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Adjustment in the US and European Monetary Unions: the Cases of Puerto Rico and Greece

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Abstract

From an Optimum Currency Area perspective this paper provides a comparative analyses between the (ongoing) Puerto Rican and Greek debt crisis and between the United States and European monetary unions. More specifically, the paper engages with two of OCA's criteria required to sustain monetary unions in the long run: the Insurance Principle and homogeneity of policies. The contribution aims to answer the following research question: how to share the cost of adjustment in a monetary union? It is argued that there are flaws in the institutional design of both the US and European monetary union, namely the lack of an OCA insurance principle, and that this has exacerbated the debt crisis of Puerto Rico, who is part of the US monetary union, and the debt crisis of Greece, who is part of the Eurozone. However, both Puerto Rico and Greece have also pursued policies that contributed to the root causes of their debt crisis, what confirms the homogeneity of policies criterion of OCA theory.

Key words: Optimum Currency Areas; Eurozone; US Dollar Zone; Greece; Puerto Rico

1. Introduction

On 9 July 2015 the finance minister of Germany Wolfgang Schauble stated that "I offered my friend Jack Lew [U.S. Secretary of the Treasury] that we could take Puerto Rico into the euro zone if the U.S. were willing to take Greece into the dollar union" (Cited in Bloomberg 2015). Back then both Puerto Rico and Greece defaulted on debt payments in July 2015. Nonetheless, the German finance minister seems to suggest that Puerto Rico's problems were less problematic than those of Greece. Yet, ten months later, on 9 May 2016, the same U.S. Secretary of the Treasury that Wolfgang Schauble was talking to (Jack Lew) said the following: "What Puerto Rico needs is the ability to restructure its debt" (Cited in New York Times 2016).

This paper compares both the Puerto Rican, part of the US monetary union, and Greek, part of the Eurozone, debt crisis. It does so by employing a selective approach to the theory of Optimum Currency Areas. More specifically, the paper engages with Robert Mundell's Insurance Principle criteria of his OCA theory and with one of OCA theory political criteria, namely homogeneity of policies (Mundell 1961; 1973). The reason for choosing this theoretical framework has no ambiguity. As Julius Horvath (2003) has noted, "this theory and its modifications form the intellectual foundation of any discussion on currency unions". The research question guiding the contribution is: how to share the cost of adjustment in a monetary union? And it is structured in three main parts. Firstly, a critical review of Optimum Currency Area theory will be conducted. This will be followed by a section on the US monetary union and Puerto Rico's debt crisis and by another section on the European Monetary Union and Greece's debt crisis.

2. The Theory of Optimum Currency Areas

The theory of Optimum Currency Area (OCA) analysis the costs and benefits of joining a single currency union and ‘is essentially an approach to thinking about exchange rate regimes’ that spells out the institutional framework required to ‘sustain’ (Dyson 2000: 162; De Grauwe 1993: 654) a common monetary union in the long-run . This institutional setting must be built upon both supply and demand-side elements. The former contributes to the sustainability of currency unions by pursuing policies in conformity with sound money, fiscal discipline, and structural reforms. The latter aims at creating an institutional structure that contains fiscal transfers, a lender of last resort, and a political union with central fiscal capacity. As a result, members of a monetary union will have at their jointly disposal the necessary tools to mitigate the impact that the loss of monetary independence might have when economic shocks occur. In other words, OCA theory sets out risk-sharing and sovereignty pooling mechanisms that will enhance the long-term sustainability of a monetary union.

Nonetheless, Recent academic work from influential political economists claim they are going beyond Optimum Currency Area theory (OCA) – namely, the ‘Embedded Currency Area theory’ (ECA) of Kathleen McNamara (2015) and the ‘theory of Optimum Financial Areas’ (OFA) of Erik Jones and Geoffrey Underhill (2014) . In common they share the same premises: (i) demand-side and political criteria are absent in OCA theory, (ii) OCA is fragmented between traditional and endogenous OCA, and (iii) OCA theory does not represent a single theoretical framework.

For instance, Kathleen McNamara’s ‘Embedded Currency Area theory’ (ECA) is built upon the study of previous successful monetary unions, such as the United States, and unsuccessful monetary unions, such as the Scandinavian Monetary Union and the Austro-Hungarian Krone. In addition, McNamara also notes that her ECA theory is also built upon Karl Polanyi’s historical sociology and on the shortcomings of Robert Mundell’s Optimum Currency Area theory. As such, McNamara claims that the criteria for ECA are very different than the ones in the literature of OCA theory. McNamara’s Embedded Currency Area has four key elements: “(1) a legitimated generator of market confidence and liquidity, (2) mechanisms for fiscal redistribution and economic adjustment, (3) regulation of financial risk and uncertainty, and (4) political solidarity” (McNamara 2015: 44-69). The first requires a central bank that goes beyond price stability and act as a true lender of last resort. The second requires a federal type fully-fledged fiscal and economic union with powers in taxation, fiscal redistribution, and social welfare. In addition, a centralized debt mutualisation mechanism is also essential. The third, requires a strong and centralized authority (part of a banking union) with capacity to detect and regulate the financial system in order to prevent systemic risk in the banking sector. Finally, and pivotal in ECA theory, the fourth element requires a political union. Indeed, McNamara concludes that a lender of last resort, a fiscal and economic union, and a banking cannot be achieved without a legitimate and political union. Overall, as McNamara argues, “these elements constitute a minimum, rather than an optimal, foundation for . . . a stable [and] sustainable monetary union” (p, 29).

Similarly, Jones and Underhill’s (2014) Theory of Optimum Financial Areas delineates the elements of the Financial Union. They argue that the Eurozone crisis stemmed from highly capital market liberalization without a common supranational institution with financial oversight powers. As a result, because EMU was built with no common collateral rules, with no common deposit insurance, and with no common risk-free assets, the crisis led to contagion and triggered the collapse of the European banking system. According to Jones and Underhill, although these are core elements of a banking union, a complete financial union would also require the mutualisation of debt and a permanent bailout mechanism, and a common resolution authority that could act as a true lender of last resort. Whereas in the latter Jones and Underhill argue that it should be the role of the European Central Bank, the permanent bailout mechanisms (the European Stability Mechanism already exerts this function) and debt mutualisation (Eurobonds) could lead to the creation of new institutions .

Yet, neither McNamara’s ‘Fiscal Redistribution’ and ‘Sovereign Debt Pooling’ criteria of her ‘Embedded Currency Area’ theory nor Jones and Underhill’s ‘common risk free asset that serves counterparties as collateral for liquidity access and clearing and as a safe haven in times of distress’, and ‘a central system for sovereign debt management’ criteria of their ‘Optimum Financial Area’ theory engage with Mundell’s ‘portfolio insurance’ , his ‘new OCA property’ – the Insurance Principle of theory of Optimum Currency Areas. Indeed, as far back as 1970, at the Madrid Conference on Optimum Currency Areas, Robert Mundell, the founding father of OCA theory, outlined his ‘Insurance Principle’ based on the ‘policy-coordination’ and ‘joint-management’ of a ‘reserve pool’ in order to create a ‘risk-sharing’ mechanism where countries from a single

currency area could 'cushion the impact of [asymmetric shocks], drawing on the resources of the other country until the cost of adjustment has been efficiently spread over the future' (Mundell 1973).

In fact, as Ambrosio (2006) noted, OCA theory has three sub-sets of political criteria. As he explains, "the three political criteria involve Fiscal Transfers, Homogenous Preferences and the conflict of Solidarity and Nationalism". Homogeneity of policies were in fact incorporated in OCA theory back in 1970. As Mongelli observed, 'Haberler (1970) stresses that a similarity of policy attitudes among partner countries is relevant in turning a group of countries into a successful currency area. Indeed, in one of the first surveys on OCA theory Ishiyama (1975) noted that "the persistence of significant differences in policy attitudes among nations" is an OCA criterion. And in one of the most recent surveys on OCA theory, Julius Horvath has also noted that OCA theorists have claimed that 'what matters is a government's commitment; to monetary union and that for instance Mintz (1970) also emphasizes the political willingness of the central authorities to pursue monetary unions as the most important factor for forming currency areas.

Nonetheless, McNamara's ECA does not "embed" these political criteria in her critique of OCA theory. Rather, she feels the need to bring in the political embeddedness of Karl Polanyi to claim the uniqueness of her Embedded Currency Area theory. Similarly, Nicolas Jabko (2015), who developed McNamara's Fiscal Union, argues that in order to secure the sustainability of the Eurozone fiscal redistribution mechanisms and sovereign debt pooling are absolutely necessary. Thus, he argues that the Eurozone crisis came about not because monetary policy was centralized at EU level (by the ECB) but, rather, because economic and fiscal policy were concentrated at the national level. In other words, because the homogeneity of policies (a criterion of OCA theory that was never acknowledge in Jabko's and McNamara's ECA) was absent, Jabko argues that it led to the crisis. But again, this OCA theory criterion is not acknowledge.

Further, Jabko (2015) suggests that member states should transfer their sovereignty to the supranational level. In other words, Jabko argues for a collective fiscal and economic governance at the EU level. Therefore, the core elements of his Fiscal Union are the centralization of fiscal policy with countercyclical fiscal redistribution capacity and with a common budget, and the mutualisation of debt instruments. According to Jabko, this (centralized) 'federal system' is necessary to both solving the 'dilemma of divided sovereignty' (p. 89), and to correct asymmetric shocks in the Eurozone. But here to the ECA neglects OCA theory. Indeed, Peter Kenen (1969), an OCA theorist, argued that monetary integration to be sustainable in the long-run should also include central taxation and a mechanism that involves fiscal transfers in its institutional design. In Kenen's own words, 'there should be a treasury, empowered to tax and spend' (Kenen 1969: 45-46); In the same line as Kenen, Grubel (1970: 318) indicates the need for a more centralized institutional arrangement and in addition points out to the importance of maintaining welfare in a currency union noting that an area will ultimately be considered as an OCA assessed if it 'improves the welfare of the population resident within these territories above the level enjoyed when each was a separate currency area'.

Indeed, despite advocating political (and demand-side criteria) Kenen, Grubel and Mundell are nevertheless defined as OCA supply-side theorists by McNamara's ECA. In other words, the demand-side OCA criteria of these authors are being neglected. In other words, the fusion between Polanyi's Embeddedness with Optimum Currency Area theory opens the way to a powerful theoretical framework because pivotal in her Embedded Currency Area theory (ECA) is the proposition that a successful monetary union requires 'one political authority'. But this is also a key criterion of OCA theory itself. As Mundell put it in his 1961 seminal paper, "the concept of an optimum currency area therefore has direct practical applicability only in areas where political organization is in a state of flux" (Mundell 1961). As such, although McNamara's 'Embedded Currency Area theory (ECA)', Jones and Underhill's 'Theory of Optimum Financial Areas (OFA)', provide strong, persuasive and valuable arguments of the causes of the Eurozone crisis as well as on the mechanisms that the Eurozone needs to secure its sustainability in the long-run they are, nonetheless, built upon simplistic accounts of Optimum Currency Areas theory. To put it bluntly, one can claim that rather than going beyond OCA these authors are contributing for the refinement of OCA criteria.

To be clear, OCA may not fully explain the mechanics of political process, but this does not render OCA obsolete. As Snaith (2013) noted "if OCA is indeed dead, it is perhaps worth considering why the predictions of its theorists and its governance implications are still causing problems in EMU". Indeed, this is why Paul Krugman states that by omitting Kenen's OCA criterion, fiscal federalism, 'it turned out that optimum currency area theory was essentially right (...) and now that theory is taking its revenge'. This is why De Grauwe, writes that 'OCA theory remains the essential framework to understand the design failures of the Eurozone' (De

Grauwe 2013: viii). Indeed, if OCA does not have any explanatory power why isn't it "dead" as several critics have proclaimed? Why is it that even, for instance, critical political economists such Magnus Ryner (2012: 658-9, 672) places OCA theory as one of the "promising and notable exceptions" (p. 672) for shaking up scholarly work on regional integration? As it will be demonstrated in the following chapters, the case study of Puerto Rico within the framework of the US monetary union and the case study of Greece within the European monetary union will shed light on the relevance of OCA theory for analysing the debt crisis that both Puerto and Greece are facing within the currency union they are part of.

3. The Puerto Rican Debt Crisis and the US Monetary Union

On the 28 June 2015 Puerto Rico's Governor Garcia Padilla declared the island's debt to unpayable (New York Times 2015). What has led to this situation? Why Puerto Rico, a territory of the United States and part of the US monetary union, reached this level in its public finances? It is therefore worthy exploring the root causes of the ongoing fiscal and economic crisis in Puerto Rico as well as the US crisis response and institutional framework of the US monetary union.

3.1 The repeal of Section 936

The crisis in Puerto Rico are directly linked to the 1996 Congress decision to end many of the benefits that Puerto Rico has enjoyed in the United States tax code since 1917 in order to facilitate economic growth and the industrialization of the island (Tax Foundation 2015). Among these tax benefits lies corporate tax incentives that exempted corporations from having to pay taxes on income and profits originating in the island. Indeed, Puerto Rico's corporate tax incentives, enacted under Section 936 of the 1976 US tax code, meant that it was particularly attractive to set up subsidiaries on the island and as the Economist (2016) notes, this tax exemption was particularly attractive to Pharmaceutical, textile and IT companies who have 'flocked to the island to spark a manufacturing boom that lasted for around two decades'.

As such Congress decision under the Clinton administration to abolish these tax incentives (in order to balance the federal budget) led to a contraction in investment in the island from 1996 and 2006 and coincided with the beginning of Puerto Rico's economic decline. This is the case because the abolishment of these tax incentives, gradually implemented from 1996 and 2006, drove out corporations from the island and with this foreign direct investment declined, and as Joffe and Martinez (2016) argue 'Congress's repeal of Section 936 was one of a number of federal legislative actions that had the unintended consequence of exacerbating Puerto Rico's current debt crisis'. By 2006 Puerto Rico had lost 80,000 jobs and was in economic recession (Tax Foundation 2015).

Faced with an economic slump, with raising number of unemployment rate, successive Puerto Rican governments began to pile up ever increasing amounts of debt, which amounts to \$72 billion in May 2016, in order to balance its budget. Interestingly, unlike to what happen with the bonds issued by the US States and cities with powers to issue debt, Puerto Rico's bonds are exempt from local, state and federal income taxes, what makes Puerto Rican bonds particularly attractive to US mainland investors. To be sure, interest on bonds issued by the US states and cities in the municipal bond market are (like in the case of Puerto Rico's bonds) exempt from federal income tax. Furthermore, as Joffe and Martinez (2016) note, bonds issued within the same state are also exempt from both local state income tax. As such, 'Puerto Rico bonds are unique in that they are exempt from all state and local income taxes nationwide'. Put differently, whereas for example a US investor of Illinois would have to pay income tax on bonds that were issued by the California municipal bond market (or any other state apart from Illinois), the same US investor would have to pay no income tax on bonds issued by Puerto Rico's municipal bond market. This means that there is a triple tax exempt status on Puerto Rico's bonds and, as the Economist noted, 'Investors lapped them up'. In other words, because 'that "triple-tax-free" status made the territory's bonds incredibly popular to investors, from 2000 to 2012, the government's public debt nearly tripled from \$24 billion to \$70 billion.

3.2 The Chapter 9 of the US bankruptcy code

Another important element to consider is that the economic decline of the Puerto Rican economy coincided with the sub-prime crisis of 2007. How did the US react to the sub-prime and financial crisis of 2007 and more specifically after the collapse of the Lehman Brothers in 2008? What policies were pursued to overcome the crisis and was there an in-built mechanism in the US monetary union to deal with the most severe crisis since

the 1920s? Scholarly literature has dedicated much time analysing these questions and regarding the guiding principle pursued by the US the answer is quite short and straightforward – the US decided to bail out its banking system. As for whether the instruments were available to deal with the crisis, Arturo Estrella, a former member of the federal Reserve Bank of New York, observes that in fact “only a handful of the policy tools that were employed by [the Federal Reserve] in the financial upheavals of 2008 were previously available” (Estrella 2014) . Further, as a study from the US Congress recently concluded “the Fed justified its special assistance to too big to fail firms during the crisis on the grounds that these firms could not be wound down without causing financial instability under existing law because of perceived shortcomings of the bankruptcy process” (Labonte 2016). These observations lead to an important question regarding Puerto Rico. Does the US monetary union have an anti-crisis mechanism to deal with the debt problems of Puerto Rico? This even more pressing now as Puerto Rico defaulted on most of a \$422 million debt payment on 2 May 2016 (Walsh 2016).

This question is pertinent because unlike US municipalities, Puerto Rico does not have access to bankruptcy law, the so-called Chapter 9 of the US bankruptcy code. That is, although the US states themselves are also not allowed to file for bankruptcy, their cities (municipalities) can (Krueger et al 2015). Therefore, unlike US municipalities, one can observe that the US does not have a legal framework that could allow Puerto Rico to restructure its debts, just as Detroit did in 2013. In fact, as the U.S. Securities and Exchange Commission (2012) documented in their report on the US Municipal Securities Market, “as of December 31, 2011, there were over one million different municipal bonds outstanding, in the total aggregate principal amount of more than \$3.7 trillion” . Further, in 2007 alone, when the sub-prime crisis emerged, “a total of \$226 million in municipal bonds defaulted [and] municipal bond default rates spiked in 2008 as 162 issuers defaulted on \$8.2 billion in municipal bonds” (U.S. Securities and Exchange Commission (2012).

As such, from here it follows that Puerto Rico’s debt problems are not unique in the US. The difference, however, is that unlike US municipalities Puerto Rico cannot file for bankruptcy. A ‘prohibition [that] has had the effect of increasing the cost of bankruptcy for Puerto Rico’, as Daniel Gros (2015) has argued. A further observation can be taken from the institutional framework of the US bankruptcy code – that comparisons between the amount of debt of Puerto Rico and other US states are inappropriate because while all Puerto Rico’s debt issuers falls all under the public debt of the Commonwealth of Puerto Rico, the US states do not include the debt issued by their cities. In other words, while Puerto Rico’s public debt ‘includes all debt issued for underlying municipalities and schools, Illinois’ total debt does not’. To put it even more straightforwardly, while the US monetary union provides a legal framework for their cities to restructure their debts, Puerto Rico’s cities (also members of the same US monetary union and whose citizens are also American citizens) cannot – that’s a key reason why Puerto Rico debt crisis is still unfolding.

Indeed, with credit rating agencies and investors demanding an ever increasing interest rate for Puerto Rico bonds, the commonwealth had no alternative than to implement emergency cash management measures since 2015. As Marxuach (2016), the Policy Director of the influential Puerto Rican think tank as noted, emergency cash management measures include “postponing the payment of tax refunds, suspending the effectiveness of collective bargaining agreements, withholding the disbursement of appropriations for government entities such as the University of Puerto Rico, and delaying payment to various suppliers” (Marxuach 2016).

3.3 Bill H.R. 5278 - PROMESA

Puerto Rico’s non-state status (with no representation or say in the decision-making process of the US monetary union) within the US means its capacity to solve its debt problems is further constrained. As such, in order to deal with the Puerto Rican debt crisis the US House of Representatives introduced a new legislation (H.R. 5278 also known as PROMESA) on 18 May 2016 . Importantly, the bill does not grant Puerto Rico access to Chapter 9 of the US bankruptcy code, but it will allow Puerto Rico to restructure its debts. Although the precise way debt restructuring will happen is still unknown what is certain is that as Pedro Pierluisi, Resident Commissioner of Puerto Rico in the US House of Representatives, has noted, “it is inevitable that any federal legislation that provides Puerto Rico with debt restructuring authority will also establish a temporary and independent oversight board to assist the Puerto Rico government so that it can better manage its public finances, balance its budget, become more efficient and transparent, and regain access to the credit markets” (Pierluisi 2016).

Although Pedro Pierluisi sides himself with the bill, of a different opinion is US Senator and then Democratic presidential and candidate Bernard Sanders, who has become one of the most active voices in arguing that Puerto Rico should be given not access to Chapter 9 and not to an oversight board. As he put it last May,

“among other efforts, what Congress should do is to act immediately to give Puerto Rico the same authority granted to every municipality in this country to restructure its debt under the supervision of a bankruptcy court “rather than to “require the governor of Puerto Rico to submit a fiscal plan to an unelected and undemocratic oversight board” (Sanders 2016). Where both agree however is on the need to provide Puerto Rico with US statehood.

As of September 2016, this legislation has already been approved by Congress and signed by the president of the United States. But is still in the process of implementation. As such, the bill was not in place on 1 July 2016 when Puerto Rico faced a debt payment of 2 billion dollars (four times higher than the amount of the 2 May 2016 default). Consequently it defaulted again (Bloomberg 2016)

In short, what the case of Puerto Rico clearly illustrates is that there was a flaw in the way the US monetary union was constructed - the US failed short in creating a common risk pool that would allow Puerto Rico to adjust in times of crisis. In other words, Mundell’s Insurance principle was absent. As it will be discussed next, this is also symptomatic in the case of the European monetary union also suffers from the same institutional problem.

4. The Greek Debt Crisis and the European Monetary Union

The European sovereign debt crisis has triggered wide debate amongst scholars and diagnosing its origins is a divisive issue not only in academia but also in the arena of political debate. Whereas some take the crisis to be originated in peripheral/southern profligacy due to the low interest rates that resulted from joining the Euro (Sinn 2014a), others invoke that in case profligacy is the correct diagnosis this should also be extended to the core/north countries (Lapavitsas et al, 2012). Yet another major debate is between those who claim that at the origins of the crisis is current account imbalances between the periphery and the countries in the core (Whelan 2011; 2012), where the peripheral states are characterized for systematically developing trade deficits (Sinn, H-W. and Wollmershauser), whereas the countries in the core for constantly running trade surpluses (Grauwe and Ji 2012).

Nonetheless, the first thing worth noting is that the first decade of the Eurozone was regarded as a success (European Commission, 2008, p. iii). The free movement of capital, goods and services fueled by market liberalization created a strong and dynamic Eurozone economy. In the South, record low interest rates boosted consumption and investment, productivity growth rates significantly increased (Lapavitsas et al, 2012). In the North, the opportunity created by the opening up of the peripheral market allowed Northern Europe companies to greatly benefit from economies of scale boosting their competitiveness (Mackinsky report 2012, p.). Overall, as empirical evidence from Mackinsky Report (2012) demonstrates, trade among Eurozone members increased significantly due to the reduced transactional costs involved from the removal of nominal exchange rates.

However, when Greece’s hidden debts become known in late 2009 financial markets begun to demand higher interest rates for Greek sovereign bonds, the flaws and shortcomings in the architecture of EMU become apparent. EMU was designed without an anti-crisis mechanism structure. The ECB statute doesn’t allow it to be a lender of last resort, for it forbids the ECB to buy government bonds in the primary markets. Further, EMU’s no-bailout clause left Greek sovereign bonds opened to speculation and discretion of the financial markets. Thus it’s clear that the lack of an anti-crisis mechanism ready to be activated in the event of an international financial crisis together with the Eurozone’s failure to realize that negative spillovers could be spread to the entire Eurozone, placed EMU with an existential problem and at the brink of collapse (Sergio 2013a)

4.1 TARGET 2

Different interpretations on the Eurozone’s TARGET 2 system (and in particular Germany’s claims on it) further exacerbated the tensions. Indeed, the German interpretation is well represented by Sinn and Wollmershauser (2011) and Mayer (2012) that argue that TARGET2 claims represent a periphery’s ‘secret bailout’ and represent higher risks to Germany’s taxpayers. The reason for this is that in case of exit or default by a debtor country, Germany’s taxpayers would incur the totality of these losses. However, as Wellan (2012) and De Grauwe and Ji (2012) point out, in the same way ECB’s annual profits are shared accordingly to ECB’s national banks capital key, losses in the ECB apply the same rule. Put differently, Germany’s losses would be calculated accordingly to its ECB capital key (27 percent) and would not represent 100 percent losses as Sinn and Mayer argue.

Article 33 of the protocol on the statute of the European System of Central Banks (ESCB) is clear regarding this matter: 'In the event of a loss incurred by the ECB, the shortfall may be offset against the general reserve fund of the ECB and, if necessary, against the monetary income [capital key] of the relevant financial year in proportion and up to the amounts allocated to the national central banks'. (Sergio 2013b)

Although not near the extent that Germany's academics and public opinion interpret the risks associated with bailouts and TARGET2 payments, the current account imbalances between the periphery and Germany since EMU do reflect an unsustainable growth model - both in Greece (and the periphery) and in Germany. But at the same time, as De Grauwe and Ji (2012) and Lapavitsas et al (2012) argued, Germany's growth model was also in an unsustainable path, for its exports to the periphery relied on great sums of foreign direct investment to those countries. For these reasons, it can be concluded that both sides are responsible for the imbalances occurred in their balance-of-payments. Therefore, the adjustment process, need to come from both sides (De Grauwe and Ji, 2012; Lapavitsas et al, 2012) and not as Shaffer (2012) argues that these imbalances can only be corrected by decreasing South's purchasing power, while increasing Germany's wages. Due to the North's reluctance in accepting responsibility for both the failure of these "beggar-thy-neighbor" policies and their shared responsibility in the increasing of EMU's budgetary expenditures (that resulted in the increased of all Eurozone's deficits and public debts), the tensions between Northern and Southern members of EMU developed in a dangerous path (Spiegel Online, 2013). For these reasons, reforming EMU's structural framework has become essential to achieve its success and longevity.

4.2 Institutional changes in EMU as a result of the Eurozone crisis

The main changes that occurred in the Eurozone as a result of the Eurozone crisis were as follows: (1) the establishment of the European Financial Stability Facility (EFSF) and its successor the European Stability Mechanism (ESM), (2) the Outright Monetary Transactions (OMT), (3) the Macroeconomic Imbalances Procedure (MIB), and (4) the Treaty on Stability, Coordination and Governance (TSGC)

Firstly, the EFSF was created in 2010 and was one of the first actions taken to confront the Eurozone crisis at a moment where pressure amounted on the sovereign bonds of the peripheral countries of EMU. Importantly, the EFSF was also created in order 'to address contagion' (EFSF 2011a: 6) As such, the EFSF had become the first bold measure taken by the Euro Area leaders to tackle the crisis. Its aim was to curb the imminent collapse of the Eurozone by establishing, an anti-crisis mechanism with the necessary funds to help the countries that were facing difficulties in financing themselves in the sovereign bonds market (Kunstein and Wessels 2013: 5). One of its functions was, accordingly to its article 1(b) of title 2, to directly intervene in the purchase of sovereign debt bonds in both the primary and secondary markets. Another function, as stated in its article 1(c) of title 2 was to provide financial recapitalization of a member state by mechanisms such as precautionary programs or loans (EFSF 2011a). Importantly, the creation of the EFSF was to have the participation of the International Monetary Fund and it led to the creation of the European Stability Mechanism (ESM) which based on all the principles of the EFSF was constructed to be a permanent anti-crisis mechanism and which have a capacity to allocate EUR 500 000 million (ESM 2012: 5).

Secondly, the OMT program are closely linked with Mario Draghi's announcement in July 2012 that he would do 'whatever it takes' to stabilize the Euro Area. In September 2012 the OMT program was announced. Its main aim is to commit the European Central Bank to buy unlimited sovereign debt bonds in the secondary markets in times of crisis (Draghi 2013; Coeure 2013). There are, however, conditionalities attached to the activation of the OMT program. Firstly, in order to apply for OMT, the country in question needs to have applied to the European Stability Mechanism (ESM) first, (Draghi 2013; Coeure 2013). In other words, the country would have to undergo an intense adjustment program and fulfil the conditionalities attached to it. Secondly, the ECB will only purchase sovereign debt bonds with maturities up to three years. That is, the program excludes the purchase of long-term bonds. This important because credit rating agencies take into consideration the five and ten years bond when they classify the creditworthiness of a country (Moody's 2013). Although the OMT program is yet to be activated it is seen as the commitment of the ECB to be a de facto lender of last resort (Belke 2013: 237; Sinn 2014b).

Thirdly, the Macroeconomic Imbalances Procedure was created in 2011 and its main aims are to detect, prevent and correct macroeconomic failures in areas such as labour markets, the structure of the tax system, the functioning and regulatory framework of the judicial system, or even in public spending (Micossi 2013). Importantly, the MIP focus on external and internal imbalances: under the latter are imbalances such as public

debt above the sixty per cent Stability and Growth Pact (SGP) limit, and an average unemployment rate above ten per cent registered for three years. Under the former are fluctuations in unit labour costs, and current account imbalances registering in a three year average period either a deficit above 4% or a current account surplus above 6% (COM 2013: 2). Clearly, the MIP aims at correcting the economic imbalances that were at the core of the crisis. By detecting and providing recommendations not only in the cases of permanent current account deficits but also in relation to current account surpluses the Eurozone is equipping itself with a surveillance mechanism and coordinating capacity that was missing since the Euro was created. Nevertheless, the question of who should bear the weight of the adjustment, the deficit or the surplus country, is something that is divisive (Weidmann 2012), especially because it may sound unreasonable to think that a country that continuously deliver high current account surpluses (namely Germany) may also be incurring in excessive imbalance.

And fourthly, the TSGC (also known as Fiscal Compact). Whereas the MIP aims are addressing the economic imbalances of EMU, the main objective of the Treaty on Stability, Coordination and Governance (TSCG) (also known as Fiscal Compact) is to coordinate the budgetary policy. Its basis benchmark is to uphold the Stability and Growth Pact limits on public deficit (up to – 3% GDP) and public debt (up to 60% GDP) as laid out in the Maastricht Treaty. In addition, similar to the objective of the MIP, the Fiscal Compact was also designed as a detecting, preventive and anti-crisis mechanism.

Unlike the Stability and Growth Pact, the Fiscal Compact is embodied with automatic sanctions in case a Euro Area country trespasses the established public debt and deficit limits (European Commission 2012: 4-5). In fact, the TSCG goes further in what public deficit is concerned as it states that the member state must aim achieving a structural government deficit (that is, the deficit that is not adjustable to business or economic cycles) of 0.5 per cent GDP. In addition, the Fiscal Compact also goes further than the SGP in relation to public debt, for countries which are in breach with the 60 per cent GDP limit are now forced to reduce their debt in one twentieth per annum. As a result, any deviations from such objective will be automatically dealt with via direct sanctions and by the activation of the corrective mechanism arm of the TSCG, the Excessive Deficit Procedure (EDP).

However, it can also be argued that in times of crisis it may be required a more active role of the government in supporting the economy. Interestingly, the Fiscal Compact also addresses this. Indeed, As Clift and Ryner (2012: 152) argue, ‘in avoiding the nominal 3 per cent deficit target and deploying a structural balance target, [the Fiscal Compact] marks the evolution from Maastricht in terms of understanding the fiscal policy/growth Relationship’ Indeed, there is an ‘intelligent and flexible reading of the fiscal pact’ (Antonio Costa cited in Wise 2015) to be made that ‘tempers anti-Keynesian bias at the heart of the SGP [for the] utilisation of a structural balance framework carves out a role for counter-cyclical fiscal policy’ (Clift and Ryner 2012: 152). In other words, although the Fiscal Compact is normally defined in terms of tight fiscal discipline, in fact it can also be framed in terms of boosting domestic demand (Clift and Ryner 2012; Enderlein et al 2013: 4). As such, the Fiscal Compact fulfils both sides of the equation - it promotes sound finances and it provide the member states with the flexibility to pursue expansionist policies in times of crisis.

Summing up, despite the tensions within EMU members, the Eurozone has found (though slowly) the political will to further integrate and to complete their economic and monetary union. Indeed, a turning point in the Greek debt crisis seems to have happened at the 24 May 2016 Eurogroup meeting where the Eurozone finance ministers (together with the IMF) committed themselves to restructure Greek debt. Indeed, after the Tsipras government have successfully completing the first review of the third Greek bailout (initiated in 2015) the Eurogroup (2016) agreed on a debt sustainability analysis that will grant Greece debt relief in the short, medium and long term. Nevertheless, the sovereign debt crisis demonstrated that using fiscal stimulus to ignite economic recovery in an Economic and Monetary Union built without a full fiscal union, deprived of a lender of last resort and lacking the structure to activate an anti-crisis mechanism resulted in systemic banking stress, intense market pressure and the rise of government bonds to unsustainable levels in the peripheral Eurozone states forcing several requests for international financial assistance. This created animosity amongst EMU’s North and South regions due to strong divergences in both identifying the origins and the crisis response to the sovereign debt crisis. In short, the Eurozone lacked both the insurance principle and the homogeneity of policies criteria of OCA theory.

5. Conclusion

To conclude, this paper finds that a key similarity between Puerto Rico and Greece is that emphasis is given to the need to restructure their debts. But here there is a difference between the United States and the European Monetary Union. Whereas in EMU debt restructuring is not possible, in the US cities have the possibility to file for bankruptcy and activate Chapter 9 of the US bankruptcy code. True, US states cannot file for bankruptcy. But their cities can. Thus, Chapter 9 functions as an indirect stabilizing mechanism for a state of the US. Had municipal debt been added up to the public debt of a US state one could argue that public finances of the US states would be more difficult to deal with as it could be the possibility of rating agencies to price the risk. Interestingly, the cities of the Commonwealth of Puerto Rico do not have access to Chapter 9. This means Puerto Rico cannot deal with unsustainable debts and puts Puerto Rico exposed to the financial markets and in need of help from the US Congress. By contrast, in the case of the European monetary union there is no formal mechanism to deal with debt restructuring, be it at European, national, or local level. That is, unlike to what happens in the US, European cities cannot file for bankruptcy and go ahead with debt restructuring because there is no legal framework to do so at the European level. Furthermore, the debt of the cities or local government in Europe are part of the national public debt and not as a separate type of debt, as it happens in the US. As such, Greece does not have the legal framework to conduct debt restructuring as the US states have. Neither does Puerto Rico, as it is not a US state. As such, this validates a key Optimum Currency Area theory criterion: a common currency needs a common adjustment mechanism - an insurance principle - in order to deal with asymmetric shocks.

The cases of Puerto Rico and Greece also share another factor - their growth model was unsustainable because it was not based on sound economic policies. Greece increased public spending due to the low interest rates that membership of the Euro has brought about. Puerto Rico took advantage of its triple tax exemption to increase borrowing when they were faced with the phasing out of the tax benefits of the island. In other words, an in-built advantage of monetary union (low interest rates) led to a moral hazard problem and contributed to the Puerto Rican and Greek debt crisis. Therefore, their national governments have a key role in the build-up and root cause of the crisis. This validates the other key Optimum Currency Area theory criterion discussed in this paper - homogeneity of policies. In other words, when countries have different policy preferences currency union may be deemed unsustainable, and even more so if the monetary union is not a fully-fledged monetary union and lacks the insurance principle of OCA theory. This is clear in the case of EMU but interestingly this is also the case in the US monetary union in the specific case of Puerto Rico. Indeed, both Puerto Rico and Greece do not have a clear way out for their debt crisis because they are part of a monetary union that was built without a common adjustment mechanism. In short, the cases of Puerto Rico and Greece demonstrates that whether one "like[s] it or not, the theory of optimum currency areas remains the workhorse for analysis of European [and US] monetary unification' (Bayoumi and Eichengreen 1997: 761) - and this is something that the authors of ECA and OFA need to come to terms with.

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