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A WAY OUT OF THE EURO

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Aquesta col·lecció recull una selecció d'investigacions dutes a terme per estudiants del Màster Universitari en Integració Europea. Previ a la seva publicació, aquests treballs han estat tutoritzats per professors amb grau de doctor de diverses especialitats i han estat avaluats per un tribunal compost per tres docents distints del tutor.

Les llengües de treball son castellà, català, anglès i francès

Esta colección recoge una selección de investigaciones realizadas por estudiantes del Máster Universitario en Integración Europea. Previo a su publicación, los trabajos de investigación han sido tutorizados por profesores con grado doctor de diversas especialidades y han sido evaluados por un un tribunal compuesto por tres docentes distintos del tutor.

Les lenguas de trabajo son catalán, castellano, inglés y francés

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Working languages: Catalan, Spanish, English and French

Cette collection comprend une sélection de recherches par des étudiants de Master en intégration européenne. Avant la publication, les travaux de recherche ont été encadrés par des enseignants docteurs de diverses spécialités et après ont été évaluées par un tribunal composé de trois professeurs différents du tuteur.

Langues de travail: catalan, castillan, anglais et français

A WAY OUT OF THE EURO

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RESUM/RESUMEN/ABSTRACT: This dissertation presents what are the less disruptive strategies for any given Euro Area Member State willing to withdraw from the Euro and the Eurosystem depending on its initial macroeconomic circumstances and what would be the expected results and the consequences of such process.

RESUM EN CATALÀ: Aquesta dissertació presenta quines són les estratègies menys disruptives per a un Estat Membre qualsevol de la Zona Euro disposat a abandonar l'Euro i l'Eurosistema depenent de les seves circumstancies macroeconòmiques inicials i quins serien els resultats esperats i les conseqüències de tal procés.

Keywords

Eurocrisis, Withdrawal from the Eurozone, Monetary Sovereignty, National Central Bank, European Disintegration, Eurozone.

Crisi de l'Euro, Sortida de l'Eurozona, Sobirania Monetària, Banc Central Nacional, Desintegració Europea, Zona Euro

Summary

GLOSSARY AND FORMULATIONS

CJEU: Court of Justice of the European Union.

CPI: Consumer Prices Index

EMU: Economic and Monetary Union.

ECB: European Central Bank

HCPI: Harmonised Consumer Prices Index

MS: Member State.

NNC: New National Currency.

NCB: National Central Bank.

PPI: Producer Prices Index

PPP: Power Purchasing Parity

RER: Real Exchange Rate

REER: Real Effective Exchange Rate

RCULC: Rate of Change of Unit Labour Costs

RCWS: Rate of Change of the Wage Share

TEU: Treaty on European Union.

TFEU: Treaty on the Functioning of the European Union.

Formulations

Yr: Real output

Lf: Labour force

Productivity: yr= Yr/Lf

w: Monetary wages

p: Price level

Wage Share:

$$\omega = \frac{(w/p)}{yr} = \frac{w}{p \cdot yr}$$

Adjusted Wage Share: [(UWCD : NWTD) : (UVGD : NETD)] × 100

UWCD = Compensation of employees; total economy.

NWTD = Employees, persons; all domestic industries.

UVGD = Gross domestic product at current market prices.

NETD = Employment, persons; all domestic industries.

2) INTRODUCTION

The financial crisis which broke out in the late 2008 and its ensuing malaise have generated many casualties: the bursting of speculative bubbles in sectors like real estate, commodities in developing; the worsening of wages, of employment and of the labour conditions of workers in advanced economies and even -although to a much more moderate degree- the confidence on the hegemonic neoclassical economic framework and some neoliberal policies of the previous decades. During this systemic shift from benignity to dismay and lastly to uneasiness few other countries have matched the underperformance of the Eurozone as a whole, which has virtually wasted a full cycle of global growth.

The unprecedented economic and political challenges for the relatively very young European Union -and especially the Euro area- have turned into threats to its own integrity. Notably, through rising political parties in many Member States in favour of departing from the European Union and/or the Eurozone.

The flaws or rather the conscious limitations of the European Union project as it was designed -and prominently featuring those of the Economic and Monetary Union- have been profusely analysed from an economic standpoint. Much has been written about the history of the adoption of the Euro as the EU's currency and the imbalances that the asymmetric design of the EMU sparked. Even before, with the European Monetary System from 1986 onwards.

However, from an economic standpoint there has been remarkably few in-depth proposals about how a hypothetical Member State of the Euro Area could -through a systematic framework- exit the Eurozone.

Given the possibility that a member of the Eurozone could deem as necessary in the future to abandon the Euro in favour of a New National Currency (NNC) in order to achieve macroeconomic relief and/or alternative sets of economic policies the subject is of utmost relevancy and it should -regardless of political inclinations towards Euroscepticism or Europhilia- be treated with a sober attitude.

For this dissertation I review legal and economic papers, reports and articles of different academics relevant for such hypothetical departure. Upon this basis, in some instances I add -and in some others I modify- some relevant aspects that I as an economist think would help making an exit less disruptive. Thus, gathering from other authors, I delineate two main original withdrawing strategies that should serve to the government of any Member State of the Eurozone in carrying out such policy with the most expediency and efficiency possible.

The strategies exposed represent the general paths that governments of different Member States facing different circumstances should follow when introducing a New National Currency (NNC) in absence of an arranged multilateral break-up plan for the Euro area or other kinds of break-up arrangements which would comprise more than one State at the time.

Furthermore, the work lays down what should be the general policies and legislative changes the country in question ought to implement for a time period up to a year or two after the departure to fully stabilize the new situation.

A work such as this is multifaceted and requires acumen not only on Economics but also on Law and History, being as a result much more comprehensive and relevant for its application than a compartmented dissertation in any of these fields.

3) MAIN LEGAL ASPECTS TO TAKE INTO CONSIDERATION

The unilateral or quasi-unilateral abandonment of the Eurosystem and of the Euro as the currency of legal tender is a project of systemic macroeconomic importance. It requires first of all an assessment of what would be the preferred way of departure according to the preset legal framework.

The main references for this section have been the Treaty on the Functioning of the European Union (TFEU) the Treaty of the European Union and a 2009 legal working paper of the European Central Bank (ECB) on the withdrawal and expulsion from the EU and the EMU (Athanassiou, P., 2009).

To begin with -and as the ECB's Working Paper points out- there is a legal vacuum to undertake the abandonment of the single currency. There is no procedure to forfeit the Euro contemplated either in the primary or in the secondary law of the European Union.

The abandonment of not only the Euro, but of the EMU as a whole is only indirectly related to Article 50 TEU which establishes a procedure to abandon the EU as a whole. Interestingly, a country leaving the EU could still use the Euro as legal tender within the country, like other countries such as Montenegro, Kosovo, Andorra, etc. but not forming part of the decisions of the Eurosystem and not being lawfully able to issue Euros.

Secondly, the legal basis which is usually invoked establishing the irrevocability of the Euro is Article 140(3) TFEU: "3. *If it is decided, in accordance with the procedure set out in paragraph 2, to abrogate a derogation, the Council shall, acting with the unanimity of the Member States whose currency is the euro and the Member State concerned, on a proposal from the Commission and after consulting the European Central Bank, irrevocably fix the rate at which the euro shall be substituted for the currency of the Member State concerned, and take the other measures necessary for the introduction of the euro as the single currency in the Member State concerned.*"

It is noteworthy to appreciate that the only article which refers to irrevocability refers to the irrevocability of the fixed exchange rate at which the State's currency shall be substituted by the

Euro at the end of the nominal convergence process. It does not establish at all that a country once using the Euro cannot abandon it in favour of another currency; it does not speak of the irrevocability of the Euro as such.

Thirdly -and as a natural consequence of the absence of a legal basis about the irreversibility of the Euro- there is no contemplated legal punishment in case of a unilateral departure of the Euro. An absence extremely important for practical matters.

Moreover – and as the ECB's Working Paper points out (Athanassiou, P., 2009; pp. 33-36)- no Member State can be lawfully forced to abandon the European Union, whether in the case of the abandonment of the Euro or in almost any case. According to article 7 TEU a Member State can only -and in last instance- in cases of serious breaches of key principles such as human rights, democracy and the rule of law reflected in Article 2 TEU be suspended of its EU membership through a special legislative procedure of the European Union. Such procedure -which in any case would very hardly apply- requires to be started with a proposal by one third of the Member States, by the European Parliament or by the European Commission and to be approved by a majority of four fifths in the Council of the European Union.

This greatly simplifies the factual possibilities to abandon the Euro unilaterally and renders the so-called irreversibility of the single currency as more of a political bluff than a factual reality, as no Member State has any factual need to abandon the EU in order to abandon the Euro as legal tender.

The Court of Justice of the European Union (CJEU) could certainly be asked to examine whether the unilateral departure of a country from the Euro was lawful or not. In such a case it is arguable that a long period of time would pass until a ruling of the CJEU on the matter since there are the aforementioned legal vacuums, no contemplated punishment and no jurisprudence on the matter.

The ECB's Working Paper in its first chapter (Athanassiou, P., 2009; pp. 5-30). elaborates whether there is a lawful right of withdrawal from the EMU and on what would be the legal defence possible of a Member State in case of a unilateral withdrawal from the EMU in the pre-Lisbon treaty and to the present circumstances from 2009 (which hold up until the present year 2017). It concludes that in principle a Member State could not lawfully abandon the EMU in a

unilateral manner and there would be the need for a Treaty amendment to lawfully undertake such a measure and a consensual agreement between the Member States (Athanassiou, P., 2009; pp. 30-31).

Nonetheless, during the long deliberations of the CJEU, other macroeconomic side-effects and political decisions of other countries which I will discuss later on in this paper could render the ruling as almost irrelevant in the end. Moreover -and of crucial importance- in the worst case scenario for the leaving country, the CJEU arguably could only rule that the aforementioned country contravened the previous legal arrangement and would have to rejoin the Eurozone according to the nominal convergence criteria of the EMU stipulated for the introduction of the Euro.

In such a case, the leaving country could find itself in a quite comfortable position, similar to that of Sweden, having previously signed it would adopt the Euro somewhere in the future but purposely infringing one of the convergence criteria so it is not required to further advance in the EMU's criteria and effectively join the single currency.

All in all and by all standards the unilateral abandonment of the Euro would be substantively undisturbed, even if the CJEU ruled against it according to convened EU legal order.

To go even further we could make an additional consideration. Ammending the national Constitution to include the State as the sole undertaker of monetary sovereignty would very substantially reduce hopes of legal proceedings at the ECJ succeeding in requesting a return to the Eurosystem, but this constitutional change would not be a very likely scenario as the domestic opposition from other pro-Euro political forces would probably impede it in many countries.

If the CJEU were to rule otherwise it would mean primacy of EU law over the national Constitution, something which has never happened and would imply from the part of the CJEU some of the biggest legal and political consequences in all the history of the European Integration process.

But as I have stated, this would be an unlikely scenario from the start. The most important acknowledgement is that there is no legal punishment contemplated for the unilateral exit of the Eurozone, no need to pact an abandonment of the EU membership and engage in any long political and legal discussion and very probably no need of rejoining it in the case of an unfavourable ruling of the CJEU.

But then again, obviously in the case of an arranged departure or break-up other options can be found such as the use of Article 352, commonly known as the flexibility clause to allow some countries to leave the Euro or amendments of the treaties to clarify and make lawful the withdrawal proceeding.

4) MAIN ECONOMIC ASPECTS TO CONSIDER FOR THE DEPARTURE

4.1. THE NEW MODEL

One of the fundamental aspects to assess in order to set out the departure strategy is to, first of all, determine what is the macroeconomic situation of the country and thenceforth anticipate what movements would take place in an exit scenario.

Specifically, given that the intention is to put into circulation a new national currency and make redenominations accordingly we must asses what is the “Internal Balance and the “External Balance of the concerned country, and pay attention to important macroeconomic aspects such as the public debts, the balance of payments of the country, the banking system and some important indicators related to these.

The macroeconomic considerations are essential not only to determine what should be the immediate arrangement of the abandonment of the Euro and the Eurosystem, but also to design a practical and successful transition, so as to reach normalisation in the best terms possible.

4.1.1. The theoretical framework

Given that the aim of this dissertation is to devise general strategies for any given country I put forward a somewhat innovative systematic theoretical framework to assess the situation of departing countries and the policies they should follow during and after a transition period. It is, more specifically, a novation of the Swan diagram I reformulate according to Dr. Anwar Shaikh's Theory of Real Competition publicated in his 2016 book (Shaikh, A., 2016).

The Theory of Real Competition is a general theory of capitalism which encompasses the microeconomics and macroeconomics of contemporary capitalism and explains how deriving from competition between companies -and the struggle between the labour force and the forces of capital within a country- countries compete with each other and how economic cycles unfold.

For the economic purposes of this dissertation -the introduction of a new currency and the abandonment of a fix exchange rate in the most efficient manner possible- the key aspects of the Theory of Real Competition are the role of real and nominal exchange rates and the relation with real wages and wage shares within a country which decisively impact unit labour costs.

In the chapter of International Competitition and the Theory of Exchange Rates (Shaikh, A., 2016; pp. 491-535) Dr. Shaikh concludes: "*The sustainable real exchange rate is that which corresponds to the relative competitive position of a nation, as measured by its relative real unit labour costs. Second,* [...] *since the real exchange rate is pinned (through competition) by real unit labour costs and other factors, it is not free to adjust in such a way as to eliminate trade imbalances. Indeed, such imbalances will be persistent and will have to be covered by corresponding direct payments and/or capital inflows (foreign debt). It follows that currency devaluation will not, in itself, eliminate trade deficits. Rather, it would be successful only to the extent that it affects the real unit costs (via the real wage) and/or the nontradable-tradable price ratio of consumer goods (Shaikh 1995,*

72). And that depends on the ability of workers and consumers to resist such effects[1]*. Third, it tells us that the real exchange rate of a country is likely to depreciate when a country's relative competitive position improves, other things being equal. Just as in the case of competition within a country, in which an industry with relatively falling costs will be able to lower prices, so too in international competition will a country's export prices fall relatively, in common currency, when the corresponding relative real costs of production fall. […] A fourth implication is the real exchange rate between two countries that will be stationary only over an interval when their relative competitive positions and relative degrees of openness remain unchanged. In the absence of these special conditions, the real exchange rate will be non stationary, which implies that in general PPP will not hold. Fifth, because relative real unit labor costs can only change modestly in a given year, the same is likely to apply to the long-run trend of real exchange rates (shorter run factors are discussed later). `[…] Sixth, free trade is beneficial to a country only when it is strong enough to stand up to international competition. […] Finally of great practical importance to policy, the classical approach allows us to distinguish between two basic routes to increasing a country's international competitiveness: (1) the high road that operates by continuously improving productivity; and (2) the low road that seeks to depress real wages and shift the burden of adjustment onto the backs of workers. The key point here is that rising productivity is compatible with rising real wages, even in the extreme case in which the latter rise faster than the former, so long as overall costs in the export industries are low enough to retain an absolute advantage.*"

4.1.2. The levers of action

Any given government of a State under a fix exchange rate facing severe imbalances has two main levers of action in order to amend them bringing the country closer to its equilibrium. The first one is to abandon the fix exchange rate and alter the real exchange rate either through a nominal depreciation or an appreciation depending on the case.

1 Krugman argues that the virtue of currency devaluation is that it creates a de facto reduction in real wages by raising the prices of imported goods, at least for some time (Krugman, 2011).

The other one is to enact policies which reduce the aggregate wage share (internal labour force deflationary measures) or increase it (internal labour force boosting measures). Moving the internal balance function downwards or upwards correspondingly.

The depreciating and/or internal deflationary policies are aimed at increasing the profitability of domestic goods, and services at least in the short and medium term against foreign substitutes. Both the tradable sector and the non-tradable sectors related to the services inflows and outflows of the Current Account balance experiment an increase in relative profitability. Although the theoretical framework is innovative the two levers of action I have mentioned are a very old and common set of alternatives in the history of fixed and pegged exchange rate regimes and they have been analysed by other schools of economic thought.

Internal labour force boosting measures should be sought by countries with relative low Unit Labour Costs and negative output gaps.

A nominal appreciation of the currency should be sought by countries whose excessive current account balances are generating bubbles in domestic resources and non-tradabable sectors within the country.

Shaikh's theoretical and empirical historical work provides a compelling very long term answer on what is the sustainable exchange rate of a currency against another country or a basket of other currencies, which is in itself a very old question in economics and argues that shorter term variations can be explained by movements on the real interest rates. In Appendix 11 of his book (Shaikh, A., 2016; pp. 876-880)explains how to calculate the long-run relationship between relative unit labour costs and the real exchange rate using orthodox indicators such as the Real Unit Labour Costs, the Consumers Price Index and the Producers Price Index.

For its part, economist Roger Bootle in his Wolfson Economics Prize-winning paper *Leaving the Euro: A Practical Guide* (Bootle, R., 2012) confronts the same issue of sustainable exchange rates regarding a practical question for specifically the peripheral departing countries from the Eurozone: by how much should the peripheral countries' exchange rates need to fall?

Bootle in Appendix 17 (Bootle, R., 2012; pp. 152-163) observes that different well-established indicators such as the GDP deflator, CPI, HCPI, and REER -upon which PPP theory is construed- and widely used to assess the overvaluation or undervaluation of a currency show misleading movements which not only make it hard to determine by how much should a currency adjust (also because it is a stochastic process influenced by national politics within different States) but also do not adequately serve to analyse which are the driving forces behind these movements. However, they are still useful to look at the trend and what direction do market forces push to.

Therefore, Bootle -after examining these indicators and different labour costs indicators- comes to the conclusion that in 2012 the nominal exchange rates of the peripheral countries should depreciate by around 40% for Greece and Portugal and as perhaps as much as 30% for Italy and Spain (Bootle, R., 2012; pp. 162), which correspond the most with the differentials on the Unit Labour Costs that these countries have experienced against Germany since the introduction of the Euro. Bootle argues the nominal exchange rates might need to fall as much as 55% for Greece and Portugal and around 40% for Italy and Spain (Bootle, R., 2012; pp. 163).

4.1.3. The New Macroeconomic Balance Diagram

Given that Bootle offers reasonable estimates but lacking a sufficiently consistent framework and Shaikh offers a developed framework but with a degree of complexity somewhat beyond the needs for what I want to illustrate in this dissertation I put forward a middle ground solution by approximating the Real Exchange Rate of every Member State of the Eurozone with respect to the others to the Real Effective Exchange Rate of Unit Labour Cost for the Total Economy (ECB SDW, 2016). It is expressed as an index with the evolution of Relative Unit Labour Costs is expressed as an index with 1999Q1=100.

This is the best statistical data series to be used and it is a readily available Harmonised Competitiveness Indicator calculated by the ECB which serves as a good proxy for Shaikh's Relative Real Unit Labour Costs and which results reasonably coincide with Bootle's assessment of which are the mismatches in exchange rates in the Eurozone.

In the diagram I construct, the Adjusted Wage Share (ω) is represented on the x axis and the Real Exchange Rate (RER) is represented on the y axis. The model and the diagram serve to observe movements in the short and medium run, in a convenient annual basis.

The main underlying formulations of the model are:

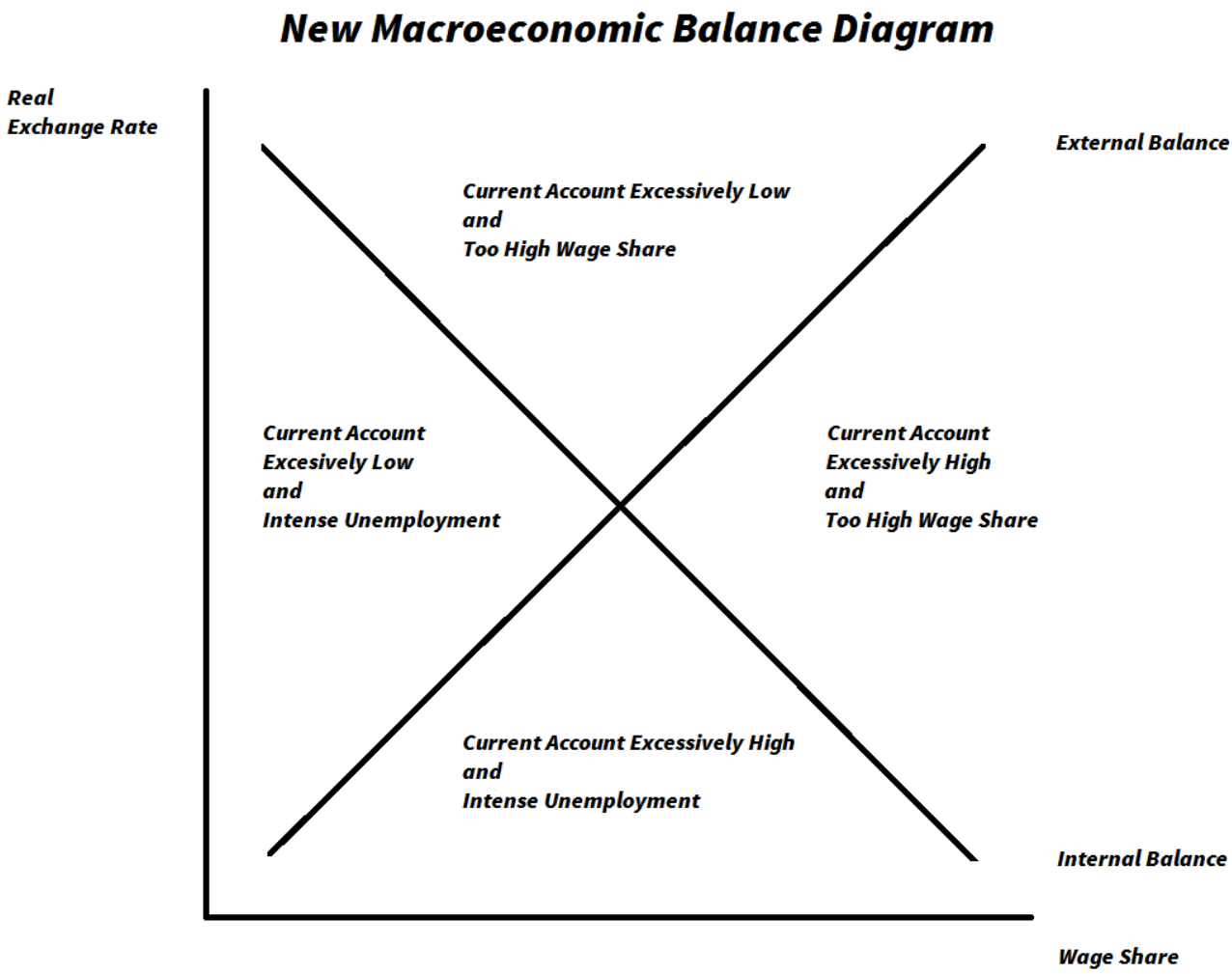
Real Exchange Rate ≈ Real ULC of a country's total economy deflated against the hypothetical 19 national currencies of the Eurozone (ECB SDW, 2017).

Adjusted Wage Share: [(UWCD : NWTD) : (UVGD : NETD)] × 100

The data is the Adjusted Wage Share as calculated by AMECO (AMECO, 2017).

Assumptions: RER>0; 100>ω>0.

Figure 1. New Macroeconomic Balance Diagram



Based on the relation between the Unemployment intensity and the yearly Rate of Change of the Wage Share (RCWS) described by Shaikh (Shaikh, A., 2016; pp. 646-672) I derive that the route a country has followed in the renewed Phillips' curve of Dr. Shaikh (regarding the rate of increase or decrease of the wage share from year to year) explains the total wage share a country has at a point in time and whether it causes the RER of the currency (or hypothetical currency in the case of the Members of the Euro area) to be out of equilibrium.

The RER is fundamentally affected by what has been the Rate of Change of the Unit Labour Costs (RCULC) for which the Rate of Change of the Wage Share is usually the biggest component in a given country and it is affected by the RCULCs and RCWSs in the countries picked to calculate the RER. Divergences in the RWCS and the steepness

of the Shaikh's Phillips' Curve are the main explicative factor in assessing why the RER is out of equilibrium.

4.1.4. The External balance equilibrium

The External Balance function represents the equilibrium where the Current Account flows are neither excessive nor insufficient for the needs of the domestic economy. This doesn't necessary mean these are the points where the Current Account is 0, but whether a deficit or a surplus is below or above what would correspond to the structural development of the domestic economy. The furthest the distance from its equilibrium, the higher will be the market pressures on the domestic economy to adjust.

If ceteris paribus a country has a lower wage share it will be able to be more competitive in its tradable goods and services. On the other hand, if it has a higher wage share it will be less competitive. This is the reason why it has a positive slope.

External balance equilibrium function:

$RER = h^*[\omega(\text{domestic})*100/\omega(\text{basket of currencies})]$

Where:

ω= Wage share of the basket of currencies included. Different methods to determine the Wage Share may apply, in this dissertation the AMECO data and methodology is applied (AMECO, 2017).

h= elasticity of the effect of the domestic Rate of Change of the Unit Labour Costs (RULC) on the RER of the currency (which approximates to the Real HCI ULC in the cases considered). This refers to what is the effect of the movement of the wage share on relative Unit Labour Costs.

Algebraically:

h=RCULC (domestic)/RCULC (basket of foreign countries).

The RCULC is closely tied to the RCWS given that Wages and Salaries are usually the most important component of Labour Costs (Eurostat, 2014), (OECD, 2017), and usually make the other related components increase or decrease accordingly.

RCULC= RCWS+ RCOLCC (Rate of Change of Other Labour Cost Components).

In different statistical databases different components can be included or excluded in the calculations of the Unit Labour Costs, which will affect the overall Unit Labour Costs, though in this paper different sources are not used in order to ensure there are no data distortions.

In turn, what is the RCULC and the RCWS is a matter affected by the specificities of the political economy of every country and -as Shaikh argues (Shaikh, A., 2016; pp. 648-649) - deeply affected by the political and negotiating strength of the labour force in comparison to that of pro-capital policies advocates.

4.1.5. The Internal Balance equilibrium

The Internal Balance is the function at which the economy is at its critical level of unemployment (Shaikh, A., 2016; pp. 648-650). The critical level of unemployment depends itself on the total demand for goods and services of the domestic economy (including the non-tradables). The points of the line are the points where neither there is on aggregate terms intense unemployment nor an excessive wage share which can decrease profitability and increase inflation.

If ceteris paribus overall profitability of producing domestic goods and services (including non-tradables) relative to foreign goods and services increases (for exemple due to a positive shock on aggregate supply, a nominal depreciation, etc.) the country in question will experiment a decrease of its RER (it will gain competitivity) and the wage share will respond in a rise by pulling less productive labour on average into employment.

On the other hand, if ceteris paribus its overall profitability decreases, the RER will increase and the wage share will decrease through redundancies of less productive labour. This is the reason why it has a negative slope.

Internal balance equilibrium function:

RER= RER(basket of currencies) + RER(basket of currencies)-z*[ω(domestic)*100/ω(basket of currencies)]

RER(basket of currencies)= 100

z= elasticity of the effect of total demand for domestic goods and services on the RER of the currency.

Algebraically:

PPI of Domestic Goods and Services/ PPI of Foreign Goods and Services

z=PPI(domestic)/PPI(basket of foreign countries).

Elements such as market rigidities, trade barriers, barriers of equivalent effect, transport costs, transaction costs, etc. will impact the PPIs and therefore z.

4.1.6. Reduction of relative Unit Labour Costs and increase of the Wage Share

According to the model, the reasons why a country can experiment at the same time -prima facie paradoxically- reductions in the relative labour costs and increases of the wage share can take different forms: 1) Through intentional devaluation or depreciation of the nominal exchange rates of a currency. 2) Through a positive supply shock and/or through a reduction of other components of labour costs not included in the calculus of the wage share which outmatch increases in the wage share. Or 3) Through higher foreign RCULC than the domestic RCULC.

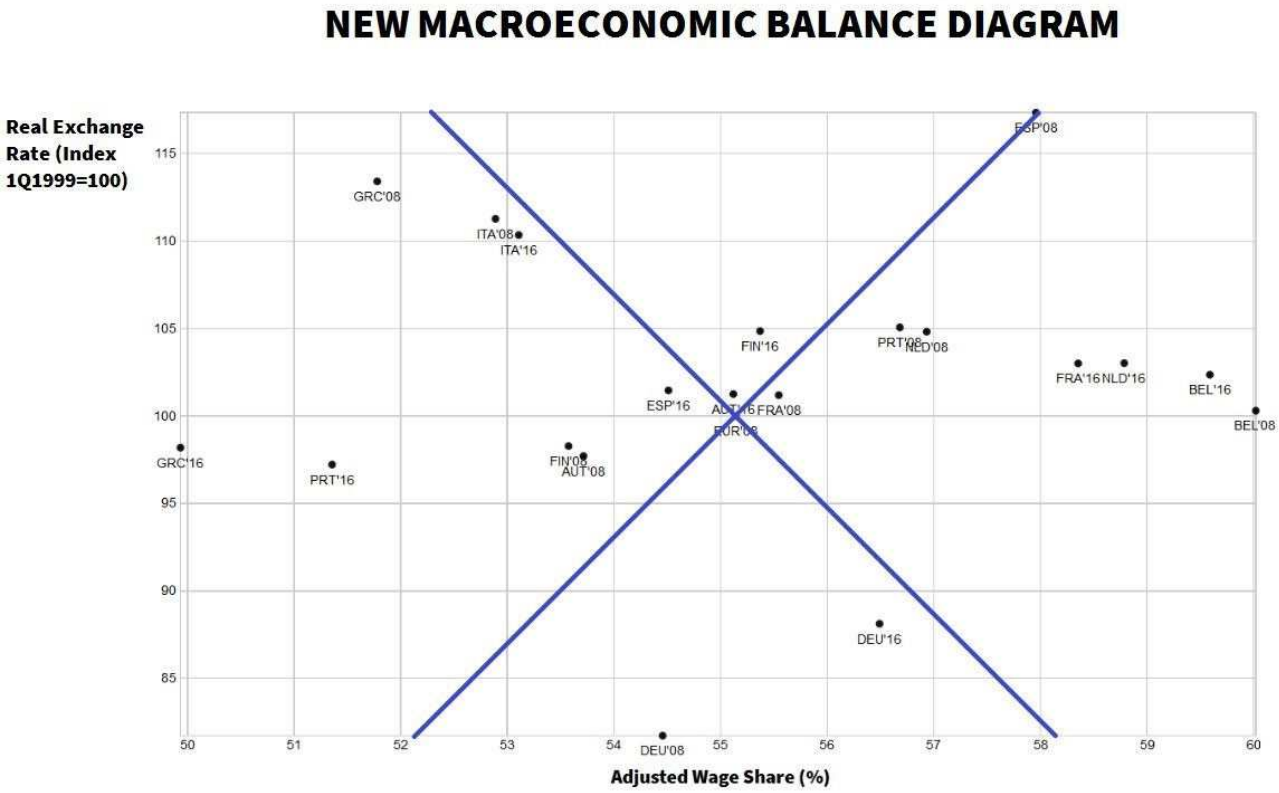
Likewise, a country can experiment at the same time -prima facie paradoxically- increases in the relative labour costs and decreases of the wage share. Mainly either 1) Through intentional appreciation of the nominal exchange rates of a currency, 2) Through a negative supply shock and/or the increase of other components of labour costs not included in the calculus of the wage share which do not exceed the reduction in the wage share. 3) Through higher domestic RCULC than the foreign RCULC.

4.1.7. Scatter Plot diagrams of the model

Once I have developed this new macroeconomic model according to Shaikh's theoretical foundations and Bootle's assessments for the Eurozone countries, it is possible to show in various Scatter Plot diagrams what is the position of different countries and what have been their evolutions, either forming part of the Eurozone or another fix exchange rate regime or a floating one. It is important to stress that these diagrams show the evolution respect to the Euro Area mean, butit does not imply that the countries had necessary their RER in equilibrium in 1999Q1. They are an illustrative but not exact representation of the imbalances.

Figure 2. New Macroeconomic Balance Diagram with relevant Eurozone countries

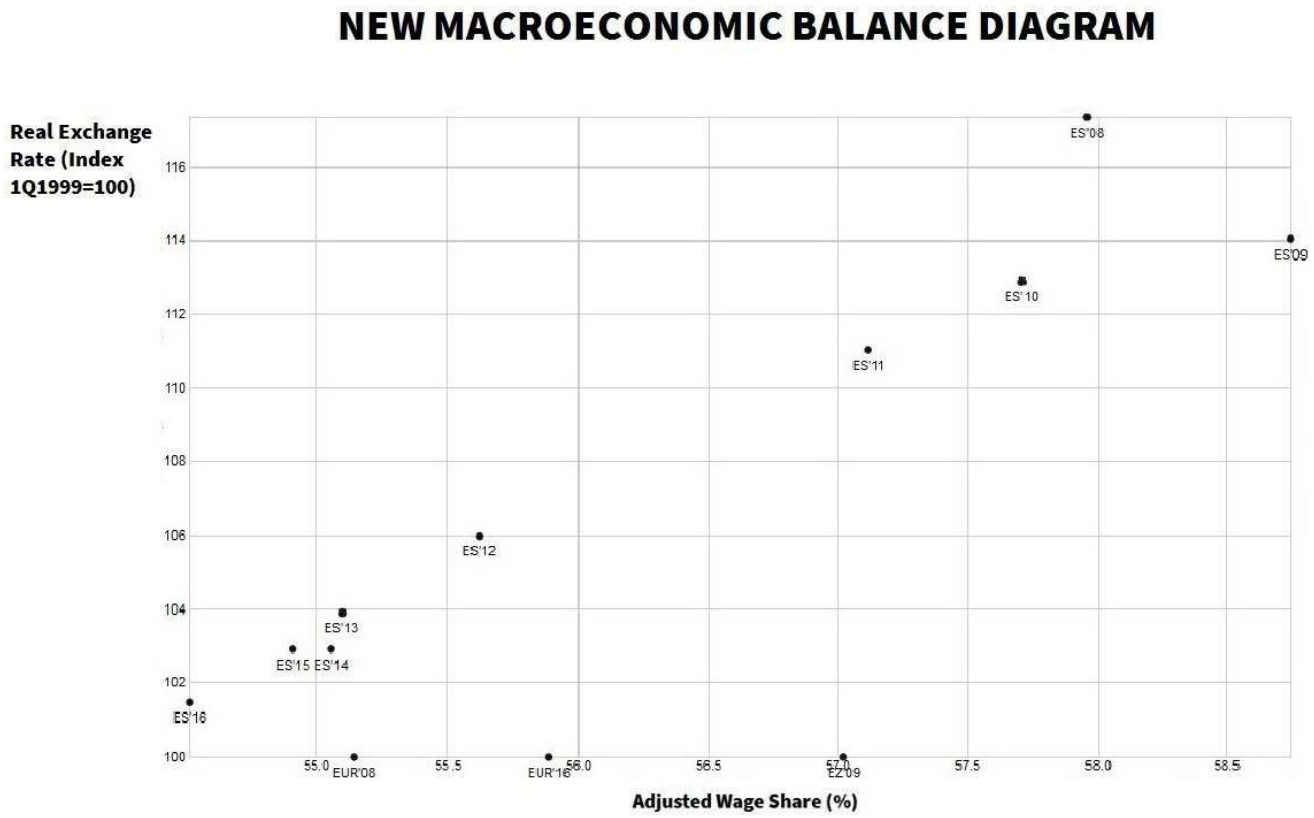
Source: Eurostat, ECB.



Out of the 10 representative Euro Area countries represented in the diagram it is easy to see the effect of internal devaluation policies in peripheral countries (with the exception of Italy which shows little movement) between 2008 and 2016. Countries like Austria, Germany, Finland and France show the contrary movements with increased wage shares and relative Unit Labour Costs in 2016 indicating overall convergence although at a very slow pace due to Germany's policies aimed at ULC containment generating slower adjustment than needed.

Figure 3. Spain's internal devaluation

Source: Eurostat, ECB.



Given that within the Eurozone the effects of sizeable nominal exchange rate devaluations and appreciations predicted by the model cannot be confirmed it is necessary to select other countries with floating exchange rate regimes or pegged exchange rate regimes but experimenting sizeable nominal realignments.

In order to achieve this, for the following graphs, the RER is approximated to the Real ULCT of a country deflated against the Euro Area and the EER-12 group of major trading partners (ECB SDW, 2017).

It is worthy to note that different countries have different national equilibriums which can be statistically affected depending on the base year taken and the basket of foreign currencies considered. Even for the case of the Euro Area countries, they do not have exactly an equilibrium fixed to the 19 countries of the Eurozone, although they are their major economic partners, which could explain why some countries may show apparently very persistent imbalances respect to major Member States.

Moreover, the base year and the basket of foreign currencies selected affects the graphic representation of the broad four zones in which a country can find itself.

Figure 4. Cases of sizeable nominal depreciations

Source: Eurostat, ECB

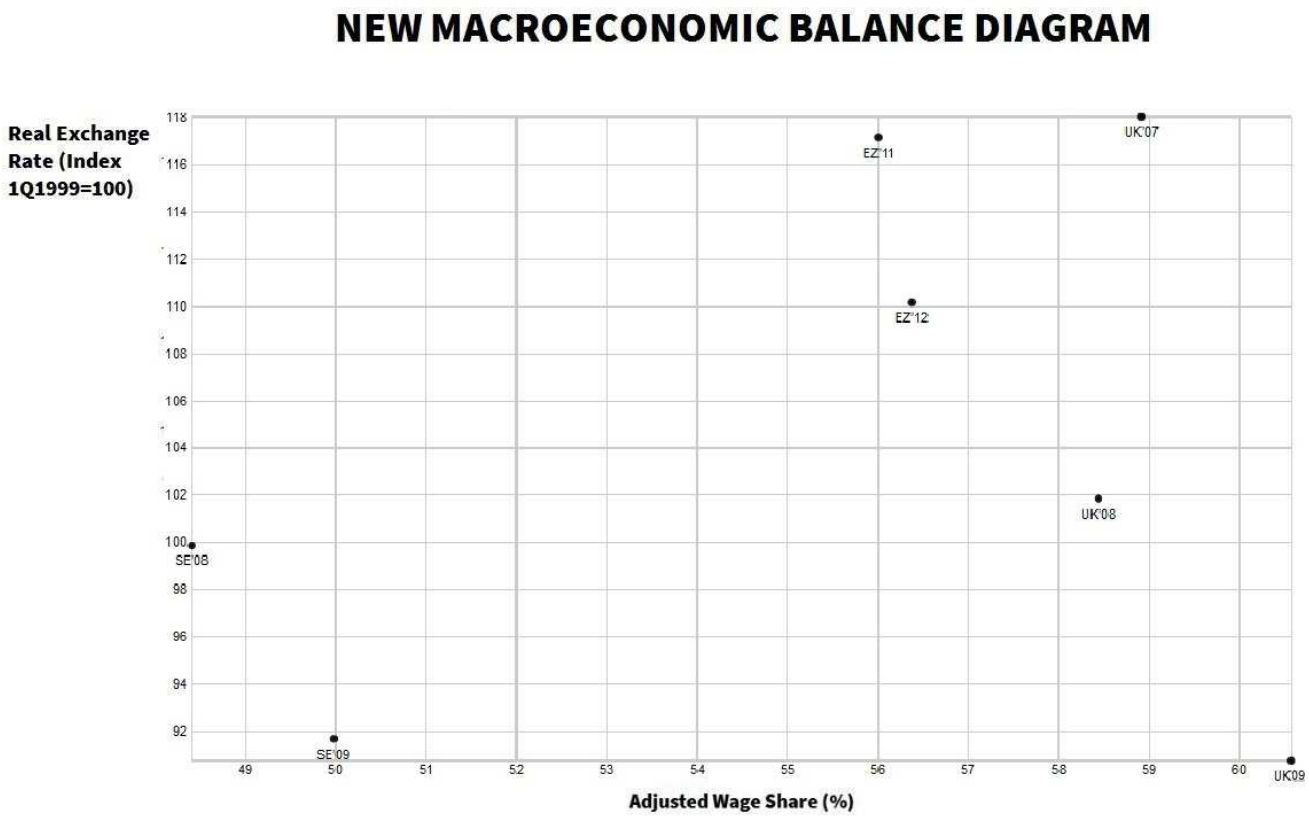
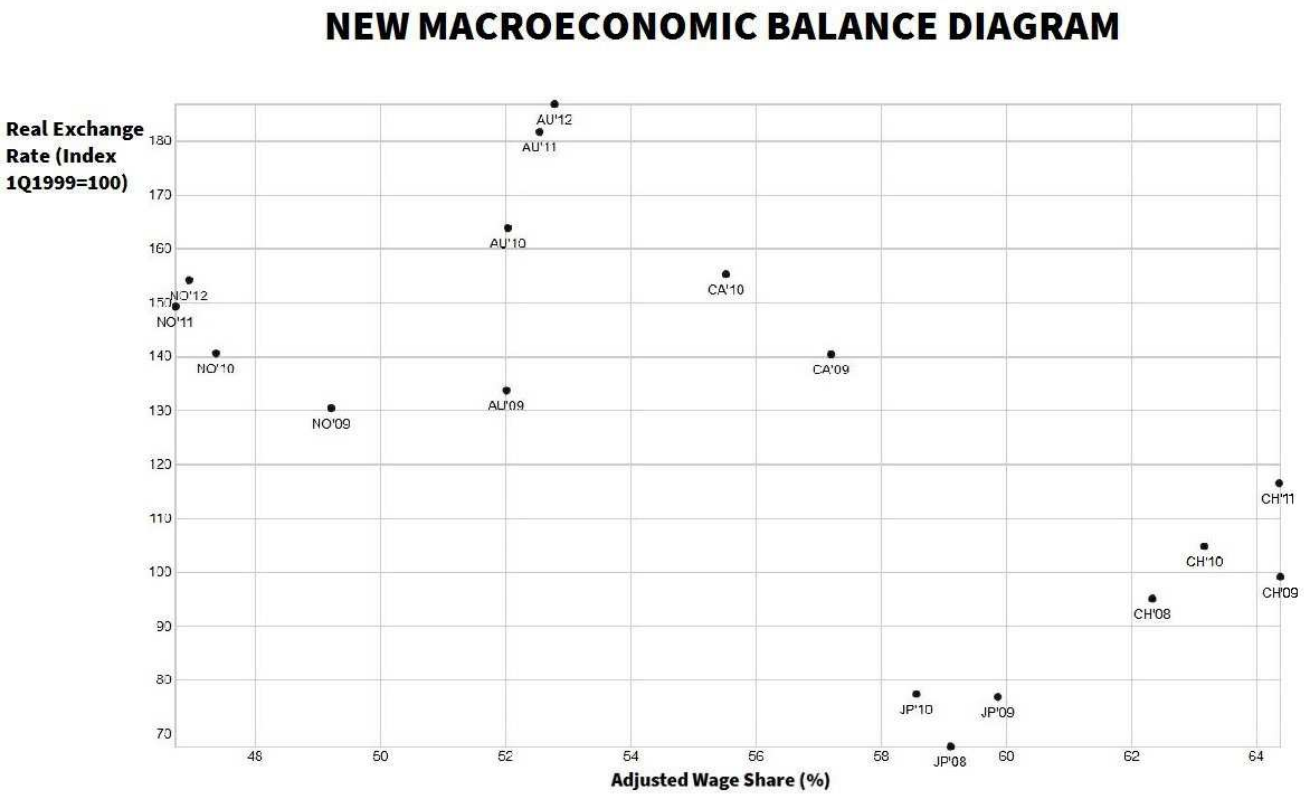


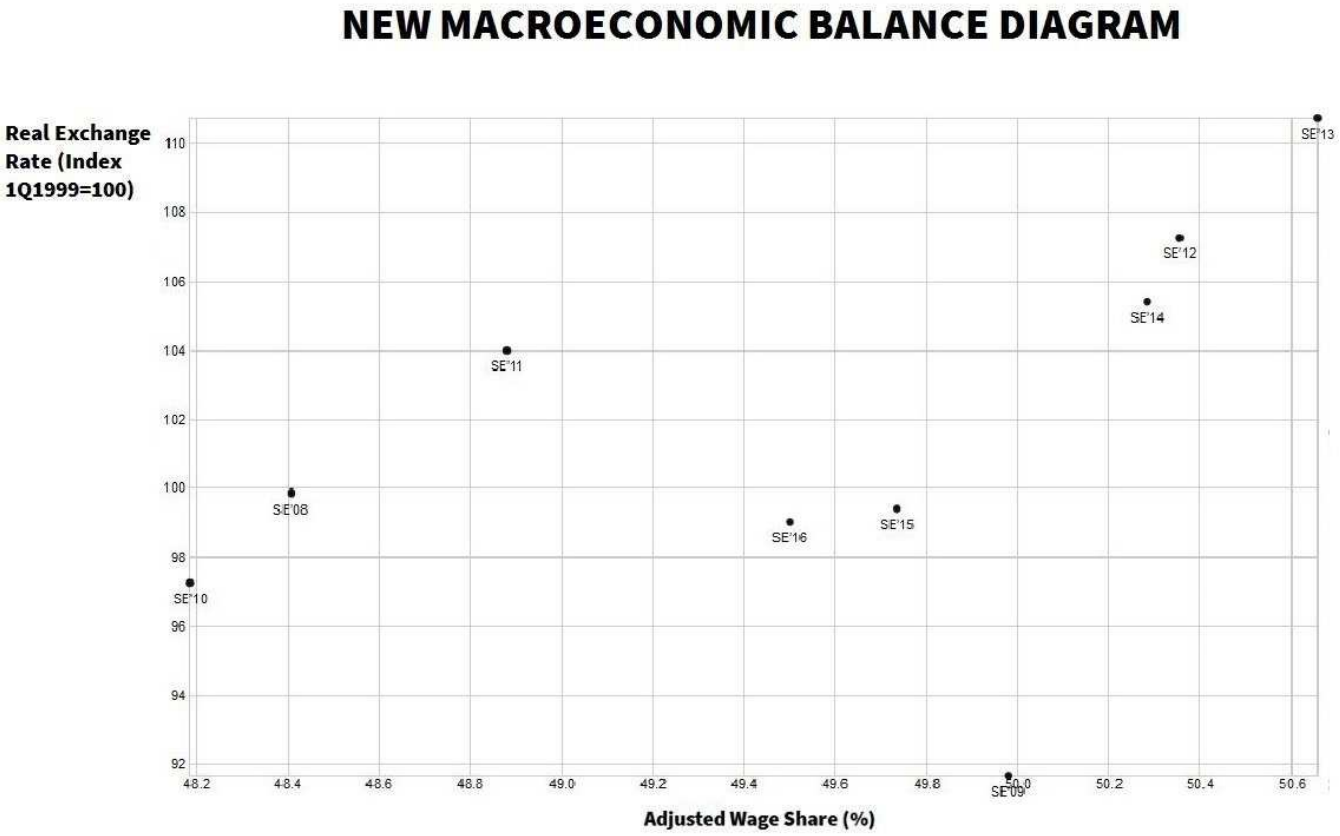
Figure 5. Cases of sizeable nominal appreciations



Source: Eurostat, ECB

Figure 6. The case of Sweden

Source: Eurostat, ECB.



The diagrams – leaving aside statistical distortions – show that nominal depreciations and appreciations of these currencies in the selected periods have the expected effects of the model. In the cases of Switzerland from 2008 to 2009 of Australia and Japan from 2009 to 2010 it is noteworthy to appreciate that an expansionary fiscal policy can outweigh the anticipated movement generated by nominal appreciation.

Moreover, the case of Sweden between 2008 and 2010 shows that -and in accordance to the Riksbank (Sveriges Riksbank, 2009; pp. 58)- that a nominal depreciation can be followed by an appreciation quite rapidly in countries with well-founded inflation expectations between the economic agents.

Furthermore, this depreciation and appreciation movement of a national currency have major advantages over the situation of a country within a monetary union by allowing a rapid adjustment of external macroeconomic shocks.

The case of the United Kingdom between 2007 and 2008 is the result of a sizeable depreciation and a mild internal devaluation movement mixed. An example that a sizeable nominal depreciation along a mild internal devaluation can rapidly bring very significant competitiveness gains.

4.2. PRODUCTIVITY

Having established this model we will be better able to asses what exchange rate policies a country planning the withdrawal from the Euro should follow.

As previously stated, there are basically on aggregate terms two levers of action for monetary and fiscal policy and in the range of movement of both levers there are two directions. Given that the abandonment of the Euro and of the Eurosystem permits the adjustment of the nominal exchange rate and of monetary policy towards the needs of the concerned countries it is possible to develop two main courses of action depending on the direction it is deemed desirable for them to go.

Firstly, countries which had previously lost international competitiveness (increases in the Real Exchange Rate) due to an excessive rising wage share in the previous period should develop a strategy with nominal depreciation in mind given its overvalued exchange rate with other Member States. Countries which had previously gained competitiveness due to higher overall productivity increases or ULC containment should develop a strategy with appreciation in mind given its undervalued exchange rate with other Member States.

Admittedly, countries seeking a nominal depreciation should not solely rely on competitive depreciation in order to restore external balance. The important aspect of nominal depreciation is that it allows much more rapid and painless flexibility to reduce the wage share through productivity increases instead of through very hard internal devaluations.

As of 2016 the countries of the selected group which would need the most a depreciation of their currencies against the whole of the Eurozone would be Italy, Greece and Portugal and to a lesser extent Spain and Finland; and they should complement them with other moderately expansive fiscal measures. Germany would be the only country which would clearly need an appreciation of its currency relative to the rest of the Eurozone. The Netherlands, Belgium and France would

be able to choose a much more balanced “high road” approach of moderately higher productivity gains.

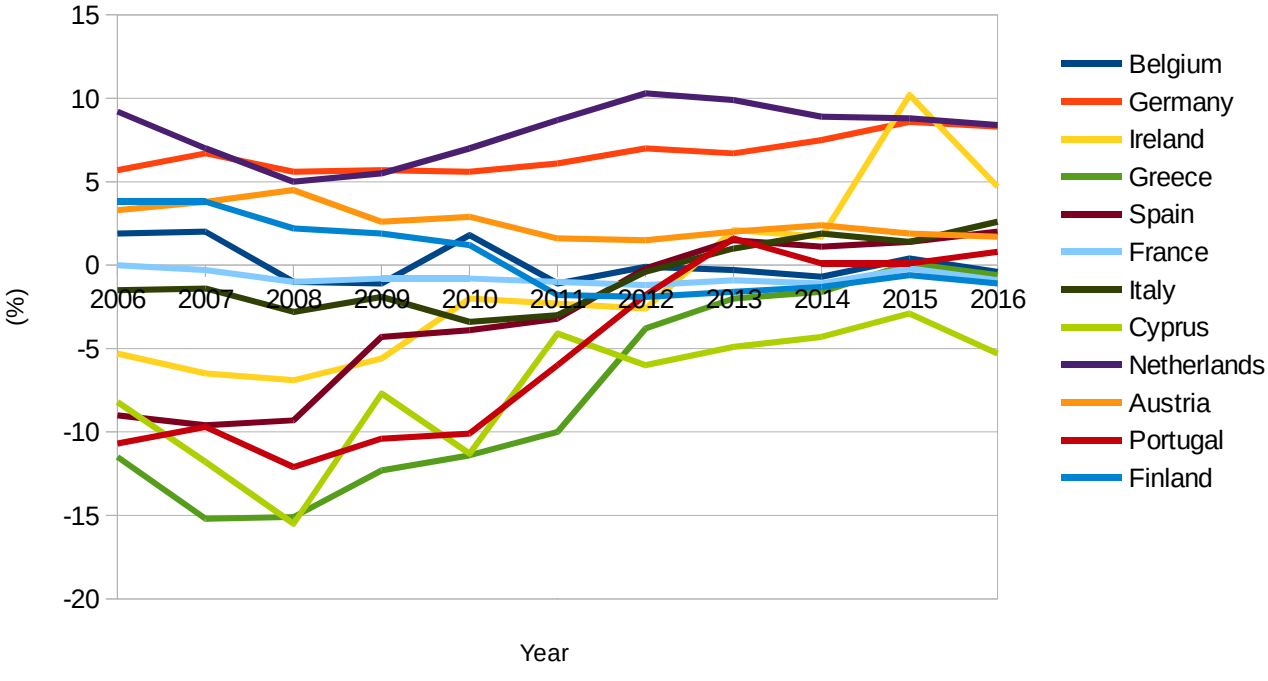
4.3. BALANCE OF PAYMENTS AND INTERNATIONAL RESERVES

4.3.1. Current Account Balance

The Current Account balance is another very fundamental aspect, since – regardless of whether a surplus or a deficit is out of what would be the long term equilibrium – a positive current account balance would assure in the short and medium term (the length of time that a process of introduction of an NNC would take) hard-currency inflows into the country. This would very substantially reduce the likelihood of depletion of the National Central Bank’s international reserves and any subsequent balance of payments crisis and capital flights.

Figure 7. Current Account Balance to GDP

Source: Eurostat

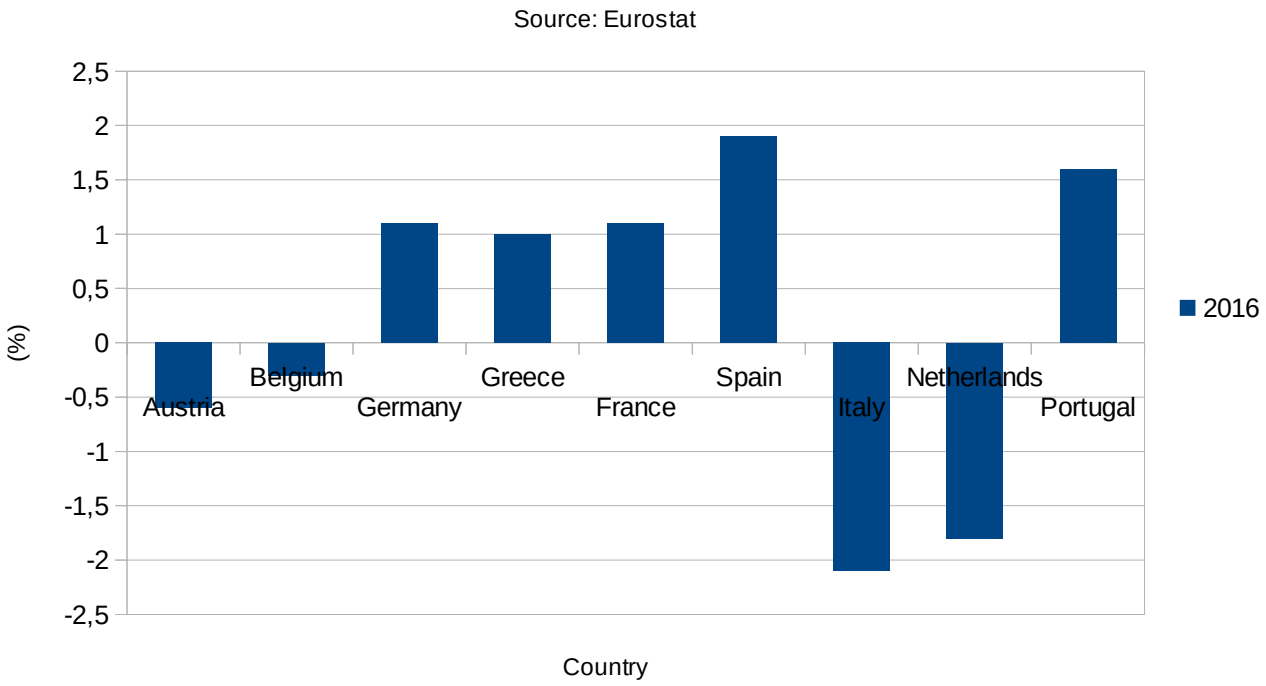


Paradoxically – at least in appearance – a country experimenting an uncomfortably high current account deficit position (like Spain, Greece, Italy, Ireland and Portugal during the 2008-2011 period) and under a framework of stringent macroeconomic fiscal limits, would find it easier to ensure a relatively smoother macroeconomic transition out of the Euro if it first engaged in some kind of internal devaluation rather than directly withdrawing.

4.3.2. Capital Account Balance

Like in the case of the current account, a positive capital account balance and substantial international reserves at the starting point would contribute to an easier departure and to less stringent capital controls during the transition period. A negative capital account balance would spark the need for increased capital controls and bank nationalisations if the situation worsens. The point is to achieve during the transition period a sufficient inflow of international currencies as to not deplete the Central Bank's international reserves. However given historical precedents which I will discuss later on, temporary capital controls should be applied in any case so that capital account fluctuations can be better managed.

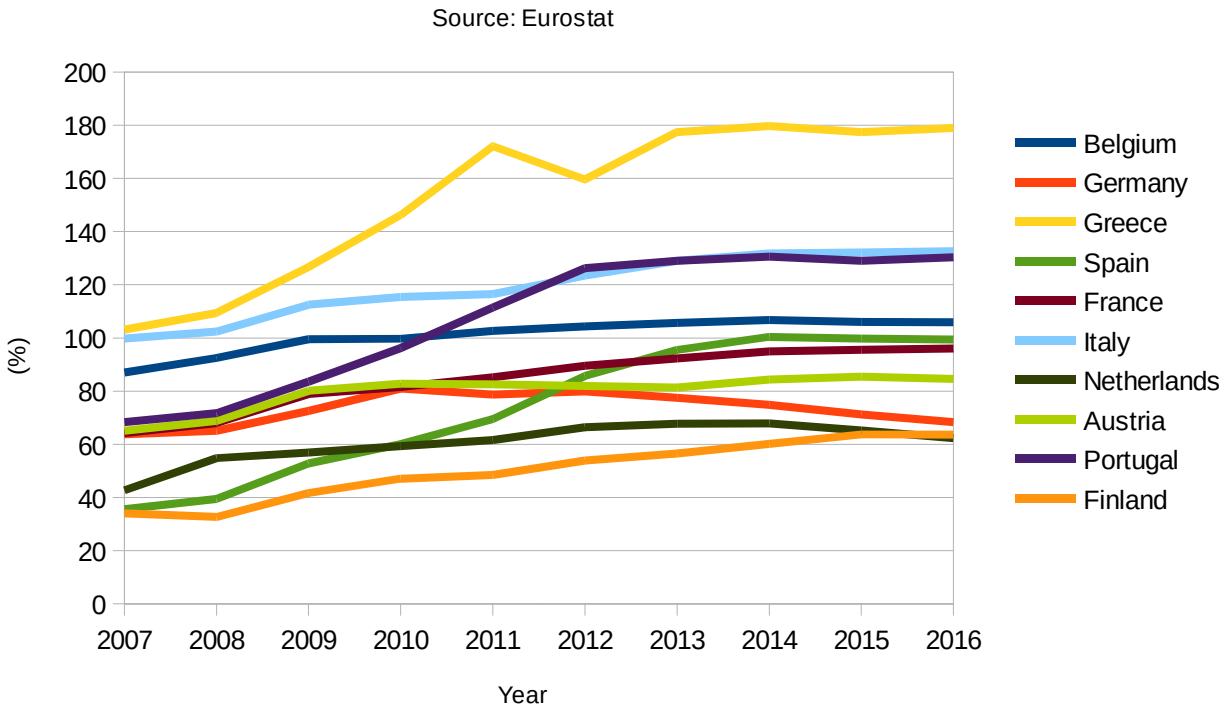
Figure 8. Capital Account Balance to GDP (2016)



4.3.3. International Reserves

Most Eurozone Central Banks during the period 2008-2016, specially the most hard-hit have been accumulating a substantial amount of foreign reserves in their balance sheets, which should facilitate – although having to look on a case by case approach - a smoother transition out of the Euro. Both for countries seeking a lower nominal exchange rate or a higher one with respect to the Euro.

Figure 10. General Government Gross Debt to GDP



4.4. PUBLIC DEBTS AND PUBLIC DEFICITS

The matter of public debts and public deficits is of great concern for these types of abandonment of currencies and/or fix exchange rates. Countries in need of a downward adjustment of the nominal exchange rate and its RER face overall higher fiscal deficits, Debt-to-GDP ratios and costs arising from interest. Moreover, some of them – specifically Greece, Portugal and Spain - are forced to follow nominal convergence plans according to Excessive Deficit Procedures (European Commission, 2017).

Figure 11. General Government Deficit to GDP

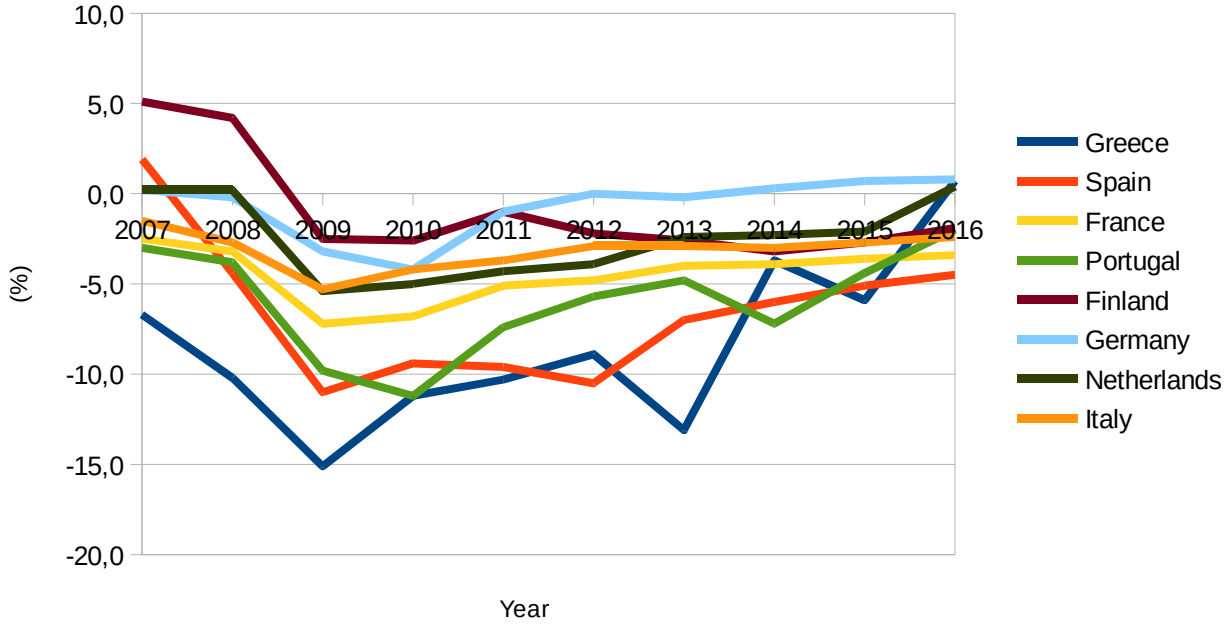


Figure 12.10 Year Sovereign Bond Spreads

Source: ECB

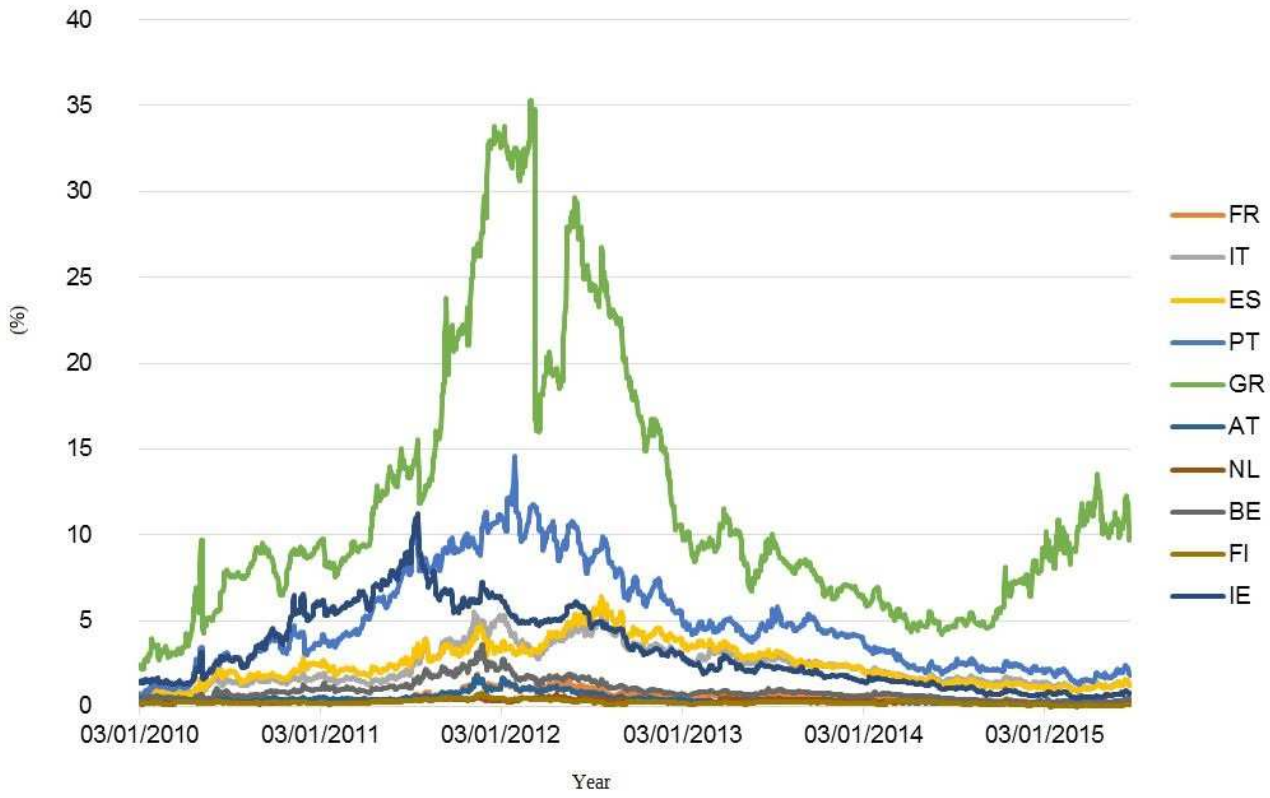
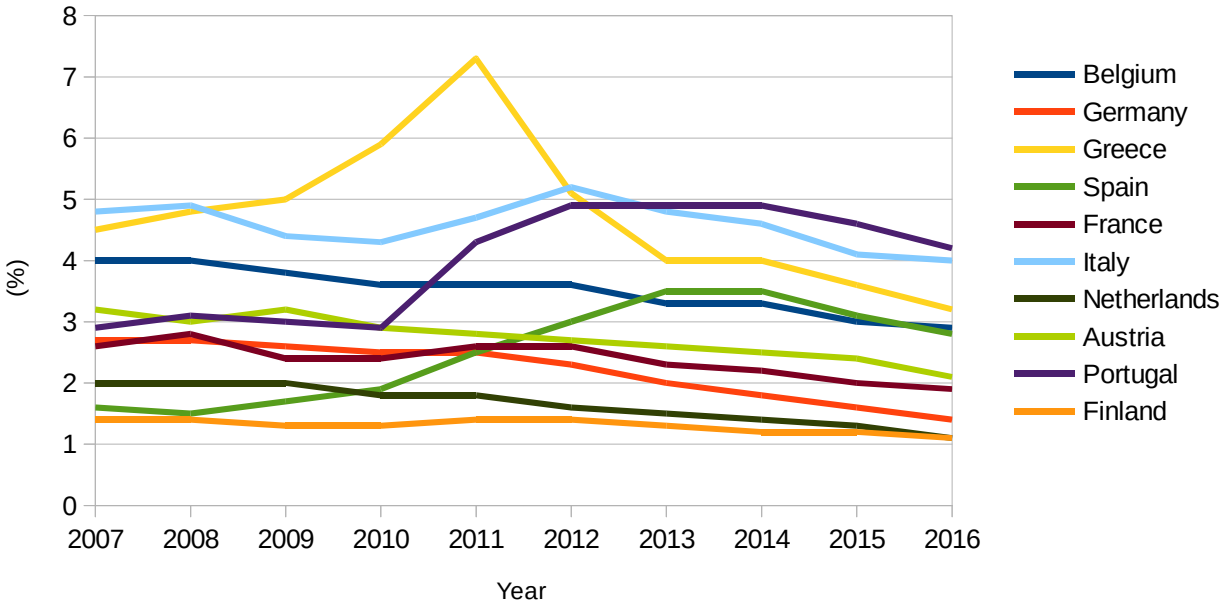


Figure 13. General Government Interest Payments to Revenue

Figure 14. General Government Interest Payments to GDP

Source: AMECO



4.5. NATIONAL BANKING SYSTEM

The state of the national banking system is also an important factor to consider given that depending on its stress absorbing capacity to shocks caused by redenomination issues and changes in output due to nominal exchange rate movements the monetary policy of the National Central Bank -once autonomous– will have to be more or less expansive. This is the sector in which there would be the soonest spill-overs on other Eurozone and EU countries, as the Euro Area financial systems are very interconnected, having high cross-exposures according to a 2016 ECB's report on financial structures (ECB, 2016; pp. 11-21).

Different Financial Soundness Indicators compiled by the IMF make it possible to observe the overall condition of different national financial systems. Overall, the countries that have been identified as needing a nominal depreciation of their currencies show a higher amount of non-performing loans and lower levels of capital against risk-weighted assets, meaning their national banking systems are more vulnerable to adverse shocks and therefore sufficient support ought to be designed in a departing strategy so as not to cause a banking crisis. On the other hand, countries such as Germany and the Netherlands show more robust figures, which minimises the need for support by the public sector.

Figure 15. Bank Non-Performing Loans to Total Gross Loans

Source: World Bank

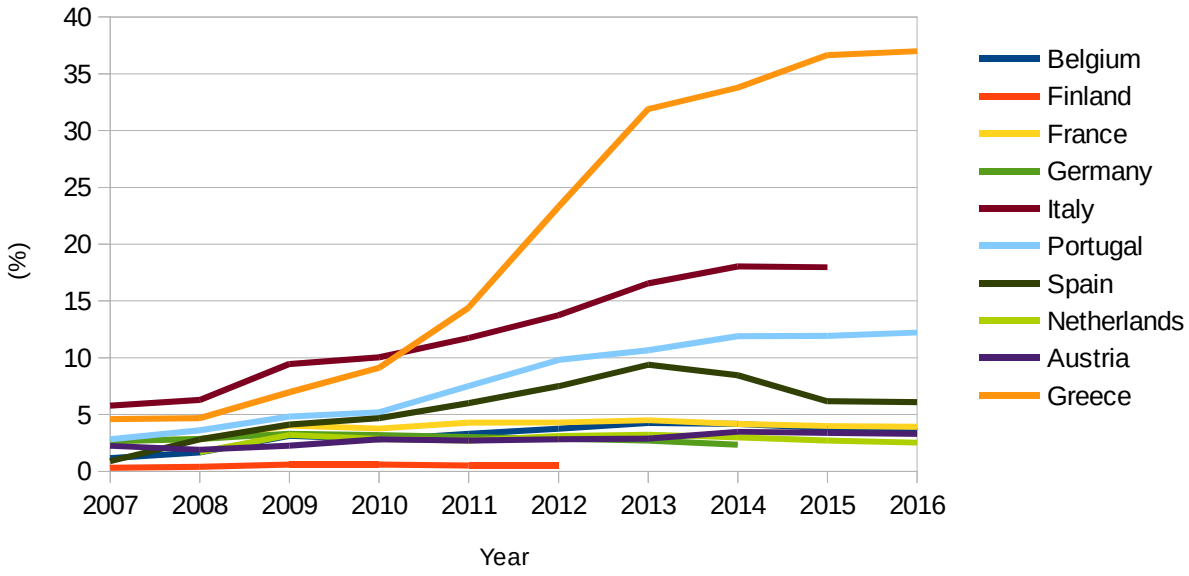


Figure 16. Non-performing Loans Net of Provisions to Capital

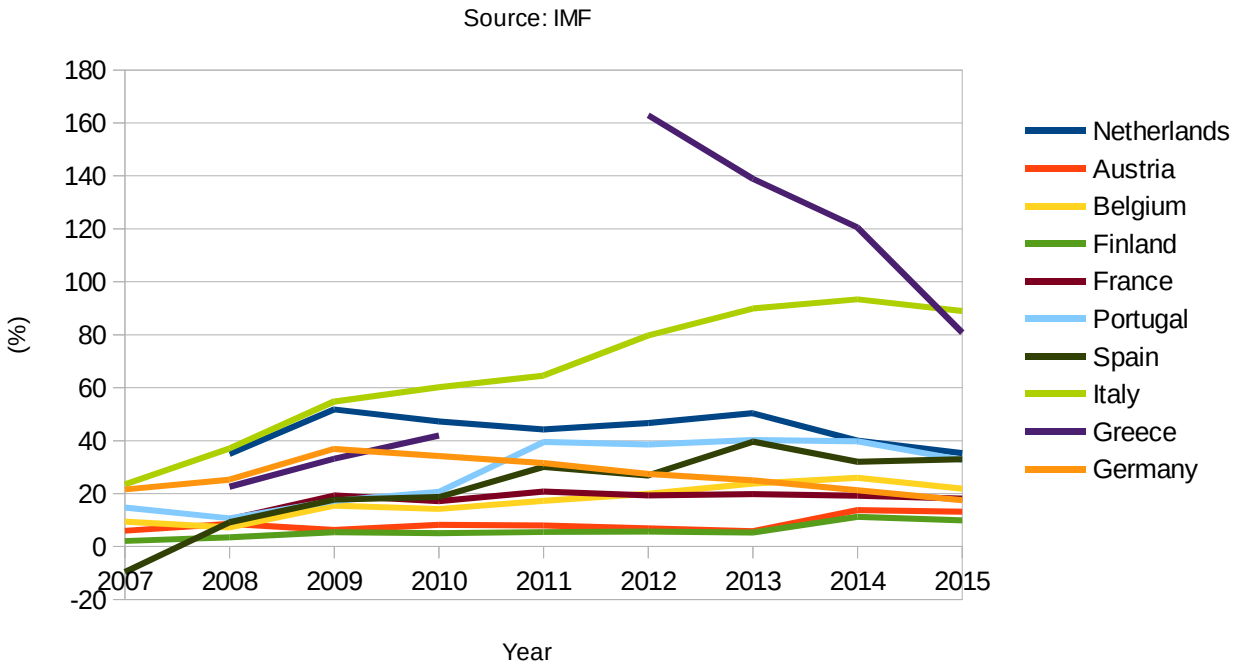
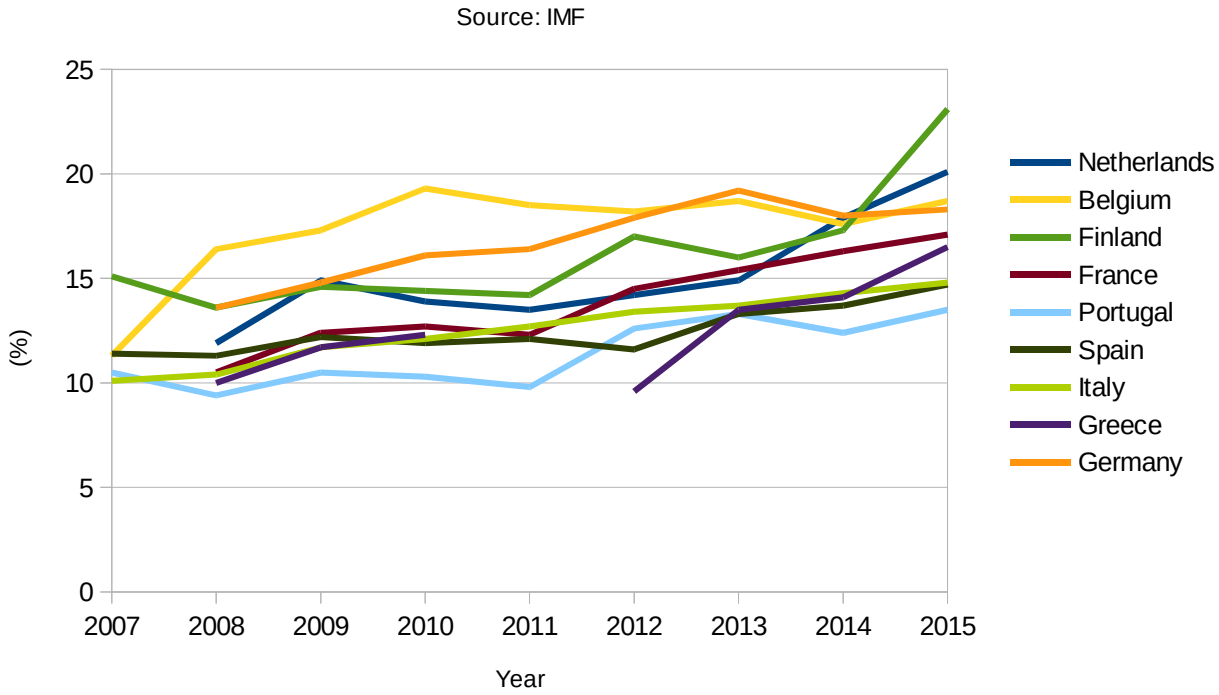


Figure 17. Regulatory Capital to Risk-Weighted Assets



5) THE SRATEGY FOR DEPARTURE: DIFFERENT PATHS DEPENDING ON THE STARTING POSITION

The first thing to acknowledge is that the strategy for departure varies essentially around two very concrete aspects: whether the concerned State will devalue or appreciate the new national currency (and to what extent) and how the private economic agents expect it. It is possible to establish two general blocks of strategies: one contemplating nominal depreciation or nominal appreciation with respect to the Euro. Every country may show some specificities that can circumstantially modify some elements within these two grand strategies.

Furthermore a very important practical and useful consideration to take into account is whether the national government which has determined to adopt an NNC has decided to do so when it is already in power or whether it has recently reached power after the pertinent elections with the electoral commitment of abandoning the Euro.

It is useful to establish a temporal timeline in order to settle a common ground around which the different strategies can be designed:

T(-1) Pre-introduction period. Determination of what is the macroeconomic situation of the country. It is also the time period during which preparations for the departure take place if possible.

T(0) Introduction. Moment at which the NNC is declared the currency of legal tender and the first urgent accompanying introductory measures are established.

T(1) Monetary Transition Period. Within this period the domestic economy deals with the phenomena associated with introduction and the nominal exchange rate adjustment. Other measures are put in place in order to guarantee the success of the monetary transition to a NNC.

T(2) Normalisation. The domestic economy has overcome the transitory shocks and is on a sustainable path to growth and is decreasing the internal and/or external imbalances.

5.1. SECRECY AND IMMINENCE

A possible -and preferred way- to introduce the new national currency would be if the government had successfully kept under secret all the necessary preparations for the introduction of a new national currency. Instrumental in achieving this would be reducing the time between preparation and the implementation of the new currency in order to increase the chances of being kept secret (Bootle, R.; 2012; pp. 31-33; 125-126). Secrecy would make possible the absence of expectations by private agents which could potentially distort the smoothness of the introduction and transition process. Furthermore, it would accelerate the monetary transition process given that for example the monetary base M(0) could be readily available to be rapidly introduced.

However secrecy and imminence would have some considerable cons from a political point of view. For example:

- Political costs for the incumbent government if the introduction is unsuccessful.
- The lack of public debate about it.

- The lack of a direct democratic mandate to undertake it.

- The almost near impossibility of reaching an agreement between different political parties of the legislative bodies and -at least within a variable amount of time depending of course on the balance of power in the legislative- to previously make the exclusive monetary sovereignty as part of the Constitutional identity of the State and the National Central Bank as the exclusive centre for conducting monetary policy. This is, as I have said earlier, a useful action to impede the Court of Justice of the European Union from sentencing the measure as invalid.

So, to recapitulate, for an incumbent government secrecy and imminence would be indeed very valuable tools to introduce smoothly the new national currency. If after some weeks or a few months of preparation a government were able to introduce the new currency in one blow and force the redenomination of assets, liabilities, contracts, etc. governed by domestic law within the country the period of Monetary Transition could be much quicker.

Alas, a political party which had risen to power after an election with the commitment to abandon the Euro would not be able to undertake all preparations in secrecy. Therefore another way has to be found to make the transition possible in such a case.

All in all, secrecy would play a much bigger role in facilitating the transition in the case of a country seeking to depreciate the NNC because it would reduce the likelihood of bank panics and/or speculative attacks. In the case of an appreciation a lot of the concerned national economic agents would gladly welcome (at least in its short and medium term effects) the introduction of a national currency and extensive redenominations of assets such as bank deposits, given that the currency would appreciate representing a free increase on their wealth and income with respect to foreign goods, services, etc.

5.2. REDENOMINATIONS

One of the most tricky aspects of the process of introducing a new currency is what redenominations of existent and future contracts, assets, liabilities, prices, taxes, etc. are put in place in order to make the transition from the Euro to the new currency effectively (Bootle, R.; 2012; pp. 55-64).

All future contracts, assets, liabilities, prices, payments of taxes should be denominated in NNC, which would be the sole currency of legal tender. Immediate redenomination should have as a necessary element the redenomination into the new currency of all existing public debts (Bootle, R.; 2012; pp. 16-17).

A movement easy to foresee in financial markets – if the private financial agents expected it - would be the increase in secondary markets of the risk premia of the concerned State's liabilities (including government bonds) in the cases where the country had an overvalued national currency and the government were planning to default on part of its debt or a redenomination of this debt and its subsequent devaluation.

Governments with fiscal deficits over 3% and/or high volumes of debt, would find it necessary to redenominate their debts in order to avoid the counteracting effect of devaluation of the NNC relative to the Euro on the volume of debt and the cost of debt servicing. Not redenominating these debts would make them subject to exchange rate risk and grow in their relative weight in accordance with the magnitude of the devaluation (Bootle, R.; 2012; pp. 16-17). New public debt denominated in the NNC would allow the country not to have exchange rate risk on its public debt, which has proved to be one of the most problematic macroeconomic headaches for governments around the world (Da Costa, G.C.; 1991; pp. 443).

The contrary movement (decreases in risk premia) would arguably take place in case the concerned national currency had an undervalued exchange rate and the government were planning an appreciation, although this effect would be very small and of little significance for the country at hand, since these countries already present the lowest interest rates on sovereign bonds.

National specificities in this regard are very important to be pondered. For example, in the case of Greece, the government was forced to reject the possibility of redenomination in 2012 of a substantial part of the public debt which passed into being governed by British law (Bootle, R.; 2012; pp. 56). Therefore, in the case of Greece the focus should be put into restructuring and default on public debt.

Bootle in his Practical Guide elaborates a table presenting Greece as an example and what is the situation of different kinds of debtors and their obligations whether they have obligations under domestic law or under international law (Bootle, R.; 2012; pp. 56).

Following his example, I replicate the table adding to it the modifications that I think would be suitable for a strategy with depreciation in mind.

Table 1. Redenominations in the strategy of depreciation

Debtor	Domestic Law	International Law
Sovereign	As most public debts are governed by domestic law, there is minimal risk of successful litigation to oppose the redenominations. In particularly hard-hit countries, the government may need to restructure or reduce the debt stock in addition to redenomination. Otherwise, redenomination should be enough.	For those public debts which are governed by another Member State's law. The national government does not have the ability to unilaterally re denominate them. Unilateral redenominations would probably ruled out by foreign courts. If necessary, the government could negotiate to restructure the debt where it would be needed or default on part of these debts.
Non-financial corporations	*"Resolution of these debts should be determined by the parties involved. The legal position may need to be tested in court and may vary depending on the circumstances of individual firms whether or not the creditor is based in"* the withdrawing State. "*But the presumption is that they would be redenominated into"* the NNC.	*"The courts would probably rule that debt contracted by domestic companies governed by another State's law under international law and owed to creditors outside the concerned State should continue to be denominated in Euro. However, many companies may be unable to service these debts after exit and devaluation. In such cases creditors and debtors could be left to reach an agreement on how to restructure these debts through a mix of redenomination, restructuring and bankruptcy. But there may be a case for government involvement to coordinate and push for redenomination. The best solution may vary between countries."*
Household debt	*"Most of the household consumer loans and mortgages would be contracted under domestic law and would be redenominated."*	*"Loans from core economies to households in Greece would be treated in the same way as corporate borrowing described above. Ideally, they should be redenominated."*
Banking Sector	The banking sector does not redenominate deposits. The government redenominates all other liabilities of all banks and subsidiaries operating in the country. It will have to redenominate its assets governed by domestic consumer loans, mortgages and public debt and gradually those of non-financial corporations.	Subsidiaries of national banks operating "*in other countries would not have their balance sheets redenominated."*

The main modification I make with regard to Bootle's approach to redenomination is that the banking sector (more precisely, depository institutions) would not have its deposits redenominated.

The rationale for doing this is that not redenominating deposits, one of the most liquid assets of household and corporations would provide ample flexibility for them to comply with their obligations governed by other Member State's law and they could use them to prioritise their most important imports once the currency starts to depreciate. Moreover, the guarantee of non-redenomination of deposits (even providing indirect incentives to deposit more funds) would substantially reduce the risk of runs on depository institutions and facilitate a smoother transition. More about this will be explained in the Transitory pure credit system.

The obvious con is that the banking sector in face of mainly depreciating assets but deposits denominated in Euros would face insolvency issues. Although -as it will be explained later- depreciation would be orchestrated gradually to reduce the year-on-year effect, there are 3 non-exclusive main options that I propose that could be used in conjunction if it is deemed necessary to avoid systemic issues:

1) Nationalization: The government becomes a shareholder and increases the capital of systemic entities to counter the effects of redenomination.

2) Bail-in: Bank creditors are forced to bear some of the burden. Part of their credits are turned into capital of the entities and/or face write-offs.

3) Monetary refinancing. The NCB creates a special line of assistance credit to deal with issues arising from redenomination.

5.3. INTRODUCTION OF THE NEW CURRENCY OF LEGAL TENDER

So, how should the new currency be introduced? Which measures ought to be implemented for this introduction?

First and foremost -if possible- the production of the monetary base should be undertaken at T(-1) and could be reduced to some weeks according to Bootle's estimates (Bootle R., 2012; pp. 142-144) due to the urgency of the situation and subcontracting the production of initial notes to other printings besides the official national ones in order to be already available at T(0). Notwithstanding, in the case of a party coming into power this would be much more difficult to do and would prompt the necessity to introduce the NNC as a currency of legal tender without the monetary base ready.

At T(0) the statute or internal regulation of the National Central Bank should be modified by decree -preferably- or by express parliamentary procedure. Articles referring to the membership of the NCB to the European System of Central Bank and to the Eurosystem ought to be reformulated eliminating the membership to the Eurosystem but keeping that to the ESCB (given that the concerned State would still be member of the EU).

The NNC should be established by decree -preferably- or by express parliamentary procedure as the sole currency of legal tender at T(0). All future contracts within the country should be denominated in NNC and all taxes paid in NNC at a parity of 1:1, which coincides with Bootle's assessment (Bootle R., 2012; pp. 41, 141). Factually, in any case, there would be in place a bi-monetary payments system (in its broadest sense), since a lot of underground economy operations and operations with agents arising from contracts governed by the State's Private International Law and governed by another Member State's law would still have to be settled in Euros.

The reason for making the NNC the sole legal tender is to force the conversion as rapid as possible from a Euro-based payments system to a NNC-based system. I argue that this strategy would generate an NNC-based payments system:

- With adequate coercive stimulus.

- Without the need of any intermediate alternative.

- Providing at the same time discretion to private economic agents to adjust their balances, their monetary flows and their contracts in their most convenient terms possible.

- With a substantially minimized risk of runs on depository institutions. Given that existing deposits would not be redenominated.

- With a reduction of the extent to which controls on deposits and capital controls would be necessary to ensure the transition.

- With relatively easiness to adapt on the part of the financial sector. Even more so with the creation by the Central Bank of a credit line to deal with the issues of redenomination besides nationalization or bail-in approaches.

5.4. TRANSITORY PURE CREDIT SYSTEM

In the cases where secret preparations have not been able to take place beforehand, an inescapable issue about introducing a new currency of legal tender in such short notice is that there is no prepared monetary base for the conventional functioning of a fiat currency monetary system.

Using Perry G. Mehrling's framework of the essentials of monetary economics (Mehrling, P., 2016; pp. 7-12) the “Hierarchy of Money” within a country is dominated at the top by the currency of legal tender's cash (in the case of fiat systems).

The movement to be achieved in the concerning case is the rapid substitution of the internal pyramid -being an established conventional pyramid- for a pyramid without a monetary base.

Given that cash is being temporary eliminated as a means of final settlement there is the need to foster alternatives to avoid unnecessary restrictions of payments within the economy due to the Scarcity of Ultimate Money of the Currency Principle (Mehrling, P., 2016; pp. 11-12). This in turn means that until a new base is introduced, the top layer of a traditional Hierarchy of Money within a country is flattened.

All domestic transactions would have to be settled electronically or through other more traditional means of settlement such as checks, etc. during the transition period as means of final settlement.

Moreover, in order to avoid a potential credit crunch -in the absence of M0 as the means of final settlement- the State should facilitate the settlement of payments through different measures, like encouraging and facilitating debit and credit card use, the use of checks, etc. and adapting as fast as possible all the software related with these kinds of payment operations (Bootle R., 2012; pp. 42-43).

Through one way or another, all economic agents would have to open new bank accounts denominated in NNC and transfer funds to them in order to carry out the necessary transactions and settlements. The State in all cases should facilitate this or directly intervene to make this effective as soon as possible. Forcing financial entities to open new accounts which should have to be denominated in NNC next to those denominated in Euros for the same customers would possibly be the most straightforward way.

Through this approach economic agents would have to adapt as fast as possible, operate with the NNC without unnecessary delays and they would be able to reserve their disposable assets in Euros for their most important contractual obligations and needs with foreign agents, adding substantial flexibility of adjustment to the transition process.

Furthermore, I argue that existent deposits should not be redenominated and inflows in Euros to these deposits should be allowed. Also, it should not be made possible to reconvert NNC of the deposits into Euros. This should have an attraction effect on economic agents wanting to reduce the effect on their net wealth in the cases where the government aimed at a strategy with gradual depreciation in mind.

Given that all other major assets (such as properties, durable goods such as vehicles, etc.) of the private sector would have to be sooner or later redenominated in order to pay the correspondent taxes and there would be temporary controls with the exterior, economic agents would be inclined to transfer resources to deposits in Euros. This indirect incentive should contribute to avoid bank runs and limit financial turmoil and ensure a transition as smooth as possible through this kind of guided pure credit system.

In the case where a strategy of appreciation of the currency there would not be the need of these kind of tactics, since depositors would more than welcome a direct redenomination of their accounts into a currency which would gain and therefore

redenomination could be applied almost in full to the domestic banking sector as Bootle argues (Bootle R., 2012; pp. 61).

5.5 TEMPORARY CAPITAL CONTROLS

The departure of not only the Euro, but also from any other pegged or a fix exchange rate system is a process which can be subject to speculative attacks against the national currency which can very substantially undermine the economic policies of the State. Furthermore, the possibility of runs in depository institutions and shadow banking institutions – which can never be ruled out- due to the expectations of change of the exchange rate risks is potentially a very serious threat which could undermine the efforts towards effective normalisation.

This is why, in all circumstances, whether the country was planning to undertake a gradual depreciation or appreciation of the nominal exchange rate, the concerned State should establish temporary capital controls as an emergence measure needed to preserve public policy within the State.

The primary and secondary law of the EU covers such cases of emergency capital controls. More specifically, Article 65(1) of the Consolidated version of the TFEU would be the legal basis upon these temporary capital controls would be lawful and which have already been applied in the cases of for instance Cyprus between 2013 and 2015 and Greece in 2015. The grounds upon which temporary restrictions on the movement of capitals can be set up are summarised by the European Commission (European Commission, 2016).

The extent to which these temporary capital controls should be applied would have to be determined based on the expectations by the government of what would be the effects on the economic agents and they could be extended in the cases where it factually it is being not enough to counter pernicious movements.

The movements of private economic agents and the determination of the extent of the controls needed revolve fundamentally around how the redenominations according to the NCC will be made during the introduction and the transition period.

At the end of the transition phase the temporal capital controls would have to be lifted. With the redenomination strategy put forward in this paper, capital controls would still have to be applied in all cases but -as previously stated- they have been designed so that capital controls may not be as stringent as initially considered.

The cases of the strategies of Indonesia, Thailand and South Korea compared to that of Malaysia and Argentina are -although presenting different approaches themselves- a very strong case in favour of capital controls during the abandonment of fixed exchange rates and/or more generic currency crises (Lim, M-H. and Goh, Soo-Khoon., pp. 5-7, 17-18).

Table 2. Major recent Devaluations and Ensuing GDP Loss

Country	Date	Months Until Trough with Devaluation	Currency per Dollar Before	Currency per Dollar Through	Size of Devaluation	Quarters until Through	Loss of GDP	Change in GDP 3 Years After Devaluation
Argentina	Jan '01	5	1	3,6	-72,2%	2	-4,9%	17,2%
Finland	Sep '92	11	4,4	5,8	-23,9%	4	-2,4%	6,8%
Indonesia	Jul '97	12	2446,6	13962,5	-82,5%	5	-13,4%	-7,9%
Malaysia	Sep '97	4	2,7	4,4	-37,8%	5	-8,5%	6,7%
South Korea	Dec '97	1	1025,6	1701,5	-39,7%	2	-9,1	14,0%
Sweden	Nov '92	6	6,2	8,1	-22,8%	2	-0,4%	8,9%
Thailand	Jul '97	9	25,8	53,8	-52,1%	5	-14,2%	-4,7%
Latvia	2007 Q4	*24*	*0,49*	0,48	2,1%	8	-24,1%	-21,3%

Source: Weisbrot, M. and Ray, R., *Latvia's Internal Devaluation: A Success Story?*, CEPR, (Washington, D.C., 2011). pp. 7.

The first three were carried out through freely floating nominal exchange rates, without the establishment of capital controls and having to accord loan programmes with the IMF conditioned to sets of orthodox macroeconomic policies (Rodrik, D. and Kaplan, E., 2001).

According to economist Dani Rodrik (Rodrik, D. and Kaplan, E., 2001) the experience of Malaysia -which showed a better adaptability to the adjustment than the other three cases without having to accord IMF programmes- along with other countries such as Chile has changed orthodox perception of capital controls, alas very slowly.

I would argue that a strategy aimed at not having to accord aid programmes from international organizations like the IMF is much preferred in view that it does not drastically constrain the sets of economic policies to undertake and that institutions like the IMF hold preferred creditor status, which further difficults unilateral actions in cases of redenomination and default (Schadler, S., 2014).

5.6. THE EXCHANGE RATE POLICY: ORDERLY DEVALUATION OR DEPRECIATION

Once determined whether the adequate path for the NNC should be to depreciate or appreciate what must be determined is how to manage the convertibility of the currency and the exchange rate policy during the transition period.

In the transition phase, the NNC should not be made freely convertible against other currencies until the monetary base of the NNC is ready, the conversion ought to pass through administrative process in this phase. The government will have discretion as to when to make the NNC convertible and therefore should decide the best moment.

Floating and completely flexible exchange rates against the Euro would not be a good option since in the case of very sudden movements of the nominal exchange rates these could spark financial panics which could entail unnecessary defaults by private economic agents and capital outflows in the absence of adequate capital controls.

I argue that the depreciation or appreciation could be much better managed through the combination of temporary capital controls and a pegged exchange rate system against the Euro and/or the Dollar (the most relevant currencies for the concerned country's Real Exchange Rate) departing from a 1:1 parity.

I think these pegged exchange rates -starting at a reference parity of 1:1- should be let to move within bands of fluctuation of, for example, around +/- 6%, akin to the cases of the currencies in the former EMS which were allowed higher fluctuation bands against the Deutsch Mark (Ledesma et altri, 2008; pp. 8) which were the Pound, Lira, Peseta and Escudo). This peg should be coupled with objectives of nominal exchange rate depreciation or appreciation, adjusting downwards or upwards the reference value until the external equilibrium is approximately met. This point would mark a very important milestone in the transition period and would be the confirmation of a successful process. During this process, given that departing from a 1:1 parity the nominal exchange rates should move through this adjustable pegged system, the National Central Bank would have to defend the parity if need be. That is the reason why -coupled with temporary capital controls- a positive current account for the departing country -although not essential- would make the defence of the parity easier. The central bank would be able to have at its disposal a continuous stream of foreign currencies with which to defend the parity. This would make possible not to rely solely on foreign currency reserves and ad hoc purchases of the requested currencies by the NCB.

It is also important to acknowledge that in order to defend the parity if need be, the NCB would probably not find it possible to convince the ECB to symmetrically defend the parity, as the unilateral withdrawal from the Eurosystem would not be well welcomed and there would be issues such as the value of sovereign bonds on the balance sheet of other NCBs and also TARGET2 balances which would probably stir conflict.

So, once arrived at the approximate equilibrium point for the nominal exchange rate, the government could decide either to maintain a peg with the Euro and/or the Dollar or let it float flexibly according to the foreign exchange markets. But the discussion of what is better: pegged or floating exchange rates under normal circumstances? Goes a bit beyond the aim of this dissertation, since the normalisation period for the NNC would have been already achieved.

5.7. THE ROLE OF THE NCB AND ITS POLICY

Once monetary sovereignty is no longer shared and full autonomy is returned to the NCB what monetary policy and how the Central Bank ought to undertake it is of vital importance for reaching a normalisation period as fast as possible.

As the aim is to exit the Euro without leaving the European Union -which in any case could be done later on and much more calmly once the heat of the abandonment of the Euro has passed- the NCB would still form part of the ESCB. This implies that -in any case- in the setting of the new monetary policy the NCB must be independent from political discretion of the executive powers of the State and that it must not engage in primary monetary financing of the government.

However, within these political and primary monetary financing limits the NCB can engage in other kinds of monetary policies. Most notably, unconventional monetary policies or different maximum and minimum inflation targets.

As previously pointed out, I advocate that the Central Bank could and should create a credit facility to deal with redenomination efforts on the part of the banking sector in depreciation cases. There would be the pressing need for bank recapitalisation and refinancing which could be eased through an expansive monetary policy coherent with gradual depreciation.

Besides the banking sector, private agents would need to roll over part of their existing debts denominated in Euros governed by another Member State's law so as not to face excessive liquidity constrains. Furthermore, tenants of public debts would face a depreciation of their assets in the future, and so, would want to compensate with some refinancing flexibility.

In the case of a country seeking an appreciation the monetary policy would arguably be let to tighten in order to increase interest rates pressing the nominal exchange rate to rise.

5.7.1. The TARGET2 system

One important aspect to discuss is what is the new relationship of the NCB with the rest of the Central Banks of the Eurosystem and of the ESCB. More specifically, what actions should the government undertake regarding the NBC's relation with TARGET2 and SSP, the interbank real-time gross settlement system and technical platform used by the Eurosystem.

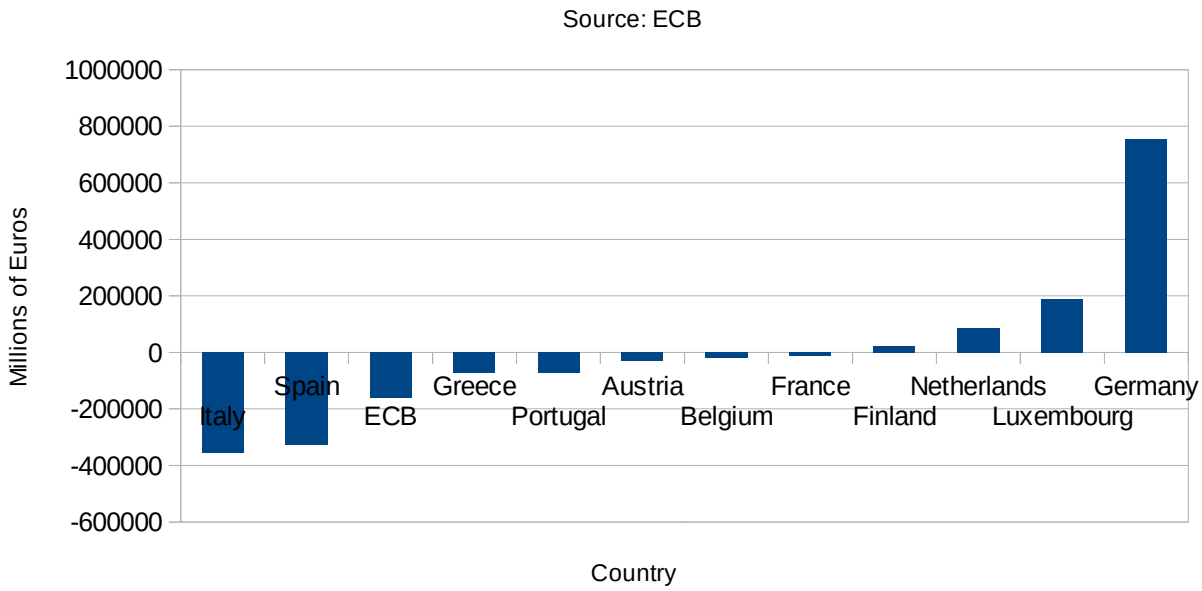
As stated in article 1 of the consolidated version of the ECB's decision concerning the terms and condition of TARGET2, the participation in the system is not precluded to Eurosystem NCBs and the ECB (ECB, 2007; pp. 71). In fact other NCBs of the ESCB are direct participants, like Denmark, Poland, Romania and Bulgaria (ECB, 2016).

So, a withdrawing Member State from the Euro and the Eurosystem would not necessary have to leave the TARGET2. As Karl Whelan underscores: "*The Intra-Eurosystem assets and liabilities generated by TARGET2 have no maturity associated with them: There is no date set by which these claims need to be settled. Rather the TARGET2 liabilities are honoured by making interest payments that are charged at the same rate the ECB charges to banks in its Main Refinancing Operation (MRO). These interest 'payments are collected by the ECB and redistributed proportionately to those central banks that have positive TARGET2 claims* […] *it should be emphasised that TARGET2 claims do not have any collateral associated with them. They are a claim on the ECB, which has a legal right to create Euros and so collateral is not considered necessary.*" (Whelan K., 2012; pp.10).

This is of extreme relevance because this scenario is legally preferable for countries like Italy or Spain which hold very large negative credit balances in TARGET2 as of December 2016 as it can be observed in the following graphic:

If a country in this situation decided to file for an insolvency procedure and/or declare a default of its TARGET2 PM account it is stated in article 30 that "*1. The ECB shall have a pledge over*

Figure 18. TARGET2 balances (December 2016)



the participant's existing and future credit balances on its PM accounts, thereby collateralising any current and future claims arising out of the legal relationship between the parties.

2. On the occurrence of:

(a) an event of default referred to in Article 28(1); or

(b) any other event of default or event referred to in Article 28(2) that has led to

the termination or suspension of the participant's participation in TARGET2- ECB"

Furthermore, as stated in article 38: "*The bilateral relationship between the ECB and participants in TARGET2-ECB shall be governed by the law of the Federal Republic of Germany».*

This means that in cases where a Member State had a positive credit balance or not significant in terms of the size of its NCBs balance sheet, withdrawing from TARGET2 would pose no headache. Alas, strikingly, creditor participants have no right recognised in the ECB's decision regarding collateralisation of their claims arising out of TARGET2.

A country with a negative credit balance could not redenominate this balance applying the principle of *Lex Monetae* (because the relations are governed by German Law) and if it were to default it is arguable that the CJEU would enforce the ECB's rights of pledge over the NCB in question, which could threaten the future monetary policy of the then autonomous NCB by -for instance- having to compensate the ECB with reserves of foreign currency.

5.7.2. Painless debt reduction for hard hit countries

Countries which have been affected the most by the crisis and the lack of flexibility have the option to take a remarkably effective and economically painless way to rapidly improve their macroeconomic situation if needed. It consists on defaulting on the sovereign bonds held by the ECB and other NCBs (the domestic NCB can also be included).

As Mario Draghi stated (Draghi, 2017) and observable in the previous graphic, the ECB and the NCBs of the core (such as Germany, Luxembourg and the Netherlands) have acquired through the APP and the PSPP a very large amount of assets and sovereign bonds in order to conduct unconventional monetary, which is reflected on their positive TARGET 2 balance.

Defaulting on these bonds would generate a very signifcant reduction of the gross debt stock of the hard hit defaulting country and an associated reduction of the costs of debt servicing, which would allow a significant shift of the public sector expenditure towards other sectors.

As Paul De Grauwe and Yuemei Ji argue (De Grauwe, P. and Ji, Y., 2013), Central Banks do not have liquidity or solvency constrains under a fiat currency system and can make up for any losses provided they do not go against the objective price stability.

The Central Banks of the core and the ECB would have no factual need to be recapitalised by their national governments in cases of large asset losses and could create a vehicle to allow their NCBs (and also applicable to the ECB) an easy recapitalisation given their monopoly on the creation of money. In turn, this action would not generate inflation risk given that it would not increase the monetary base.

This strategy along with such a reaction from the ECB and the core NCBs would make it possible to transfer a substantial amount of the problems of redenomination and asset depreciation to these Central Banks, which are the authorities that do not have liquidity or solvency constrains to operate. It would mean an extremely valuable tool for exiting the economic malaise without any taxpayer or -more generally- any private economic agent to bear the costs of sovereign bonds defaults.

6) EXPECTED MACROECONOMIC RESULTS

It is possible to estimate the macroeconomic results of the withdrawal from the Euro and the subsequent nominal depreciation or appreciation according to other historical episodes. The main reference for this section is a CESifo Institut paper of 2012 assessing the historical experience of currency crises in 70 countries after 1980 (Born, B. et altri, 2012).

The paper shows that even in such a wide spectrum of countries the velocity of adjustment due to nominal depreciation of the exchange rate is much faster than an internal devaluation process, taking just 2 years on average to recover the initial level of GDP (Born, B. et altri, 2012; pp. 9).

Another reference paper is a CEPR paper (Weisbrot, M. and Ray, R., 2011), which compared the case of Latvia -which was heralded as an internal devaluation example- with a contemporary set of countries which experimented sizeable nominal depreciations and clearly better performances.

Table 3. Major recent Devaluations and Ensuing GDP Loss

Country	Date	Months Until Trough with Devaluation	Currency per Dollar Before	Currency per Dollar Through	Size of Devaluation	Quarters until Through	Loss of GDP	Change in GDP 3 Years After Devaluation
Argentina	Jan '01	5	1	3,6	-72,2%	2	-4,9%	17,2%
Finland	Sep '92	11	4,4	5,8	-23,9%	4	-2,4%	6,8%
Indonesia	Jul '97	12	2446,6	13962,5	-82,5%	5	-13,4%	-7,9%
Malaysia	Sep '97	4	2,7	4,4	-37,8%	5	-8,5%	6,7%
South Korea	Dec '97	1	1025,6	1701,5	-39,7%	2	-9,1	14,0%
Sweden	Nov '92	6	6,2	8,1	-22,8%	2	-0,4%	8,9%
Thailand	Jul '97	9	25,8	53,8	-52,1%	5	-14,2%	-4,7%
Latvia	2007 Q4	*24*	*0,49*	0,48	2,1%	8	-24,1%	-21,3%

Source: Weisbrot, M. and Ray, R., *Latvia's Internal Devaluation: A Success Story?*, CEPR, (Washington, D.C., 2011). pp. 7.

Generally, very sharp nominal depreciations of national currencies are followed by temporary above average peaks of inflation due to increased costs of the imports (Bootle R., 2012; pp. 166-167). The sharpest the nominal fall and the ratios of imports to GDP the biggest is the pressure for inflation to increase, which can be reduced depending on the utilization capacity of the economy (Bootle R., 2012; pp. 52-53).

Given that the selected Euro Area countries -as seen in the New Macroeconomic Balance Diagram- needing a depreciation are at a better starting point with regards to labour costs and Real Exchange Rate than in 2008 (except in Finland and only very moderately in Italy) due to the processes of slow and severe internal devaluation the falls in their nominal exchanges would be able to be much more subdued than in other contemporary cases.

Moreover, in countries operating well below output capacity inflationary pressures due to increases in the cost of imports would be partially cushioned in a transition period given the higher overall ability to adjust the national supply to meet circumstantial peaks of higher demand.

Table 4. Current level of capacity utilization in manufacturing industry

Countries	2015Q1	2015Q2	2015Q3	2015Q4	2016Q1	2016Q2	2016Q3	2016Q4
Germany	83,6	84,7	84,7	84,4	84,3	84,8	85,2	85,8
Euro Area	80,3	81,4	81,6	81,4	81,3	81,5	82	82,4
Finland	77,7	79,7	79,9	79,3	78,6	78,6	74,2	80,7
Portugal	80,6	79,6	80,7	80,3	79,6	80,2	80,2	80,2
Spain	76,7	77,9	78	78	77,8	78,2	79	79,2
Italy	74	75,5	76	76,3	76,6	75,7	76,4	76,1
Greece	69,1	67,4	63	64,2	66,3	68,6	67,4	68,8

Source: Eurostat

Furthermore, the gradual depreciation strategy I advocate within some moderate fluctuation bands coupled with and expansive monetary policy and capital controls would buffer the initial negative shock that these economies experienced through their nominal depreciations and provide more stability to the adjustment process.

In summation -and according to past experiences (Born, B. et altri, 2012; pp. 9), (Weisbrot, M. and Ray, R., 2011, pp. 7)- the period of economic normalisation should be reached after 1 or 2 years of the introduction of the new currency. The length may mostly vary depending on the gradualness desired and on the ability of the government to resist potential speculative attacks on the value of the NNC once convertible.

7) SUMMARY OF THE STRATEGIES FOR DEPARTURE

Table 5. Summary of the strategy towards nominal depreciation

Time	Developments
T(-1): Decision to leave the Eurozone.	Once the decision is taken, all necessary arrangements for to the introduction of the NNC should be kept secret and to be undertaken as fast as possible so as the be ready at the moment of introduction. Nonetheless, there may be cases where it is not possible to have had these preparations beforehand. In such cases -and most importantly- the government will not be able to count with a readily available M0 nor other technical preparations.
T(0): Introduction	The internal statute of the national central bank is changed through decree or express legal proceeding. The NCB is no longer part of the Eurosystem. New sole currency of legal tender by decree or express legal proceedings. Independent rule-based central bank. Suspension of activity in the ECB's decisions. Temporary capital controls established. A 1:1 parity is established and enforced between the NNC and the Euro. All existing public debts are immediately redenominated into the new currency and those held by Central Banks are defaulted on. All new banking notations, contracts (including labour contracts, etc.), public debts, etc. must be denominated in the new currency. Existing sector assets, debts and contracts governed by domestic law are redenominated excluding bank deposits. Private economic agents are left discretion to use their assets in Euros to prioritize existing and future contracts with an international law dimension which would be more costly to redenominate and restructure successfully. Establishment of a temporary pure credit system of the new currency without M0 if it has not been possible to produce it beforehand. There is a flattening of the pyramid of the hierarchy of money and creation of the new M0 has to be reduced to some weeks. The NCB ought to have an adequate amount of reserves in Euros and hard currencies to ensure a smooth transition and reach macroeconomic normalisation without any balance of payments crisis.
T(1): Monetary Transition Period.	After the immediate actions of T(0), the government starts the Monetary Transition period. The M0 for the new national currency has to be ready and distributed. A 1-to-2 year period of macroeconomic adjustment starts. Gradual depreciation of the currency through a downwards-adjusting peg system. The banking sector and some private agents face difficulties due to depreciation but are eased off thanks to

Time	Developments
	the Central Bank establishing a special credit line to deal with redenomination issues. Nationalizations and/or Bail-in procedures are also potential options.
T(2) Normalisation	Closing of the output gaps and increasing productivity. New equilibrium of growth enjoying autonomous monetary sovereignty.

Table 6. Summary of the strategy towards nominal appreciation

Time	Developments
T(-1): Decision to leave the Eurozone.	The government can prepare the monetary base beforehand while enjoying a much more relaxed internal and external situation.
T(0): Introduction	When the moment is determined as ripe the internal statute of the National Central Bank is changed through decree or express legal proceeding, the NCB is no longer part of the Eurosystem. New sole currency of legal tender by decree or express legal proceedings. Independent rule-based central bank. Suspension of activity in the ECB's decisions. The internal statute of the national central bank is changed through decree or express legal proceeding. The NCB is no longer part of the Eurosystem. New sole currency of legal tender by decree or express legal proceedings. Independent rule-based central bank. Suspension of activity in the ECB's decisions. Temporary capital and financial controls established. A 1:1 parity is established and enforced between the NNC and the Euro. All existing public debts are immediately redenominated into the new currency. All new banking notations, contracts (including labour contracts, etc.) public debts, etc. must be denominated in the new currency. Existing private sector assets and debts governed by domestic law are redenominated, including bank deposits). In case where there has not been the possibility of prior preparations the establishment of a temporary pure credit system of the new currency without M0 is needed. Flattening of the pyramid of the hierarchy of money. Creation as fast as possible of new M0. The NCB ought to have an adequate amount of reserves in Euros to ensure a smooth transition and complete the following economic normalisation without any balance of payments crisis.

Time	Developments
T(1): Monetary Transition Period.	After the immediate actions of T(0), the government starts the Monetary Transition period. Starts a 1-to-2 year period of complete macroeconomic adjustment. Gradual appreciation of the currency. No real need at all of unconventional monetary policy, it could be pursued but it is not required. Owners (both domestic and external) of domestic assets and creditors of debts previously denominated in Euros benefit of the conversion to a new appreciating currency. Debtors of debts previously denominated in Euros and redenominated in a new appreciating currency absorb the most part of the redenomination costs.
T(2) Normalisation	The country's current account surplus is reduced to an overall more sustainable situation. Other countries' tradable sectors benefit substantially if the leaving country's economy is big enough, but debtors from other countries of redenominated contracts suffer from an appreciating NNC.

8) CONCLUSIONS

In this Master thesis my main contributions to point out are:

- A theoretical framework to assess what are the policies needed for a country to maintain its approximate equilibrium.

- The design of two main strategies to withdraw from the Euro gathering information from other economists which have thoroughly analysed the matter. I add and modify some aspects that I as an economist think would help making a withdrawal less disruptive.

Although bold and with unavoidable difficulties the unilateral exit of a country from the Eurozone and the Eurosystem is feasible and can be best managed following one of the two main strategies so as not to distort excessively the conduct of the economy. The withdrawal varies in difficulty depending on the initial macroeconomic and political circumstances of the Member States.

The State in question should establish the NNC as the sole legal tender and pursue an immediate redenomination of existing public debts and/or restructuring and/or defaults in the most constrained cases (like Greece). All existent assets, liabilities and contracts governed by domestic law should also be redenominated except bank deposits.

Admittedly, fiscal policy in the case of the countries seeking a lower exchange rate should be conservative during the whole transition period. In these Euro exit strategies I have exposed, all countries would still be part of the EU and would still form part of the EU's Economic Governance framework.

During the transition period, monetary policy should gradually deviate from that of the ECB once direct convertibility of the currency is allowed. The Central Bank should mainly concentrate on upholding an adjustable downward or upward peg to the Euro and/or the Dollar and operating a refinancing credit line in order to ease financial problems caused by redenomination.

There would be a spillover of the effects onto other European countries, and economic normalisation should be achieved between 1 and 2 years after the introduction of the NNC as new legal tender.
Politically and in international relations the withdrawal would suppose a shock with probably more lasting consequences about the conception of how European integration should be and what are the essential inalienable competences of the State.

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