Indian Journal of Economics and Business, Vol. 4 No. 3 (Special Issue)

STABILITY OF THE EUROPEAN OPTIMUM CURRENCY AREA

DANIEL C. SAUNDERS

Abstract

The stability of the EURO depends on the stability of its member countries. Regional currencies will produce winners and losers if countries have different macroeconomic needs. These countries that have different needs are friends as well as rivals. The reason being is that members have interests to harmonize effectively with other members, however they still desire optimization their sovereign economy. A country with national interests that conflict with the policies of a regional currency will result in major inefficiencies and increasing costs. As the global economy enlarges, countries will require more autonomy in order to become competitive globally rather than regionally. This paper will look at optimum currency area theory, and apply it to the current situation of the EURO. In its details it will explain the problems of the regional currency as well as its failure to pursue models that maximize efficiency and reciprocation.

I. INTRODUCTION

Based John Nash's game theory model of second best, the EURO[1] is an excellent scheme. These fundamentally liberal economies cannot find desirable trade conditions vis-à-vis the World Trade Organization, so they resort to the next best thing, each other. These economies that bind themselves together will integrate labor, capital, and trade interests. A common currency places the region in a favorable position to ensure trade with each other. However, as this region receives increasing pressure to compete with the burgeoning global economy, the theory of second best ceases to function. Each country has a sovereign interest, and as a result, countries that benefit more from the global system will conflict with countries that only receive moderate gains from the regional system. As a result, countries that are not remaining competitive under the common exchange rate will become adversarial with the region. Whichever country has more bearing on the currency will maintain more control of monetary and fiscal policy. Countries that have little bearing on the currency will ultimately have no autonomy to shape favorable policy. Therefore, countries that are already economically delicate will be the most vulnerable to regional shocks as well as less likely to recover from them.

* Korbel School of International Studies, University of Denver, Denver, CO 80209

The EURO is designed to harmonize the region by increasing the desire for economic reciprocity. Since the region will rise and fall together, the EURO gives reason for this reciprocity. However, the EURO monetary system takes away the autonomy of states to mend their macroeconomic problems. If there are different problems occurring in two different states, stabilization will harm one of those countries. For example, if inflation affects one country more than others, there will be a demand to increase interest rates. If there is another country in a debt crisis, that country will demand a decrease in interest rates. The system will favor to remedy country that has the largest effect on the currency. In addition, it will favor the intervention policy that has the weakest effect on the currency. Thus, any countries that are imbalanced relative to the region can expect further weakened internal conditions.

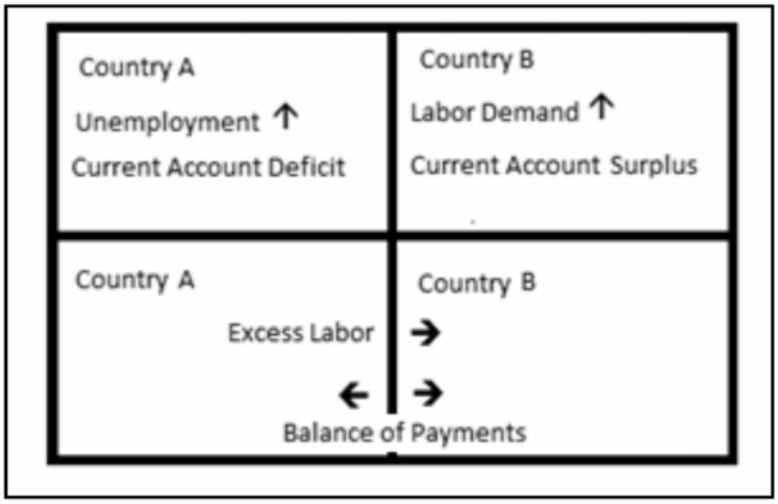
The example previously mentioned is prominent in the EURO system. This is occurring with four countries, Portugal, Italy, Ireland, Greece and Spain (PIIGS). On the other hand, the region as a whole is experiencing a fiscal crisis which dictates inflation is imminent. The EURO is now facing a financial crisis as well as a fiscal crisis. According to macroeconomic theory, a economy cannot fix one crisis without exacerbating the other. An established resolution for a debt crisis, is to expand money supply and lower domestic interest rates. However, in order to solve the balance of payments crisis the European Union (EU) must defend its exchange rate, tighten money supply, and increase interest rates. These two solutions cannot happen simultaneously, thus the monetary regime is forced to punish countries facing one of these crises.

Recent activity in the EU has illustrated that it is willing to harm its most vulnerable members as it has raised interest rates. The stringent monetary policy cannot justify deprecating its currency in favor of a few nations. Instead it needs to protect capital inflows as well as its largest economies in order to hedge risk from the smaller ones. PIIGS have already been struggling with old interest rates, which indicate that efficiency is not a product endemic to a regional currency. The EU is currently proving that it has become too large to induce reciprocity and harmonization for all of its members.

II. RELEVANT MODELS

The theory of optimum currency area (OCA) claims, if countries can sustain fiscal balance while sharing labor, a common currency is beneficial within a region. The OCA is thus a region that maximizes it overall efficiency by uniting under a single currency. Robert Mundell is credited with OCA[1] and thus the idea that sparked the EURO. Mundell explains, countries that are undergoing increasing economic integration constitute an experiment such as the OCA. The basic premise can be illustrated using two countries, A&B (See Figure 1). For example, Country A imports fans, Country B imports furs, and the upcoming year is expecting a prolonged winter. As consumers buy more furs and less fans, the unemployment rate in Country A rises and current account deficit increases. However, Country B has increased labor

Figure 1: OCA Theory



demand as well as a current account surplus. Assume these countries had free labor mobility and shared a common currency. The excess labor from Country A could move freely into Country B and the accounts would balance each other. If a region has a labor market that is amalgamated and can maintain external balances, then these countries have met conditions for OCA.

Mundell's model briefly explains labor mobility is a factor of geographic characteristics. McKinnon (1963)[2] developed an idea that labor mobility can only be achieved if there is comparative factor mobility. In other words, a labor solution would require similarities in labor and capital markets. Labor mobility will be more imperfect if countries differ in factor abundance. For example, assume Country A can achieve full employment by producing only capital intensive goods, and Country B can achieve full employment by producing only labor intensive goods. Country A is capital abundant and Country B is labor abundant. The mobility of these two countries will be too different in order to assure each other's needs for more capital or more labor. Therefore, if these countries specialize in goods that do not have similar factor intensities, then labor migration may not satisfy the requisites for balance.

The macroeconomic conditions of the OCA must also be similar in order to ensure a common exchange rate is mutually beneficial. In particular countries should share macroeconomic conditions that allow for similar requirements in the adjustment of interest rates. More precisely, if the region's macroeconomic elements are divergent, then a common currency can exacerbate certain country conditions. This has been made clear from the recent events in the EU. The OCA model asserts that stabilization would be difficult to preserve for the same reasons the PIIGS are in debt crisis and the EU is experiencing inflation crisis. Although these states need low interest rates to relieve burdens, the EU has increased its interest rates from

1% to 1.25% in order to obstruct further inflation [3]. The OCA will make changes based on the economy as a whole, rather than fine tune to the needs of an individual actor. Therefore, if an individual actor requires stabilization policies that conflict with the economy as a whole, that actor will not be particularly successful in the OCA.

The conclusion of the theory is that OCA increases overall efficiency among similar states within a region. The larger an OCA can become the better the outcome will be. However, if there are differences among states the OCA will produce winners and losers. Winners will largely benefit from the OCA and stabilization policies, and losers will be forced finance deficits which are exacerbated by region's stabilization policies. If labor and capital are immobile, countries should have separate currencies. This will cause varying rates of unemployment and inflation [4]. Therefore, a practical OCA will tend to be small in order to secure efficiency throughout the region.

Mundell claims, there are seven criteria an OCA should meet in order to be successful:

(1) International pricing system.

(2) Export and import sectors that will commonly fluctuate with the regional currency.

(3) Risk sharing system to redistribute capital in distressed markets.

(4) Central banks do not illustrate favoritism in markets or countries.

(5) Monetary disciple.

(6) Similar capital mobility and labor mobility.

(7) Wage and profits remain flexible within the exchange.

A similar system is used to integrate countries into the EURO. This is called the Maastricht treaty [5]. In order to meet this criteria, a country must not exceed an inflation rate 1.5 points higher than the top three EU countries, maintain a government debt ratio less than 60% GDP, a maximum long term interest rate of 6%, and a country cannot devalue its currency in over three years.

This criteria fails to observe some conventional extensions of Mundell's model that indicate harmonization. Kenen (1969) [6] indicates that there must be common business cycles within an OCA, so that shocks are not unevenly distributed. The reason for this, is that countries that share common shocks will have similar monetary and fiscal needs whenever policy is forced to change. If a country has dissimilar business cycles, the region's monetary situation will favor its superior components. As a result, the exchange can move in the opposite direction required by the outlier country's business cycle. Therefore, the benefits outweigh the cost to maintain monetary independence if dissimilar shocks can be observed.

Kenen impies, that a country with diversified exports would be better off to generate income in the OCA. A country without diversification will be prone to

dissimilar shocks in an OCA. Diversification hedges the risk of sector shocks, which will synchronize better with regional trade of the OCA. If a country has limited export diversification it would be better off with a sovereign exchange. This would allow the country to better control its currency during shocks and induce a J-curve hypothesis type growth vis-à-vis devaluation.

The Maastricht Treaty seems to ignore this microeconomic extension to the theory, and adopts a much narrower range of quantitative measures. Perhaps the ECB assumes that if a country can match inflation without devaluation, it is on similar business cycles. Or perhaps they feel that it is a satisfactory measure because business cycles will become synchronized subsequent to OCA formation. Frankel and Rose (1998)[7] believe that business cycles are not particularly important, because trade integration will gradually coordinate these cycles over time. The mechanism of export/import acts reduce any ramifications from shocks. As an OCA leads to maximum trade efficiency, business cycles will become synchronized. Therefore, since business cycle relationships are endogenous to regional integration, countries in an OCA will not need to worry about this.

The Maastricht Treaty most likely considers this position since it has no clear criteria for business cycles. The issue with this idea is that regional integration does not ensure a country has hedged risks with diversification. Although countries in the OCA did synchronize business cycles, some countries will still be more vulnerable to shocks. Given that the OCA will only react to region wide shocks, an increased shock to one country could exacerbate macroeconomic conditions in that country. Therefore, countries that are more sensitive to changes in price or wages are potentially better off with individual monetary control.

The Maastricht Treaty does look at inflation, however it fails to look at consequences of industry shocks. Instead of simply measuring inflation over a period of two years an OCA should measure inflation comparatively in certain stress conditions. An increase in oil prices could highly affect one countries comparative advantage more than others. If a shock injures a country much more than the region, the monetary system will further punish that country. In order to ensure success in an OCA, the region must be more selective. An OCA would be doing itself and its member states a large service by waiting for a regional shock to measure comparative inflation. The empirical section will look at inflation of member states to illustrate how well they do after becoming members.

Stephen Silvia (2004)[8] looks at the lack of integration since the formation of the EURO. The author explains that the EURO falls short of an OCA due to asymmetrical shocks. The author explains that subsidies and other non-tariff barriers still exist within borders which adds to the rigidity of labor immobility. Asymmetrical shocks influence wages and the macroeconomic conditions differently among members of the OCA. As wages increase in some countries they lose regional and global competitiveness. It is worth pointing out that the author illustrated that Germany was experiencing deflation while Spain and Ireland were experiencing inflation at the time it was written. This demonstrates that before the 2008 global

shock occurred, there was still asymmetrical regional shocks with some of the PIIGS. The 2008 crisis simply augmented the position that the EURO is a Sub-Optimal Currency Area (SOCA).

Maloney and Macmillen (1999)[9] share many other's pessimism concerning the functionality of a large OCA. The authors contest that maintaining some sovereign control of currency is vital for the welfare of a country. As an OCA becomes larger, each country in the OCA forgoes more benefits of the region. The authors explain that a small currency area still allows some autonomy of a nation and increases reciprocity. As an area begins with two countries, those countries have 50% control in monetary policy. If it gains four members they will have 25% control, and 12.5% as grows to eight countries. As an OCA grows larger, the cost to sovereignty and national interest increases. The authors explain that over expansion is a function of marginal costs and benefits. When a currency area continuously expands it will increase its likelihood to induce misalignment. It is best for the currency area be at a point where marginal costs and benefits are equal to zero. Expansion beyond this point would result in increased marginal costs and decreased marginal benefits. If the OCA and countries that wanted to join it were rational actors they would not expand past this point. However, since OCA membership has political components, the OCA may forgo economic benefits for political benefits. For the reason that European States have historically been fearful of each other, the prospects of a union bestows an agreement towards regional peace. In addition to security, member states feel they have an economic safety net by the other states and the central bank. It is understandable that the EURO may have overextended its OCA in order to achieve broader goals.

This study will monitor the first twelve countries of the EU, in order to see if the union initially over extended its OCA. A particularly large focus will be placed on Germany and Greece as most different countries. For the purpose of using OCA in the EU, this paper will only utilize indicators that can be used on a country that is already integrated. These factors are 2, 6, and 7 or more specifically, imports, exports, labor mobility, wages, and profits. Furthermore, with the extensions provided in the theoretical section, it is relevant to include debt ratios and factors of production. For the reason that countries in the EU are already part of an OCA, the balance of payments will always be balanced. Account balances are thus redundant to analyze since the data is already integrated into a much larger system. Therefore, the indicators this paper will look at empirically are: (1) Exports of goods over imports of goods, in order to provide a simple comparison of trade economies. (2) Factor outputs, in order to demonstrate if a countries labor is reciprocal with the region on average. Unemployment rate will also be used. (3) Real wages relative to euro area will be illustrated by a study conducted at the European Central Bank (ECB) and assumed constant. (4) Profit will be simply measured the change in real GDP growth as a percent. (5) And finally, this study will look debt percent GDP. Additionally, time series data will be looked at between Greece and Germany to illustrate how different economies may become in the OCA.

III. DATA AND METHODOLOGY

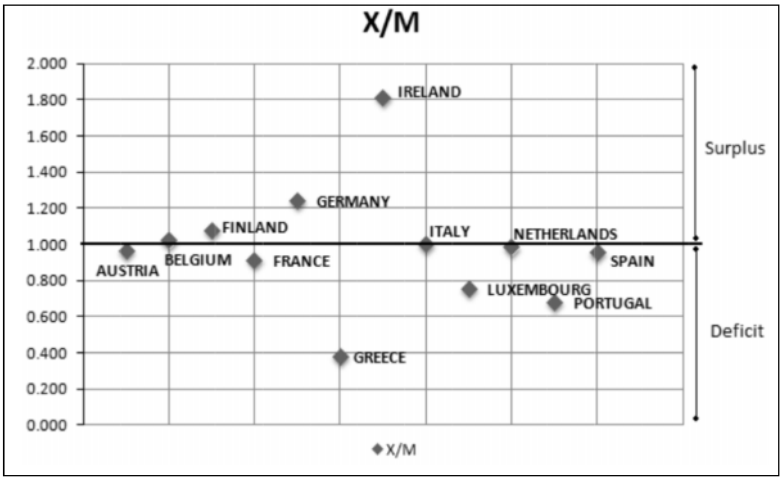
The EU has been expanding since its creation and is still looking for new members. If imbalances occur, then expansion only makes it harder for countries to recover from these imbalances. Countries that are labor abundant would require an entirely different exchange rate than the capital abundant countries. A country like Greece would benefit from devaluation in currency since most of its exports are related to textiles and agriculture. However, since it is part of a largely capital abundant region the exchange rates will not favor its exports. Greece then must finance deficits with escalated debt. Greece and other countries similar to it will establish a need for policy that other countries are unwilling to undertake. Rather than creating a balance, expansion of the OCA will most likely create sub-regions with conflicting monetary and fiscal needs. The OCA's primary functions of balance and efficiency has been defeated if these conflicts are present. The OCA will have then proven that it has over extended its optimum size. The data presented in this research will illustrate differences in the OCA that obstruct efficiency and create imbalance.

Contemporary Statistics

According to the theoretical section, a common exchange ought work to improve members' trade balance in an OCA. Country exports over imports (X/M) is used as a variable in order to illustrate EU countries trade balance in Figure two. In this model a factor below one is a trade deficit and a factor above one is a surplus. This model indicates which countries in the EU are able to maintain competitive in the global market.

This model is vital due to the current situation of the PIIGS. A country in debt crisis will have trouble maintaining confidence in their financial sector. In order to abate double deficits domestically, it must maintain a trade surplus. At first glance Ireland's giant surplus seems to indicate it is in good shape. However, recent

Figure 2: Exports / Imports



developments have established that U.S. companies are using Irish subsidiaries as a tax haven[10]. Most of the value of Irish productivity will then accrue in the U.S. The true balance is thus unknown and hard to speculate on. Nonetheless, Ireland represents where the PIIGS need to be competitively.

As illustrated in Figure two, Greece is running a comparatively large trade deficit. This country would most likely benefit if the EURO depreciated. However, since Greece is attached to the EURO, its export sector will suffer and debt can be expected to increase.

Figure 3 indicates what countries have failed to benefit from labor mobility. Labor demand has decreased in a domestic economy, yet there is not an increase in demand from the region. This will result excess labor with nowhere to go and high unemployment in the domestic country. If Greece cannot increase exports by currency devaluation, its labor must find somewhere else to go.

Unemployment has seemed to have harmed countries with relatively higher labor abundant the most. Spain is an exception with a good capital abundance. This could be due to a quick shift of labor intensive productivity to capital intensive. Since 2008, the construction bubble in Spain has burst. The excess labor this has produced has failed to migrate. All the PIIGS are double digit unemployment except Italy. Italy has a high capital abundance relative to the PIIGS. High unemployment rates should not happen in an OCA, which means labor distribution among members is not efficient means for balance.

Another indication of labor mobility/immobility is wage rates. In figure 4, Greece and Ireland display the highest wage increases relative to the EURO area. Not only is there high unemployment but there is also reduced incentives for migrating.

This does not explain however why Spain's labor has been immobile. This country has the highest unemployment rate and saw a decrease in wages. The incentive for migration is established; however it is not taking place in this country. Spain has

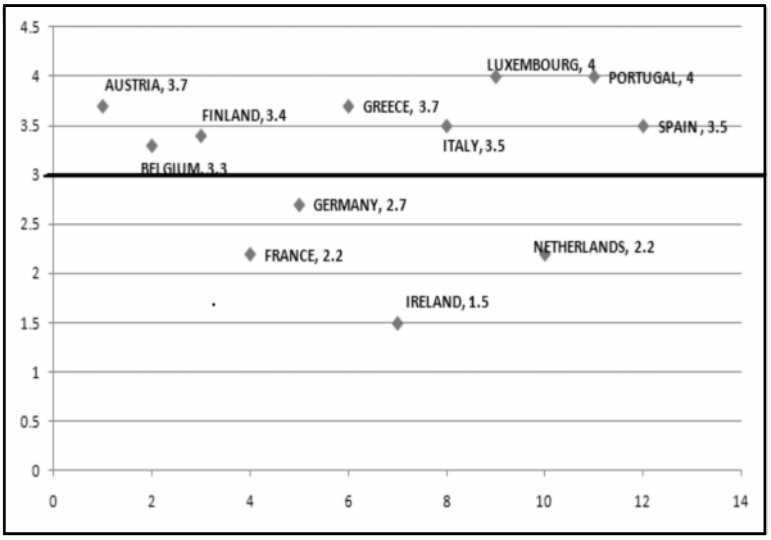
Figure 3: Unemployment%

AUSTRIA	6.8
BELGIUM	8.4
FINLAND	8.8
FRANCE	9.8
GERMANY	6.3
GREECE	14.1
IRELAND	13.5
ITALY	8.7
LUXEMBOURG	5.5
NETHERLANDS	8.1
PORTUGAL	10.7
SPAIN	19.3
Mean	10.29090909
Standard deviation	3.926136199

Figure 4: Real Wages Growth

AUSTRIA	0.8
BELGIUM	0.4
FINLAND	1.4
FRANCE	1.8
GERMANY	-0.8
GREECE	2.3
IRELAND	2.1
ITALY	-0.3
LUXEMBOURG	-0.9
NETHERLANDS	-1.1
PORTUGAL	-1
SPAIN	-0.5
Mean	0.35
Standard Dev.	1.287351051

Figure 5: Inflation (CPI)



exhibited that labor mobility is not flexible enough to be a major balancing feature of the OCA.

Figure five, illustrates the contemporary inflation crisis. Recall the Maastricht criteria, requires states to remain below 1.5% inflation above the E.U. country with the lowest inflation. According to the 2011 statistics[11], the region has failed to maintain their own standards.

Another criterion to maximize OCA efficiency is profits. If countries are experiencing dissimilar growth they may require different policies to induce desirable growth. Figure 6 represents growth rate change of real GDP in 2010. In this graph it is noticeable that the only countries experiencing negative growth are Greece, Ireland, and Spain. With the exception of Ireland's trade balances, these three PIIG countries have been had the most disappointing indicators of all EU countries. With high unemployment, bad trade deficits, and negative GDP these countries seem to have different economic needs than the OCA as a whole. If these countries continue to experience negative growth they will have to pursue sovereign control of monetary and fiscal policies or suffer increased indebtedness.

Keep in mind the EU's Maastricht criteria of maintaining debt to GDP ratio of 60%. Subsequent to 2008, EU countries found it hard to practice what they preach. Debt to GDP illustrates the countries solvency. The reason countries must be solvent is to maintain mutually beneficial stabilization policies. Imbalances will take longer to adjust in an OCA because the different economies are going to offset problems endemic to a single country. This has proven to be the most difficult obstacle of the EU. As seen in figure 7, Greece is the focus of debt laden countries in the EU. The country has been receiving bail-out packages in the form of long-term debt. This should ameliorate some of its woes but it is no quick and easy fix.

Figure 6: Real GDP Percent Change

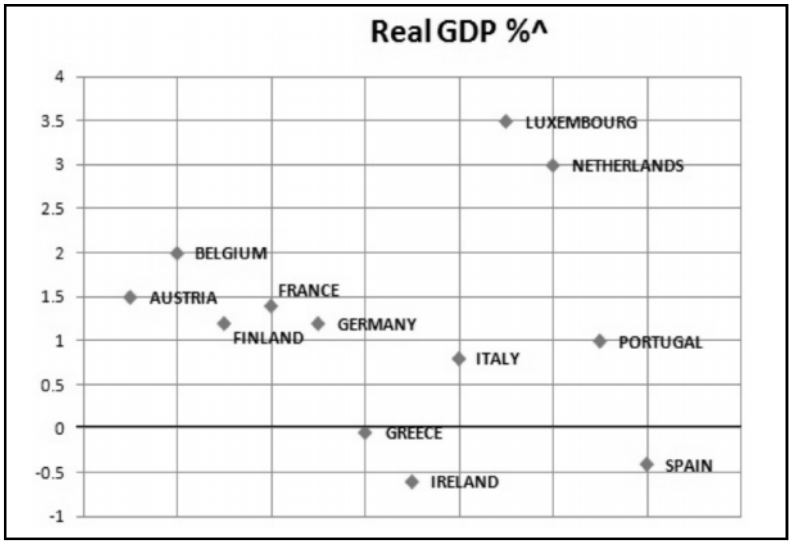
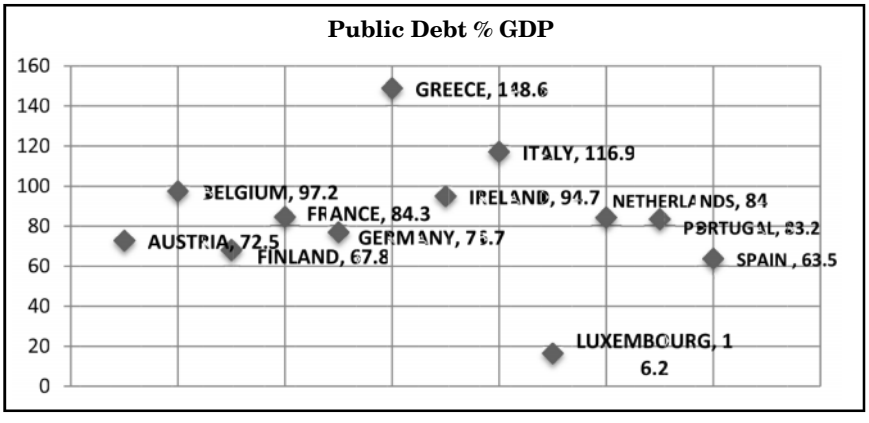


Figure 7: Public Debt Percent GDP



The EURO indicated to Greece, on May 13, 2011, that it is truly misplaced in the OCA. Greece has been struggling to pay debt at the previous interest rate of 1%. The country was hoping for a slight increase in money supply and an interest rate reduction. However, in an attempt to stave off mounting inflation, the ECB has called to increase interest rates to 1.25% and maintain its tight money supply policy.

Spain's debt to GDP is comparatively low to EU countries. Yet there is speculation that Spain's markets are bound fail. Spain has failed to find harmonization in the EURO. Debt to GDP is expected to rise, growth will continue to stagger, and unemployment continues to skyrocket, and unrest continues to mount. It may then not be the debt that is hurting Spain's credit ratings as much as it is political risk.

Ireland does not look so terrible when looking at public debt but it is certainly in a similar situation as Greece. With negative growth, high unemployment, and debt closing to 100% GDP it is not walking on a sustainable path. With the new interest rate increase, Ireland will have to take drastic measures in order to make this work. If Ireland stays with the EURO it will see wage indexation and increased taxes.

Portugal is also going through a tough time trying to reduce its imports and increase employment. In terms of labor mobilization, Portugal would be well suited to harmonize with Spain. These countries share similar factor outputs and there are similarities in the culture. However, Portugal and Spain do not have any shifts in demand to benefit from. Although Portugal remains an importer in the EU, it is better suited than countries previously mentioned.

Italy is also a country that is in trouble, but it could manage to transcend its current imbalances. A good portion of sovereign debt is actually held by residents. Furthermore, the indicators listed above illustrate Italy has been close to the regional average except for debt. X/M is extremely close to a one-to-one ratio at .998, real GDP has become positive, and unemployment is near the EURO average. Many products produced by Italy would not have a negative effect with higher exchange rates. Italian intangibles have been able to maintain a prestige value. Most Italian name brands such as: Lamborghini, Ferrari, Vespa, Ralph Lauren, Gucci, or Prada are expected to have high prices due to luxury cost. Provided that consumers are spending, name recognition carries well with increased prices in U.S. markets. Italy is world leader of GDP and the EURO would not likely let it go so easily. If Italy were to begin to see a loss in profits and a debt of 150% GDP, a hefty bailout should be expected. 10-year bond yields are already below the rates it saw in 2006. There would seem to confidence in Italy's ability to recover as an EU country. However, S&P recently lowered Italy's credit ratings due to a lack in confidence in governments ability to pay debt. This has precipitated from recent corruption charges as well as the recent increase in interest rates [12]. Consequently, Italy has tough times ahead, but it has done the best of the PIIGS to harmonize in the EU.

European OCA and the ECB

The ECB as an actor is contradiction of its own fears in the debt crisis. The ECB requires its region to sustain growth. By favoring growth, it has ignored one of Mundell's fundamental arguments that macroeconomics must be synchronized in order for an OCA to work. In the wake of 2008, the ECB knew that the PIIGS would be burdened by heavy debt. The way the ECB handled the situation was to buyout PIIGS sovereign bonds at record high interest rates. This signaled to the OCA that the ECB it is willing to help its members, but it would not do so at an expense. The ECB's actions only mildly aided the PIIGS debt situation and would do nothing to solve their export problem. Consequently, the lack of syncronization caused high unemployment, unmitigated debt, and macroeconomic instability.

Buying debt instead of shifting policies was a survivability tactic of the ECB which kept its key members happy. However, in doing so it put itself in a position

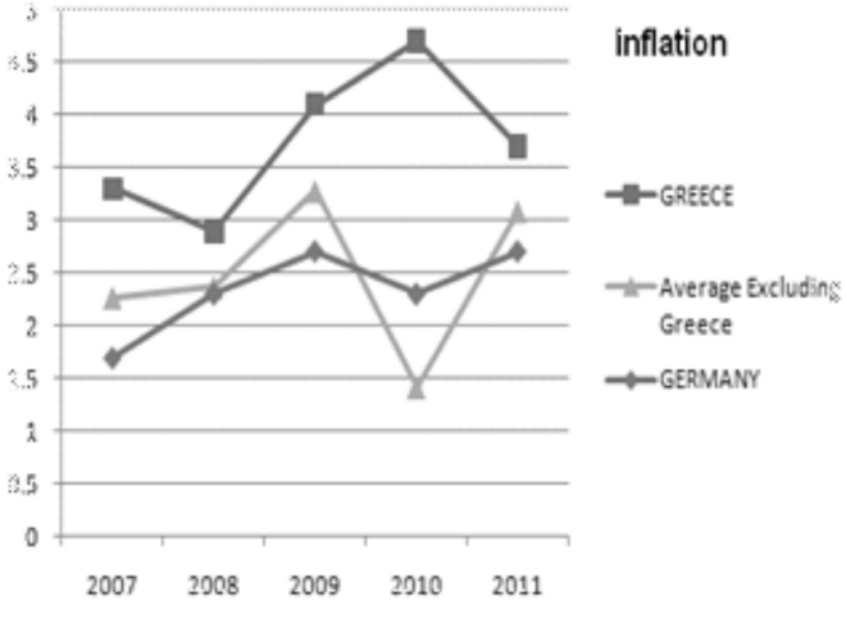
to produce dissimilar needs from the currency area. These dissimilarities become more widespread over time and continue to deteriorate efficiency and labor conditions. The EURO thus becomes a contradiction of labor mobility and stabilization rather than a solution to it.

Germany and France are key factors of why the OCA works. These countries are also major reasons the OCA does not work for the PIIGS. The mobility of labor and capital took place in these areas along with some of their neighbors, excluding Spain. The ECB will remain a strong institution as long as this smaller region thrives on the EURO. As seen in the data above, Germany and France's indicators seem to be average. However, even though the marginal rates are on average, these two economies compose approximately one-third of the entire EURO zone's real growth rates. The ECB cannot disrupt the harmonization of these two countries despite disorder of many others.

By utilizing time series data in Greece and Germany, for comparative purposes, we can illustrate how an OCA will not induce harmony in different economies. Germany's economy tends to remain close the EURO area average, so it is a great country for comparison.

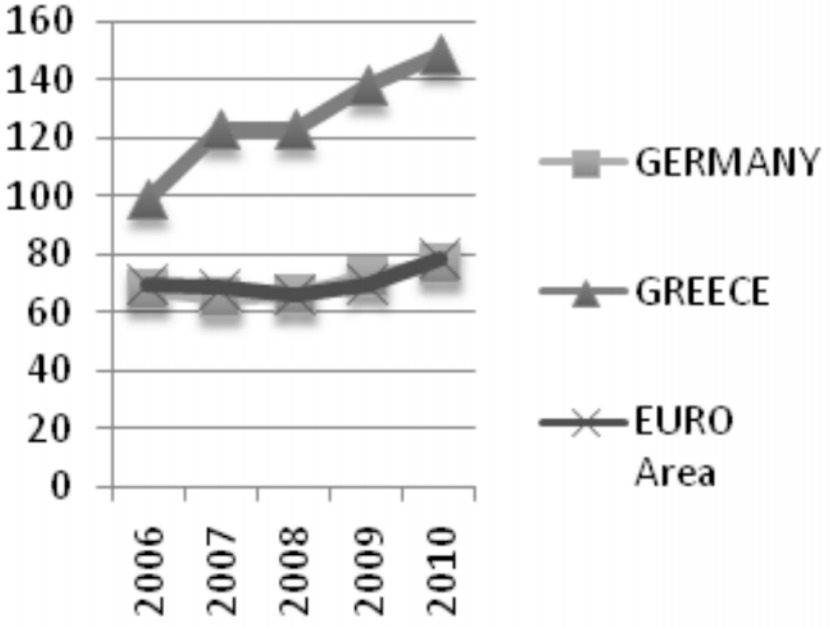
Comparative Statistic Time-Series

Figure 8: Inflation



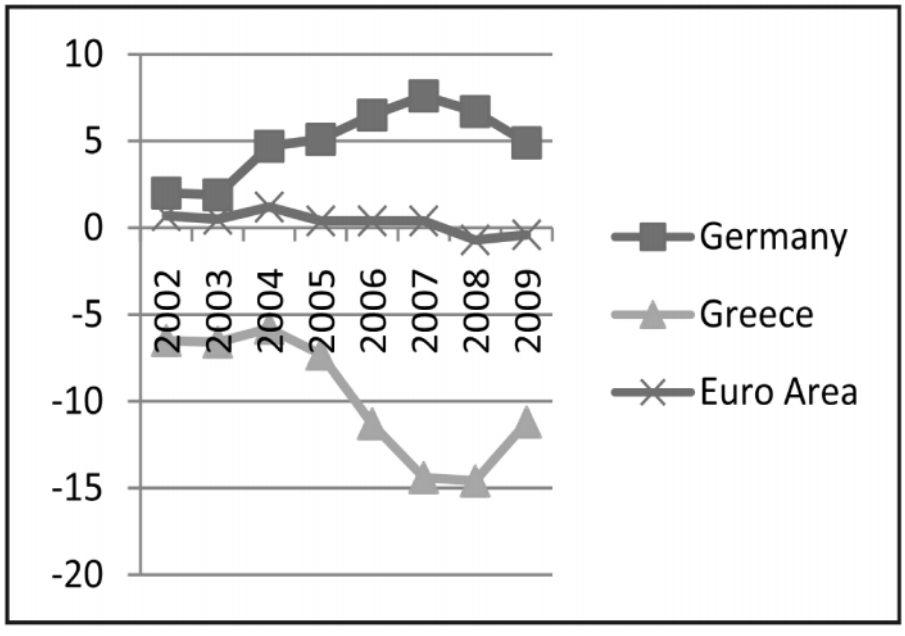
Greece's inflation remains higher than average and has begun to reveal contradictory trends with the region since 2010.

Figure 9: Debt to GDP



Greece's debt level has not shown any sign of sustainability relative to the OCA.

Figure 10: Current Account



Excluding debt, current data seems to illustrate that Greece is making a recovery. However, Greece remains far below the average of the OCA. As seen in figure 10, Greece only slightly decreased its current account deficit in the first two years of the monetary union. However, as the EURO reached over $1.20 ($\€) Germany began to illustrate increased gains, and Greece began to illustrate inability to compete. Labor mobility cannot happen in such divergent markets. Germany's exports thrived with increased exchange, whereas Greece was forced to supplement their loss of productivity with cheaper imports. Economies that are too different from the OCA will then be punished for being part of it. The importer and exporter countries will have conflicting demands on the ECB as well as each other.

Once economies adopt the EURO, harmonization and reciprocity is supposed to take hold in the region. This will not work in countries that have opposing economic growth needs. If countries cannot make their goods competitive under the EURO, they will use the high exchange rate to import cheaper goods. As seen in figure 10, the current account of Greece drops at much faster rate than Germany grows. The loss of competitiveness in Greece is disproportional to other countries gains from the OCA. These different economies will produce more excess labor than the region demands. Therefore, labor mobility becomes a significant challenge if a country cannot stay competitive with the OCA exchange rate.

Labor mobility is extremely difficult to achieve if the economies are too different. Importer countries cannot compete with high exchange rates, and there is nowhere to funnel excess labor. However, these countries could have seen major gains if they opened trade to the region but maintained control of their currency. If the region truly harmonized, the importer countries would have gained by finding a comparative advantage outside of the region. Due to the high exchange, the importing countries not only lose pricing advantages in the world, but they lose competitive advantages in the region. In addition to economic factors that inhibit the mobility of capital and labor, there also integral cultural factors.

Cultural Components of Labor Mobility

In the U. S. labor and capital mobility is simple. If there is excess labor in Nebraska but an increasing job market is found in Montana, then labor can simply move to Montana. It make's even an easier that these people will be able to communicate without learning another language. On top of that, they will likely have similar accents which reduce the chance of discrimination. Europe doesn't have these cultural similarities. The reason European States have borders is to protect their individual identities. This means, if there is excess labor in Spain and demand for labor in Germany, all of that excess labor must learn German before moving. If labor demand shifts again they will need to learn another language. Therefore, due to cultural barriers in the EU, labor will never be likely perfectly mobile.

Germany has proven to be the most advantageous of the EURO. It has maintained an advantage in capital stock among the region, but it also has a huge

cultural advantage with its neighbors. Austria, Belgium, Netherlands, Luxembourg, Denmark, as well as certain regions in France and Italy all share common Germanic background. The languages are similar, if not the same, and more importantly these cultural bindings result in less discrimination for Germany and its neighbors. This makes region surrounding Germany much more mobile.

Greece and Italy have commonalities but not enough to affect the region. This is also the case with Portugal and Spain. Although these countries share commonalities, they are all going through problematic times, so harmonization amongst each other would be difficult. Labor cannot move to any given country without learning a new language. The percent of excess labor is limited to bilingual unemployed people, or people who have the means to learn a new language prior to moving. Therefore, mobility cannot be instant enough to create balance given these conditions.

IV. CONCLUSION

Most countries have different economic needs in a given situation. If an OCA is to synchronize those needs, the countries must be highly integrated. An increase in size of an OCA also increases the need for integration. This is because as a new member is brought in to the OCA, the OCA itself must adjust in order to synchronize with the new factors introduced to it. This becomes increasingly difficult when current members have not yet formulated balance.

The purported macroeconomic stabilization has yet to occur for the EURO. The recent stabilization adjustments of interest rate increases favored the countries with the highest production. These adjustments were taken despite the harm it could cause to members experiencing high unemployment and debt crisis. The EURO has become its own institutional entity which will damage weaker member states in order to support strong ones. This is a key indication that the OCA has over extended its optimum region. In an ideal OCA, consideration of all members would be required in order to ensure survival of the OCA. This acts to situate members as the most important inputs, which in turn ensures reciprocity and harmonization. When the OCA becomes too large, the survival depends only on its most productive members. More specifically, it supports members that will most likely hedge the risks that were created by any outlier countries. Once the OCA can survive by selecting favorites, the OCA has failed to function as an integration and stabilization tool. Therefore, if an OCA takes action that could cripple a member, the OCA has become too large and fundamentally dysfunctional.

Although macroeconomic stabilization is a large part of OCA theory, labor mobility is the key feature that allows this stabilization to take place. Asymmetrical labor mobility has become evident as unemployment skyrockets in deficit countries. Continued growth of the OCA impedes the stabilization of these countries. OCA balance would be extremely slow as export countries stop the currency from devaluing as required by import countries. These imbalances would also obstruct

growth in countries that thrive in the OCA high exchange rate. The slow nature of balancing is devastating to countries that do not belong in the OCA. These countries continue to import, increase debt, lose industrial momentum, and increase unemployment. Given that export countries need for labor is not synchronized with import countries need for employment, excess labor has nowhere to go.

Labor balances cannot occur if the exchange rate refuses to acknowledge the countries that have become net importers. On the other hand, the ECB cannot acknowledge these countries when the region gets too large. The only foreseeable remedy for the EURO is thus, to become smaller and focused on the countries that have illustrated harmonization and reciprocity. If labor markets are imbalanced, then labor cannot be utilized to create balance. Therefore, the EURO is illustrating that it has deviated from the fundamental principles of OCA theory.

With recent news of bailout packages for debt relief it is doubtful the EURO will hastily lose members. However, shocks clearly affect some countries more than others, and the ECB does not know how to deal with this. Common sense tells us that if there is a fiscal and financial crisis, one crisis will get worse in order to make the other crisis better. As shocks continuously cause these simultaneous crises, harmonization will be impossible. The PIIGS have been imbalanced since 2008, and three years later it is evident that the EURO has exacerbated the condition. This is not a favorable situation for a sovereign country. If they had opportunity to devalue their currency, they could restore competitiveness as well as financial confidence. Moreover, unemployment and real wages would have a chance to recover. Spain, Greece, and Ireland would all largely benefit from a sovereign currency. Portugal would also be wise to depart if Spain leaves, so that it is not geographically isolated. These countries joined the OCA to benefit from the EURO, however, their economies are too different to sustain these benefits. Labor mobility is just not happening, and the EURO is punishing them for it.

Clearly the EURO continues to grow. The ECB like all multinational institutions will be extremely hard to get rid of. The Bretton Woods institutions still maintain large amounts of liquidity, even though their original purpose has dissolved. The Organization for Economic Co-Operation and Development was originally set-up to distribute Marshall Plan funding. There is no reason that institution should have survived, but once it lost purpose it found another one. If the ECB ever fell apart it would probably shift to regional SDRs in order to denominate assets and intrastate financial tools. In other words, the EURO will continue to live on in some way or another and it does not have to harm countries in order to survive. Countries that increase marginal costs by joining the EURO are unnecessarily putting themselves at risk of internal imbalance and loss of profits.

The ECB only concerns itself with inflation, which means a long term analysis of new countries should be taken in account. In times of economic prosperity, the indicators of the Maastricht Treaty will effortlessly situate countries into the OCA. The OCA needs to place potential members on the EURO peg and measure

asymmetrical shocks during turbulence. Without doing this, the EURO has potential to harm its members as well as itself.

The EURO should be reduced to multiple smaller OCAs that are bound to each other via regional trade openness. This would allow each OCA to maintain maximum efficiency and competitiveness. These regions would then be more synchronized vis-à-vis trade than a single region that hinders competition. However, the EURO developed into a large experiment that has obstructed growth and harmed members. The EURO certainly overextended itself by encompassing too many countries. Reciprocity and harmonization cannot occur when incentives to integrate with weak countries are so small. Furthermore, the weaker states do not have anything to reciprocate since their problem has such a small affect on the currency. It has proven to be a contradiction to stability rather than articulation of it. Thus, the EURO's sustainability only lies within its largest contributors, and it would beneficial to all parties if those were the only countries in the OCA. The EURO was an exceptional experiment that proved OCA's must remain small in order to support efficiency maximization. The success of the EURO will rest in its ability to maintain this region by removing countries fail to harmonize. In addition, the success of countries like Spain, Ireland, and Greece will rest in their ability to separate from the region. When countries and OCAs increase each other's costs, the benefits of separation become evident. The benefits to these countries have become apparent and separation should be considered a necessity of welfare.

Note

1. EURO, displayed in all capital letters, is employed in order to distinguish the currency area from the region.

References

Mundell, R. A. (1961), "A Theory of Optimum Currency Areas". *American Economic Review*, 51(4): 657–665.

McKinnon, R. I. (1963), "Optimum Currency Areas" *The American Econo Review*, Vol. 53, No. 4, pp. 717-725.

Thesing, G. (2011), *ECB Raises Key Interest Rate to 1.25% to Stem Faster Inflation;* Bloomberg; Retrieved 05-15-2011 URL: *http://www.bloomberg.com/news/2011-04-07/ecb-raises-key-interest-rate-to-1-25-to-stem-faster-inflation.html*

See Mundell (1961), pp. 664.

Europa (1992), *The EU at a glance - The History of the European Union*. *http://europa.eu/abc/history/1990-1999/1992/index_en.htm*. Retrieved 05/23/11.

Kenen, P. B. (1969), "The Theory of Optimum Currency Areas: An Eclectic View. In R. Mundell, & A. Swoboda", *Monetary Problems in the International Economy.* Universityof Chicago Press.

Frankel, J. and A. K. Rose, (1998), "The Endogeneity of the Optimum Currency Area Criteria" *The Economic Journal,* Vol. 108, No. 449, pp. 1009-1025.

Silvia, S. J. (2004), "Is the Euro Working? The Euro and European Labour Markets" *Journal of Public Policy,* Vol. 24, No. 2, pp. 147-168.

Maloney, J. and M. Macmillen (1999), "Do Currency Unions Grow Too Large for Their Own Good? *The Economic Journal*, Vol. 109, No. 458, pp. 572–587.

Dalton, M. (2010), "Ireland's Trade Surplus Flatters It" *The Wall Street Journal* Retrieved 05-22-2011 URL: *http://blogs.wsj.com/brussels/2010/12/01/irelands-trade-surplus-flatters-it/*

Eurostat press office, *Euro area annual inflation up to 2.8%: EU up to 3.2%,* May, 16 2011, retrieved 05-22-2011 URL: *http://ec.europa.eu/eurostat*

Jones, G. (2011), *Analysis: S&P Warning Heralds Tough Times Ahead for Italy,* Rueters, 05-22-2011 URL: *http://www.reuters.com/article/2011/05/22/us-italy-sp-idUSTRE74K17720110522*.