TARGET2 imbalances and the need for a lender of last resort

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Abstract
This paper analyses the issue of the dynamics of the TARGET2 system balances during the sovereign debt crisis. The development of these balances reflects the change in the distribution of the monetary base among the EMU Member States. During the sovereign debt crisis, while some countries, among which Germany, registered a decisive inflow of monetary base, some others, as Italy, shown an outflow. The main conclusion of the paper is that the dynamics in TARGET2 is rather due to a fall in the level of confidence in the capacity of the EMU to survive than to disparities in the level of competitiveness among countries of the Eurozone as a part of the literature maintained. In turn, this crisis of confidence has to be considered as the consequence of the implicit refusal of the European institutions of creating a mechanism working as "lender of last resort" for the Eurozone Member States. Two elements, in particular, support this thesis. On the one hand, most of the monetary base outflow occurred in coincidence with those political decisions which determined deterioration in the expectation about the degree of solvency of the periphery countries. On the other hand, the fiscal consolidation that the periphery countries implemented destabilized the economy as a result of a negative conjuncture and a monetary policy ineffective in reducing the interest rate.

JEL Classification: *E42, E52, E58, E62, F32, F34, F36.*
Keywords: *payment system, monetary policy, fiscal policy, financial crisis.*

1. Introduction

The aim of this paper is to present further elements of analysis about the evolution of TARGET2 balances during the Eurozone's sovereign debt crisis. Our investigation leads to stress that the TARGET2[1] dynamics can be considered rather a direct consequence of specific political choices made by European institutions than linked to competitiveness disparities across EMU Member States. More specifically, it appears to be related to a certain reluctance of European institutions in setting up a "lender of last resort" mechanism in order to provide those needing Member States with financial support.

TARGET2 system is the infrastructure that allows settling the payments related to financial institution transactions and to the monetary policy operations within the European Monetary Union (EMU). This system, essentially, allows for the monetary base to circulate among national central banks of the Euro zone, and registers the inflow and outflow of monetary base for each of these countries.[2]

The dynamics of TARGET2 balances was marked, firstly, starting from August 2007, by the global financial crisis, but mostly, starting from October 2009, by the Eurozone sovereign debt crisis. TARGET2 balances values were negligible until August 2007, when some Member States started observing substantial monetary base inflow while some others experienced decisive outflow. In order to simplify the explanation we label the first group, in which Germany plays a main role because of the large value of its TARGET2 claims, as the "core" countries; while we identify the second group, including Italy, Spain, Portugal, Ireland and Greece among others, as the "periphery" countries.[3]

[1] TARGET stands for Trans-European Automated Real-time Gross settlement Express Transfer system.
[2] See ECB (2012a).
[3] For a comprehensive analysis of the issues raised by the dynamics in the TARGET2 balances, see Cour-Thimann (2013).

As for the determinants of the evolution in TARGET2 balances, two positions emerged in the literature. The first one, we refer to as the "core interpretation" (see Sinn and Wollmershäuser 2012a, 2012b, 2011), argued that TARGET2 imbalances reflected disparities in competitiveness levels among EMU Member States. More specifically, periphery countries accumulated over time a considerable deficits in their BoP current accounts which were financed with core countries loans. Successively, the crisis worsened the micro and macro conditions in periphery countries and negatively affected their access to financial markets, so that a reversal of financial flows and a monetary base outflow towards the core countries occurred. Financial institutions of the periphery countries were able to bear this outflow mainly because the ECB provided an extensive financial support through the non-standard monetary policy measures.[4]

However, those interventions had the only outcome of keep feeding the current account deficit and delaying the necessary price adjustment process. Had the ECB non intervened, a real depreciation process would have taken place. On the one hand, a higher interest rate would have stimulated an inflow of financial resources from the core countries and, on the other hand, a lower wage rate would have fostered the competitiveness of the production system in the international markets of goods and services.

The second one, we refer to as the "periphery interpretation", appears to emerge as the common denominator of a series of contributions reviewing and commenting on the "core interpretation". According to this second view, TARGET2 imbalances reflected financial market tensions rather due to a lack of confidence toward the ability of the European institutions and of the EMU to face the sovereign debt crisis than to an imbalance in the level of competitiveness among the EMU Member States (see Panico and Purificato, 2013). Basically, financial market operators incorporated in the yield of sovereign securities the risk and the expectation of a collapse of the EMU and a return to the respective national currencies and, therefore, of their devaluation (see the editorial of the August 2012 Monthly Bulletin; ECB, 2012b, pp. 5-7).[5]

The crisis revealed, firstly, in the sovereign bond market, where investors get rid of their periphery bonds and, secondly, in the interbank market, where credit institutions were excluded from accessing the loans granted by other financial institutions due the potential losses these latter would have experienced for being exposed to the sovereign bonds of periphery countries (see De Grauwe and Ji, 2012). In this context, the non-standard monetary policy measures arranged by the ECB, counterbalanced the monetary base outflow recorded in the TARGET2 balances avoiding a liquidity crisis for the bank sector in the periphery countries.[6]

The empirical analysis was not successful in identifying the determinants of TARGET2 imbalances. It focused in finding a statistical correlation between the TARGET2 imbalances and either the current account balance, considered as an indicator of the competitiveness difference among Member States, or the financial account balance, considered as an indicator of the financial markets strains. Cecioni and Ferrero (2012) stressed a strong correlation between TARGET2 imbalances and those registered in the BoP financial account, whereas the imbalances observed in the BoP current account turned to be not significant.[7] Auer (2013) reached a different conclusion. For De Grauwe and Ji (2012) the TARGET2 imbalances were correlated with the increasing rate of return of government bond, variable that was

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[4] Notice here that there were also financial support programs promoted by the Council of the European Union in favour of the governments of Greece, Ireland and Portugal, which were beneficiaries of economic and financial adjustment programmes, and Spain, which agreed for a banking recapitalization and restructuring programme. Nevertheless, we focus on the support provided by the ECB to credit institutions because it was surely more relevant according to its economic size.

[5] The fact that the dissolution of EMU has been perceived as likely is witnessed by the speech of Mario Draghi, President of the European Central Bank, at the Global Investment Conference held in London on the 26th of July 2012(http://www.ecb.int/press/key/date/2012/html/sp120726.en.html).

[6] See Bindseil and König (2011), Cecchetti *et al.* (2012), Cecioni and Ferrero (2012), De Grauwe and Ji (2012), Garber (2010), Whelan (2012); but also the contribution of ECB (2013, pp. 103-114; 2012c, pp. 8-10; 2011a, pp. 35-40) and of the Deutsche Bundesbank (2011, pp.34-35).

[7] See also Bindseil and König (2011), Whelan (2012).

adopted as indicator of the financial market strain. However, as Sinn and Wollmershäuser (2012a) suggested, the correlation between the TARGET2 balances and either the financial account balances or the rates of return of government bonds does not necessarily imply rejecting the "core interpretation". Indeed the financial market strain could easily be traced back to a re-evaluation of country risk related rather to the emergence of major imbalances in the levels of competitiveness than to a crisis of confidence in the European institutions.[8]

This paper, in supporting the "periphery interpretation", aims to provide some further elements, not yet investigated by the literature, that contribute to shed light on the TARGET2 balances dynamics. First, not all the periphery countries characterized by an outflow of monetary base accumulated a relevant deficit in the BoP current account. In particular, Italy and Ireland recorded a cumulative surplus in the net exports of goods and services, the main indicator of competitiveness for a country.

Second, a relevant portion of the monetary base outflow from the periphery countries was observed in coincidence with specific policy decisions taken by the European institutions, and not when disparities in the levels of competitiveness of individual countries emerged. These decisions resulted in the constant and implicit refusal to establish a mechanism which would have acted as "lender of last resort" in favour of the governments of the periphery countries. This process resulted into a severe deterioration in the expectations about the solvency of the Euro area Member States and about the risk linked to their possible partial or total default; in other words this process induced severe strains in the financial markets due to the fall in the confidence toward the ability of EMU to survive.

Third, in deciding and implementing its monetary policy, the ECB held its legitimate and unavoidable role of "lender of last resort" in order to avoid a liquidity crisis for the credit institutions. The lack of a European institution that took on the same responsibility toward the Member States resulted in the escalation of the debt crisis. As argued in the literature[9], the fiscal consolidation and the real depreciation tend to destabilize the economic system when it is in a negative conjuncture and it is coupled with a monetary policy ineffective in reducing the rate of interest. This theoretical framework is exactly the one experienced by the periphery countries. The sovereign debt crisis in the Eurozone showed signs of reversion only when the ECB satisfied the inevitable need to implicitly assume, so far credibly and under specific conditions, the role of "lender of last resort" for the EMU Member States. This was readily reflected by a re-absorption in the unbalances observed in the TARGET2 system.

The rest of the paper is structured as follow: Section 2 describes the working mechanism of the TARGET2 system and illustrates the economical meaning of its balances. Section 3 offers a reading of the literature, classified according to the different proposed interpretation of the TARGET2 dynamics. With this respect, two main streams are identified which we refer to as interpretation of the "core" and of the "periphery". Section 4 reads the evolution of the TARGET claims for the periphery countries in the light of some key political decision adopted by European institutions. Section 5 stresses the legitimacy of the ECB's monetary policy choices as pertaining to its role of lender of last resort towards the credit institutions; moreover, it points out how the economic context in the periphery countries witnessed the needing that this role was covered by other European institution in favour also of their governments. Section 6 summarizes the main conclusions.

2. The TARGET2 system

The TARGET2 system[10] is a settlement infrastructure that allows the smooth regulation of those payments linked to the financial institutions transactions and to the monetary policy operations implemented by the Eurosystem. This infrastructure connects all the Eurosystem members, with the ECB that acts as a clearing house towards the national central banks for the countries that adopted the euro as

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[8] See also Merler and Pisani-Ferry (2012).

[9] See Blanchard and Leigh (2013), Arestis (2012), Auerbach and Gorodnichenko (2012), Eggertsson and Krugman (2012) and Christiano *et al.* (2011).

[10] That replaced TARGET system in 2007.

currency. Payments are regulated trough claims and liabilities recorded in the national central banks and imputable to the national financial institutions. The payment between banks that belongs to different countries is necessarily associated with a monetary base transfer across countries. For this reason the net position of each national central bank towards the ECB, the TARGET2 balance, gives an indication on the geographical redistribution of the monetary base against the original distribution set up by the monetary policy operations.

Table 1 – TARGET2 system and accounting balances

Financial institution – country A		***National central bank – country A***	
Assets	***Liabilities***	***Assets***	***Liabilities***
	-Δ *debits* *financial institution B*	+Δ *loans* *financial institution A*	-Δ *deposits* *financial institution A*
-Δ *deposits* *National central bank A*	+Δ *loans* *National central bank A*		+Δ *liabilities TARGET2* *ECB*
European Central Bank			
Assets		***Liabilities***	
+Δ *claims TARGET2* *National central bank A*		+Δ *liabilities TARGET2* *National central bank B*	
National central bank – country B		***Financial institution – country B***	
Assets	***Liabilities***	***Assets***	***Liabilities***
-Δ *loans* *financial institution B*	+Δ *deposits* *financial institution B*	-Δ *credits* *financial institution A*	
+Δ *claim TARGET2 ECB*		+Δ *deposits* *National central bank B*	-Δ *loans* *National central bank B*

The following example clarifies what previously stated.[11] Considering the transactions between financial institutions located in different countries, let's suppose that a financial institution in country A extinguish a debt toward a financial institution in country B. Within the TARGET2 system, the accounting procedure that records the monetary base transfer between the two countries implies the following modifications in the balance sheets of the involved actors (see Table 1). For the financial institution in country A, repaying a debt involves a contraction in the liabilities offset either by an increase in these latter, when the financial institutions asks for a loan to its national central bank, or by a decrease in the assets associated with the reduction in the deposits the financial institution holds at its national central bank. In the balance sheet of the national central bank, then, the increase of the assets due to the increase in the loans, or the contraction of the liabilities due to the decrease of deposits, is complemented by a TARGET2 liability towards the ECB. This accounting entry identifies the monetary base transfer from the national central bank to the ECB.

The ECB plays the role of clearing house between the national central banks. Because of this, in the ECB balance sheet the TARGET2 claim toward the national central bank of country A is offset by the TARGET2 liabilities toward the central bank of country B. This registration identifies the definitive transfer of the monetary base form the national central bank of country A to the national central bank of

[11] For other similar explanations see Cecioni and Ferrero (2012), ECB (2013), Garber (2010), Cour-Thimann (2013).

country B. In the balance sheet of the national central bank in Country B, according to the choices of the financial institution of this country, the TARGET2 claim is coupled with a reduction in assets due to the lower use of loans or an increase in liabilities due to higher level of deposits. Finally, in the balance sheet of the financial institution in country B, the decrease in assets associated with the collection of credits due from the institution of country A is balanced by a reduction of liabilities associated with fewer loans or by an increase in claims associated with more deposits.

In this process two aspects needs to be emphasized. The first one concerns the monetary base. In country A, transferring the monetary base to country B implies either the contraction of the previous amount of monetary base, if the amount of deposits hold by financial institutions to the national central banks decrease, or the stability of monetary base if, on the contrary, the loans increase. In country B, the money transfer from country A implies the increase of the existing monetary base, when the amount of deposits hold by the financial institutions at the national central bank increase, or maintaining the existing level of the monetary base, when loans diminish.

The second aspect concerns TARGET2 claims and liabilities, these entries traces how the monetary base moves across Eurozone states. When the TARGET2 balance against the ECB, defined as the difference between claim and liabilities as accounted in the balance sheet of a national central bank, is zero this means that monetary base inflow and outflow balance out perfectly, whereas being the balance positive or negative this would indicate, respectively, an inflow or an outflow of monetary base. In brief, TARGET2 balances define how the geographical distribution of the monetary base changed with respect to the original one as it was determined by the monetary policy operations implemented by the Eurosystem.

3. The determinants of the dynamic in TARGET2 balances

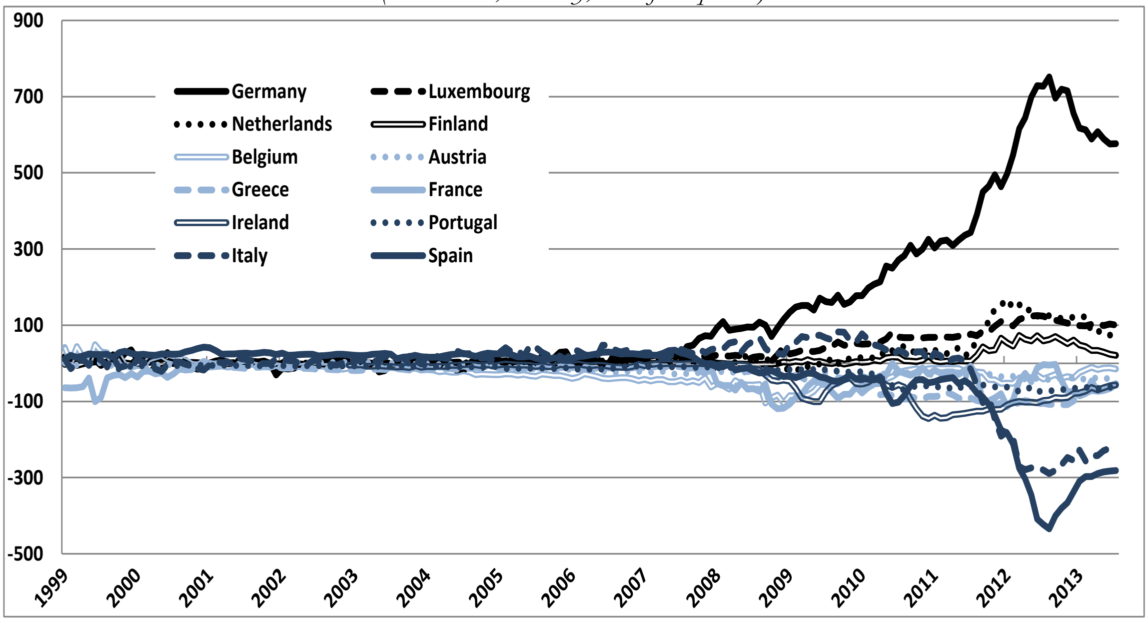
The dynamics of TARGET2 balances was marked, firstly, by the global financial crisis in August 2007 and then, starting in October 2009, even more by the sovereign debt crisis in the Eurozone. Until August 2007, the TARGET2 balances were close to zero or, at least, of negligible values. Successively, while some national central banks recorded positive balances, some others recorded negative balances with the gap increasing together with the worsening of the debt crisis (see Figure 1). In the remainder of the paper, the states that showed cumulated claims in TARGET2 balances at the end of 2012 will be identified as "core countries", among which a prominent position is occupied by Germany for the absolute size of the balance. Symmetrically, the states that have shown TARGET2 liabilities will be identified with the name of "periphery countries", among them, in addition to Italy that is included because of the absolute value of its balance, we can find Greece, Ireland, Portugal and Spain as they have been under financial support programmes promoted by the European institutions (see Figure 2).

The determinants of the dynamics in TARGET2 balances were extensively explored by the literature and two main positions emerged. The first, to which we refer as the "core interpretation" argued that the TARGET2 imbalances reflected the disparities in the level of competitiveness across the EMU Member States. More specifically, while in the core countries a sustainable fiscal policy was coupled with structural reforms aimed at increasing the degree of competitiveness both in the labour and in the good markets, the periphery countries limited their action to support domestic demand. Indeed, they sustained its private component through a reckless credit policy and its public component through an unsustainable fiscal policy. The result has been a growing gap in levels of competitiveness between the two groups of countries with those of the core accumulating surpluses and those of the periphery accumulating deficits in the current account of balance of payments.

Until 2007, capital flows from the core countries financed the BoP deficits in the periphery countries. With the incoming of the crisis, an increase in the country risk due to a re-evaluation of the micro and macro-economic context in the periphery countries, negatively affected the access to financial markets both for their government and the financial institutions, causing a capital flow reversal toward the core countries. The non-standard measures of monetary policy implemented by the ECB delayed the essential prices adjustment, in particular that of the wage rate and the one of the interest rate, and continued to feed the deficit of the public sector budget and that in the BoP current account. Ultimately, TARGET2 imbalances reflected the outflow from the periphery countries of those financial resources provided for the bank sector trough the non-standard monetary policy measures.

Figure 1 – TARGET2 balances towards the Eurosystem, selected EMU Member States (Jan 1999 – Jul 2013)

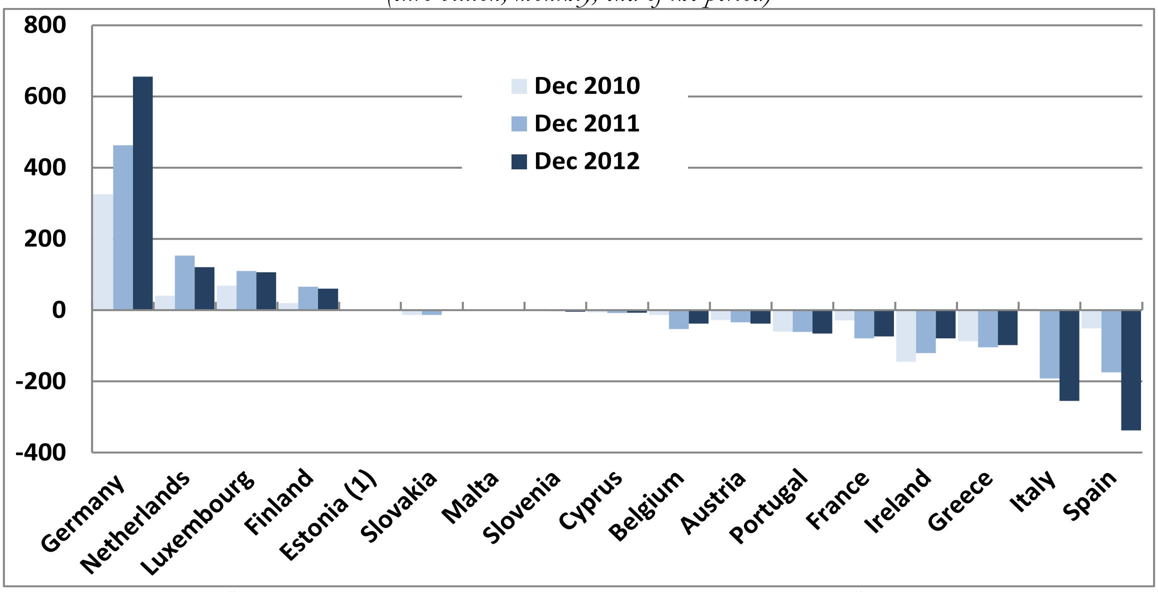
(euro billion, monthly, end of the period)



Source: elaboration on the "Institute of Empirical Economic Research - Osnabrück University" dataset, last data revision on the 08th October 2013; http://www.eurocrisismonitor.com/

Figure 2 – TARGET2 balances towards the Eurosystem, EMU Member States (Dec 2010, 2011, 2012)

(euro billion, monthly, end of the period)



Source: elaboration on the "Institute of Empirical Economic Research - Osnabrück University" dataset, last data revision on the 08th October 2013; http://www.eurocrisismonitor.com/

Note: (1) for Estonia the December 2010 data is not available.

As far as the economic policy recommendations are concerned, the "core interpretation" suggests two main routes: austerity policies and structural reforms. The first one consists in a restrictive fiscal and monetary policy: the resulting economic slowdown would have promoted an increase in the level of competitiveness of peripheral countries by determining a wage rate contraction; moreover, the rise in the interest rate connected with the restrictive monetary policy would also have supported the access to financial markets by encouraging the inflow of financial capital from abroad. The second one consists in setting industrial policies aimed at increasing the degree of competitiveness in the market of goods and regulating employment relationships aimed at enhancing the degree of flexibility in the labour market; therefore, also in the long run, the level of competitiveness of peripheral countries would have been strengthened through the adoption of the structural reforms.[12]

The second position, which we called "periphery interpretation" argued that TARGET2 imbalances reflected the high strains in the financial market, mainly attributable to a crisis of confidence in the ability of the European institutions and, in particular, of the EMU to face the sovereign debt crisis. What has been observed was a sort of overshooting in the rate of return in the government bonds of the periphery countries. Irrespective of the macro and micro economic fundamentals and regardless of the existence of the alleged divergence in the level of competitiveness between EMU member states, the financial market incorporated in the price system and, in particular, in the rates of return for governmental bond, the expectation of a return for the periphery countries to the respective national currencies with a corresponding devaluation. The fear that the euro and EMU could be just one step away from the collapse was real, since the President of the ECB, Mario Draghi, on July 26th 2012 considered worth to declare:

> "*When people talk about the fragility of the euro and the increasing fragility of the euro, and perhaps the crisis of the euro, very often non-euro area member states or leaders, underestimate the amount of political capital that is being invested in the euro. And so we view this, and I do not think we are unbiased observers, we think the euro is irreversible*".[13]

As to confirm this position a couple of weeks later, in the editorial of the Monthly Bulletin it has been stressed:

> *"Exceptionally high risk premia are observed in government bond prices in several countries and financial fragmentation hinders the effective working of monetary policy. Risk premia that are related to fears of the reversibility of the euro are unacceptable, and they need to be addressed in a fundamental manner. The euro is irreversible."* (ECB, 2012b, pp.5).

The crisis arose, at first, in the sovereign bond market and, subsequently, in the interbank market. At the beginning, the investors started short-selling their periphery government bonds, thus, causing for these latter an increase in the rate of return and a decrease in the price. Thereafter, periphery credit institutions were precluded from accessing the interbank market, i.e., the loans previously granted by other financial institutions were rejected in order to avoid the risks of potential losses arising from their exposure to the sovereign securities. Given their impossibility to obtain credit on the interbank market then, TARGET2 imbalances can be considered as reflecting, on the one hand, the capital outflow due to the short-selling of peripheral government bonds and, on the other hand, the necessity for the credit institution to finance through non-standard monetary policy measures.

As far as the economic policy suggestions are concerned, the periphery interpretation strongly defends the ECB monetary policy choices, i.e. the non-standard measures that, further to offsetting the outflow of monetary base observed in the peripheral countries, avoided a dramatic crisis of liquidity for the banking systems of these countries.[14]

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[12] See Sinn and Wollmershäuser (2012a; 2012b; 2011).

[13] Global Investment Conference held in London:
http://www.ecb.int/press/key/date/2012/html/sp120726.en.html.

[14] See ECB (2013; 2012c; 2011a), Cecchetti *et al.* (2012), Cecioni and Ferrero (2012), De Grauwe and Ji (2012) and Deutsche Bundesbank (2011).

3.1 The empirical evidence

As for the empirical perspective, the literature did not express a unique position on the determinants of TARGET2 imbalances. Cecioni and Ferrero (2012), with their statistical analysis, showed a correlation between TARGET2 imbalances and BoP financial account imbalances whereas current account deficits did not provide any explanation for the growing in TARGET2 imbalances. In the periphery countries the financial account imbalances stemmed by the reallocation of financial assets, as carried out not only by financial institutions, towards the core countries. During the period preceding the sovereign debt crisis, a certain correlation between TARGET2 and current account emerged for Greece only.[15] The econometric analysis of De Grauwe and Ji (2012) highlighted the negative and significant impact of the peripheral government bond yields on deficits observed in TARGET2 balances, with the first variable taken as an indicator of the crisis of confidence in the capacity of European institutions to survive. The authors also showed the cumulated value of the BoP current account deficit not to be correlated with TARGET2 imbalances. However, it is worth stressing that the findings of the econometric analysis should not be interpreted as a causal link in which the rates of return are the determinant and the TARGET2 imbalances the effect. Indeed, it is reasonable to define the increase in the government bond yields also as given by the capital outflow that is, in turn, at the base of the TARGET2 imbalances.

For Auer (2013), which also makes use of the econometric analysis, the evolution of TARGET2 imbalances and of the BoP current account imbalances are not correlated until August 2007; successively, a strong correlation emerged between the two variables. The author stressed that this result should be interpreted with caution as it simply implies that, with the onset of the financial crisis, the current account deficits were increasingly being funded rather using the resources obtainable through the non-standard monetary policy measures than through private capital inflows. Regarding the reasons behind this, no evidence is provided other than either a re-evaluation of the risk connected to disparities in the level of competitiveness among countries or a confidence crisis in the capacity of the EMU to survive. Therefore, the empirical analysis does not appear decisive in settling the question of what are the determinants of differentials in TARGET2 balances.

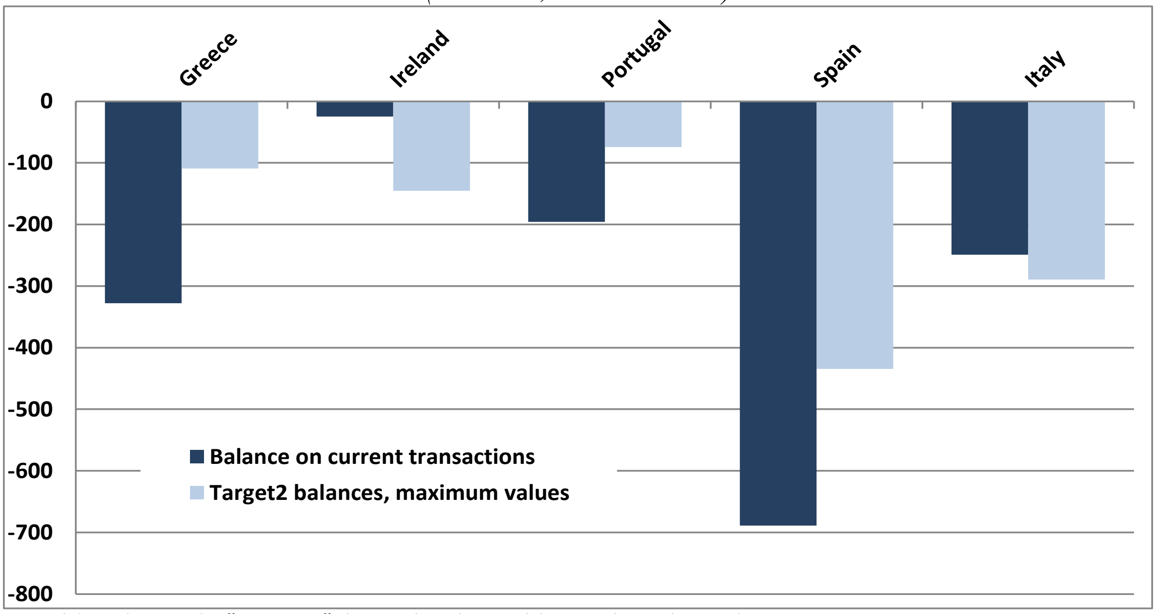
As argued in Sinn and Wollmershäuser (2012a), the persistent deficits in BoP current account accumulated before the crisis have favoured the growing of financial liabilities towards foreign creditors; therefore, the possible correlation between TARGET2 balances and financial account balance observed during the sovereign debt crisis could simply reflect the decision of the foreign creditors to short sell the financial assets hold in the periphery countries due to an increase in the country risk following the worsening of the micro and macro-economic context in their economies. At the same time, those financial resources provided through the non-standard monetary policy measures made the possibility for the periphery countries to honour the debts incurred in previous years.[16]

This hypothesis about the correlation between TARGET2 balances and financial account balance appeared less reasonable to a closer examination on how the BoP current account evolved over time when considering periphery country individually. Although at the aggregate level there was a good match between the cumulative deficit in the current account and the one in TARGET2. Such correspondence seemed less obvious for some countries when the current account was analysed in its breakdown components: net exports, net transfers and net primary income.

[15] See also Bindseil and König (2011), Whelan (2012).
[16] See also Merler and Pisany-Ferry (2012).

Figure 3 – Current account balances and TARGET2 balances towards the Eurosystem, selected EMU Member States (1999 – 2012)

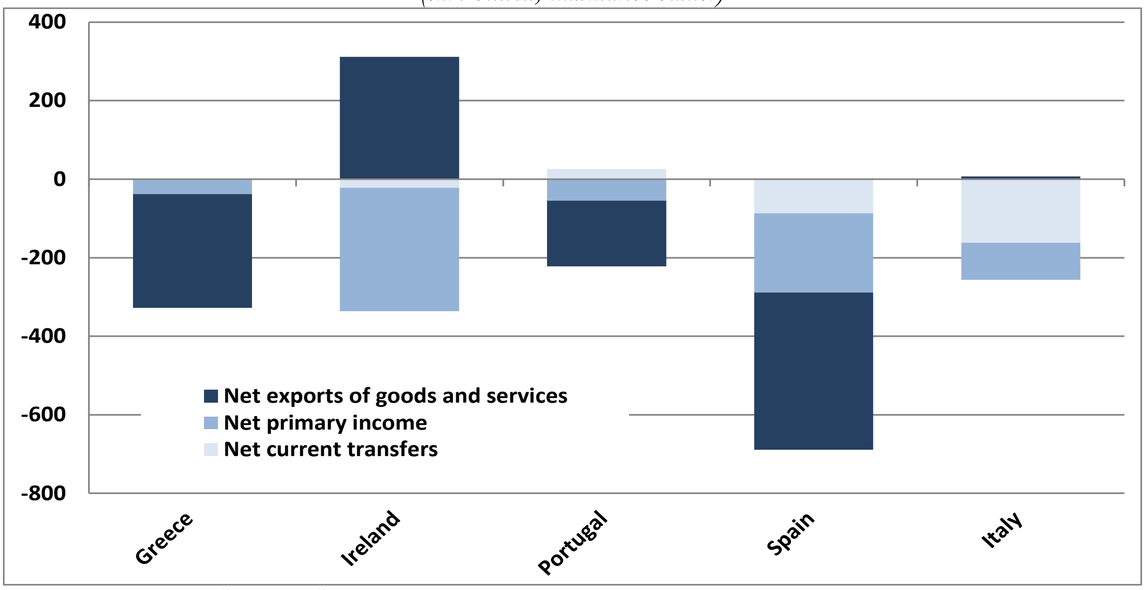
(euro billion, cumulative values)



Source: elaboration on the "AMECO" dataset, last data revision on the 19th October 2013; http://ec.europa.eu/economy_finance/ameco/user/serie/SelectSerie.cfm.

Figure 4 – Breakdown of the Current account balances, selected EMU Member States (1999 – 2012)

(euro billion, cumulative values)



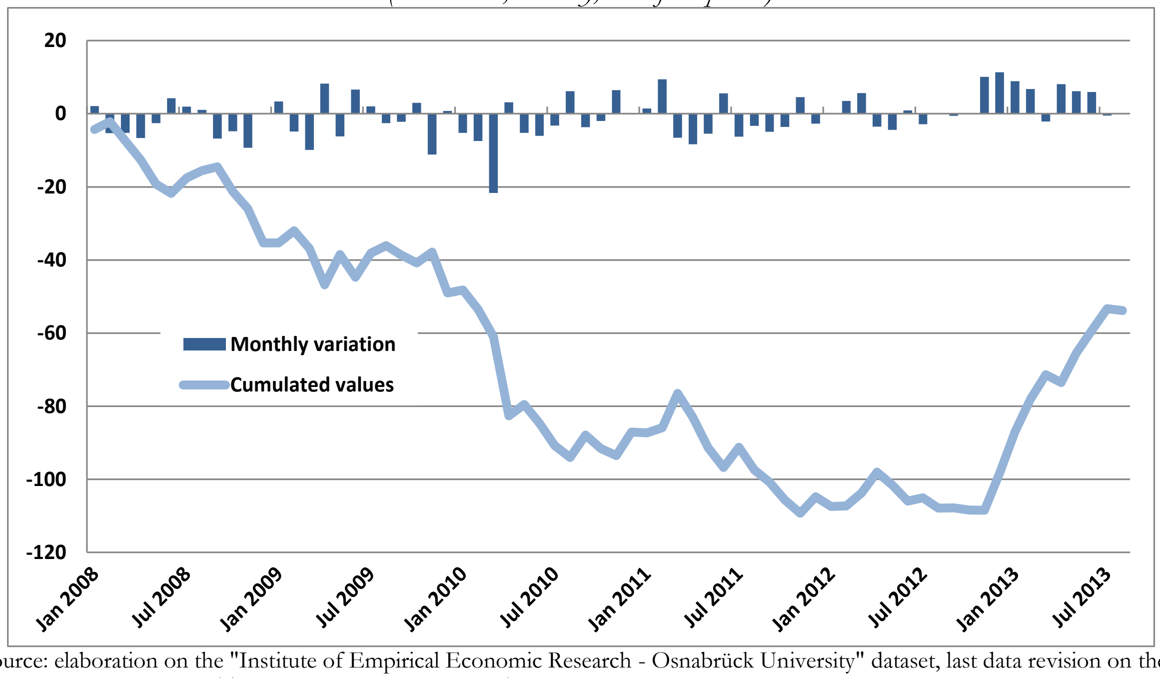
Source: elaboration on the "AMECO" dataset, last data revision on the 19th October 2013; http://ec.europa.eu/economy_finance/ameco/user/serie/SelectSerie.cfm.

The cumulative deficits in the BoP current account and the maximum cumulative deficits in TARGET2 match well enough for Greece, Portugal and Spain with the first are higher than the second (see Figure 3). The situation was different for both Ireland and Italy where the maximum capital outflow observed in the TARGET2 system was higher than the inflow that would have accompanied the accumulation of the deficit in the current account:: the value of the first are, respectively, 145.2 and 289.3 billion euro compared with 24.7 and 249.1. In Italy this evidence would have been even more apparent if it had considered the period before the debt crisis, 1999-2009, to calculate the cumulative deficit of the current account (137.1 billion euro). A close look to the breakdown of the BoP current account suggest that the cumulative deficit should be mainly ascribed rather to the dynamics of the net primary income in Ireland and of the net current transfers in Italy than to net exports of goods and services (see Figure 4). In Ireland, the cumulative surplus in net exports amounted to 311.6 billion euro, while the deficit in the primary income was 314.6. In Italy, compared to a cumulative surplus in net exports of 7.0 billion euro, the cumulative deficit in current transfers stood at 162.2 billion. In both countries, the level of competitiveness was not enough to offset the cumulative deficits in the current transfers and in the primary income, but it would be difficult to argue that, between the creation of the EMU and the beginning of the sovereign debt crisis, the financial markets have supported an excessive consumption of goods and services when compared with the potential of their economic systems.

4. Political decisions and the TARGET2 balances dynamic.

Within the periphery interpretation, TARGET2 imbalances reflect a decisive fall in the level of confidence towards the capacity of the European Monetary Union to face the sovereign debt crisis. In line with this position, it can be argued that the dynamic of TARGET2 imbalances is closely related to the pattern followed by the European institutions in taking some key political decisions. Indeed, TARGET2 imbalances revealed the tendency of gathering before and after those choices that proved to be decisive in influencing the perception about the level of cohesion shown by the European institutions in facing the crisis.

Figure 5 – TARGET2 balances towards the Eurosystem, Greece (Jan 2008 – Jul 2013)
(euro billion, monthly, end of the period)

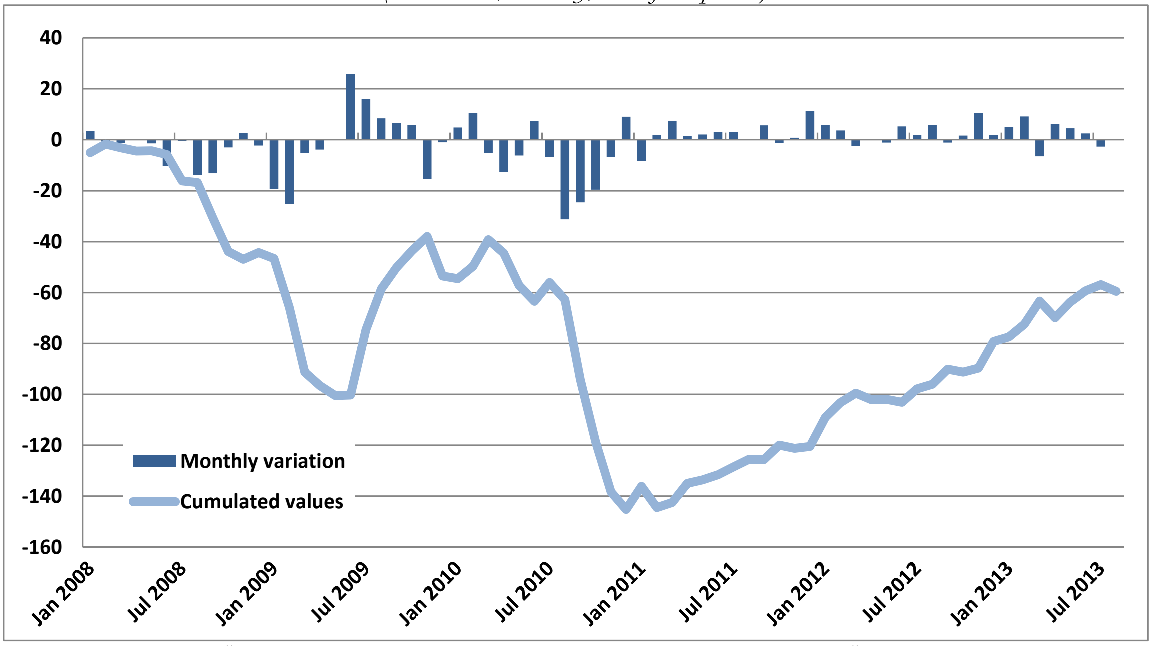


Source: elaboration on the "Institute of Empirical Economic Research - Osnabrück University" dataset, last data revision on the 08th October 2013; http://www.eurocrisismonitor.com/

In Greece, Ireland and Portugal, the TARGET2 liabilities have accumulated in a short period of time. In the first two countries, most of the accumulation occurred in the months preceding both the request for financial support to the European institutions and the beginning of the economic and financial adjustment programme, respectively in May and December 2010. In Greece, where the maximum level of cumulated liabilities, 109.3 billion euro, was registered in November 2011, the 38.1 per cent was accumulated between November 2009 and April 2010 (see Figure 5). In Ireland the cumulated value of the TARGET2 liabilities reached its peak at 145.2 billion euro in December 2010 and the 56.7 per cent of this amount was accumulated from August 2010 to November of the same year (see Figure 6). As far as

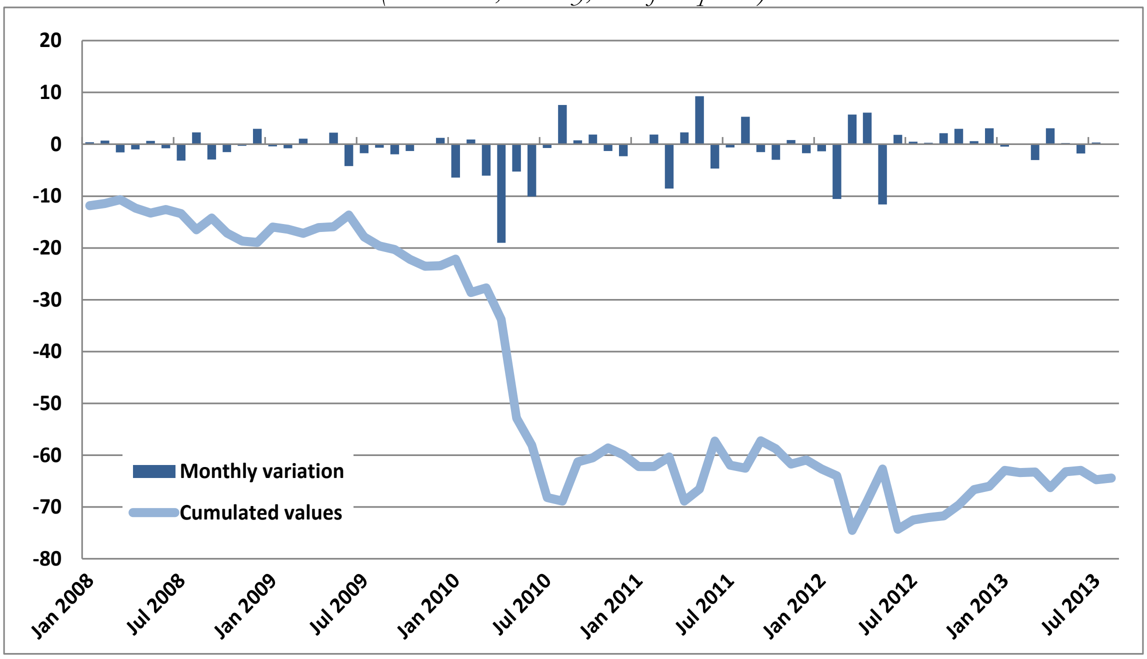
Portugal is concerned, the 47.1 per cent of the maximum liabilities of 74.5 billion euro (in March 2012) was accumulated between April and July 2010, one year before the request for financial support (see Figure 7).

Figure 6 – TARGET2 balances towards the Eurosystem, Ireland (Jan 2008 – Jul 2013)
(euro billion, monthly, end of the period)



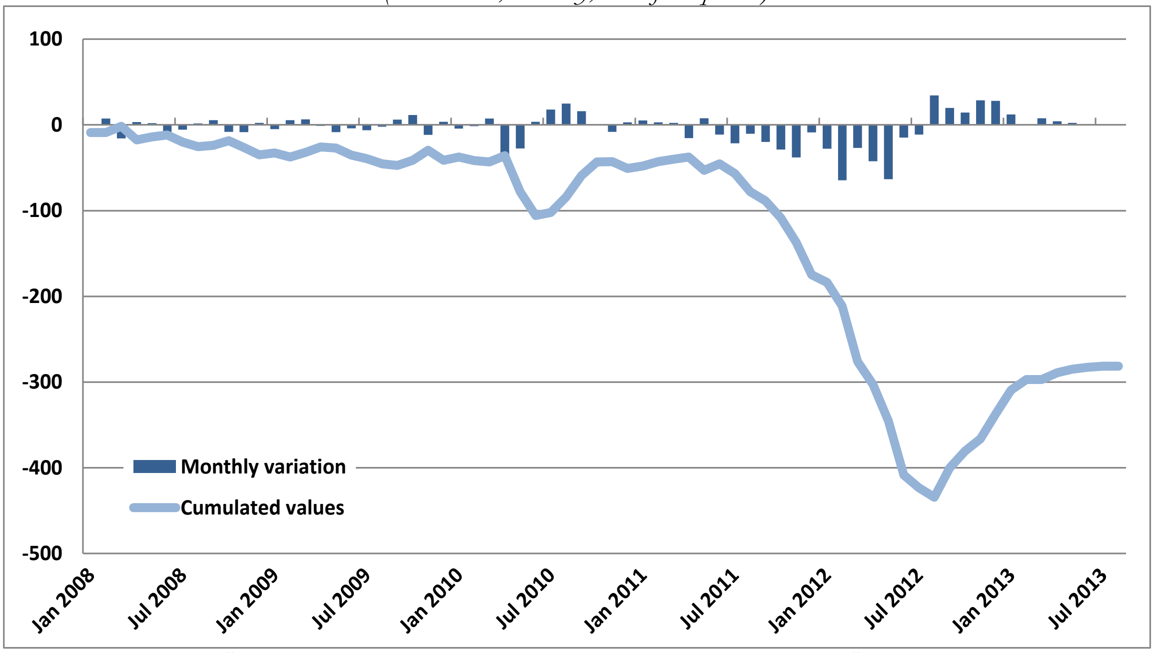
Source: elaboration on the "Institute of Empirical Economic Research - Osnabrück University" dataset, last data revision on the 08th October 2013; http://www.eurocrisismonitor.com/

Figure 7 – TARGET2 balances towards the Eurosystem, Portugal (Jan 2008 – Jul 2013)
(euro billion, monthly, end of the period)



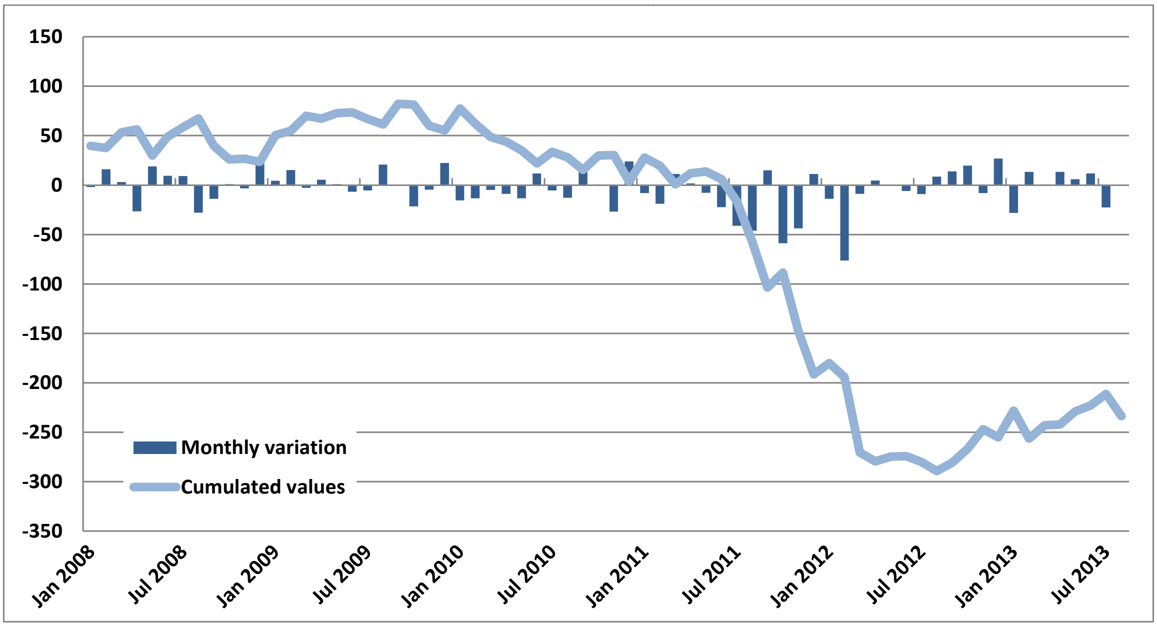
Source: elaboration on the "Institute of Empirical Economic Research - Osnabrück University" dataset, last data revision on the 08th October 2013; http://www.eurocrisismonitor.com/

Figure 8 – TARGET2 balances towards the Eurosystem, Spain (Jan 2008 – Jul 2013)
(euro billion, monthly, end of the period)



Source: elaboration on the "Institute of Empirical Economic Research - Osnabrück University" dataset, last data revision on the 08th October 2013; http://www.eurocrisismonitor.com/

Figure 9 – TARGET2 balances towards the Eurosystem, Italy (Jan 2008 – Jul 2013)
(euro billion, monthly, end of the period)



Source: elaboration on the "Institute of Empirical Economic Research - Osnabrück University" dataset, last data revision on the 08th October 2013; http://www.eurocrisismonitor.com/

Although the outflow of financial resources from these countries may be considered as stemming from the uncertainty about the sustainability of public finances, the reasons at the basis of uncertainty differed across countries: the size of the public sector budget deficit hidden thanks to accounting artifices in Greece, the dimension of the financial support the government guaranteed to the banking sector in Ireland and the extension of the public sector overloaded by inefficient companies in Portugal. Nevertheless, it may also be argued that financial markets were mostly plagued by the question about the ability of the European institutions of being sufficiently cohesive in planning and deciding for an effective stabilizing economic policy. Note that the decision to put into action the economic and financial adjustment programme in favour of the Greek government was made public only after the state election in the German region of North Rhine-Westphalia, given the reluctance of the German electorate to provide support in favour of the periphery countries.

A close exam on how TARGET2 balances evolved in Italy and Spain further supports the view that financial markets were mostly plagued by the question about the ability of the European institutions of being sufficiently cohesive in planning and deciding for an effective stabilizing economic policy. In both the countries the surge in the cumulated liabilities started in July 2011[17], lasting until August 2012, when TARGET2 liabilities reached their maximum with values of € 289.3 billion and € 434.4 billion. Such values were substantially higher compared to those in other countries (see Figure 8 and 9). In Italy, the surge was more intense during the first seven months, whereas in Spain it was in the last seven months. During these periods, the 61.5 per cent and the 57.7 per cent of the maximum value reached by the liabilities was accumulated respectively; furthermore, in February 2012, a peak was registered in both countries with a negative monthly change of 76.3 and 64.6 billion euro respectively. Starting from August 2012, the cumulative TARGET2 liabilities decrease in both countries: in Italy the contraction was of 78.2 billion euro, with a cumulative value equal to 211.1 in September 2013; in Spain it was of 153.0 billion euro, with a cumulative value of 281.4 in September 2013.

The analysis just presented allows us to identify three key moments within the evolution of TARGET2 imbalances: July 2011, February-March 2012 and July-September 2012. Each of them, at the same time, represents a block in the political and economic architecture that the European institutions have been designing in order to face the sovereign debt crisis. Given that, it seems that the determinants of the escalation of the crisis as well as of the widening in TARGET2 imbalances between the core and the peripheral countries should be ascribed rather to the political context than to the micro and macro-economic one.

The 21st of July 2011, the heads of State and Government of the Euro area and of the EU institutions expressed their support in the voluntary involvement of the private sector, and in particular of the credit institutions, in the second financial and economic adjustment program for Greece. The contribution by the private sector was estimated in a total amount of 106.0 billion euro for the period 2011-2019.[18] In February 2012 the voluntary involvement of the private sector took the form of an official agreement under the name of "Private Sector Involvement (PSI)". Private investors accepted, this way, to write down the 53.5 per cent of the face value of the Greek government bonds they were holding. The above mentioned declaration showed the inadequacy of the first adjustment program to stabilize the Greek economy and, consequently, the impossibility for the Greek Government to honour its sovereign signature. Despite the voluntary nature of the agreement, indeed, its acceptance implied a partial Greek default, conclusion that can be also drawn by the fact that within the same declaration the heads of State and Government reiterated their commitment to honour the sovereign signature and stressed that the solution adopted for the case of Greece constituted an exception.

The then-president of the ECB, Jean Claude Trichet, during the press conferences held in occasion of the monthly meetings of the Governing Council regarding the monetary policy, repeatedly warned about the possible consequences of a Greek partial default. Such an event would rather have fuelled a considerable volatility in the financial markets than concur to stabilize the Greek economy.[19] One year later, the analysis conducted by the ECB confirmed the concerns of his former president. July 2011 represented a turning point for the sovereign debt crisis: the tensions in the bond and interbank market intensified resulting both in a decrease in the efficiency of the transmission mechanism of the monetary policy and in a reduction of the credit in favour of families and enterprises.[20]

[17] Until then, in Italy there was a surplus.

[18] See http://www.consilium.europa.eu/uedocs/cms_data/docs/pressdata/en/ec/123978.pdf.

[19] See the press conferences of July 2011 or August 2011:
http://www.ecb.int/press/pressconf/2011/html/is110707.en.html.
http://www.ecb.int/press/pressconf/2011/html/is110804.en.html.

[20] See ECB (2012d, pp. 59).

On the 30th of March 2012, the Eurogroup[21] decided the overall lending capacity of the European Financial Stability Facility (EFSF)[22] and the European Stability Mechanism (ESM) to be of 700 billion euro.[23] This decision can be considered as the final step in the reforming process launched by the European institutions to prevent and manage instability situations of states within the EMU.

The first element of this process was indubitably represented by the treaty establishing the ESM, signed on 2 February 2012 by the euro area Member States. The ESM is an intergovernmental institution with the task of managing financial support programmes in favour of the government of the euro area countries; in order to finance these support programmes this institution can issue debt instruments. Thus, the ESM represents a permanent crisis resolution mechanism for the Eurozone Member States. The second element was the "Treaty on Stability, Coordination and Governance in the Economic and Monetary Union", signed the 2nd of March 2012 by the Heads of State and Government of all EU member states[24]. The Treaty, among other things, established that: a) the structural budget deficit of public administration, adjusted for the business cycle, must not exceed 0.5 per cent of gross domestic product expressed at market prices with the further obligation to incorporate this budget rule into the national legislation, preferably at the level of constitutional law (Article 3, paragraph one and two); b) the contracting parties have to reduce of one twentieth per year the rate of the general government debt-to-GDP ratio when it exceeds the reference value of 60% (Article 4).[25] The third element was an effect of the approval, in November 2011, by the European Parliament and the Council of the European Union of the new regulations pertaining to the procedures and sanctions aimed at preventing and correcting the macroeconomic imbalances, in general, and the excessive deficit of the structural budget of public administration, in particular. [26]

The sustainability of fiscal policy has been the guiding principle of the whole reforming process. However, just when the European institutions have accomplished this process, tensions in the financial markets shown a strong deterioration as it is suggested by the evolution of TARGET2 balances.[27] From our point of view, the reason for the renewed pressure lies in the fact that the markets evaluated the resources allocated through the EFSF and the ESM as insufficient. Indeed, of the 700 billion euro allocated, about 188.4 were already committed to Greece, Ireland and Portugal. Moreover, in March 2012 the public debt of Italy and Spain amounted to over 2560 billion euro making quite problematic any action in supporting both countries in case of a request for accessing a program of financial support.

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[21] The Eurogroup is an informal body which members are the Ministers of Economy of the countries belonging to the EMU and a chairman; its meetings are attended also by the European Commissioner for Economic and Financial Affairs and the Euro, and by the President of ECB. The main task of Eurogroup is to coordinate the economic policies implemented by countries in the euro zone.

[22] The EFSF is a "société anonyme" under the Luxembourgish law, a special vehicle, with the task of raising funds through the issuance of bonds backed by the States belonging to the EMU. The funds are, then, used to implement support programmes.

[23] See http://eurozone.europa.eu/media/368010/eurogroup_statement_30_march_12.

[24] With the exception of the United Kingdom and the Czech Republic.

[25] "*By this Treaty, the Contracting Parties agree, as Member States of the European Union, to strengthen the economic pillar of the economic and monetary union by adopting a set of rules intended to foster budgetary discipline through a fiscal compact, to strengthen the coordination of their economic policies and to improve the governance of the euro area, thereby supporting the achievement of the European Union's objectives for sustainable growth, employment, competitiveness and social cohesion*" (Article 1).

[26] The new framework is based on five regulations and one directive, hence the name of "The Six Pack". The Regulations n. 1175/2011, n. 1177/2011 and n. 1173/2011 defined, respectively, the procedures to prevent and correct the occurrence of an excessive deficit in the structural balance of public administration, as well as the penalties for not complying with the same procedures. The Regulations n. 1176 and n. 1174 defined the procedures and sanctions related to the prevention and correction of macroeconomic imbalances that can lead to instability in the European Union economies. Finally, the Directive no. 2011/85/EU defined the requirements and penalties relating to the proper preparation of the public administration budget and the independence of national statistical institutes.

[27] The statistical analysis conducted in Sinn and Wollmershäuser (2012b) confirms this occurrence. The authors, however, attribute it mainly to the second extraordinary refinancing operation carried out by the ECB. It can be stressed, though, that during this month the macroeconomic framework of the two countries does not change and, thus, it is difficult to motivate the outflow of capital solely on the basis of a difference between the levels of competitiveness.

Within the picture just described, the decision to set the total lending capacity of the EFSF and the ESM to 700 billion euro did not represented a credible reassurance measure against those who assumed the EMU inability to survive. In this regard, it is worth noting that, in signing the Treaty which established the ESM, Euro Area States reiterated that the assessment of the lending capacity adapted to the needs would have been carried out by March 2012.[28] The circumstance that this assessment was carried out only on the 30th of March suggests, at least, a certain reluctance of the various states to commit resources to the financial aid programs.

The 2nd of August 2012, during the press conference following the meeting of the Governing Council dedicated to monetary policy decisions, Mario Draghi, the President of the ECB, outlined the underlying principles of Outright Monetary Transactions (OMTs), a new sovereign bond-buying program designed to replace the Securities Market Program (SMP)[29] into force since the 10th May 2010.[30] Only few days before, President Draghi claimed:

> "*Within our mandate, the ECB is ready to do whatever it takes to preserve the euro. And believe me, it will be enough.*"[31]

The 6th September 2012 the technical aspect of the programs were further explained during the press conference and the relative press release[32]. The programme has been designed in order to eliminate those price distortions in the sovereign bond market due to the non-acceptable hypothesis of a return to the national currencies. This aim has been pursued by setting up an unlimited buying capacity of one to three year bonds to be held upon maturity. The countries eligible for the OMTs, i.e. the ones that can issue the bonds, should have, in first place, participated to a macroeconomic adjustment programme (through the EFSF and/or the ESM) or to a precautionary programme and, secondly, should have fully fulfilled the conditions established by these latter programmes. Furthermore, the ECB has full discretion about the activation, the continuation or the discontinuation of the programme for a specific country and, consistently with pursuing the objective of price stability, sterilizes any liquidity injected through the OMTs.

Compared to the SMP, the OMT made, on the one hand, more stringent the conditionality principle and, indeed, only those countries that were able to effectively implement the interventions required by the financial support programme would have benefited of the ECB support on the secondary market; on the other hand, it created the preconditions for a more decisive and efficient ECB intervention as only a recovery in the price distortions should have represented a sufficient reason to stop purchasing bond on the secondary mark.

5. ECB's as a lender of last resort

The European System of Central Banks (ESBC), that includes the ECB and the national central banks of European Union Member States, has as principal aim that of guaranteeing the price stability. In this view it defines and implements the monetary policy. The ESBC is directed by the ECB's decision-making bodies i.e. the Governing Council and the Executive Board. The ECB function is to assure that the tasks assigned to the ESBC are carried out

[28] See http://www.consilium.europa.eu/uedocs/cms_data/docs/pressdata/en/ec/127633.pdf.

[29] The SMP was the first sovereign bonds buying programme on the secondary market launched by the ECB on 10 May 2010.

[30] see http://www.ecb.int/press/pressconf/2012/html/is120802.en.html.

[31] Speech at the Global Investment Conference held in London on 26 July 2012: http://www.ecb.int/press/key/date/2012/html/sp120726.en.html.

[32] For the press conference held at the end of the Governing Council meeting devoted to monetary policy decisions, see http://www.ecb.int/press/pressconf/2012/html/is120906.en.html; while for the press release see http://www.ecb.int/press/pr/date/2012/html/pr120906_1.en.html.

either by its own activities or by those of the national central banks.[33] Referring to these latter, the article 12, first paragraph, of the Statue of the ESCB and of the ECB states:

> "[…] *The Executive Board shall implement monetary policy in accordance with the guidelines and decisions laid down by the Governing Council. In doing so the Executive Board shall give the necessary instructions to national central banks.* […] *To the extent deemed possible and appropriate* […] *the ECB shall have recourse to the national central banks to carry out operations which form part of the tasks of the ESCB*".

Therefore, the ECB, as decision-making body of the ESBC, decides and implement the monetary policy with the operational support of the national central banks of the states belonging to the EMU. These latter, together with the ECB constitutes the Eurosystem[34].

Despite the clarity of the legislative provisions on how the responsibilities for taking and implementing the monetary policy decisions are allocated, some claims seems to be ambiguous and misleading:

> "*The base money flowing out of the GIIPS via international transactions was thus completely offset by the creation of new base money by the GIIPS NCBs. The monetary base in the GIIPS, […] consists of one component that arose from asset purchases, and another that resulted from net refinancing operations of the central banks with the commercial banks. However, in other euro core countries, particularly Germany […] there is in addition outside money that flowed in via the Target accounts. The central banks of these countries had to create this central bank money on behalf of the central banks of the GIIPS in order to fulfil their transfer orders*." (Sinn and Wollmershäuser, 2012b, pp. 478).

From these statements it appears that national central banks of the periphery decide autonomously both about creating the monetary base and transferring it toward core countries in order to satisfy the necessities of their financial institutions.[35] On the contrary, national central banks actions consist, essentially in legal obligations stemming from the non-standard measures of monetary policy decided and implemented by the ECB in its role of decision-making body of the ESBC. National central banks, both of periphery and core countries, have to run the monetary base transfer according to the requests made by the financial institutions, as long as the financial institutions have the necessary resources at their national central bank that means, in the context of the sovereign debt crisis, as long as the financial institutions can access the refinancing operations implemented by the Eurosystem. This is true even in the presence of the operations of "Emergency Liquidity Assistance" (ELA), which, while not having to be explicitly authorized by the Executive Board of the ECB, can be removed if some specific conditions arise (see Buiter et al. 2011).

Given the impossibility for the national central banks to take autonomous decisions, the main discussion regards the choices the ECB took, towards the financial institutions of the Eurozone, via the non-standard monetary policy measures. According to the "core" interpretation, in order to support peripheral countries, the ECB is keeping the rate of interest for the refinancing operations artificially low. This kind of policy crowded out the private financial sector that would have been available for lending financial resources at a higher interest rate. In turn, a higher interest rate should have forced a reduction in the production level and a following price adjustment. In particular the wage rate would have decreased, giving to the peripheral countries the opportunity to gain competitiveness on international markets. These conclusions are based on the crucial hypothesis that the price system accurately reflects the macroeconomic and microeconomic fundamentals of each country.

It is more plausible to assume, though, that the ECB's strategy did not endorsed these conclusions and, on the contrary, reflected the conviction that the system of price is not adequately performing its role, as it is incorporating the politically unacceptable expectation of an EMU break up or, at least, of the return to the national currency of some member of the Eurozone. The reading of the dynamics observed in TARGET2 balances, as described in the previous section, provides a clear support for this interpretation of the ECB's behaviour. The distortion recorded in the price system and its inability to depict the actual situation of the macroeconomic and microeconomic fundamentals, required, in the first place, the ECB to broadly interpret its role of "lender of last resort" in favour of credit institutions and, secondly, to threaten, so far so credible, to implicitly assume the same role for the benefit of the Member States of the EMU. The dynamics of some selected items of the Consolidated financial statement of the Eurosystem shows that the ECB's decisions were effective; starting from July 2012, but mostly starting from January

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[33] See the Treaty on the Functioning of the European Union (Art. 127, first paragraph, Art. 129, first paragraph and Art. 282, paragraphs one and two) and the Statute of the European System of Central Banks and of the European Central Bank (Art. 1, Art. 2, Art. 3, first paragraph, and Art. 9, second paragraph).

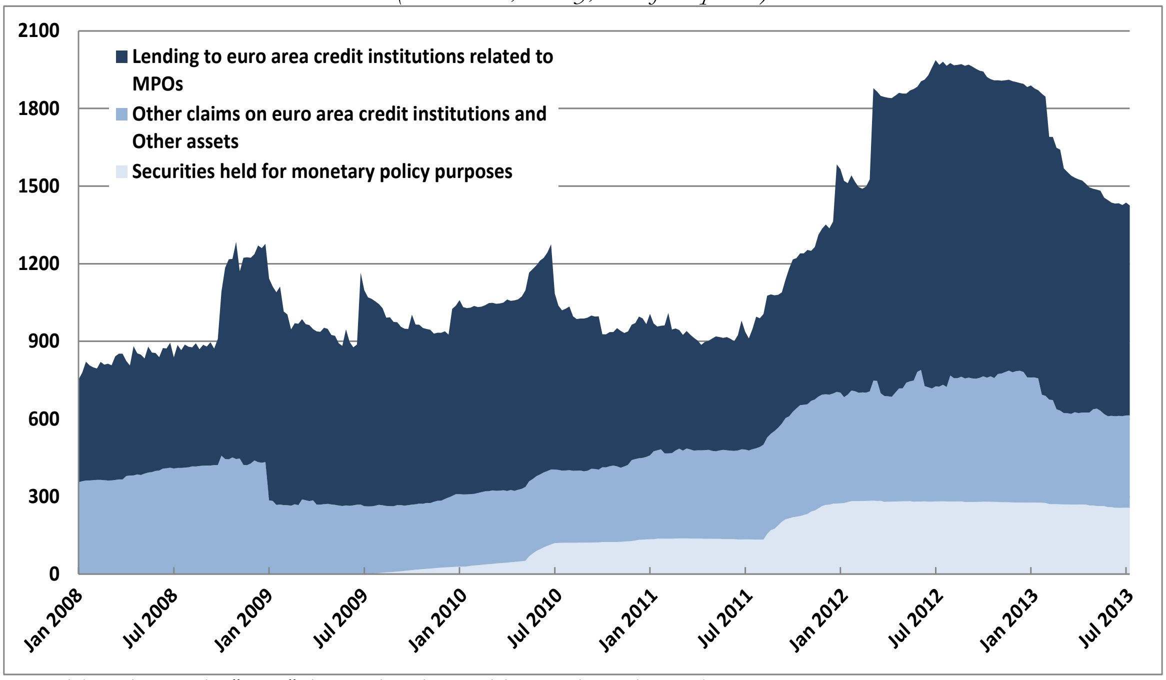
[34] See the guidelines for the implementation of monetary policy in the euro area (ECB, 2011b; pp. 9).

[35] Actually, the already mentioned authors are perfectly aware of the regulatory environment in which the monetary policy is decided and implemented, see Sinn and Wollmershäuser (2012b, p. 487).

2013, loans for Eurozone credit institutions provided both by the Eurosystem, mainly through longer-term refinancing operations, and by national central banks, through ELA operations, steadily declined (see Figure 10, where the longer-term refinancing operations are reported in the item "Lending to euro area credit institutions …", while the ELA operations are reported in the item "Other claims on euro area credit institutions …").

Figure 10 – Consolidated financial statement of the Eurosystem, selected assets items (Jan 2008 – Jul 2013)

(euro billion, weekly, end of the period)



Source: elaboration on the "ECB" dataset, last data revision on the 11th October 2013; http://sdw.ecb.europa.eu/browse.do?node=bbn129

In the light of these considerations, ascertaining who is responsible for paying back the TARGET2 claims accumulated by the central banks of the core countries becomes a mere theoretical exercise, which, although interesting, does nothing but fuelling concerns about the ability of the European institutions and, in particular of the EMU, to survive. The TARGET2 claims as accumulated by the monetary authorities of the core countries on the ECB are the reflection of the financial liabilities accumulated by these countries with respect to their financial institutions. In a symmetrical manner, the TARGET2 deficits accumulated by the monetary authorities of peripheral countries to the ECB are the reflection of financial assets these countries accumulated with respect to their financial institutions. Therefore, the deposits accumulated by the institutions of the core countries are counterbalanced by the loans accumulated by the institutions of the peripheral countries. As far as the latter are granted, according to the set of rules laid down by the decision-making bodies of the ECB and in particular within a prudent policy management of the credit risk, it is not reasonable to prospect scenarios based on insolvency of the ECB.

In order to argue that the accumulated TARGET2 claims result into an increase in the credit risk borne by the core countries, it is necessary to prove that it is more risky having the Eurosystem as a counterpart than any financial institution of the peripheral countries. In other words one should prove that the lending policy of the Eurosystem is more risky than that implemented by the institutions of the peripheral countries.[36] From our point of view the "core interpretation" takes implicitly this position without demonstrating it.[37]

[36] This point has been clearly underlined by the ECB (2011a, pp. 40) since the beginning of the debate on TARGET2 balances.

[37] In addition, assuming the insolvency of the Eurosystem means denying the possibility for the Eurosystem to create monetary base. Where the financial institutions of the core countries were to ask for the liquidation of the assets held at the Eurosystem, this latter would merely accept that the monetary base, until then hold in its deposits, started to fuel the economic system. The only risk of this process, in the lack of a sterilization procedure, would be an increase in the price level with the corresponding reduction in the purchasing power (De Grauwe and Ji, 2012). For a full discussion on this issue, see Buiter and Rahbari (2012).

Not only the ECB's intervention was necessary because, as already stressed, the price system was unable to reflect the macroeconomic and microeconomic situation correctly, it was necessary also because the effectiveness of the austerity policies and of the structural reform, stabilizing the debt-to-GDP- ratio of the countries mostly hit by the crisis, was overestimated.

Blanchard and Leigh (2013) found that a tighter planned fiscal consolidation is associated with a level of actual GDP lower that the expected one. According to the authors, this result could stem from a strong underestimation of the fiscal multiplier. A vast literature supports this last conclusion. Empirically it has been highlighted that the value of the multiplier tends to be higher during the recessions and lower during the expansions[38].

The theoretical analysis has identified several factors that could be held responsible for such a dynamic. A first explanation can lie in having a constant nominal rate of interest: when adopting a restrictive fiscal policy, the lower pressure on prices, leading to a reduction in the nominal interest rate and stimulating the private components of the aggregate demand, could mitigate the negative impact of fiscal consolidation. However, when the nominal rate of interest is already close to zero such a mechanism cannot operate.[39] Furthermore, whether the adoption of a restrictive fiscal policy were coupled with a reduction in the private debt burden, the intensity of the recession might be such as to generate a phenomenon of deflation which would frustrate the efforts for stabilizing the debt made both by the public administration trough the fiscal consolidation and by the private sector[40] A second explanation can lie in a limited validity of the Ricardian equivalence: in adopting a restrictive fiscal policy, the lower expected tax burden can stimulate the private demand limiting, this way, the negative impact of the fiscal consolidation. Nevertheless, this mechanism would not operate at all if the economic agents are either characterized by a limited time horizon or by a rationed access to the credit market.[41]

The combination of the above mentioned elements suggests that austerity policies, i.e. a restrictive fiscal policy together with a monetary policy that does not favour the reduction in interest rates, can be inappropriate, at least in the short run, to stabilize the debt-to-GDP ratio.[42] Therefore, these policies appear to be highly unsuitable in the resolution of the sovereign debt crisis in the euro zone, especially when they are implemented in the absence of an institution acting as a "lender of last resort" for the benefit of the countries of the periphery, as it would be usually the case for a monetary authority with respect to financial institutions. The ECB took this kind of responsibility through the OMTs.

6. Conclusions

This paper argues that the dynamics in TARGET 2 balances rather than telling about a balance-of-payment crisis due to competitiveness disparities across Eurozone Member States, reveals, in general, the shortfalls in the European institution choices when dealing with the sovereign debt crisis. In particular, these shortfalls stem from the implicit refusal of setting up a mechanism or giving life to an institution that would have served as a "lender of last resort".

To support this thesis the following arguments have been raised: a) not all the peripheral countries accumulated a relevant deficit in the balance-of-payments current account; b) a substantial outflow of monetary base by the peripheral countries was observed in coincidence with specific policy decisions taken by the European institutions involving the sharp deterioration of expectations about both the degree of solvency of countries belonging to the Euro area and the distribution of risks of a possible default either partial or total; c) the monetary policy decided and implemented by the ECB stems from its legitimate and unavoidable role of lender of last resort for credit institutions to avoid their liquidity crisis;

[38] See Auerbach and Gorodnichenko (2012).

[39] See Christiano et al. (2011) and Eggertsson and Krugman (2012).

[40] See Eggertsson and Krugman (2012).

[41] Arestis (2012).

[42] This conclusion is also confirmed by the European Commission (2012); see also Boussard *et al.* (2012).

d) fiscal consolidation and the consequent real depreciation tend to destabilize the economic system in the presence of a strongly negative conjuncture and a monetary policy ineffective in reducing the interest rates.

These elements draw a picture that suggests the unavoidability of creating either an institution or a mechanism which could have played the role of "lender of last resort" for supporting the peripheral countries. Indeed, only when the ECB has taken such a responsibility with the launch of the OMTs, clear signs of improvement were observed in the Euro zone sovereign debt crisis. The dynamics of the TARGET2 system imbalances was determined by obvious tensions in financial markets due to a crisis of confidence in the ability of EMU to survive. This crisis of confidence, however, was not the result of a historical accident, but was the direct consequence of the implicit rejection of the European institutions to give life to a mechanism that would serve as a "lender of last resort" for member states in the EMU.

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