spain's and other Eurozone countries' use of currency regimes similar to those in the USA and emerging economies—simultaneously, thanks to monetary unification—and although Spain did indeed receive massive capital inflows prior to its crisis, we feel that the causal relationships indicated above have not been sufficiently analysed in most narratives on the Spanish crisis.

In order to try to apply those two strands of literature to the Eurozone crisis (with a focus on Spain), this work has sought to: (1) show similarities between the monetary and exchange rate regimes in the Eurozone and the USA, in roughly the decade prior to the outbreak of the financial crisis; and similarities between exchange rate regimes in Spain (and other peripheral Euro countries) and emerging economies in the 1990s, in the years before their respective financial crises; (2) explain (employing arguments from the literature and data on capital movements) capital inflows into the Eurozone, and their subsequent channelling into Spain, by virtue of the interaction of two coexisting exchange rate regimes, for the Eurozone as a whole and for Spain; and (3) present

certain domestic imbalances in Spain—banking fragility and trade deterioration—as (partly) the products of a massive inflow of capital from abroad.

We have endeavoured to argue that domestic imbalances (and ultimately the crisis) in Spain can be explained through the ‘wheels within wheels within wheels’ mechanism at play: ‘wheels’ of domestic credit intermediation in Spain that moved the ‘wheels’ of capital inflows from the Eurozone, propelled in turn by the ‘wheels’ of international capital entering Europe—expanding on the analysis of [Wade \(2000\)](#) regarding the East Asian crisis.

Our Eurozone crisis narrative, well founded in previous literature on other financial crises, opens the door to future empirical research that details each of the mechanisms through which the historically novel combinations of exchange rate regimes in Europe might have led to massive and volatile capital inflows, as well as through which this capital might have provoked domestic imbalance in peripheral economies.

Finally, we believe that this work suggests relevant policy implications around international financial relations and economic crises. These implications are not dissimilar from those discovered in prior analyses of crises in emerging economies, indicating a need to acknowledge the dangers of certain currency regimes in terms of domestic imbalances as resulting from financial integration, and voluminous capital inflows.

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