# Saving Euro by Dividing Europe in Multiple OCAs

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**Abstract:** On the aftermath of the global credit crunch was made clear that the Euro countries debt crisis shows that the EMU is far from being an Optimal Currency Area (OCA) under its current form. The countries accepted bailouts from their counterparts and international organizations in order to prevent the Eurozone collapse spreading the crisis further. Can the breakup to multiple areas help as Tootel (1990) suggested? Three possible sets of OCA scenarios are analyzed along with the demolition scenario. The breakup of the Eurozone to two currencies consisting possible OCAs along with a second one adding all the EU members and a third one applying in small regions. The scenarios are analyzed by using eleven equally weighted optimum area criteria to make Eurozone a single or a set of sustainable OCAs. These type and extension scenarios are presented for the first time for EU countries finding possible sets of independent country groups. The results show that the asymmetries lead to the crisis persist in a possible two or more "euros" area and this scenario cost is higher than union dissolution's. Europe cannot become in its current form a set of OCAs under any circumstances.

**Keywords**: Asymmetries; OCA; monetary policy; dissolution scenarios

**JEL Classification**: E42; E52; F41

## 1. Introduction

The current debt crisis in the Eurozone has made clear that the current form of EMU is far from being an Optimal Currency Area (OCA). Possible national market problems transferred through financial contagion channels to other countries as asymmetric shocks. The economic development is also asymmetric. Countries which share the same currency have different economic, social, political and legal framework, but they have to share the same monetary policy. The countries had also the obligation to bailout their weaker counterparts acting as lenders of last resort for them in order to maintain the union increasing their exposure to the initial financial infection. The loss of economic independence, the asymmetric shocks through contagion and the bailout obligation are the major disadvantages of EMU participation (Cohen, 2003).

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The current scheme cannot last for long. There is no union withdraw process and if a country capable of forming an independent monetary policy wants to abandon the union or bankrupt the other countries will (or they should) lead union to dissolution because the costs related to the maintenance of a broken monetary scheme are high(Blanchard, 2006). A possible dissolution scenario is analyzed along with the multiple OCA's scenario and a second set of scenarios adding more European countries to a new extended Eurozone. This analysis goes beyond the present literature because until now it was limited to exist and working monetary unions and not proposed ones. After analyzing the characteristics of a possible OCA using the Mangas (1997) criteria I am presenting a set of 11 variables to make quantification on each country's characteristics. The voluntarily breakup of the union in new free floating currencies consisting of countries having common characteristics is presented.

The paper is structured as follows: The next part is presenting the disadvantages of European monetary union. The third part provides the dissolution scenario. OCA requisitions, the relative data set and scenarios are presented on the forth part. On the final section I conclude based on data results criticizing the three scenarios and I propose incentives on possible further research.

## 2. Monetary Union's Problems and Disadvantages

When the common European currency introduced back in 1999, the monetary union plausible advantages were overestimated while potential disadvantages were put aside. Since 1999 progress has been made. Intra-trade within EU has been stimulated because of the non-tariff and single market policy. Factor mobility has also been increased despite the limitations put by older members to their newer counterparts (countries accessed union after 2003). The price transparency is another advantage linked to the common currency creating benefits for business and consumers. Transaction costs which can appear in different ways (commissions and buying and selling prices spreads) eliminated within the zone (De Grauwe and Moesen, 2009). Despite its obvious advantages Eurozone is debated for its disadvantages. Some of them have been known and expected since its foundation. Despite early literature (Gros and Thygesen, 1998) and (Pszezolka, 2004) which emphasized on temporary negative effect of transaction costs this problem seems to be less important than the others. The most interesting fact has to do with disadvantages which weren't expected on their current extension. The problems are so severe nowadays leaving the existence of Eurozone under question (Masson, 2011).

The major expected disadvantage is the loss of monetary and national macroeconomic policy autonomy. The introduction of a common central bank which handles the interest rate of Euro along with the single currency without

capital controls. Countries cannot determine their own monetary policy and inflation rate. The trade-off between unemployment and inflation is unable. The countries have to put their inflation in to the line with the lower inflation rate. Regional disparities are also present. Some union countries gain while others lose. Regional policies have fallen out of favor because of the political manipulation, economic adjustments delay and insufficient industries funding. Finally the exchange policy instrument was also lost, this loss wouldn't matter if they had only fiscal policy but the problem of external balance is also present. Whether the zone could have a balanced external trade, they experienced countries having surpluses and others having deficits (De Grauwe, 2003).

The debt crisis showed the disadvantages of the monetary union which they weren't projected. Asymmetric shocks which had to be avoided for the counties of the monetary union were present because some countries were infected in the first stage of crisis (PIG debt problem) and within the union the problem amplified by contagion exposing initially not infected countries to credit risk transforming crisis to symmetric within the zone. (Costa Fernandes & Mota, 2011)

Another unpredicted disadvantage has to do with the role of internal "lender of last resort" which countries were called to play recently. Countries having better economic results are forced from their political decision of bailing out weaker economies exposing themselves to other countries credit risk doubting whether they would receive their loans on the maturity dates or not. The lack of central policy or in other words political union among the European countries was a problem recognized even before the EMU creation. (Schinasi and Texeira, 2006) The Europeans hoped that the monetary union would lead to an extended political bonds creation. But, individual economic policies acts were actions against the mutual monetary policy.

The Eurogroup where the political decisions related to Euro are unofficially but substantially taken, lost its confidence among the European citizens of being capable to plan and imply strong monetary policy. A future risk has to do with their exposure to weaker countries default. If a country within the zone cannot meet its repayments its lenders and reintroducing a national currency they will lose their funds and they will be forced to introduce immediately national currencies to avoid part of the dissolution later costs. As shown the disadvantages from the current scheme are many and difficult to solve. With its current form EMU cannot last for long. In the next part we are about to see the dissolution scenario where a country is selecting to introduce a national currency in order to gain from a possible autonomous monetary policy, the effect of its decision to the other monetary union countries and the effects on their monetary policy change.(Robichaud, 2011).

## 3. Eurozone Dissolution Scenario

A monetary union has never been made to be broken. But under unlucky political or economic circumstances none of the modern monetary unions has remained untouched and only microstates bonded to larger neighbor's currency monetary union and the CFA zone are still in operation for more than 50 years. The reason behind the long term existence has to do with the high cost of independent monetary policy. If a country cannot afford it could leave its monetary policy guided by the larger country or the union common central bank.

It would order to find the reasons of breakup excluding the cases of previous political disintegration (Former USSR, Yugoslavia and Czechoslovakia respectively) (Fidrmuc and Horvath, 1998) bonding or dollarization (many cases in Central and South America). In this case though we can presume that this dissolution scenario refers to the voluntary participation unions such as Eurozone. With exception of high political risk incentives to secede are developed because of inefficiencies due to integration.

A country in order to leave the EMU will face a large depreciation of its currency followed by exports decline, transition costs and political and economic risk rise. (Blanchard, 2006) But it will leave if its cost of national currency reintroduction is lower than the maintained cost of being a part of a monetary union in the long term. Leaving a monetary zone cannot be a single side decision and unions don't have a smooth and volunteer leaving process by their creation, only temporary solutions can be proposed. (Fuchs and Lippi, 2005) We exclude the parallel circulation of both national and common currency which cannot last for long due to Gresham's law (Mundell, 1988). On the other hand we propose three plausible scenarios: the voluntarily withdraw of a country from the union, the dissolution and the reintroducing of national currencies. The remaining countries to the zone will also have strong incentives to leave the zone immediately because there is a possibility to avoid the majority of the high broken zone maintenance cost and gain from the strong motive of autonomous monetary policy profits.

The point where a monetary union dissolute is also an important issue. When a country leaves a scheme if its size can work as a monetary policy individual the scheme breaks down. Comparisons cannot be made between EMU and Latin Monetary Union which can be considered more as a fixed rates club. There wasn't common currency and one central bank. Monetary discipline was also absent. Thus there was no single currency or central bank for a long time to abandon and the members' commitment was loose the consequences from the national currencies mint didn't have negative effects on members economies.(Bae and Bailey, 2011).

The possible devaluation long-term positive effects in competitiveness are the major motive that the breaking country has to leave the monetary union. The reintroducing national currency costs are high and a possible decision has to be

taken by monetary authorities is analyzed in various categories of cost acting as barriers for a possible exit. (Fuchs and Lippi, 2005)

An initial effect of the reintroducing announcement is the rise of risk and interest rates on countries' debt, not only for the abandoning country but for the whole zone. This is a penalty for the leaving country, but also for the others that let the union broke. Credit ratings will lower increasing the pressure on the now independent central bank to raise interest rates and further devaluation.

Internal economic problems also occur. To regain its competitiveness a country should reduce, according to an earlier work (Blanchard, 2006) referring to the case of Portugal as a possible leaving country, a 25% wage reduction as to be made. Further reduction to the wages will follow possible trade flows from abroad. Because of its inconvenience, due to unfair manipulating monetary issues failing to maintain the previous commitment of monetary union will imply a tariff to their exports to the breaking country. In order to maintain its competitiveness country must transfer this tariff to its workers as a wage reduction. This compensatory tariff can be also followed by unfair monetary exchange rate policy to attract FDI or restrictions to their citizen's freedom.

Political disintegration is another major consequence of the economic and monetary independence. An abandoning country, something that is no provision in the European Union, obviously didn't estimate the profits from the political integration. The other members won't easy participate to discussions for common foreign policy and a European Army creation. Through this process weaker countries are excluded from the European Union decisions and in a later stage from the Union itself. This would have also a major effect on their international trade position against these countries and the European Union because all participants will lose EU membership and its benefits. This will lead to higher country risk added interest cost.

Reintroducing new currency also involves technical and legal obstacles. Some of those are associated with the initial competitiveness depreciation itself. In order to be effective the currency introduction should be followed by debt and savings redenomination inside the country otherwise it will lead to financial distress and bankruptcies. All money working equipment (ATMs, Payment machines, airport handlers etc.) must be reprogrammed; notes and coins have to be minted and placed all over the country. A short period of double circulation is also important for the smoothest possible transition, raising further costs.

In any case more measures will be needed to keep people from massive withdraws, and bank runs to foreign banks. A "corralito" limit to bank withdrawals can be an immediate remedy but it cannot be a long term measure. The bond issues cannot be easy accepted by international markets having a junk rating status and interest rates will rise further. Redenomination of the foreign debt is also plausible out of favor

of the positioned investors who will have great loss of the country's inconvenience. If they law suit the country in the European court of justice they will receive remedy because the court won't be favor against braking country.

The other members will have to pay the increased cost occurred by the country's retirement. Unless their action is coordinated and rapid they will have to pay a short term cost which is 50% devaluation and further devaluation in the long term, the possible share of the leaving country to the ECB, the possible bailouts given will be under question and the loss from the possible independent monetary policy. If the remaining countries coordinate their action of introducing national currencies they will keep their political sustainability keeping their competitiveness and wages level and they won't have to bail out their joint central bank. Markets will be probably positive in a possible common action looking to the future of the countries. People are also favorite to their national currencies and the political decision may be easier. The sunk cost which cannot be avoided in any case consists of the credit risk lowering costs compared to the zone maintenance and the loss of debt repayments plus technical cost (Boonstra, 2010).

In any case this scenario seems to have large cost for all the countries but the cost for the leaving country will be unbearable. In real life a country won't easy let voluntarily the union to dissolute and the others will decide to abandon the union when the exposure to possible delayed or lost debt repayments will be already high.

## 4. OCA Scenarios

Making Eurozone an OCA in the long term has been the ultimate goal since its foundation. Possible multiple breakup to a set of more than one OCAs (Tootel 1990) could be more operative and effective. A more realistic target is the implement of a common interest system allowing countries to participate in the financial markets equally with the implementation of an interest equalization tax within the zone as a presumption of the short term effective monetary policy along with specific and customized in each country's needs to eliminate regional disparities transforming zone to an OCA. These scenarios of multiple OCAs and interest equalization tax implementation are analyzed in the present sector.

In a similar work (Monga, 1997) author listed 19 relevant criteria for a successful currency union in Francophone Africa. The level of freedom in certain sectors of the economy is crucial for creating or maintaining monetary unions. More freedom means larger flexibility for the referring country making it keen to accept needed transformations to be a part of an OCA. The OCA countries levels have to be equal. I made transformations to the original variables in order to transform them to meet my current research criteria. I have deployed the latest (2012) dataset from Heritage foundation for economic freedom scores (Business, Trade, Fiscal,

Government spending, investment, fiscal, property rights, Freedom from corruption and labor freedom), political risk from Euromoney country and credit rating from international agencies respectively consisting an 11 variables dataset. In (Monga, 1997) the measure is ordinal and based on estimates. Integer values range from -2 (heavy disadvantage or incentive) to +2 (strong advantage) using zero (0) if the effect is neutral. The variables have the same weight and added to make a final index.

In contrast to the referred one (Monga, 1997) I used quantitive data provided by referred sources using as population the specific scores for each series calculating its average and standard deviation omitting zero (0). The methodology choice has to do with the fact that asymmetries are present. I use these descriptive measures to give each country a score for each variable. The higher deviation means higher asymmetry. Thus, the effective grouping to two has to be made on the basis of higher asymmetries of the population average. The constructing of the indices is following the deviation ordination pattern. If the value is smaller than one standard deviation from the mean I note it as a heavy disadvantage (-2), from one standard deviation to mean (not included) is a minus one (-1), from mean to one standard deviation (not included) variable is a plus one (+1) and finally if the value is more than one standard deviation it takes a plus two (+2). Countries with positive final index can be counted as possible candidates for an OCA scheme and negative final index means that the country has to make possible transformations in order to improve its score or its candidate to format another OCA with other low final index countries. The results are shown on the following table.

The results show that 10 countries (Austria, Belgium, Cyprus, Estonia, Finland, France, Germany, Ireland, Luxemburg and Netherlands) have positive final index showing that their scores are close and are primary candidates for an OCA. The other 7 countries have negative score (Greece, Italy, Malta, Portugal, Slovak Republic, Slovenia and Spain) which means that they cannot be members of an OCA with their current scores and have to make transformations to join a common area. In a possible multiple currency areas scenario these two groups seem to consist the initial group of the two new Euros. A "hard" one based on positive score countries and a "soft" one based on negative score countries. Possible advantages of this scheme are obvious. The control of the monetary policy is more flexible for a participating country than the larger union. Political cost seems to be lower than the dissolution's scenario. The regional asymmetries are expected to be smaller because countries scores and characteristics are closer. The markets will be easier to accept this division and transition costs will be lower.

The creation of multiple currency areas has some fundamental presumptions. Initially the countries consisting a new monetary zone must accept that the two currencies will free float between them. Otherwise the scheme substantially doesn't change and its problems remain. Additionally there is no OCA if the participating

countries don't share the same borders because the trade volume isn't so high among the zone countries.

In current scenario Cyprus and Slovak republic don't border with the other participants and they have to be excluded facing the cost of an abandoning country facing a major disadvantage for the scenario The results of the 9 countries "Hard Euro" and 6 countries "Soft Euro" are shown below:

**Table 1.**

| Country Name | Business Freedom | Trade Freedom | Fiscal Freedom | Gov't Spending | Monetary Freedom | Investment Freedom | Financial Freedom | Property Rights | Freedom from Corruption | Labor Freedom | Gov't Expenditure % of GDP | pol. Risk | credit rating | final index |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Austria | -2 | 1 | -2 | 1 | 1 | 1 | 1 | 2 | 1 | 2 | -1 | 1 | 2 | 8 |
| Belgium | 2 | 1 | -2 | 2 | 1 | 1 | 1 | 1 | 1 | 2 | -2 | 1 | 1 | 10 |
| Cyprus | -1 | -2 | 2 | -1 | 2 | -1 | 1 | 1 | -1 | 2 | 1 | 1 | -1 | 3 |
| Estonia | -1 | 1 | 2 | -2 | -2 | 2 | 2 | 1 | -1 | 1 | 2 | -1 | -1 | 3 |
| Finland | 2 | 1 | 1 | 2 | -1 | 1 | 2 | 2 | 2 | -2 | -2 | 2 | 2 | 12 |
| France | 1 | -2 | -1 | 2 | 1 | -2 | 1 | 1 | 1 | -1 | -2 | 1 | 2 | 2 |
| Germany | 2 | 1 | -1 | 1 | 1 | 1 | -1 | 2 | 1 | -2 | 1 | 1 | 2 | 9 |
| Greece | -1 | -2 | 1 | 2 | -1 | -2 | -1 | -2 | -2 | -1 | -1 | -2 | -2 | -14 |
| Ireland | 2 | 1 | 1 | -1 | -1 | 2 | 1 | 2 | 1 | 2 | 1 | -1 | -1 | 9 |
| Italy | -1 | 1 | -1 | 1 | 1 | -1 | -1 | -2 | -2 | -1 | -1 | -1 | -1 | -9 |
| Luxembourg | -1 | 1 | 1 | -2 | 1 | 2 | 2 | 2 | 1 | -1 | 2 | 2 | 2 | 12 |
| Malta | -2 | 1 | -1 | -1 | -2 | -1 | -1 | -1 | -1 | 1 | -1 | -1 | -1 | -11 |
| Netherlands | 1 | 1 | -2 | 1 | 1 | 2 | 2 | 1 | 2 | 1 | -1 | 1 | 2 | 12 |
| Portugal | -1 | 1 | -1 | 2 | 1 | -1 | -1 | -1 | -1 | -2 | -1 | -2 | -1 | -8 |
| Slovak Republic | -2 | 1 | 2 | -2 | -1 | -1 | 1 | -2 | -2 | 1 | 2 | -1 | -1 | -5 |
| Slovenia | 1 | 1 | 1 | -1 | -1 | -1 | -2 | -2 | -1 | -2 | 1 | 1 | -1 | -6 |
| Spain | -1 | 1 | -1 | -1 | 1 | 1 | 2 | -1 | -1 | -1 | 1 | -1 | -1 | -2 |

**Table 2. "Hard" Euro scenario**

| | Business Freedom | Trade Freedom | Fiscal Freedom | Gov't Spending | Monetary Freedom | Investment Freedom | Financial Freedom | Property Rights | Freedom from Corruption | Labor Freedom | Gov't Expenditure % of GDP | pol. Risk | credit rating | Final Index |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Austria | -2 | 1 | -1 | -1 | 1 | -1 | -1 | 1 | 1 | 2 | -1 | 1 | 1 | 1 |
| Belgium | 1 | 1 | -2 | -1 | 1 | -1 | -1 | -2 | -1 | 1 | -1 | -1 | -1 | -7 |
| Estonia | -1 | 1 | 2 | 2 | -2 | 1 | 1 | -2 | -2 | -1 | 2 | -2 | -2 | -3 |
| Finland | 2 | 1 | 1 | -1 | -1 | 1 | 1 | 1 | 2 | -2 | -1 | 1 | 1 | 6 |
| France | 1 | -2 | -1 | -2 | 2 | -2 | -1 | -1 | -2 | -1 | -2 | -1 | 1 | -11 |
| Germany | 1 | 1 | -1 | 1 | 2 | 1 | -2 | 1 | 1 | -2 | 1 | 1 | 1 | 6 |
| Ireland | 1 | 1 | 1 | 1 | -1 | 1 | -2 | 1 | 1 | 2 | 1 | -2 | -2 | 3 |
| Luxembourg | -2 | 1 | 1 | 2 | -1 | 1 | 1 | 1 | 1 | -1 | 2 | 2 | 1 | 9 |
| Netherlands | -1 | 1 | -1 | -1 | 1 | 1 | 1 | 1 | 2 | 1 | -1 | 1 | 1 | 6 |

**Table 3. "Soft" Euro scenario**

| Country | Business Freedom | Trade Freedom | Fiscal Freedom | Gov't Spending | Monetary Freedom | Investment Freedom | Financial Freedom | Property Rights | Labor Freedom | pol. Risk | credit rating | Final Index |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Greece | -1 | -2 | 2 | -1 | -1 | -2 | -1 | -2 | 1 | -2 | -2 | -10 |
| Italy | -1 | 1 | -2 | -2 | 1 | 1 | -1 | -2 | -1 | -1 | -1 | -7 |
| Malta | -2 | 1 | 1 | 1 | -2 | 1 | -1 | 1 | 2 | 1 | 1 | 6 |
| Portugal | 1 | 1 | -1 | -1 | 2 | -1 | -1 | 1 | -2 | -1 | 1 | -2 |
| Slovenia | 2 | 1 | 1 | 1 | -1 | -1 | -2 | -1 | -1 | 2 | 1 | 0 |
| Spain | -1 | 1 | -1 | 2 | 2 | 2 | 2 | 1 | 1 | 1 | 2 | 13 |

**Table 4. All EU scenario**

| NAME | Property Rights | Freedom from Corruption | Fiscal Freedom | Gov't Spending | Business Freedom | Labor Freedom | Trade Freedom | Investment Freedom | Financial Freedom | Political Risk | Credit Rating | Overall score |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Austria | 0 | 0 | -1 | -1 | -1 | 1 | 0 | 0 | 0 | 0 | 0 | -2 |
| CzechRepublic | 0 | -1 | 0 | 0 | -1 | 1 | 0 | -1 | 0 | 0 | 0 | -2 |
| Estonia | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Finland | 0 | 1 | 0 | -2 | 1 | -1 | 0 | 0 | 0 | 1 | 1 | 1 |
| Germany | 0 | 0 | 0 | 0 | 1 | -1 | 0 | 0 | -1 | 0 | 1 | 0 |
| Iceland | 0 | 0 | 0 | 0 | 1 | 0 | 1 | -1 | -1 | -1 | -1 | -2 |
| Ireland | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | -1 | -1 | 0 |
| Latvia | -1 | -1 | 0 | 0 | 0 | 0 | 0 | 0 | -2 | -1 | -1 | -6 |
| Lithuania | 0 | -1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | -1 | 0 |
| Luxembourg | 0 | 0 | 0 | 1 | 0 | -1 | 0 | 1 | 0 | 0 | 1 | 2 |
| Netherlands | 0 | 0 | -1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| Slovakia | -1 | -1 | 0 | 1 | -1 | 0 | 0 | 0 | 0 | 0 | 0 | -2 |

As we can see the asymmetries were smoothened but they didn't eliminate. In the "Hard Euro" France, Belgium and Estonia and in the "Soft Euro" Greece, Italy and Portugal seem to be week. The problems didn't solve and in fact the dissolution is still extremely plausible and the total cost of this scenario is larger compared to national currencies introduction.

Another possible innovative OCA scenario has to do with the creation of multiple OCAs adding future Euro participants. Countries that will adopt Euro in the next years could be a fruitful addition for the creation of one or more OCAs. Using the same 11 variables on the index creation we added all the 2003-2007 expansion non euro members (Bulgaria, Czech Republic, Hungary, Latvia, Lithuania, Poland and Romania respectively) plus the two joining members of the EU (Croatia and Iceland). The change is the use of zero because some countries are not currently members of Eurozone and their participation can be a political choice. The results for all 27 countries are shown to the following table:

The results show that twelve countries now have positive scores (Austria, Czech Rep, Estonia, Finland, Germany Iceland, Ireland Latvia, Lithuania, Luxemburg, Netherlands and Slovakia), two countries have scored zero (Malta and Spain) and

thirteen countries scored negative (Belgium, Bulgaria, Croatia, Cyprus, France Greece, Hungary , Italy, Poland, Portugal, Romania and Slovenia). On the same motive we make a set of two OCAs. The results are shown to the following table.

**Table 5. All EU scenario "Hard" Euro**

| NAME | Property Rights | Freedom from Corruption | Fiscal Freedom | Gov't Spending | Business Freedom | Labor Freedom | Trade Freedom | Investment Freedom | Financial Freedom | Poltical Risk | Credit Rating | Overall score |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Belgium | 1 | 1 | -1 | -1 | 2 | 1 | 0 | 1 | 0 | 1 | 1 | 6 |
| Bulgaria | -1 | -1 | 1 | 1 | 0 | 1 | 0 | -1 | 0 | 0 | 0 | 0 |
| Croatia | -1 | 0 | 0 | 0 | -2 | 0 | 0 | 0 | 0 | 0 | 0 | -3 |
| Cyprus | 0 | 0 | 1 | 0 | 0 | 0 | -1 | 0 | 0 | 0 | 0 | 0 |
| France | 1 | 1 | -1 | -1 | 0 | 0 | -1 | -1 | 0 | 1 | 1 | 0 |
| Greece | 0 | -1 | 0 | -1 | 0 | -1 | -1 | -1 | 0 | -2 | -2 | -9 |
| Hungary | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Italy | 0 | -1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | -1 |
| Malta | 0 | 0 | 0 | 0 | -1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| Portugal | 0 | 0 | 0 | 0 | 0 | -1 | 0 | 0 | 0 | 0 | 0 | -1 |
| Romania | -1 | -1 | 1 | 1 | -1 | 0 | 0 | 1 | -1 | 0 | 0 | -1 |
| Slovenia | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | -1 | 0 | 0 | -1 |
| Spain | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 |

We also see that the asymmetries remain in the extended model. The same problems are still present. More developed countries will benefit from a possible union and the weakest countries will still have to carry the costs of a possible monetary union. The size of these possible OCAs is large and it could be the reason for the existence of the asymmetries.

A final OCA scenario could be a set of regional unions that seems to be easier to coordinate. We choose to present three possible scenarios. A Balkan monetary union with the exception of the Euro's weak link Greece, a union consisting of Visegrad and Baltics in a common region and finally a scenario using Visegrad itself. The results are shown to the following set of tables.

**Table 6. All EU scenario "Soft" Euro**

| NAME | Property Rights | Freedom from Corruption | Fiscal Freedom | Gov't Spending | Business Freedom | Labor Freedom | Monetary Freedom | Trade Freedom | Investment Freedom | Financial Freedom | Political Risk | Credit Rating | Overall score |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CzechRepublic | 0 | -1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| Estonia | 1 | 2 | 0 | 0 | 0 | -1 | 0 | 0 | 1 | 0 | 1 | 1 | 5 |
| Hungary | 0 | 0 | 0 | 0 | 1 | 0 | -1 | 0 | 0 | 0 | -1 | -1 | -2 |
| Latvia | -1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | -1 | -1 | -1 | 0 | -4 |
| Lithuania | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| Poland | 0 | 0 | 0 | 0 | -1 | 0 | 0 | 0 | -1 | 0 | 0 | 0 | -2 |
| Slovakia | -1 | 0 | 0 | 1 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 2 |

**Table 7. Balkan monetary union**

| NAME | Property Rights | Freedom from Corruption | Fiscal Freedom | Gov't Spending | Business Freedom | Labor Freedom | Monetary Freedom | Trade Freedom | Investment Freedom | Financial Freedom | Political Risk | Credit Rating | Overall Score |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Bulgaria | -1 | -1 | 1 | 0 | 0 | 1 | 0 | -2 | 0 | 0 | 0 | -2 | -4 |
| Croatia | 0 | 0 | 0 | 0 | -1 | 0 | 0 | 0 | 0 | 0 | 0 | -1 | -2 |
| Cyprus | 1 | 1 | 0 | 0 | 1 | 0 | -2 | 0 | 1 | 0 | -1 | 1 | 2 |
| Italy | 0 | 0 | -1 | -1 | 0 | -1 | 0 | 0 | 0 | 0 | 1 | -2 | -4 |
| Malta | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 3 | 6 |
| Romania | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | -1 | -1 | -1 | -1 | -2 |
| Slovenia | 0 | 1 | 0 | -1 | 1 | -1 | 0 | 0 | -1 | 0 | 0 | -1 | -2 |

**Table 8. Visegrad and Baltics**

| NAME | Property Rights | Freedom from Corruption | Fiscal Freedom | Gov't Spending | Business Freedom | Labor Freedom | Monetary Freedom | Trade Freedom | Investment Freedom | Financial Freedom | Political Risk | Credit Rating | Overall Score |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CzechRepublic | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 1 | 3 |
| Hungary | 0 | 0 | 0 | -1 | 1 | 0 | -1 | 0 | 0 | 0 | -1 | -1 | -3 |
| Poland | 0 | 1 | -1 | 0 | -1 | 0 | 0 | 0 | 1 | -1 | 0 | 0 | -1 |
| Slovakia | -1 | -1 | 1 | 1 | -1 | -1 | 1 | 0 | 0 | 0 | 0 | 0 | -1 |

**Table 9. Visegrad scenario**

| NAME | Property Rights | Freedom from Corruption | Fiscal Freedom | Gov't Spending | Business Freedom | Labor Freedom | Trade Freedom | Investment Freedom | Financial Freedom | Political Risk | Credit Rating | Overall score |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Austria | 1 | 1 | -1 | -1 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 2 |
| Belgium | 0 | 0 | -1 | -1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | -1 |
| Bulgaria | -2 | -1 | 1 | 1 | 0 | 1 | 0 | -1 | 0 | 0 | 0 | -1 |
| Croatia | -1 | -1 | 0 | 1 | -1 | 0 | 0 | 0 | 0 | 0 | 0 | -2 |
| Cyprus | 0 | 0 | 0 | 0 | 0 | 0 | -2 | 0 | 0 | 0 | 0 | -2 |
| CzechRep | 0 | 0 | 0 | 0 | -1 | 1 | 0 | 0 | 1 | 0 | 0 | 1 |
| Estonia | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 2 |
| Finland | 1 | 1 | 0 | -1 | 1 | -1 | 0 | 0 | 1 | 1 | 1 | 4 |
| France | 0 | 0 | -1 | -1 | 0 | 0 | -2 | -1 | 0 | 0 | 1 | -4 |
| Germany | 1 | 1 | 0 | 0 | 1 | -1 | 0 | 0 | -1 | 1 | 1 | 3 |
| Greece | -1 | -1 | 0 | -1 | 0 | -1 | -2 | 0 | 0 | -2 | -2 | -10 |
| Hungary | 0 | 0 | 0 | 0 | 0 | 0 | 1 | -1 | 0 | -1 | 0 | -1 |
| Iceland | 1 | 1 | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 0 | 0 | 5 |
| Ireland | 1 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 4 |
| Italy | -1 | -1 | -1 | 0 | 0 | -1 | 0 | 0 | 0 | 0 | 0 | -4 |
| Latvia | -1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| Lithuania | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 3 |
| Luxembo | 1 | 1 | 0 | 1 | 0 | -1 | 0 | 1 | 0 | 1 | 1 | 5 |
| Malta | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Netherlan | 1 | 1 | -1 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 5 |
| Poland | 0 | 0 | 0 | 0 | -1 | 0 | 0 | -1 | 0 | 0 | 0 | -2 |
| Portugal | 0 | 0 | 0 | 0 | 0 | -1 | 0 | 0 | -1 | -1 | 0 | -3 |
| Romania | -1 | -1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | -1 | 0 | -1 |
| Slovakia | -1 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| Slovenia | 0 | 0 | 0 | 0 | 0 | -1 | 0 | 0 | -1 | 0 | 0 | -2 |
| Spain | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

The results still show the asymmetries that follow all the OCA scenarios in Europe. Nobody can claim that even smaller regions can consist under Tootel's (1990) hypothesis that we can make many (4-5 probably) small regional monetary unions in Europe the solution is obviously not the division of countries to regions or multiple monetary unions.

## 5. Conclusions

The present work has presented three sets of possible scenarios related to transformations for the EMU future to smaller areas that can smooth the asymmetries. Present debt crisis is testing the durability and long prosperity of the union. It was on the decision dead-end under this pressure as a motive for reform and crucial decisions having to do with the possible maintenance of the monetary union. The dissolution or breakup cost seems to be extremely high for all the participating countries and the problems doesn't seem to be solved by a breakup into multiple OCAs of any size hiding a possible future dissolution of the smaller unions cost.

The first decision that it has to be made is an opportunity cost choice. Countries want to pay the cost of possible dissolution or EU and EMU maintenance? Political decisions related to liberation reforms and transformations and the change of the economic environment seem to be critical for the long term sustainability but the time for the implication of a tighter union under the present turbulence seems to be inadequate. Further sustainability based solutions have to be developed in contrast to the dissolution scenarios for Eurozone and furthermore for European Union itself.

A single OCA is preferable for all the countries and in a possible work authors can develop a long term forecast analysis for the possible time of creation under the existing or future EU form. Until then the Eurozone countries have to be saved from the possible costs of dissolution in any form.

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