The Nature of Capitalist Money and the Financial Links between Debt-Led and Export-Led Growth Regimes.

Juan Barredo-Zuriarrain Associate professor in the Department of Applied Economics at the University of the Basque Country (Spain) and associate researcher at the Grenoble Research Center in Economics (University of Grenoble Alpes, France).

This is an original manuscript of an article published by Taylor & Francis:

Juan Barredo-Zuriarrain (2019) The Nature of Capitalist Money and the Financial Links Between Debt-Led and Export-Led Growth Regimes, New Political Economy, 24:4, 565-586, DOI: 10.1080/13563467.2018.1472563

To link to this article: https://doi.org/10.1080/13563467.2018.1472563

The Nature of Capitalist Money and the Financial Links between Debt-Led and Export-Led Growth Regimes.

Abstract

The aim of this article is to develop a consistent theoretical approach to the financial links between the so-called 'debt-led' (DLG) and 'export-led' (XLG) growth regimes. Assuming the endogenous supply of money and the unstable dynamics of financial markets, the leveraging process of DLG regimes is taken as an inherent dynamic of developed domestic financial systems, without the need of any external capital inflow. Foreign inflows are not a requisite for such expansions; however, attracted by high expected returns, they can play a key role in fueling DLG cases. Alternatively, current-account imbalances are not an indicator of the international financial flows but rather a side effect stemming from the productive, financial and trade links between DLG and XLG countries.

Based on this approach, we study the relationship between changes in credit and current account balances in several countries before and after the crisis of 2008. Both the observed general relationship of these variables for most of the countries, as well as some specific national cases 'out of the norm' are fundamental for understanding the national and international financial links between DLG and XLG models.

Keywords: Functional distribution, Endogenous money, Global Imbalances, Financialized growth models

JEL classification: E25, E51, F43

Introduction

The model developed by Bhaduri and Marglin (1990) has allowed several post-Keynesian and Marxist authors to build a solid analysis on the causation of the 2007 global turmoil. Indeed, in the last years, this theoretical approach has been used in some works as a reference to suggest alternative expansionist policies to deal with the long-lasting negative consequences of the global crisis in the OECD countries.

The main purpose of their model is to quantify the net effect, in terms of economic growth, resulting from the shifts in the functional income distribution. Assuming that changes in the wage share can lead to opposite effects on certain variables of the aggregate expenditure (private consumption, investment, public spending and net exports), Bhaduri and Marglin distinguish between two possible growth models: a profit-led model (PLG) and a wage-led model (WLG). In the PLG model, an increase in the wage share has a net negative effect on economic growth. In the WLG model, however, an increase has a positive effect on economic growth.

The Bhaduri-Marglin model has inspired a line of research this past decade that uses econometric studies to determine whether a country is wage-led or profit-led. There appears to be a consensus that a majority of OECD member countries, with a few exceptions, are wage-led, which means that drops in the wage-share have contractionary effects on the domestic product.

This said, some research has tried to explain why, then, the continued fall in the wage share in most of the G-20 countries (Onaran, 2016) – that had already begun in the 1970s – was compatible with relatively high growth rates from the beginning of the 21st century until 2007-2008. The explanation of this contradiction lies in the fact that financial liberalization has led itself to two temporary growth models: the so-called debt-led (hereafter, DLG) and export-led (XLG) growth models. The first one is based on private consumption and investment boosted by the increasing levels of debt in economic agents. In some recent cases, like Spain or the United States before the crisis, the acceleration of debt levels was made possible due to the development of speculative bubbles. On the other hand, other countries – Germany, China, Japan, and

the Netherlands – based their growth on external consumption. Furthermore, these exports were often oriented towards the debt-led economies.

Thus, both growth models can be considered opposite and complementary at the same time. They are opposite because one is based on internal demand and the other relies on external demand, but they are also complementary because the demand from the DLG model appears to be a potential driver of growth in the XLG countries. However, since rising levels of private debt seem unsustainable in the long run, this complementarity is only temporary.

The literature on these models has proven itself very useful for understanding the primary dynamics in the global economy before and after the crisis. It acknowledges both the importance of the financial expansion dynamics and of the indebtedness process that provoked the economic expansion until 2008 as well as the stagnation – in some cases, the recession – that followed (Stockhammer and Onaran, 2012; Hein, 2012; Hein and Dodig, 2012, Stockhammer 2013, Stockhammer, 2016; Álvarez, Uxo and Febrero, 2017; Fiebiger, 2017). However, there remain some fundamental features of these growth models that must be analyzed. For instance, as Nishi (2013) recognized, the ties between the non-financialised regimes – WLG and PLG - and the financialized ones – DLG and XLG still remain unclear. Furthermore, it remains to be studied how productive, financial, and trade divergences gradually take place among DLG and XLG models.

This article focuses on the financial aspect of the DLG and XLG models as well as the relationship between them. Three elements often appear in the research on this issue but there is not yet a clear link established between them. These three elements are the current-account imbalances among countries, the international flows, and the increasing levels of debt in DLG countries. The purpose of this work is to study the general causal relationship among them and, then, consider the implications that can be derived for the study of current international economics.

A literature review of the debate about the 'Global Imbalances' in the beginning of the 21st century already gives us, from a conventional approach, an explanation about the link between the three elements mentioned above. According

to this interpretation, debt-led processes are provoked by external inflows, which, at the same time, can be measured by the net current-account imbalances among countries. For instance, the financial expansion of a typical DLG country like the US is said to have been fueled by massive capital inflows, which in turn were provoked by its external deficit (Guha, 2009; Mateos y Lago, Duttagupta, & Goyal, 2009). Conversely, countries with great surpluses – like China and Germany - were identified as capital exporters, chiefly towards the deficit countries. In addition, the capital flows resulting from these imbalances are considered a fundamental element for explaining the debt processes - and sometimes the speculative bubbles – in the DLG countries.

Assuming the endogenous supply of money in modern economies (Lavoie, 2003, Bertocco, 2015) and the inherent instability of financial markets (Minsky, 1982), this article seeks to offer a critique to the interpretation mentioned before and at the same time to suggest an alternative approach where the identified causality between current-account results, capital flows, and domestic financial expansion is altered. Hence, according to this alternative approach, financial expansion would be fundamentally an endogenous characteristic of developed national and regional financial systems. Foreign capitals, attracted by high expected returns, can indeed encourage such financial expansions. However, they are not a necessary condition in financially developed markets for these boom and bust cycles to occur.

Finally, according to our thesis, current-account imbalances should be taken as an indirect consequence of an international context where financial operations expand – leading to an easier access to liquidity – and where countries with different productive models and aggregate demand levels interact. As a logical deduction from this approach, we finally raise the theoretical possibility of the existence of a combined 'export and debt led growth model' in a country.

From this perspective, the article is divided into five sections. In the first section, the model of Bhaduri and Marglin and recent works on DLG and XLG models are explained. In the second section, certain key features of international capital flows are described in order to, then, review the financial links between DLG and XLG models. Some statistical accounts of four national economies – the United States, Spain, Germany and Netherlands – are presented in the third section in order to support the

main results of our theoretical approach. Based on the previous considerations, in the fourth section we give a brief explanation of how credit expansion differently affected the external imbalances of some national economies during the last financial expansion and recession. The final section concludes this article.

1. The Bhaduri-Marglin Model: Theoretical Foundations and Development in the Neoliberal Phase

If we ask economists what the effect of a drop in wage-share is on the economic growth of a country, the answer will depend on the theoretical approach they take. Mainstream economics argues that the final effect will be positive because of the increase in private investments as well as of those net exports associated with a lower cost of production. On the contrary, Keynesian and Kaleckian approaches focus on the negative effects on the aggregate demand and expenditures; since the marginal propensity to consume out of wages is higher than the propensity to consume out of profits, a lower wage share would lead then to a lower final consumption. From these two main interpretations, several researches have focused on different effects of the functional income distribution on economic growth (e.g; Taylor, 1985; Bhaduri and Marglin 1990).

The model of Bhaduri and Marglin integrates the different potential effects on consumption, investment, and net exports in order to quantify, for any studied economy, the net effect on the total domestic product. Taking a similar equation to that of Stockhammer and Onaran (2012), where Consumption (C), Investment (I), and Net Exports (NX) are written as a function of income (Y) – the multiplier effect -, profit-share (π) – opposite to the wage-share –, and z – some exogenous variables such as interest rates, debt levels, or exchange rates [1] -, we can write the total income as:

$$(1.) \qquad Y = C(Y, \pi, z_c) + I(Y, \pi, z_I) + NX(Y, \pi, z_{nx}) + G(Y, z_G)$$

An increase in profit-share – a fall in the wage-share – is expected to have positive effects both on investment and net exports, but a negative effect on consumption. An

empirical test for any national economy leads allows them to determine if the studied case is a profit-led or wage-led growth regime. If, because of the rise in the profit-share, the decrease in the consumption level is greater than the aggregation of the rise in net exports and investments, then the analyzed economy is said to be wage-led. On the contrary, if the positive effects on investment and net exports are able to overcome the contractionary effects on the consumption, the studied economy is considered to have a profit-led growth regime.

In the last years, there has been an increasing number of research oriented towards classifying national and regional economies, mainly OECD economies, as WLG or PLG regimes. In most researches (Naastepad and Storm, 2006; Ederer and Stockhammer, 2007; Hein and Vogel, 2008; Stockhammer, Onaran and Ederer, 2009; Onaran, Stockhammer and Grafl, 2011; Onaran and Galanis, 2012), national economies in the G-20 were classified as wage-led countries.

At this stage one should ask why, since the late 1990s, in spite of the sharp fall in wage-shares (that already began with the neoliberal phase in the 1990s), the OECD economies have recorded a positive growth performance. The answer lies at the effects of financial liberalization in the global economy; and mainly, at two major patterns by which boom and bust cycles have intensified (Hudson, 2010). One pattern is the use of rising debt levels – mainly private debt – that sustain national consumption. Such a rise in debt is often accelerated by the positive 'wealth effect' resulting from a speculative bubble. Another significant pattern is the ability to achieve significant current account imbalances among countries during expansive financial phases.

This has enabled the development of, at least, two extremely opposite growth models, since the beginning of the 21st century until the recent crisis, which have allowed countries to temporarily evade the contractionary effects of the fall in the wage-share. These two opposite models are referred as the DLG and the XLG.[2] In the first model –DLG-, the driver of growth is considered to be internal consumption and investment; however, it is not fueled by progressive rises in the real wage but by credit expansion. In cases like the Spanish or the United States economy, the debt has been fueled by the positive effect of a real estate bubble on households' wealth. At the

same time, in the second model –XLG–, we can find some countries which benefited from the increase in demand by DLG countries on which their export strategy was centered. For instance, Germany was able to increase its net exports due to a wage restraint and its specialization on high added-value sectors (Flassbeck and Lapavitsas, 2013) whereas the Chinese economy, on the other hand, used its exchange rate to secure a highly competitive position.

These opposite growth models are, at the same time, complementary. XLG countries increase their exports and increase their external net creditor position; DGL countries, on the contrary, use a portion of the rising indebtedness to import, thereby exacerbating the deterioration of their external net position. Theoretically speaking, these imbalances can take place without any direct trade or financial relation between XLG and DLG countries; both groups can export/import exclusively with third countries. Nevertheless, the dynamics within the Eurozone and between the United States and China, up until the crisis, show a *de facto* direct relation between XLG and DLG countries.

The economic history of the last decades shows more cases of groups of countries with opposite growth models and great imbalances among them. In fact, a common pattern since the 60's until now can be appreciated, and that is the persistent external deficit of the United States vis-à-vis with its main trade partners. In the 60's and 70's its main exporter was Europe, in the 80's and 90's it was Japan and, from then on, China has become the main provider of the US economy (US Census Bureau, 2017).

Regarding the last case, before the literature about financialized regimes appeared, there were already several works from mainstream approaches addressing the issue of the record 'Global [current account] Imbalances' of the late 90's and early 2000's (Morrisey and Baker, 2003; Stiglitz, 2007, Gourinchas and Rey, 2005). Although there was not a consensus on the responsibility of the involved countries in the increasing imbalances, nor on their potential destabilizing effects on the global economy (e.g; Frankel, 2007; Guha, 2009. Mateos y Lago et al, 2009), almost all researches agreed on the idea that these imbalances resulted in a flow of funds from the surplus countries to the deficit ones (mainly from China to the United States) (Dooley, Folkerts-*et al*., 2003; Morrisey and Baker, *ibid*). At the core of this

interpretation we find the so-called 'excess-saving view', or 'ES view' and the following equation:

(2.) $S - I = X - M,$

where *S* and *I* respectively represent savings and investment and *X* and *M* are exports and imports. If savings are higher than investment (*S>I*), then exports exceed imports (*X>M*), showing a capacity for financing the rest of the world. If savings are less than investments, then imports exceed exports and thus imply a need for financing from the rest of the world.

More thoroughly discussed in the next section, the 'ES view' does not provide insight to the phenomenon of the 'Global Imbalances' and their destabilizing effects. Trade imbalances (or, more generally, current-account imbalances) reflect neither the direction nor the volume of the great international financial flows.

Compared to this approach, recent literature on financialized growth models has significant advantages. First, it does not analyze current-account surplus and deficits as separate problems; it also assigns no blame of global imbalances to surplus or deficit countries (see Sinn 2011 and Stiglitz, 2016, among others, for the crisis in the Eurozone). The literature on the financialized growth models integrates national economies and their imbalances in a more systemic view, in which national policies interplay with global economic dynamics (Blyth and Matthijs, 2017; Oatley, 2011).

Second, it acknowledges the importance of financial expansion dynamics and of the indebtedness processes in the contemporary global economy. For example, Hein and Dodig (2012, p.93) explain that "*the dynamic 'debt-led consumption boom' type of development in the US and the other countries following this type had to rely on the willingness and the ability of private households to go into debt […] and on the willingness of the rest of the world to run current account surpluses and thus to supply credit – notably the export-led mercantilist countries – in order to finance the related current account deficits in the 'debt-led consumption boom' economies*".

Stockhammer (2013, p. 6) suggests the existence of a vicious circle in debt-led countries where *"changes in the financial system, due to the deregulation (or wrong regulation) allowed for a bubble on financial and property markets, which in turn*

allowed for the massive increase in household debt. Rising household debt levels fueled consumption expenditures and residential investment and thus led to economic growth that also resulted in current account deficits. The resulting capital inflows, in turn, helped keep interest rates low and fueled the bubbles."

Stockhammer (2009) and Stockhammer and Onaran (2012) provide similar explanations that relate debt-fueled consumption, current-account imbalances, and capital inflows. However, for the moment there is not a clear causality between the financialized growth models of different countries and their internal and external position. Are foreign capital inflows a precondition for fueling one country's dynamic of indebtedness process? Do these inflows result from the current-account deficits? Or should these deficits be taken rather as a probable –but not automatic – consequence of a fundamentally internal leveraging process and financial speculation? Some key aspects of current developed national financial systems are explained in the next section in order to provide answers to the previous questions.

2. An Approach to the Export-Led and Debt-Led Growth Models through the study of the Balance of Payments

A main purpose of this research is to provide some fundamental elements for understanding, regardless of the particular features of each national case, the general causal links between the two main financialized growth-regimes – the XLG and the DLG – and the financial dynamics of the involved countries. In the case of the XLG model, its very name already refers to an important aspect of a country's external financial dimension: rises in net exports, which contribute to the consolidation of a positive net external financial position. However, determining a clear link between the growth model and the financial dynamics seems more complex for the case of the DLG countries. In this case there are, at least, three heterogeneous elements with a not-so-obvious link: a national financial expansion – with an eventual emergence of a speculative bubble –, significant inflows of foreign capital and important net deficits of the balance of payments (mainly the trade balance).

As seen above, the ES view offers a clear and simple interpretation about the link of these phenomena: a deficit in the balance of payments is covered by a net inflow of foreign capital and this inflow, in turn, can inflate the national financial system of the deficit country.

If an alternative approach, more consistent with the contemporary global financial dynamics, is to be built, at least two essential elements must be taken into account: on the one hand, the endogenous nature of money, and on the other hand the twofold thrust of international financial transactions, as an international purchase and as a sale at the same time.

Firstly, the principle of the endogenous nature of money implies that "credit money is credit-driven and determined by the demand for bank credit" (Moore, 2001, p.12). That said, this does not mean that money creation is unlimited, nor that banks play a passive role by just creating credit money ex-nihilo as entrepreneurs ask for it; several factors, such as expectations, the central bank's monetary policy, and even liquidity and solvency management made by private banks directly affect monetary expansion (Schlesinger, 1979, Piégay and Rochon, 2003). Despite these limits, the 'endogenous money view' clearly states a causality that "runs predominately from bank lending to deposits and then to the monetary base" (Moore,2001, p.12). In short, against the mainstream view that 'deposits make loans', the endogeneity of money supply supports the idea that 'loans make deposits'. This is a key aspect to understanding the ability of national financial systems to develop a financial expansion without any inflow of a pre-existing stock of money.

That said, it is worth noting that the global financial system can support or limit a national financial expansion in different ways. One main external constraint is the key role played by expectations made by economic agents and lending institutions. The more optimistic the return expectations are, the stronger the effective credit asked to – and given by – lending institutions is supposed to be. Insofar as a national financial system is integrated in the global financial relations, the global financial environment will affect the national return expectations. Thus, integrated national financial systems are interdependent; investments coming from abroad in a context of optimism will contribute to national financial expansion, while a potential reversal of the positive

global expectations will negatively affect such expansion. However, as we mentioned above, according to the principle of the endogeneity of money, the rise of investment levels through credit in a local system does not need from external inflows of capital (Lavoie, 1988).

In the financialized growth-regimes of the United States and Spain until the recent global crisis, expectations played an essential role by supporting the development of speculative bubbles: very optimistic anticipations on the short-term change of some assets' prices encouraged massive indebtedness and investments, thus provoking effective rises in these prices (Orléan, 1999). In such a context, it is normal to expect a rise in foreign financial investments, attracted by high-yield investment opportunities. Indeed, the volume of these inflows can significantly help the development of a speculative bubble. It is worth remembering that the expansion of international financial investments in the last decades of financial liberalization has been much stronger than the operations related to the so-called 'real' economy (Lane and McQuade, 2013). Thus, even if capital inflows are not a requisite for a speculative bubble, waves of massive foreign investments can really boost the latter.

This possible role of foreign flows in the speculative bubbles brings the analysis to the second point: the study of the double nature of international financial transactions: as a purchase and a sale simultaneously. Contrary to the operations related to the current account (exports/imports, current transfers and net incomes), operations in the financial account (including capital account operations and foreign-exchange operations) do not lead to changes in the net current account, nor in the net financial position in the country. This technical particularity is important to understand to what extent it is imprudent to identify a direct correlation between the international financial relations of a country and its net current-account net balance.

Deposits endogenously created within the banking system can be used to realize an import of goods and services– and all current-account operations in general -, thus leading to an instantaneous deterioration in the current-account balance for the same value. In such a case, the country of the payee records an increase while the net external position of the payer country deteriorates for the same value.

However, unlike the operations related to the current account, the financial transactions have a different impact on the balance of payments and, therefore, on the gross and net financial positions of a country. Each single financial transaction implies a double shift in the balance sheet of a country: one as a purchase, the other as a sale. As the two shifts have the same value but they are of opposite signs, each financial transaction can alter the gross external position, but not the net one.

This particular feature can be illustrated by two examples: The first one is a hypothetical purchase of a US public bond by a Chinese –public or private – agent. In order to acquire this bond, the Chinese agent must transfer a liquid deposit. In the US external account, the new liability resulting from the foreign bond purchase is compensated by the acquisition of the deposit held by the Chinese agent until then. Regarding the Chinese external balance, the US bond is incorporated as an asset but simultaneously compensated by the transfer of the liquid deposit.

Let us consider another transaction: that of a German investment in Spain. The purchase of Spanish shares increases the assets side of Germany's external position; but the payment with a German deposit increases the liabilities side in the same amount. If the deposit used for the payment were from a Spanish bank instead of a German bank, the rise of the assets side resulting from the new Spanish title would be compensated by a similar decrease also in the assets side because of the transfer of the Spanish deposit to the former holder of the Spanish title. Regarding the Spanish financial position, the country would record the same operations with the opposite sign: the German investment increases the stock of Spanish external liabilities, whereas the transfer of the deposit in a foreign bank increases its assets.

In the two examples, for each country we find a simultaneous purchase and a sale, a financial inflow and outflow. Since the financial transactions are recorded twice with opposite signs, the current-account balance and the total net financial positions are not altered. At least not directly.[3]

That said, as Fuller (2018, p.179) points out, the countries that receive new liquid balances – in our cases, the United States and Spain - can use part of them subsequently for the purchase of foreign goods and services. If so, the current-account

balance and the net financial position would deteriorate by the value of the import. But the financial transaction, firstly, and the import, secondly, are two economic operations distinguished from each other. Foreign capital arriving to a country by financial transactions might increase the available liquidity; using part of the latter for financing imports is quite probable but not automatic.

According to the ES view, international financing flows and trade accounts are like two sides of the same coin. A trade deficit (X < M) implies an equivalent net inflow of foreign savings to cover total national investments; similarly, the ability to finance investments in the rest of the world is reflected in the national trade surplus (X > M). From that perspective, the current-account is given 'causal primacy' (Fuller, 2018) in the study of global financial dynamics.

Massive cross-border financial transactions are much more significant than the current-account balances (Borio and Disyatat, 2011; O'Connell, 2015; Barredo-Zuriarrain, 2016) but, because of their twofold nature explained above, they do not lead to a direct change in the net position. So, instead of the net results, attention should rather be put on what happens within the financial account in order to understand international financial links in the development of financialized growth models and their potential instabilities. Current-account results and, more generally, net financial positions, could instead be symptoms of specific growth models – with effects on demand levels, internal prices and even on its productive specializations – and their interaction within the global economy.

In summary, the two elements highlighted above – that is, the endogenous nature of money and twofold thrust of financial flows – allow us to draw some preliminary conclusions about the financial dynamics among DLG and XLG countries. First, debt-driven financial expansions can take place autonomously, mainly by internal credit and with no capital injection from abroad. Then, in a context of financial expansion, international capital flows increase, especially to those countries developing speculative bubbles. However, the direction and the value of the financial flows cannot be measured by the changes in the net financial position, and even less by the result of a national current account.

3- DLG and XLG countries before the crisis: a statistical overview

A modest statistical analysis can be made to compare these assumptions with the trends observed in countries with financialized regimes in the period before the crisis. Our analysis focuses on three national accounts. The first one is the evolution of the stock of total financial liabilities – internal and external – in the balance sheet of the national economy as a proxy indicator of total financial expansion; secondly, variations on the liabilities side of the International Investment Position (IIP) as a proxy indicator of foreign capital inflows; third, the current-account balance. It is impossible to build any causal relationship among variables with these simple statistics; however, a simple comparison between them will be helpful in determining if the approach presented above is consistent with recent economic facts.

The analysis is set in two stages for each country. On the one hand, year-to-year changes on IIP liabilities are compared with the annual expansion of the total financial liabilities in a country. If the latter were much bigger than the former, then the lack of relevance in the volume of the cumulated foreign capitals in the national credit expansion would be consistent with the alternative approach explained above. On the other hand, we oppose annual changes of the IIP liabilities to the annual current-account result; for countries with big imbalances in the latter, a much greater change of the stocked IIP assets and liabilities can be considered proof of the weakness of the current-account imbalance as a solid indicator of the amount of the external investments by/in a country [4].

The study of these three accounts is applied to four developed countries: the United States, Spain, the Netherlands, and Germany. The first two countries are a clear paradigm of a DLG country: they had important external deficits years before the crisis, massive foreign capital inflows, and a quick increase in debt with internal speculative processes before the global crisis of 2008. In those years, the Netherlands and Germany have been identified as export-led countries; however, they had also experienced symptoms of an internal process financial expansion.

The study has focused on the period between 2000 and 2007, that is, the period during which global imbalances exploded, developed countries multiplied their cross-border financial positions, and credit boosted private consumption. Common features among the four quoted countries allow us to develop a coherent approach to financial links between the DLG and XLG models.

For the case of the United States and Spain, there are quite similar trends. The increase of their IIP liabilities is weak compared to the total financial expansion – on the liabilities side – of their economy. In both cases, increases of total liabilities are more than four times bigger than rises of external liabilities.

Regarding their external position, a few guidelines should be considered. They recorded high current-account deficits before the crisis of 2008: near 10 per cent of GDP for Spain in 2007 and about 6 per cent for the United States in 2006. Their vast deficit could be taken as a main source of capital inflows. However, the total expansion of external financial liabilities – including changes in stock prices - grew much faster, especially in 2005-2007, during the most expansive phase of the financial boom. This appears to confirm the notion that foreign capitals played a key role in the financial expansion of the two countries but also that there is no direct analogy between the current-account result and the volume of foreign capital inflow, even if further research is needed in order to show the type of foreign investments. In that sense, Borio and Disyatat (2011) already highlighted that in the case of the United States, the main capital exporter to this country was Europe, mainly the United Kingdom, and not China or other great surplus countries.

Figure 1: Evolution of internal and external financial liabilities and current-account: United States

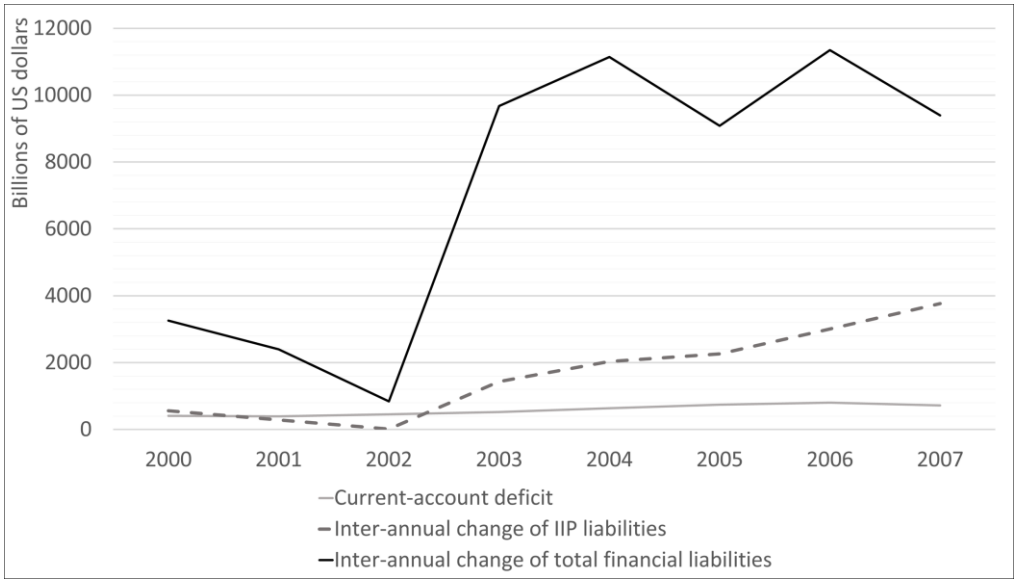


Figure 2: Cumulated financial liabilities (1999-2007): United States

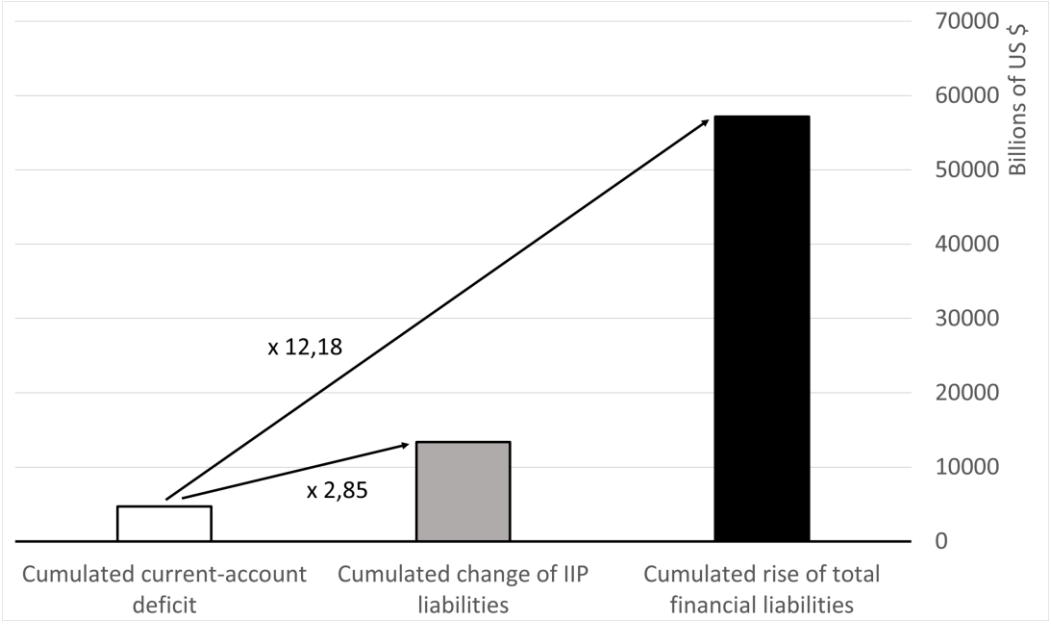


Figure 3: Evolution of internal and external financial liabilities and current-account: Spain

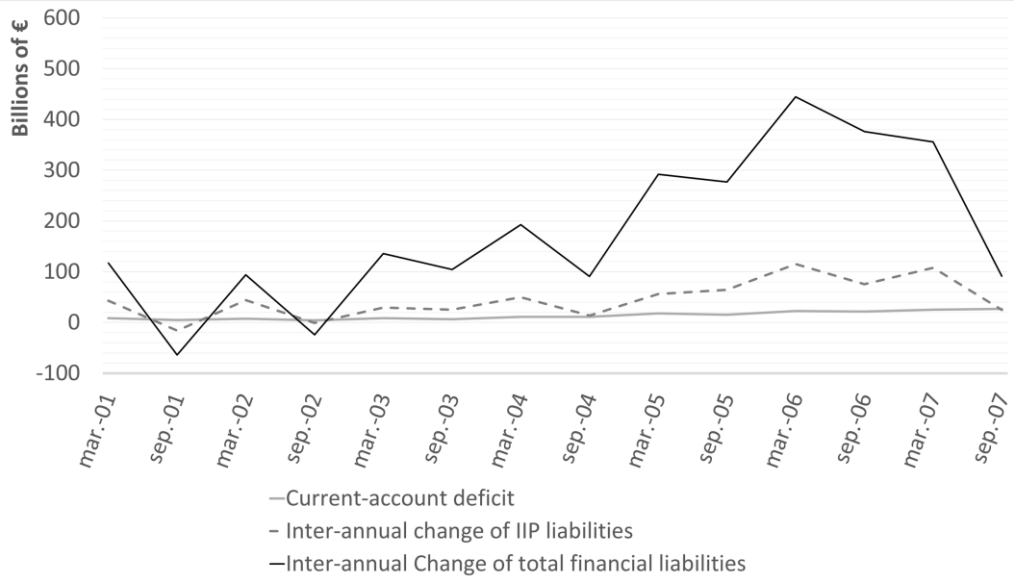
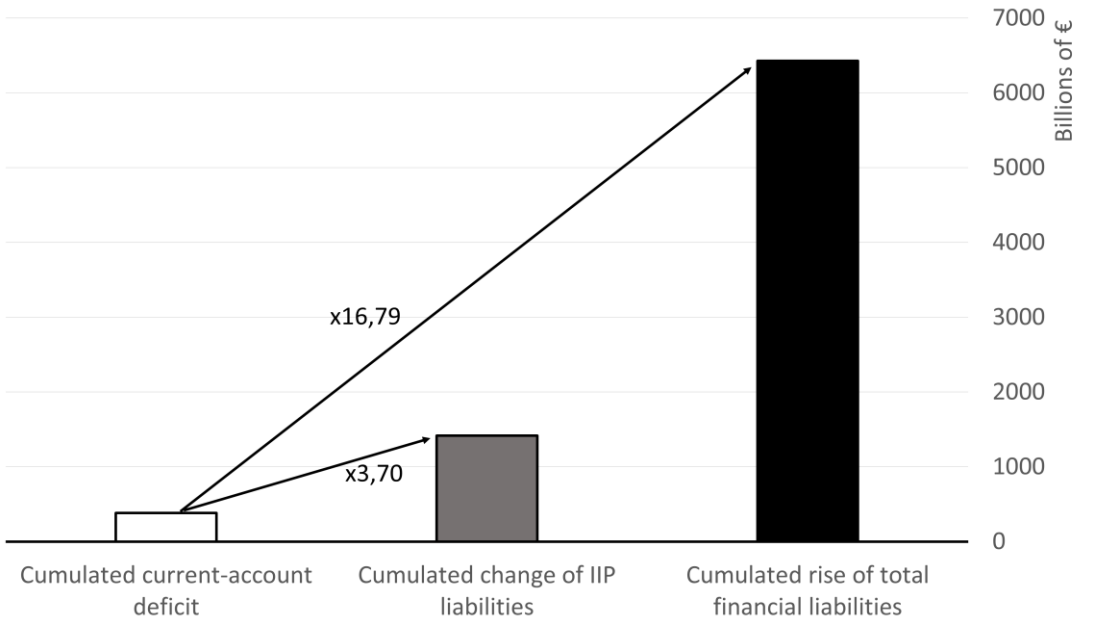


Figure 4: Cumulated financial liabilities (1999-2007): Spain



The Netherlands and Germany represent an interesting case. Their important external surpluses drove the growth of their national economies during the studied periods (Tilford and Whyte, 2011, p.5; Niechoj, 2015, p.155). Thus, they were technically 'net creditors', which helped improve their external net asset position. Nevertheless, at the same time, their external liabilities – including changes in prices –

grew much faster than their current-account surplus. Maybe more interesting is the evolution of their total (domestic and external) liabilities: despite their condition of net creditors, the rise of total financial liabilities shows a financial expansion similar to those of the US and Spanish economies during the 2005-2008 boom. That is, according to the usual terms, they are lenders (or foreign investors) of a surplus capital that they do not invest inside their borders; but these countries actually record an important financial expansion based on internal credit but also on significant amounts of foreign capital inflows.

Contrary to the United States and Spain, in the Dutch and the German economies credit expansion and export-driven growth took place at the same time. This is important to remark in this research since the literature about 'Global Imbalances' or even in that one about the DLG and XLG models, implicitly presents these two dynamics as incompatible, that is, as intrinsic features of two opposing growth models.

Regarding the Netherlands, this country experienced very high increases in housing prices and mortgage lending, just like Spain or the United States, which led to a high level of gross household debt (European Commission, 2015). In Germany, the housing price-level was kept quite stable in the same period and there were no signs of a speculative bubble in the 'real' economy. Nevertheless, the strong appreciation of financial prices between 2003-2007 provided evidence of a clear financial expansion in the country; the DAX index, for instance, grew much more than the reference stock-market index in the world (Deutsche Bundesbank, 2006), partially helped by the positive returns of investments abroad.

Figure 5: Evolution of internal and external financial liabilities and current account: Netherlands

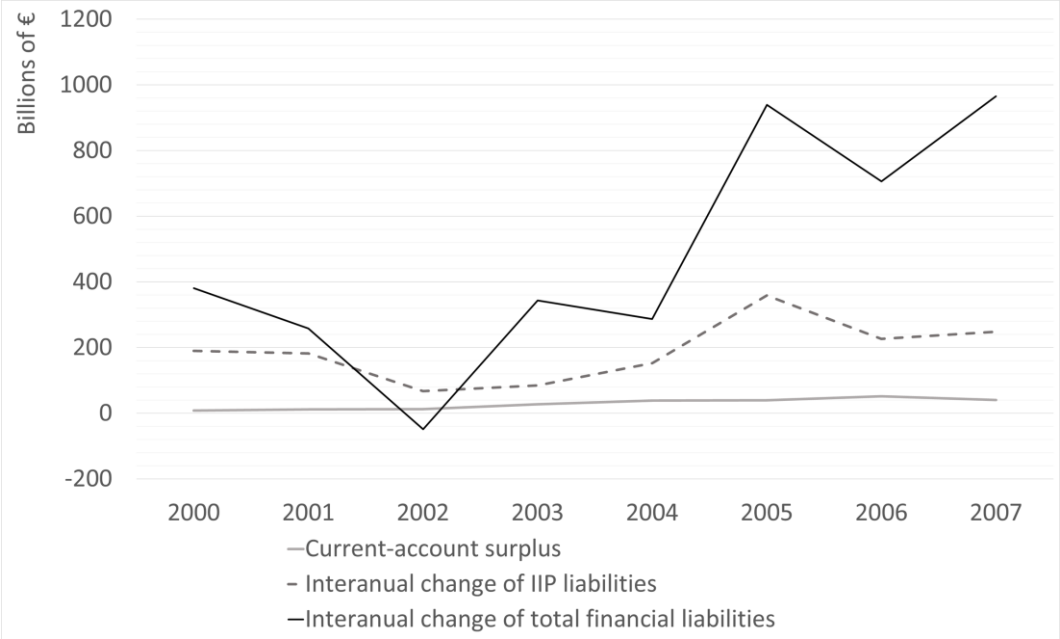


Figure 6: Cumulated financial positions (1999-2007): Netherlands

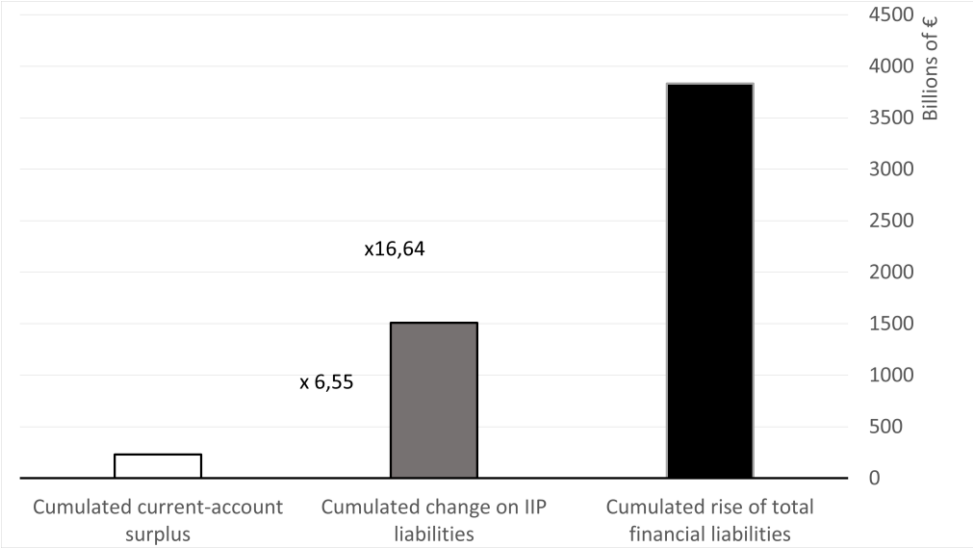


Figure 7: Evolution of internal and external financial liabilities and current account: Germany

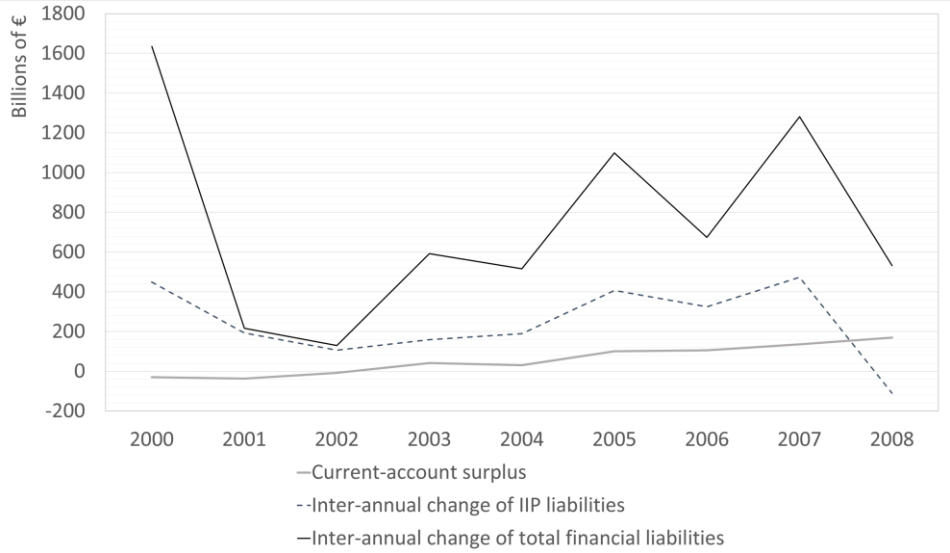
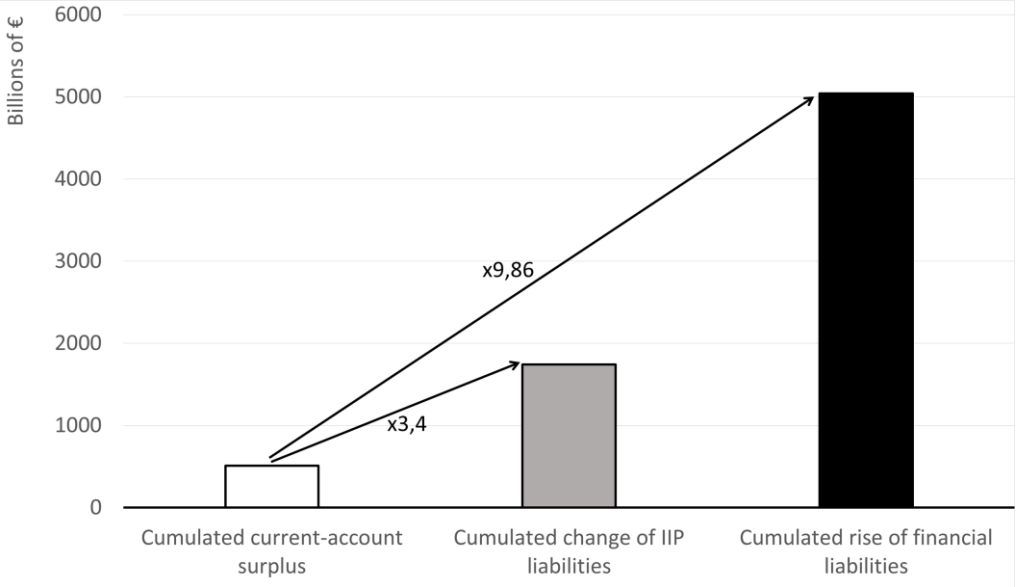


Figure 8: Cumulated financial positions (2000-2008): Germany



The studies of the factors that lead to the different growth regimes are not relevant to this article. However, the observed evidence for these four countries seem to confirm the main conclusions of the previous analysis. First, debt-driven expansions can take place autonomously, mainly with internal credit and no capital injection from

abroad. They can be complemented by foreign investments. The net result of the current-account is not an indicator of these financial flows. In fact, data shows two countries in which strong credit expansion and increasing external surpluses are compatible at the same time. Net current-account results are then only a net transfer of funds arising as an indirect result of more complex macroeconomic, productive and trade interdependencies among countries during the expansive financial phase. The next section delves more deeply into the study of the links between credit-driven growth regimes and the current-account balance.

4. Current-account deficits as potential side effects of credit expansions and implications for debt-led growth regimes

The cases mentioned above of the US and the Spanish economies from 2002 to 2009 are clear cases of national economies with huge increases in total debt and great current-account deficits. But they are not the only ones. In the same period, increasing debt levels and external deficits were reported in European countries like Ireland, Greece, and some of the Central and Eastern European countries – mainly Lithuania, Estonia, and Latvia (Lapavitsas, 2012; Lissowska, 2014, Makreska Disoska and Toshevska Trcevska, 2016; Bohle, 2017).

In the previous two sections, it has become clear that, although debt-led growth and external deficits usually appear together, this does not mean that the latter empowers the former; on the contrary, the deterioration of the current-account balance is rather a quite plausible – but not necessary – side effect of a fast leveraging process in a national economy. This indirect relationship can take, at least, three different forms.

First, an endogenous expansion of credit in a country increases liquidity held in deposits by its residents. The possible use of this money for a purchase of an external good or service increases imports and, therefore, negatively impacts the trade balance of the country. Since the balance of goods and services is the main component of the

current-account balance, a credit-driven increase in net imports would adversely affect the current account.

Second, the increase of net imports can be the result of a loss of competitiveness. A credit expansion is supposed to stimulate economic growth through the increase of the consumption and/or investment levels. According to the classic Phillips curve (Phillips, 1956), unit labor costs are affected by the employment level: the closer a country gets to the full-employment level the higher the upward pressure on unit labor cost will be. Thus, a sustained and strong credit expansion over the years can worsen the cost-competitiveness of the country by the rise in wages and other costs.

A third and maybe less evident form of deterioration in the current account results from the potential negative effects on the national productive structure provoked by the development of speculative bubbles. High short-term returns expected from speculative investment in quickly appreciating assets may distract resources from competitive productive sectors and, thus, affect the competitive position of a country as a whole.[5]

A simple empirical analysis can help us verify if this potential negative relationship between credit expansion and external balances can be observed for the last financial cycle. For this reason, we present three different figures showing the link between these two variables. The study includes very heterogeneous countries – different sizes, development levels, productive and exporting structures… (see Appendix 1). Assuming the rise and fall of debt in this cycle primarily concerning the private sector, total credit to all the private non-financial agents – mainly households and non-financial corporations – relative to GDP is used as a proxy of the credit expansion.

The selected data starts in 2002 and ends in 2016. The interesting feature of this period is that, for most of the countries, it includes an initial phase of financial expansion and another of stagnation or recession, which resulted in opposed evolutions of the total credit. In addition, during 2002-2009 the global economy reached the greatest external imbalances in recent economic history, while the aftermath of the crisis gave place to the narrowing of these imbalances.

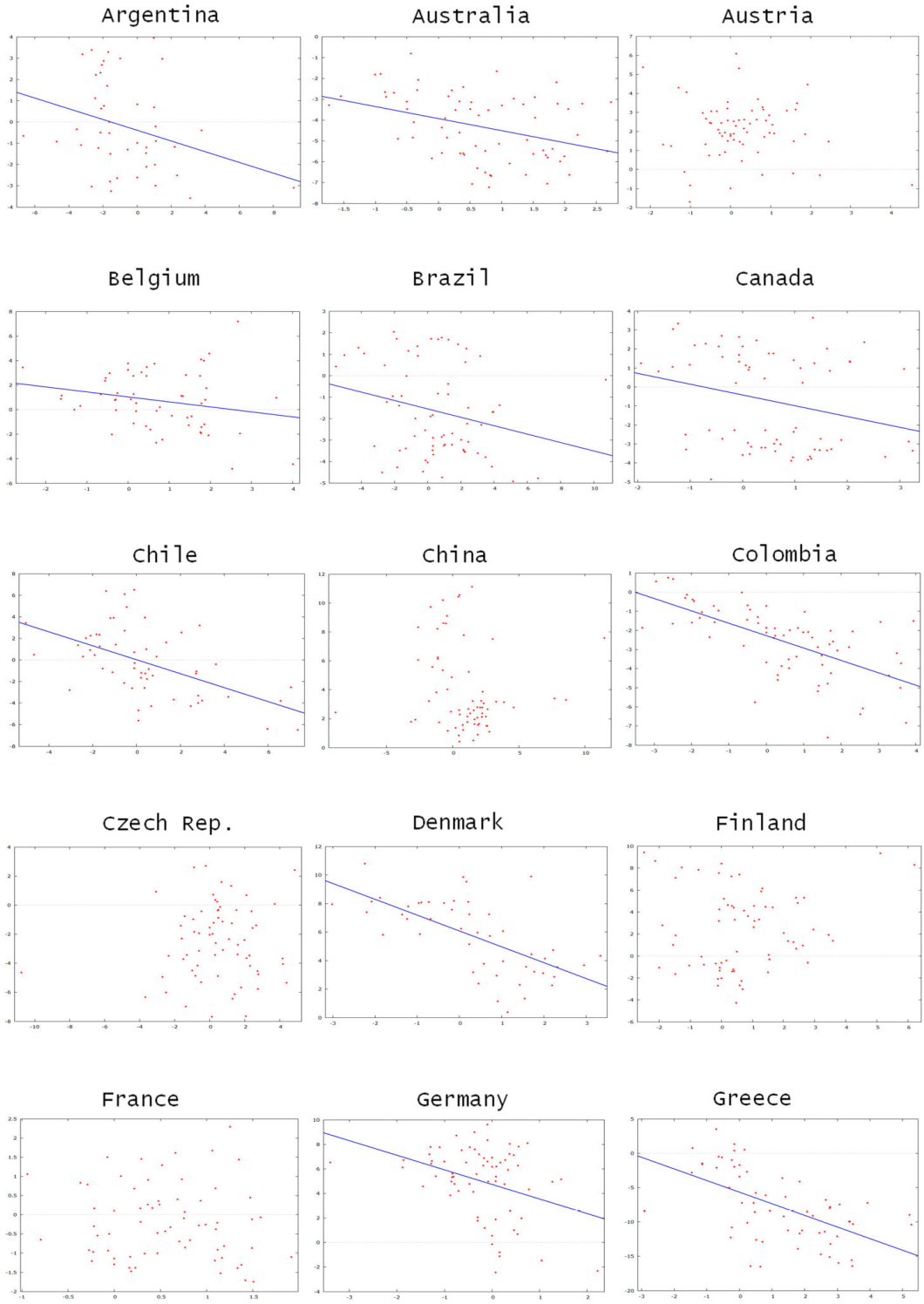
In Figure 9, quarterly data is shown for each country separately: changes in the credit-to-GDP ratio are shown on the X axis, whereas the Y axis lists the net current-account balance for each period. The results of the resulting linear regression obtained in Figure 9 for the countries are shown in Table 1. According to the theoretical framework exposed above, the function showing the relation between these two variables is:

$CAb_t = a_0 + a_1\, CtR + u_t$;

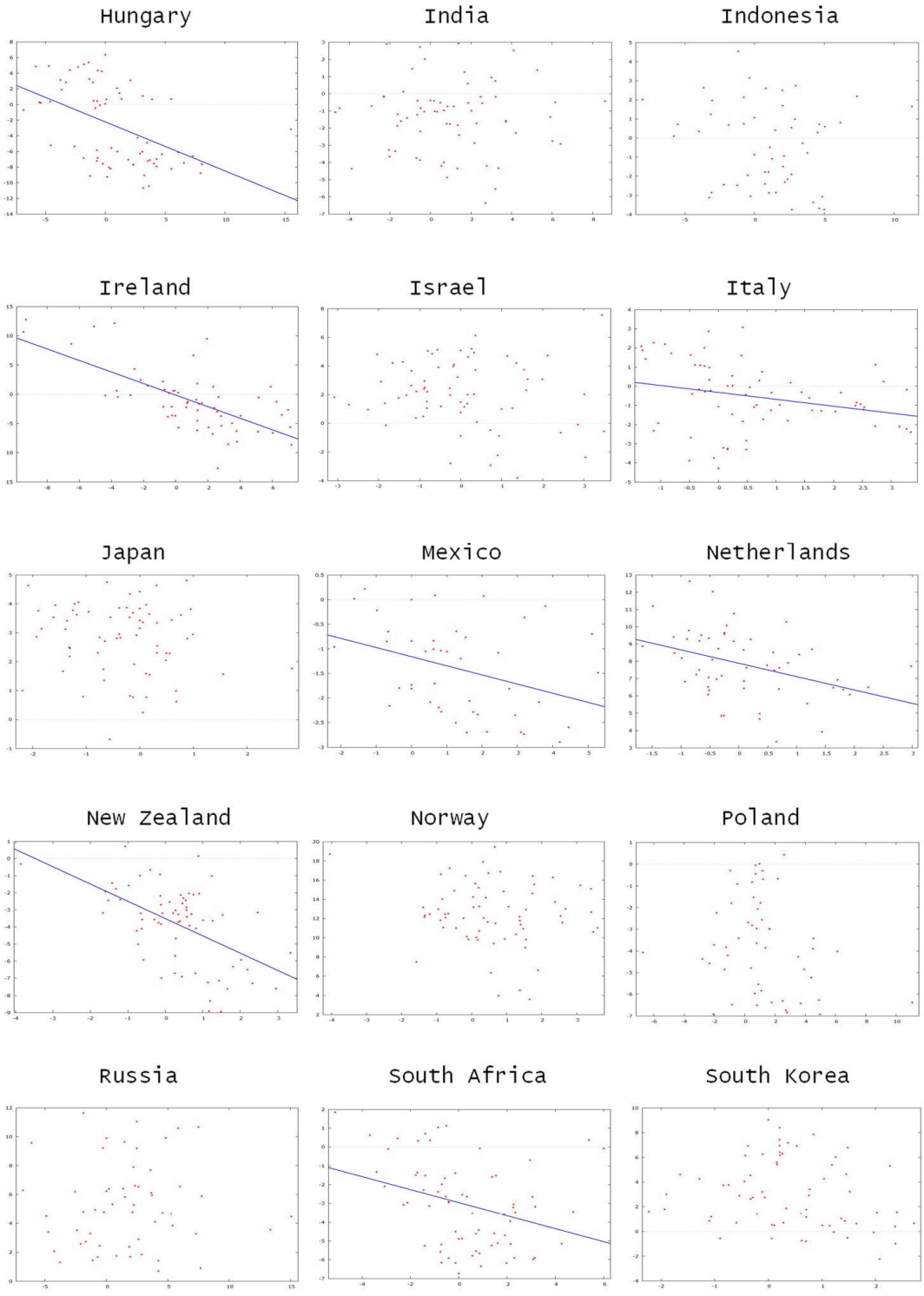
where the dependent variable *CAb* is the quarterly current-account balance to GDP for every period *t* and depends on the changes in the 'Credit-to-GDP' ratio (CtR).

As we expected, the coefficient a_1 generally reflects a negative impact of the independent variable on the dependent one. According to the above hypothesis, that would mean that increases in the credit-to-GDP ratio negatively affect the net current-account of most of the countries for the period 2002-2016.

Figure 9: Quarterly changes in the Credit to GDP ratio and current- account imbalances, 2002-2016



Source: Bank of International Settlements (BIS) and OECD online data and own elaboration


Hungary
India
Indonesia
Ireland
Israel
Italy
Japan
Mexico
Netherlands
New Zealand
Norway
Poland
Russia
South Africa
South Korea

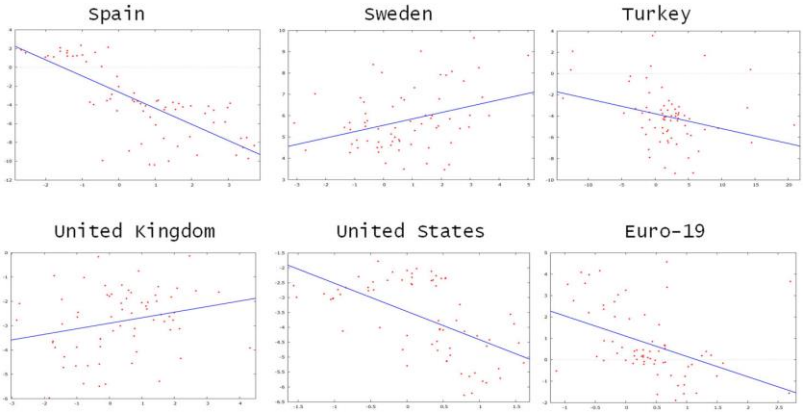


Table 1: Ordinary Least Square Regression for each country

Country	*Coefficient*	*Std. Error*	*t-ratio*	*p-value*		*Period (T=number of observations)*
Argentina	-0,252119	0,122498	-2,058	0,04582	**	2006:1-2016:4 (T = 44)
Australia	-0,578261	0,179166	-3,2275	0,00196	***	2000:2-2016:4 (T = 67)
Austria	-0,172225	0,172332	-0,9994	0,32132		2000:2-2016:4 (T = 67)
Belgium	-0,406234	0,23934	-1,6973	0,0954	*	2003:1-2016:4 (T = 56)
Brazil	-0,195691	0,0934326	-2,0945	0,04012	**	2000:2-2016:4 (T = 67)
Canada	-0,567812	0,258825	-2,1938	0,03183	**	2000:2-2016:4 (T = 67)
Chile	-0,645878	0,140165	-4,608	0,00003	***	2003:1-2016:4 (T = 56)
China	-0,134	0,130059	-1,0303	0,30669		2000:2-2016:4 (T = 67)
Colombia	-0,647334	0,0965918	-6,7017	<0,00001	***	2000:2-2016:4 (T = 67)
Czech Republic	0,100563	0,137145	0,7333	0,46604		2000:2-2016:4 (T = 67)
Denmark	-1,11164	0,196554	-5,6556	<0,00001	***	2005:1-2016:4 (T = 48)
Finland	0,214682	0,272207	0,7887	0,43317		2000:2-2016:4 (T = 67)
France	-0,154919	0,189599	-0,8171	0,41686		2000:2-2016:4 (T = 67)
Germany	-1,18749	0,391118	-3,0361	0,00345	***	2000:2-2016:4 (T = 67)
Greece	-1,69192	0,32639	-5,1838	<0,00001	***	2002:1-2016:4 (T = 60)
Hungary	-0,627268	0,139402	-4,4997	0,00003	***	2000:2-2016:4 (T = 67)
India	-0,00734148	0,0938967	-0,0782	0,93792		2000:2-2016:4 (T = 67)
Indonesia	-0,0735907	0,0854314	-0,8614	0,39313		2004:1-2016:4 (T = 52)
Ireland	-0,290231	0,121634	-2,3861	0,02031	**	2002:1-2016:4 (T = 60)
Israel	-0,191925	0,194793	-0,9853	0,32814		2000:2-2016:4 (T = 67)
Italy	-0,359548	0,162376	-2,2143	0,03032	**	2000:2-2016:4 (T = 67)
Japan	-0,175324	0,159497	-1,0992	0,27572		2000:2-2016:4 (T = 67)
Mexico	-0,184847	0,0755748	-2,4459	0,01872	**	2006:1-2016:4 (T = 44)
Netherlands	–0,771791	0,248855	–3,1014	0,0031	***	2003:2-2016:4 (T = 55)
New Zealand	-1,00816	0,197644	-5,1009	<0,00001	***	2000:2-2016:4 (T = 67)
Norway	–0,308887	0,279982	–1,1032	0,274		2000:2-2016:4 (T = 67)
Poland	-0,184651	0,111701	-1,6531	0,10458		2004:1-2016:4 (T = 52)
Russia	0,0207354	0,0939849	0,2206	0,82622		2003:1-2016:4 (T = 56)
South Africa	-0,34566	0,124573	-2,7748	0,0072	***	2000:2-2016:4 (T = 67)
South Korea	-0,483145	0,301711	-1,6013	0,11415		2000:2-2016:4 (T = 67)
Spain	-1,71629	0,188125	-9,1231	<0,00001	***	2000:2-2016:4 (T = 67)
Sweden	0,296586	0,102808	2,8849	0,00531	***	2000:2-2016:4 (T = 67)
Turkey	-0,139027	0,0561578	-2,4756	0,01591	**	2000:2-2016:4 (T = 67)
United Kingdom	0,228179	0,111083	2,0541	0,04399	**	2000:2-2016:4 (T = 67)
United States	-0,946609	0,169901	-5,5715	<0,00001	***	2000:2-2016:4 (T = 67)
Euro-19	-0,957781	0,247361	-3,872	0,00025	***	2000:2-2016:4 (T = 67)

Source: Bank of International Settlements (BIS) and OECD online data and own elaboration

That said, some other countries show no sign of a significant negative relationship between these two variables. Among them we find both highly developed countries – Japan, Norway, Finland… - and poorer ones – India, Russia, the Czech Republic… among others. Some of these countries, like the United Kingdom or Sweden, show even a positive link between changes in the credit ratio and the external balance. [6]

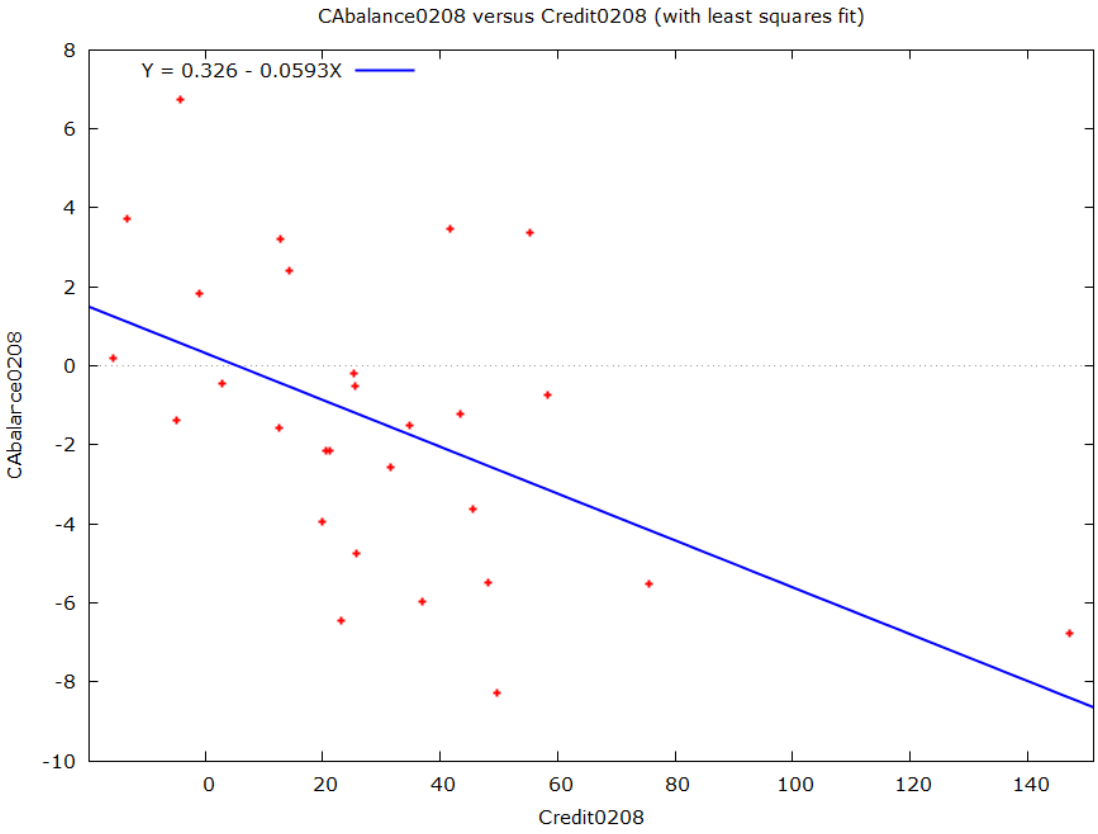
However, if the purpose is to check if credit affects the external balance, analyzing each country independently raises two problems. In the global economy, a rise in the deficit of some countries implies an equivalent rise in the surplus from the other countries. The strong credit expansion of a national economy, with increases in internal prices and most capital invested in speculative bubbles, might be followed by an improvement of the net external balance if the competitive conditions in other partner economies deteriorate further than other partner economies. Thus, in a period of generalized credit expansion like in 2002-2008, there cannot be a simultaneous fall of the net balances in all countries. In the same vein, during a period of credit crisis like that of 2009-2015 for several countries, it is very unlikely to see an improvement in their external imbalances. Given that the aggregate weight of the countries shown in figure 9 represents more than 80 per cent of the global gross product and countries with the biggest imbalances are included, it is quite unlikely to see a negative relationship between the two variables for all the studied countries. That can be a possible explanation for the lack of negative link in some cases in Figure 9.

Another plausible problem is that the potential negative effects of credit expansion on external balances may not be immediate. The loss of price-competitiveness or the distribution of resources from highly competitive sectors towards non-tradable sectors do not necessarily have negative short-term effects on the trade balance.

For this reason, it can be helpful to compare countries in different lapses of time. In figures 10 and 11, each point represents the changes in the credit ratio and in the current-account balance for each country in a specific period. Figure 10 focuses on the

period of expansion during 2002-2008; shifts in the financial downturn of 2009-2015 appear in Figure 11.[7]

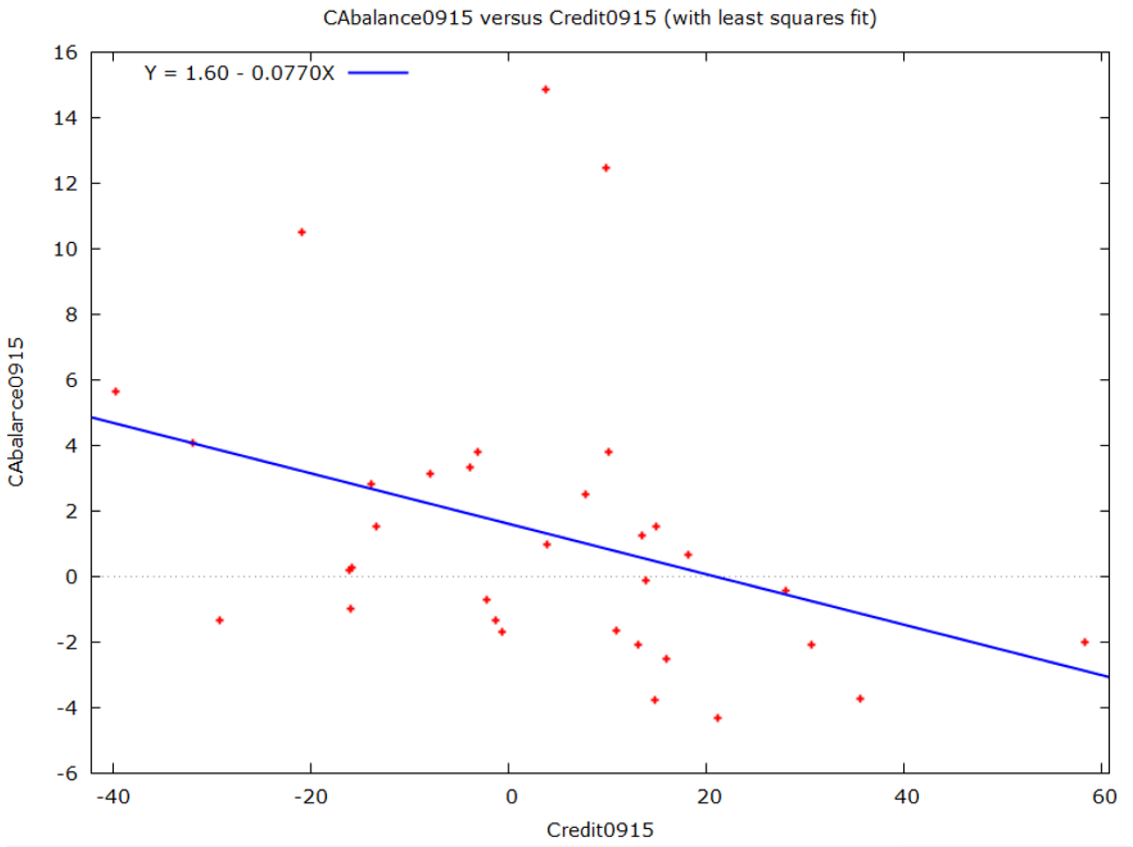
Figure 10: Change in the Credit-to-GDP ratio and in the current-account balance for several countries, 2002-2008



Source: Bank of International Settlements (BIS) and OECD online data and own elaboration.

Coefficient: −0.059304; Standard Error: 0.019466; t-ratio: −3.046; p-value: 0.0053 ***

Figure 11: Change in the Credit-to-GDP ratio and in the current-account balance for several countries, 2009-2015



Source: Bank of International Settlements (BIS) and OECD online data and own elaboration

Coefficient: −0.0769883; Standard Error: 0.035873; t-ratio: −−2.146; p-value: 0.0398 **

For both periods, the negative relationship between the two variables is clear. For the period 2002-2008, peripheral economies like Ireland, Spain, Greece, and Portugal appear in the lower right-hand corner of the figure, with a strong increase in the credit-to-GDP ratio and a deterioration of the external balance, whereas Germany and China, on the upper-left side, record weak increases – and even decreases - in the credit ratio and improve their external balance.[8] Nevertheless, there are also countries not following this tendency. Norway and Sweden, for example, recorded net increases in total credit-to-GDP ratio of 40-60 per cent between 2002 and 2008 but also their net surplus increased by more than three points.

A similar general pattern can be observed for the period 2009-2015, but in a completely different economic context. With the end of financial expansion and the beginning of the crisis, the temporary complementarity finally proves unsustainable. A deep credit crunch in countries like Spain, Greece, Portugal, and Hungary led to rebalanced – and sometimes positive – current-accounts; on the contrary, Belgium, Australia, and Chile continued to expand their total credit ratio and their external balance deteriorated. In this last figure, China is the country with the highest increase in total credit ratio and with a slight downturn in its external surplus. However, despite the fall of 2'1 points, its surplus in 2015 was still of 2'7 per cent of GDP.

In short, graphic trend analyses from the last financial expansion and the later recession seem to support the hypothesis of a negative causal relationship between credit expansion and current-account results. Thus, countries with DLG regimes are likely to record the biggest deficits. That said, the net balance of each country reacts differently to credit expansion, certainly depending on internal factors, such as the three quoted above: shifts in the demand of imports, relative changes in cost competitiveness and productive structures.

The calculation of the relative impact of each of these – and other factors – on the net balance would require specific research, which falls outside the scope of this section. However, it is worth reviewing the researches that have already been done on the factors of the imbalances that emerged within the Eurozone before the crisis. Even if no consensus has been reached (Stockhammer, E., C. Constantine and S. Reissl 2016), both the increase in demand of imports in the periphery (Gaulier and Vicard, 2012; Gabrisch and Staehr, 2014; Unger, 2015), the divergence of labor costs (Dadush and Stancil, 2011; Chen et al, 2012; Flassbeck and Lapavitsas, 2013; Priewe, 2011; Mazier and Petit, 2013; Cessaratto, 2015) or a combination of the two (Stockhammer and Sotiropoulos, 2012) appear as the main reasons for the imbalances. Regarding the third factor – changes in the national productive structures – only few works stress the importance of the competitiveness based on quality and innovation (e.g; Botta, 2014, Simonazzi et al. 2013, Barredo-Zuriarrain et al. 2017). For instance, Storm and Naastepad (2015a, 2015b) highlight the loss of competitiveness in some peripheral

countries resulting from the investment of national and foreign capitals in non-traded medium-low-tech activities (e.g. the real estate sector).

What is interesting for the scope of this research is the heterogeneous reaction of net current-account balances to increases in the credit-to-GDP ratio. Even if there is a generally negative relationship between them, figure 10 and 11 show, for the periods 2002-2008 and 2008-2015, some countries with an equivalent or even higher increase in credit than the typically named DLG countries but with weak variations or even improvements in their external balance. China is a clear example of this, since the positive contribution of net exports to its GDP from 2004-2005 combines with increasing ratios of credit that boosts internal investment and consumption.

Insofar as the ways by which credit expansion negatively affects the external balance are limited or controlled, a country can record a kind of 'export and debt-led growth regime'. That is achieved, for instance, throughout trade policies limiting the impact of demand booms on imports, the control of internal costs by price policies, the management of the exchange rate, or the orientation of credit-financed investments towards highly competitive sectors. These are only some of the mechanisms by which a national economy might juggle a debt-led internal demand with rising levels of net exports.

Conclusion

Determining a consistent approach for the relationship between debt-led growth regimes, international inflows, and current-account net balances is a fundamental step for understanding contemporary international economics as well as for the implementation of correct regulatory policies.

Net imbalances are often presented as the fuel of debt-led growth regimes that took place in some deficit countries like the United States and Spain during the first financial expansion of the 21st century.

From an alternative approach, assuming the endogenous nature of money, DLG regimes are basically internal dynamics, complemented by foreign capitals attracted by high return-expectations. Current-account imbalances are rather highly possible side effects of the interaction of the XLG and DLG models: Hence, credit expansion in DLG countries is likely to deteriorate their external net result, whereas countries with a moderate rise of credit and a competitive export industry can benefit from the rises of the demand in DLG. This way, DLG and XLG models are usually taken as complementary at the international level but also as symmetrically opposite growth models.

However, both DLG and XLG models can also take place in a country at the same time. In the literature about WLG and PLG models, total GDP reactions to shifts in the profit share determine if a country is profit-led or wage-led; a country cannot be both at the same time. However, the relationship between the two main financialized growth regimes – XLG and DLG – is different: increasing levels of debt can increase private and public consumption as well as the investment levels without necessarily affecting net exports.

A short empirical analysis of recent episodes in the global economy shows a negative impact of the credit-to-GDP ratio in the national current-account balance of many countries. However, we also see cases in which fast credit expansion is accompanied by positive results in the external balance. These countries manage to support their economic growth both by raising their levels of credit relative to GDP and their foreign demand. Of course, a deep case-by-case analysis would be needed but, at least from a theoretical point of view, it would not be out of place to talk about a 'debt and export-led growth' model.

This analysis has several implications in terms of political economy. Firstly, a national current-account imbalance should not be regarded exclusively as an effect of the domestic economic policy; a comprehensive research must take into account the complex interplay of these domestic policies with the international economic dynamics.

Since the last decades, the international environment is marked by the financial liberalization and the multiplication of cross-border flows. The development of the opposite debt-led and export-led growth models in the 2000s was possible only to the extent that financial expansions sustained national and international leveraging processes. When financial conditions reversed in 2008-2009, the two complementary models proved to be unsustainable and the Great recession dragged down the most vulnerable countries.

From this perspective, two guidelines of international economic policy can be envisaged. Firstly, the harmonization of global aggregate demand level requires a symmetric rebalancing of national imbalances, both by the surplus and deficit countries. Nevertheless, this should be accompanied by a deep debate on the role of the financial system as well as the necessary reforms in order to avoid the reproduction, again, of unsustainable and vulnerable growth models.

Footnotes

1: Unlike the equation in Stockhammer and Onaran (2012), we have also introduced an independent variable on consumption and on public spending in order to take into account the role the debt level in the financialized models of growth.

2: Other researchers have found more than two financialized growth models. For example, Hein (2012) adds the 'domestic demand-led' as an intermediate model between the XLG and DLG growth models, in which he includes countries like Portugal, France and Italy. For our purpose, we will only take the extreme cases, that is, the DLG and XLG models.

3: As Lane and Milesi-Ferretti (2006) point out, this kind of operations can lead to changes in prices, exchange rates and market interest rates of the stocked assets and liabilities, thus provoking indirect changes in the net position of every country.

4: In any case, it should be stated that changes in the stock of the IIP liabilities are not sufficient for a consistent study of foreign investment in a country. An attractive national asset can be sold and purchased among non-residents thousands of times

during a year – thus contributing to the development of a speculative bubble in a country – but the net change in stock of external liabilities would only record the stock resulting from the last operation. To this, the effect of changes in stock prices, exchange rates, interest rates… on the total stock of IIP liabilities and assets must be added (Lane and Milesi-Ferretti, 2006).

5: The ways by which increases in credit levels influence the net current-account balance are complex and heterogeneous. Here are only three factors that have an impact on the trade balance. Some other factors may also affect this and other elements of the current-account. For an interesting research on this issue, see Unger (2015).

6: See Hume and Sentance, 2009 for similar cases in other periods.

7: 2015 is the first year in which the Euro Area as a whole does not record any quarter with negative growth rates.

8: The United States, with a growth in credit ratio of 25 points (from 142 per cent to 167`9 per cent of GDP) in that period, recorded a deterioration of its external deficit until 2006 (from 4'1 per cent to 5'8 per cent of GDP) and then it recovered until 2013.

Appendix 1

For figures 1 to 8, statistical data has been taken from the online free-access statistical database of the Organization for Economic Cooperation and Development (OECD) as well as from other official national databases.

Figures 9, 10 and 11 are based on online data made available by the Bank of International Settlements (BIS) and by the OECD. The credit ratio is taken from the "Credit-to-GDP ratios (actual data) - Argentina - Credit from all sectors to Private non-financial sector" of the quarterly series of the BIS.

As tax havens and specifically oriented to international financial activities, Luxembourg and Switzerland are expressly excluded from the study. The dynamics of

the total credit in these countries are certainly different from the majority of the countries. However, their inclusion would not alter the main results of this study.

References

Álvarez, N. Uxó, J. and Febrero, E. 2017. *Internal Devaluation in a Wage-Led Economy. The case of Spain,* ICEI Working Papers, 5.

Barredo-Zuriarrain, J. (2016), 'The Inherent Instability of National Monetary Power in the 21st Century: The Triffin Dilemma Revisited', *Research in Political Economy,* 30 B, pp.23-52

Barredo-Zuriarrain, J., Molero-Simarro, R. and Quesada-Solana, A. (2017), 'Euro-dependence: a Peripheral Look Beyond the Monetary Union: a Proposal of Reform of the TARGET2.' *Review of Radical Political Economics,* 49 (3), pp.379-393

Bohle, D. (2017), 'European Integration, Capitalist Diversity and Crises Trajectories on Europe's Eastern Periphery', *New Political Economy*

Botta, A. (2014), *Structural Asymmetries at the Roots of the Eurozone Crisis*. Working Paper, 794 Levy Economics Institute of Bard College. New York

Bertocco, G. (2015), 'Endogenous money', In S. Rossi, S and L.P Rochon (eds.) *Encyclopedia of Central Banking*, (Cheltenham, UK, Northampton, MA, USA, Edward Elgar).

Bhaduri, A. and Marglin, S. (1990), 'Unemployment and the real wage: the economic basis for contesting political ideologies.' *Cambridge Journal of Economics,* 14 (4), pp.375–393.

Blyth, M. and Matthijs, M. (2017) 'Black Swans, Lame Ducks, and the Mystery of IPE's Missing Macroeconomy', *Review of International Political Economy*, 24(2), pp. 203-231

Borio, C. and Disyatat, P. (2011), *Global Imbalances and the Financial Crisis: Link or no Link?,* BIS Working Papers 346, Bank of International Settlements

Cencini, A. (2005), *World Monetary Discrepancies: a New Macroeconomic Analysis,* Centro di Studi Bancari, Villa Negroni Working Paper.

Cesaratto, S. (2015), 'Balance of Payments or Monetary Sovereignty? In Search of the EMU's Original Sin', *International Journal of Political Economy,* 44(2), pp. 142-156

Chen, R., Milesi-Ferretti, G.M. and Tressel, T. (2012), *External Imbalances in the Euro Area*, *IMF Working Paper Series 12/236*. International Monetary Fund.

Dadush, U. and Stancil, B. (2011), 'Is the Euro Rescue Succeeding?', 06 February 2011. Available from http://voxeu.org/article/euro-rescue-succeeding

Deutsche Bundesbank. (2016) 'Annual report, 2016'. Available from https://www.bundesbank.de/Redaktion/EN/Downloads/Publications/Annual_Report/2006_annual_report.pdf?__blob=publicationFile

Dooley, M, Folkerts-Landau D. and Garber, P. (2003), *An Essay on the Revived Bretton Woods System*. *NBER Working Paper* 9971, National Bureau of Economic Research

Ederer, S. and Stockhammer, E. (2007), 'Wages and aggregate demand in France: an empirical investigation', in E. Hein and A. Truger (eds.) *Money, Distribution and Economic Policy- Alternatives to Orthodox Macroeconomics,* (Cheltenham, UK: Edward Elgar)

European Commission. (2015), Macroeconomic Imbalances Country Report – Netherlands*. European Commission Occasional Papers* 221

Fama, E. F. (1965), 'The Behavior of Stock Market Prices', *Journal of Business,* 38, pp. 34-105.

Fiebiger, B. (2017), 'Semi-Autonomous Household Expenditures as the Causa Causans of Postwar US Business Cycles: the Stability and Instability of Luxemburg-Type External Markets', *Cambridge Journal of Economics*, bex 019, https://doi.org/10.1093/cje/bex019

Flassbeck, H. and Lapavitsas, C. (2013), *The Systemic Crisis of the Euro: True Causes and Effective Therapies,* Rosa Luxemburg Stingtung Working Paper

Frankel, J. A. (2007), 'Nine Reasons We are Given not to Worry About the US Deficits' paper presented at the Workshop on Global Trends and Challenges, Yale University, Commission on Growth and Development.

Fuller, G. W. (2018), 'Exporting Assets: EMU and the Financial Drivers of European Macroeconomic Imbalances', *New Political Economy*, 23(2), pp. 174-191

Gabrisch, H., and Staehr, K. (2014), *The Euro Plus Pact: Cost Competitiveness and External Capital Flows in the EU Countries.* ECB Working Paper Series No. 1650. Frankfurt: European Central Bank.

Garcia Herrero, A. (2015), Internationaliser la Monnaie Tout en s'Endettant Massivement: le Cas de la Chine, *Revue d'économie financière,* 119, pp. 121-140

Gaulier, G., and Vicard, V. (2012), 'Current Account Imbalances in the Euro Area: Competitiveness or Demand Shock?', *Banque de France Quarterly Selection of Articles*, 27. Paris: Banque de France.

Gourinchas, P.O., and Rey, H. (2005), *From World Banker to World Venture Capitalist: U.S External Adjustment and the Exorbitant Privilege*. NBER Working Paper No. 11563. National Bureau of Economic Research.

Guha, K. (2009), 'Paulson says crisis sown by imbalance', Financial Times, January 1 2009. Available from https://www.ft.com/content/ff671f66-d838-11dd-bcc0-000077b07658 [accessed 13 October 2017]

Hein, E. (2012), *The Macroeconomics of Finance-Dominated Capitalism and its Crisis*, (Northampton, MA, USA: Edward Elgar)

Hein, E. and Vogel, L. (2008), 'Distribution and Growth Reconsidered.' *Cambridge Journal of Economics,* 32(3), pp.479–511.

Hein, E and Dodig, N. (2012), 'Finance-Dominated Capitalism, Distribution, Growth and Crisis – Long-Run Tendencies', in E. Hein, D. Detzer and N. Dodig (eds.) *The Demise of Finance-Dominated Capitalism: Explaining the Financial and Economic Crises,* (Cheltenham, UK, Northampton, MA, USA: Edward Elgar)

Hudson, M. (2010), The transition from industrial capitalism to a financialised bubble economy*,* Levy Economics Institute of Bard College Working Paper no. 627.

Lane, P. R. and Milesi-Ferretti, G.M. (2006), 'Les Conséquences des Déséquilibres Mondiaux.' *Finances&Development,* 43(1), pp. 38-41

Lane, P. R., and McQuade, P. (2013), *Domestic Credit Growth and International Capital Flows,* ECB Working Paper Series No. 1566. Frankfurt: European Central Bank.

Lapavitsas, C, (2012), *Crisis in the Eurozone*, (London: Verso)

Lavoie, M. (1988), 'La Théorie Post-Keynésienne du Circuit Macroéconomique', in G. De Bernis (ed.) *Théories Économiques et Fonctionnement de l'Économie Mondiale,* (Grenoble : Presses Universitaires de Grenoble)

Lavoie, M. (2003), 'A Primer on Endogenous Credit-Money', in L.P. Rochon and S. Rossi (eds.) *Modern Theories of Money: The Nature and Role of Money in Capitalist Economies,* (Cheltenham: Edward Elgar Publishing)

Lissowska, M. (2014), 'Welfare against Growth Gains in Post-Transition Countries. What are the Consequences for Stability?' *Economics,* 8

Makreska Disoska, E. and Toshevska Trcevska, K. (2016), 'Debt or Wage-led Growth: the European Integration', *Journal of Economic Integration,* 31(2), pp. 326-352

Mateos y Lago, I., Duttagupta, R. and Goyal, R. (2009), The Debate on the International Monetary System. *IMF Staff Position Note no. 26*, International Monetary Fund

Mazier, J. and Petit, P. (2013), 'In Search of Sustainable Paths for the Eurozone in the Troubled Post-2008 World', *Cambridge Journal of Economics,* 37(3), 513-532.

Minsky, H. P. (1982), *Can "It" Happen Again? Essays on Instability and Finance,* (Armonk: N.Y, M. E. Sharpe).

Moore, B.J. (2001), 'Some Reflexions on Endogenous Money', in L.P Rochon and M.Vernengo (eds.) *Credit, interest rates and the open economy* (Cheltenham: Edward Elgar)

Morrisey, M., and Baker,D. (2003), *When rivers flow upstream: international capital movements in the era of globalization.* CEPR Briefing Paper. Washington DC: Center for Economic and Policy Research.

Naastepad, C. W. and Storm, S. (2006), 'OECD Demand Regimes (1996-2000).' *Journal of Post Keynesian Economics,* 29, pp. 211–246

Niechoj, T. (2015), 'Which Future for Europe? A Scenario Crisis of European Integration', in J.Jäger and E.Springler (eds.), *Asymmetric Crisis in Europe and Possible Futures* (Routledge: London)

Nishi, H. (2013), 'On the Short-Run Relationship Between the Income Distribution Growth and Debt Growth Regimes'*, International Review of Applied Economics,* 27(6), pp. 729-746

Priewe, J. (2011), 'European Imbalances and the Crisis of the European Monetary Union.' In H.Herr et al. (eds.) *From Crisis to Growth? The Challenge of Debt and Imbalances* (Marburg: Metropolis)

O'Connell, A. (2015), 'European Crisis: A New Tale of Center–Periphery Relations in the World of Financial Liberalization/Globalization?', *International Journal of Political Economy*, 44(3), pp.174-195,

Oatley, T. (2011) 'The Reductionist Gamble: Open Economy Politics in the Global Economy', *International Organization*, 65(2), pp. 311–41.

Obstfeld, M. and Rogoff, K. (2009), *'Global imbalances and the financial crisis: products of common causes',* CEPR Discussion Paper DPT606, London, Centre for Economic Policy Research

Onaran, Ö. (2016), *Wage- versus profit-led growth in the context of international interactions and public spending: The political aspects of wage-led recovery*, PKSG Working Papers 1603, Post Keynesian Economics Study Group.

Onaran, Ö., Stockhammer, E. and Grafl, L. (2011), 'The Finance-Dominated Growth Regime, Distribution and Aggregate Demand in the US.' *Cambridge Journal of Economics,* 35(4), pp. 637–661.

Onaran, Ö. and Galanis, G. (2012), *Is aggregate demand wage-led or profit-led? National and Global Effects*, ILO Working papers 40, Genève, International Labour Organization.

Orléan, A. (1999), *Le pouvoir de la finance*, (Paris, Odile Jacob).

Phillips, A. G. (1958), 'The Relation Between Unemployment and the Rate of Change of Money Wage Rates in the United Kingdom, 1861–1957', *Economica,* 25(100), pp. 283–299

Rochon L.-P. and Piégay. P. (eds.) *(*2003), *Théories Monétaires Post Keynésiennes*, (Paris: Economica).

Reinhart, C. M. and Reinhart, V.R. (2008), *Capital Inflows and Reserve Accumulation: the Recent Evidence*. NBER Working Paper No. 13842 (Cambridge: National Bureau of Economic Research).

Rossi, S. (2001), 'The Meaning of Bank Deposits'. *Working Paper* 6, Research Laboratory of Monetary Economics

Schlesinger, H. (1979), 'Problems of Monetary Policy in Germany: Some Basic Issues', in J.E. Wadsworth and F. Léonard de Juvigny (eds.) *New Approaches in Monetary Policy*, edited by. Alphen-sur-le-Rhin: Sithoff et Noordhoff

Simonazzi, A., Ginzburg, A. and Nocella, G. (2013), 'Economic Relations between Germany and Southern Europe.' *Cambridge Journal of Economics,* 37(3), pp. 653–675.

Sinn, H.W. (2011), 'The ECB's Stealth Bailout'. VOX, June 9, 2011. VoxEu.org

Stiglitz, J. E. (2007), 'Global imbalances, Power Shifts and the Future of Multilateralism.', paper presented at the CEPR Events. April 12, 2007. Washington.

Stiglitz, J.E. (2016), *The Euro: How a Common Currency Threatens the Future of Europe*, (New York, NY, USA and London, UK: Norton)

Storm, S. and Naastepad, C. (2015a), 'Europe's Hunger Games: Income Distribution, Cost Competitiveness and Crisis', *Cambridge Journal of Economic*s, 39(3), pp. 959–986.

Storm, S. and Naastepad, C.. (2015b), 'NAIRU Economics and the Eurozone Crisis', *International Review of Applied Economics*, 29(6), pp.843-877

Stockhammer, E. (2009), 'The finance-dominated accumulation regime: Income-distribution and the present crisis', *Papeles de Europa,* 19, pp. 58-81

Stockhammer, E. (2016), 'Neoliberal growth models, monetary union and the Euro crisis. A post-Keynesian perspective', *New Political Economy*, 21(4), 365-379

Stockhammer, E., and Önaran, Ö. (2012), *Wage-led Growth: Theory, Evidence, Policy,* PERI Working Paper Series No. 300, Political Economy Research Institute.

Stockhammer, E. and Sotiropoulos, D. (2014), 'Rebalancing the Euro Area: the Costs of Internal Devaluation', *Review of Political Economy,* 26(2), pp. 210-33.

Stockhammer, E., Onaran, Ö. and Ederer, S. (2009), 'Functional Income Distribution and Aggregate Demand in the Euro Area'. *Cambridge Journal of Economics,* 33(1), pp. 139–159.

Stockhammer, E., Constantine, C. and Reissl, S. (2016), *Explaining the Euro Crisis: Current Account Imbalances, Credit Booms and Economic Policy in Different Economic Paradigms*, PKSG Working Papers 1617, Post Keynesian Economics Study Group

Taylor, L. (1985), 'A Stagnationist Model of Economic Growth', *Cambridge Journal of Economics,* 9, pp. 383-403.

Tilford, S. and Whyte, P. (2011), Why Stricter Rules Threaten the Eurozone, *Center for European Reform Essays*, November 2011

Ülgen, F. (2013), 'Institutions and Liberalized Finance: Is Financial Stability of Capitalism a Pipedream?', *Journal of Economic Issues,* 47(2), pp. 495-503

Unger, R. (2015), *Asymmetric Credit Growth and Current Account Imbalances in the Euro Area*, Bundesbank Discussion Paper No. 36/2015

US Census Bureau. Available from https://www.census.gov/foreign-trade/statistics/highlights/toppartners.html, [accessed, 25 October 2017]