

Currency Unions

The Euro and Lessons from History

Kai Duttler *

June 2011

Paper prepared for the seminar
“Financial Instability and Institutional Reforms”
by Prof. Dr. Dr. h.c. Franke.

* M.Sc. Student, Department of Economics, University of Konstanz. Email: kai.duttler@uni-konstanz.de.

Table of Contents

I	Introduction.....	1
II	Optimal Currency Area Theory	2
	Mundell's Groundwork	2
	Extensions to the Model	3
	Degree of Openness	3
	Degree of Diversification.....	3
	Endogeneity Problem.....	4
	Policy Oriented Criteria	4
	Criticism	4
	Is EMU an Optimal Currency Area?	5
III	Analysis of the Past.....	6
	Multinational Monetary Unions	6
	The Latin Monetary Union	7
	The Scandinavian Monetary Union	8
	National Monetary Unions	9
	The German Monetary Union.....	9
	The United States Monetary Union	10
IV	Lessons from History.....	11
	Most Important Factors	11
	Back to the roots	13
	Childhood Diseases	14
V	Conclusion	15
	References	16

I Introduction

Currency unions, also known as monetary unions, are groups of countries that share one single currency. Usually they occur when a small or poor country unilaterally adopts the money of a more prosperous partner. This process is known as official dollarization, where unofficial dollarization refers to cases where a foreign currency circulates widely within the country, but is not formally the national currency.

However there are also numerous examples of multilateral currency unions between countries of equal size and wealth. The most popular case in recent history is the one of the Economic and Monetary Union of the European Union (EMU), also known as European Monetary Union. Its long-term goal is convergence of the economies of all members of the eurozone by the instrument of a common monetary policy.

Traditional reasons for the formation of currency unions are mostly political in nature. A national monetary union generally follows as part of the process of political unification, as for instance did the American monetary union after the War of Independence (1776 - 1783) when the thirteen colonies united. Besides there also can be economic reasons, including a reduction in transaction costs and thus higher trading activity. As a third reason, also factors like common history, language, culture and religion contributed to monetary unification.

In the case of Europe, there certainly are economic reasons behind this project, one of them being the goal of introducing the euro as a premier currency in international financial transactions. Nonetheless it can be said that the main stimuli were further cultural and political integration of the eurozone.

Today, this bold large-scale project runs the risk of failure after facing sore consequences from a global financial crisis. By taking a look at the history of currency unions, I will examine what we can learn from the failures and successes of previous attempts on this field. In the first section, I want to shortly introduce the theory of optimal currency areas and briefly discuss its evolution since it was first mentioned by Robert Mundell fifty years ago. In this context, I will discuss its importance in recent academic literature, especially in connection with the European Monetary Union. After that I will make a short trip to the past, analyzing major currency unions from recent history. Subsequently I will take a look at the lessons we can learn from them and investigate in how far they can be applied to the current situation. At the end I conclude.

II Optimal Currency Area Theory

In the process of the establishment of a monetary union in Europe this theory played a major role as it is the starting point for almost all discussions about the future and the chances of success of such a union. Today, about ten years after the introduction of the euro as the common currency of meanwhile seventeen countries of the European Union, we can take a look backwards and see how important this theory actually emerged in that context. Moreover, we will see if we can learn from it for future improvements of currency unions.

Mundell's Groundwork

Let us suppose that all countries had the same currency, as in the progress of political improvement they one day will have... So much barbarism still remains in the transactions of the most civilized nations that almost all independent countries choose to assert their nationality by having, to their own inconvenience and that of their neighbors, a peculiar currency of their own.

John S. Mill, Principles of Political Economy (1848)

The theory of optimal currency areas was established in the early 1960s by Robert Mundell. Before that, there were many proponents of a single world currency, and even today the “Single Global Currency Association”¹ urges the United Nations and other groups to recognize monetary stability as a fundamental human right. In fact, if one considers the “inconvenience of money-changing” as the only cost of existence of multiple currencies, then the world is an optimal currency area. With one world currency, the “inconvenience” disappears.²

The Mundellian theory however recognizes the stabilizing function of the exchange rate. This can be illustrated by three small examples:

In the first case, consider countries A and B, each having their own currency and producing a country-specific good. If a shock occurs such that demand shifts from B to A, inflation would increase in A and unemployment in B. “To the extent that prices are allowed to rise in A, the change in the terms of trade will relieve B of some of the burden of adjustment.” Mundell (1961). However, country A could tighten credit restrictions to avoid inflationary pressure, leaving B with a rise in unemployment.

¹ Refer to www.singleglobalcurrency.org for further information on this association.

² Horvath (2003, p. 11).

In the second case, consider A and B being regions of the same country, or members of a currency union. Now the central bank has to decide between unemployment in region B if it does not adjust the money supply, and increased inflation in region A by increasing money supply.

Now consider A and B being regions, but each runs across two countries. In this case central banks would have to act simultaneously and it is unclear, which country should devalue. Here, the countries obviously do not form an optimal currency area.

Mundell argues that an optimal currency area does not necessarily have to be a country but rather has to be a region, which should be defined by the Ricardian assumption of internally mobile but externally immobile factors. He refers to labor mobility, since capital was assumed to be relatively mobile also over large distances.

If economic stability or adjustment to asymmetric shocks is the only goal considered, as many areas as possible should trade with flexible exchange rates. However, if the costs and risks that different currencies bear are taken into account, a tradeoff must be found.

Extensions to the Model

After this short introduction into the early ideas of Mundell, I will now briefly discuss important extensions to his model which gave rise to the optimal currency area theory as it is used in most recent academic work.

Degree of Openness

McKinnon (1963) considers the openness of an economy as the crucial criterion of optimality of a currency area. It is defined by the ratio of tradable goods to non-tradable ones which are consumed exclusively within the economy. With a high ratio of tradable goods, changes in the exchange rate highly affect the overall price level. That mainly occurs in small countries trading extensively with the outside world. These have an incentive to form larger common currency areas with other countries to stabilize inflation.

Degree of Diversification

Kenen (1969, p. 49) says that “a well-diversified national economy will not have to undergo changes in its terms of trade as often as a single product national economy.” He argues that product diversification decreases the likelihood of asymmetric shocks, which means in consequence that highly diversified countries do not need the flexible exchange rate as an instrument of monetary policy.

However, as Mundell (1969, p. 111) points out, “the most highly diversified economy is the world economy. Then (...) a world currency is the best solution.”

Endogeneity Problem

In the opinion of Frankel and Rose (1998, p. 1010), “a naïve examination of historical data gives a misleading picture of a country’s suitability for entry into a currency union, since the [optimal currency area] criteria are endogenous.” After forming a common currency area, trade among member-countries will most likely increase, resulting in greater synchrony of their business cycles. Consequently, by joining a currency union a country increases its fit to the optimal currency area’s criterion.

Policy Oriented Criteria

The contributions mentioned up to this point deal with arguments that depend on the state of the economy. However, there are also other points of view that take the political interests of a country into consideration. Haberler (1970) points out that it is the similarity of policy attitudes rather than economic characteristics, which distinguishes an optimal currency area. Ingram (1969) thinks that “the efficacy of a currency area depends on policy positions taken by governments and on the firmness of their commitment to them, on attitudes of the population toward the adjustment process involved, [and] on the nature of financial and other institutions [...]”³

Criticism

In Mundell’s concept, with perfect factor mobility no flexible exchange rates are needed. Giersch (1973) states that “since mobility is a function of time and hence very high in the long run, [...] in the long run the optimal currency area must be the whole world.”⁴ Corden (1973) argues that capital mobility can help adjusting for asymmetric shocks in the short run, but cannot solve it in the long run. He also doubts, by taking cultural and language barriers into consideration, that labor mobility can solve “the central problem of monetary integration.”⁵ Bofinger (1994) points out that in a rather diversified economy, exchange rate changes cannot be the optimal therapy to shocks on a single good’s demand. He even writes that “the empirical evidence for a reliable reaction of flexible exchange rates to asymmetric shocks is simply not existent.”⁶

³ Ingram (1969, pp. 97-98).

⁴ Giersch (1973, p. 191).

⁵ Corden (1973, p. 168).

⁶ Bofinger (1994, p.11).

It can be said that, despite all criticism, the optimal currency area theory forms a foundation for any discussion on the topic of currency unions. However, it is hard to apply to empirical research and one cannot expect quantifiable results.

Is EMU an Optimal Currency Area?

In the following I want to discuss to what extent the European Monetary Union can meet all of these requirements. Therefore I use the six optimal currency area criteria presented by Baldwin and Wyplosz (2004), which basically summarize the achievements on the field of optimal currency area theory up to now.

First is the original Mundell criterion of high labor mobility within an optimal region. If we compare European countries to the U.S. and Canada, there is much less internal migration in the single countries. If we look at the EU as a whole, mobility on the labor market is even smaller. We can conclude that the EMU is not an optimal currency area in the sense of Mundell's theory. Next is Kenen's argument of diversification, which can be applied to EMU since there are just minor differences in trade structure in European countries, with only few exceptions. Also the level of diversification is quite high, as is the openness of European countries; the McKinnon criterion can thus be met, too. In terms of economic criteria, it seems that, despite of low labor mobility, EMU is on a good way. However, there still are three political conditions that an optimal currency area must fulfill.

The fiscal transfer criterion states that member-countries must agree to compensate each other for adverse shocks. These transfers exist automatically within national borders through the welfare system and subsidies. The budget of the EU however makes up just 1% of the overall GDP, and thus fiscal transfers are not feasible. Homogeneity of preferences is another criterion which states that there has to be a common consensus about fiscal and monetary policy between member states. The EU is built on common institutions and thus guarantees macroeconomic stability of all members, and even though there are disputes between member-states from time to time, prerequisites for a common policy exist. Finally there is the solidarity criterion which points out that the major condition for monetary integration is the political will to integrate. Regarding the European Union, the data on this issue leaves some space for interpretation.⁷

⁷ See Boomgarden et al. (2011) for an empirical study on public attitudes towards the European Union. The authors find clear differences in the ways that people think about the EU and European integration. However, the union is still very young and integration needs time to proceed.

Time will show if cultural differences prevent the Union from further growing together or if solidarity gets stronger.

To sum up, the European Monetary Union can satisfy about half of the optimal currency area criteria; throughout academic literature it is common consensus that EMU does not make an optimal currency area, lacking essential characteristics. In the next section I will give a short overview of past currency unions and try to find important lessons that can be learnt from them. After that I will discuss if these lessons can help European politicians to overcome the union's deficits.

III Analysis of the Past

Currency unions have been around probably since ancient Greece.⁸ So instead of trying to predict the future, as it is suggested in connection with the optimal currency area theory, we should take a look to the past and see what we can learn from its experience.

In the following I will present two cases of unsuccessful currency unions and two cases of successful ones. In this context, successful currency unions shall be defined as those having survived serious economic shocks and existed for a long period of time. In the next section then I want to point to common features of these and we will see if we can draw a conclusion about the future of EMU from this analysis.

Multinational Monetary Unions

Multinational monetary unions are distinguished by international monetary cooperation between several independent countries issuing their own currencies. They are based on a fixed exchange rate so that the countries' monies are perfectly interchangeable for one another; in the most extreme case all member-states use the same currency. In multinational monetary unions, each country has its own central bank, thus there is no common monetary authority regulating monetary policy. This will become the crucial point in the analysis of historical monetary unions.

It is obvious that unions built from different independent countries can match the optimal currency area criteria just up to a certain extent. As I have pointed out before, factor mobility is highest in small homogeneous regions. Homogeneity in terms of culture, language and social affiliations is not given across national borders in the majority of cases, and preferences differ among governments and citizens of member countries.

⁸ Graboyes (1990, p. 8).

Some multinational monetary unions overcame these obstacles and proved rather successful in history. In the end, however, there always arose problems they could not deal with in their given form.

The Latin Monetary Union

The Latin Monetary Union (LMU) was formed from 1865 by France, Belgium, Switzerland and Italy. Later on Spain and Greece joined in 1868, and Romania, Bulgaria, Venezuela, Serbia and San Marino in 1889.

Prior to the establishment, the original four countries already recognized each other's currencies as means of payment. The basis of this arrangement was the French bimetallic system which defined the fineness and relative value of gold and silver coins. In the 1850s the market price of gold began to fall. According to Gresham's law, bad money drove out good, thus soon after silver coins started to disappear, leaving the market with a severe lack of small denomination monies which made the execution of minor transactions difficult. Thereupon Italy and Switzerland decided to lower the silver content of several coins which led to an imbalance between the countries. Italian and Swiss silver coins flooded France and Belgium, creating seigniorage gains for the issuers at the expense of other countries. As a reaction to this problem, a joint monetary conference was held which led to the creation of the Latin Monetary Union.

The basis of the union was again the bimetallic system of France which was in operation since 1803. Gold and silver were issued in "francs", and each member was permitted to mint unlimited quantities of identical coinage which was accepted by all national treasuries as legal tender.

Another reason for the step towards a currency union was, beside the factor mentioned above, the quest of France for political and economic power. Its defeat in the Franco-Prussian war of 1870-71 dealt a severe blow to these political incentives.

Additional problems arose from the existing currencies which continued to be in use as parallel currencies. All members were required to accept up to 100 francs of these subsidiary silver coins from other countries on individual transactions. When the gold price started to rise again, silver became overvalued this time and people tried to force their subsidiary coins on other countries, which led to the suspension of silver convertibility.

Eventually France and Italy began to exploit a loophole that the conference left open. There was no restriction to prevent member-countries from issuing other forms of money, still leaving the members with considerable monetary independence; so these two started to issue inconvertible paper money. Where France stopped in 1871 after its war

with Germany, Italy's lira remained in use until 1881 and was restored again in 1894. Due to the rapidly depreciating lira and yet still fixed exchange rates, Italy could finance part of its deficits by exporting silver coins to other countries with seigniorage. The costs were shared by all members of the union.

With the beginning of World War I in 1914 all members of the Latin Monetary Union started to issue their own paper monies. As paper money was not recognized as legal tender in other countries, this brought the end to the union, which however was officially declared dead not before 1927.

The Scandinavian Monetary Union

Just as in the case of the Latin Monetary Union, there were strong trade and financial links between the Scandinavian countries Sweden, Denmark and Norway even before they decided to form a monetary union. A considerable share of each country's circulating money originated in one of the other two. Actually, all of them considered joining the Latin Monetary Union but decided against it when France lost the Franco-Prussian war.⁹

In 1873, the Scandinavian Monetary Union (SMU) was formed by Sweden and Denmark. Norway officially joined two years later, although in reality its monetary standard was altered already with the creation of the union. The common currency, the Scandinavian "krona", thus replaced the three types of "riksdaler" which were in use until then. It was based on the gold standard which simplified trade with the United Kingdom and Germany, Scandinavia's leading trading partners and both also on gold. In fact, the dismantling of trade barriers was one goal behind the formation of the union. The other was a political one, the so called "Scandinavism" or "Scandinavian Movement", a desire for mutual support and cooperation among the Nordic countries.

Gold and subsidiary coins were legal tender in all member-countries from the foundation of the union, and by 1901 banknotes were also accepted.¹⁰ In 1885 an agreement was reached whereby the three central banks could automatically draw on each other at par, and transfers were to be free of charge. A common cheque law was introduced in 1897.¹¹ In 1905 separate exchange rates ceased being quoted.¹²

There also existed subsidiary coins in silver and copper, with no restrictions placed on the amount each country was allowed to mint. However, all three countries avoided issuing excessive amounts of them and the gold standard ensured monetary stability.

⁹ Vanthoor (1996, p. 46).

¹⁰ Henriksen and Kaergård (1995, p. 91).

¹¹ Henriksen and Kaergård (1995, p. 95).

¹² Graboyes (1990, p. 9).

First conflict among members of the union arose in 1905 when Sweden denounced the agreement of 1885 for a short period of time, mostly due to political reasons.¹³ Again, however, it was the First World War marking the end of the Scandinavian Monetary Union. At its outbreak all three central banks suspended convertibility of their notes into gold. Also, the export of gold was prohibited. With this, growth of money supply was tied to the national supply of gold, and the basis for the exchange of notes was eliminated. Due to a sharp rise in exports in Denmark and Norway, both countries' currencies soon began to decline in relation to the Swedish krona. Even though there were many attempts to bring all currencies back to par, the end of the union was inevitable and arrived in 1924.

To sum up, the dissolution of multinational monetary unions has been easy to carry out when each member-country maintained a central bank of its own during the monetary union.¹⁴ In case of severe problems or conflicts, the individual nation-states could just re-establish their domestic currencies quite easily.

National Monetary Unions

In a national monetary union, political borders are also the borders of the monetary area. Political and monetary sovereignty both lie in the hands of national institutions.

Naturally, these unions can match most of the optimal currency area criteria. Especially when time progresses, potential differences in culture and language start to disappear and solidarity within the union gets stronger. Due to the existence of just one political authority, fiscal transfers can take place to compensate for the effects of asymmetric shocks, which should not occur as often anyway. So it's not surprising to see that these national monetary unions could withstand hard times and crises much better than multinational ones.

The German Monetary Union

Before the political unification of the German Reich its territory was divided into principalities and free towns, each issuing its own coins and, sometimes, paper money. One can imagine that the diversity of coins was a great nuisance, and money exchanges were very common and profitable.

¹³ The reasons for the political separation of Norway and Sweden in 1905 are not entirely clear, largely due to incomplete records.

¹⁴ Bordo and Jonung (2000, p. 23)

The establishment of a common monetary union proceeded stepwise. In 1834, an agreement removed all internal customs barriers; this was the so called “Zollverein”. Then in 1857 the various coinage systems were integrated into a common standard, the decimal system. The North German Federation prohibited new issues of state paper money in 1870 and left the control of future money supply in the hands of the Prussian Bank.

In 1871, the German Reich was formed following the Franco-Prussian war and paved the way for the establishment of a monetary union. The coinage acts of 1871 and 1873 introduced the “mark” and thus unified coinage throughout the Reich. It was based on gold, in order to link it to the British “pound” which was the leading international currency at that time. In 1875 the Prussian Bank was transformed into the Reichsbank which served as the central bank for the new Germany and could function as a lender of last resort.

The United States Monetary Union

Before their unification in 1776, the thirteen American colonies did not have their own currencies but used a mixture of coins and systems of other nations, especially Spanish coinage. In 1792 the legislation titled “An act establishing a mint, and regulating the Coins of the United States” was included into the constitution and gave the new federation the right to mint gold and silver currency. However, not until 1913 did the United States create the Federal Reserve System. Before that many attempts were made to stabilize the banking system, yet it was dealt severe blows by several crises. The “Fed” as the national central bank and lender of last resort corrected these instabilities and received a monopoly on issuing notes and coins in the 1960s.

We have seen that in both these cases, political union was a precursor to monetary integration. Where this process took over a century to proceed in the United States, it was a very rapid one in Germany thanks to the strong leadership of Bismarck. Therefore the German monetary union is considered by many to be a model for the Europe of today. During the 20th century several national monetary unions I did not include into my analysis did not prove as successful as the ones above. Examples would be the termination of the Russian empire after World War I and the break-up of the monetary unions of Soviet Union, Yugoslavia and Czechoslovakia in the 1990s. The common reason behind all of these can be found in political processes and war, none of them was economically motivated. Political break-up was always followed by monetary separation of the former union members.

IV Lessons from History

We saw that there are considerable differences in the success rates of national monetary unions and multinational ones. Bordo (2003, p. 2) presents two key reasons for this outcome, namely the force of political will and the level of economic integration. In the case of national monetary unions, monetary integration was an integral part of the process of creating a nation state. Bordo and Jonung (2000) thus conclude that the future success of the European Monetary Union depends on the extent to which it is closer to a national than an international monetary union.

However, this project is unique throughout the history of monetary unions and so it is hard to distinguish. Never before has a group of monetary and politically independent countries surrendered their national currencies to form a common monetary union based on a new unit of account under the leadership of a common monetary authority – while still retaining political independence.¹⁵ In the past, monetary unification has always followed political unification, not the other way around. Yet within EMU, monetary coordination is stronger than political and fiscal coordination.

Considering the overall structure of the union, it certainly has more or less the characteristics of a national monetary union. It has a common central bank, the European Central Bank (ECB). The only circulating money within all member countries is the euro. Also, membership is regarded permanent according to the Maastricht treaty; there is no option to leave the union once entered.¹⁶

This looks very promising so far. In the following, I will point out the key factors to which attention should be paid. Then I will move on to recommendations concerning policy in the European Union and institutional reforms.

Most Important Factors

Bordo (2003) emphasizes three factors from the history of monetary unions that should be learned and implemented. He distinguishes between monetary integration, real integration and political will.

In terms of monetary integration, EMU is on a much higher level than any other union established in the past was after such a short period of time.

¹⁵ Bordo and Jonung (2000, p. 26)

¹⁶ During the last weeks, a scenario of Greece leaving EMU and returning to the drachma was discussed by politicians and ECB representatives. Soon we will see if this part of the Maastricht treaty proves to be credible.

Not only does it have a single currency universally accepted by all residents of member-countries and a common, independent central bank, but the ECB is also dedicated to the common goal of low inflation.¹⁷

Real integration refers to the integration on goods, capital and labor markets within the union, but also to fiscal harmonization and business cycles synchronization. Although there are no trade restrictions between member-countries, the law of one price might not be fully working.¹⁸ The same issues can be found on financial markets. Eichengreen (1997) tests for correlation of stock price indices across financial centers, and his results suggest noticeably less financial integration in Europe than in the U.S.. As I pointed out earlier in this paper, labor is also significantly less mobile in European countries than in the United States. Altogether real integration is still not as well developed as in comparable advanced economies.

His third factor seems to be the most important one by far: the political will of all member-countries and their population to form the union and keep it together. Both the Latin and the Scandinavian Monetary Unions were rapidly dissolved after this foundation started to crumble. The LMU was mainly based on the political objectives of France. So when France lost the Franco-Prussian war, these objectives were dealt a hard blow and the LMU never recovered from that. The same happened to the SMU, since when solidarity was weakened by the dispute of Sweden and Norway, the “Scandinavian Movement” slowed down and the union soon started to fall apart.

In the case of Europe, political will has been the driving force behind real and monetary integration. However, as Bordo (2003) remarks, it is the will of the political elites and not the populace at large which pushes forward the EMU project. That this is potentially dangerous becomes clear if one follows the logic of Sharp (2005, p. 11): “In the long run, any international arrangement can only last as long as each individual sovereign member state considers that the costs of denunciation are greater than the benefits. As soon as this is no longer the case a government interested in re-election combined with a fundamentally self-interested electorate will ensure that the arrangement collapses.”

¹⁷ Dealing with the effects of the 2007 crisis, ECB was criticized for losing its independence to some extent. See Agrawal (2010) for a broader discussion of this topic. Also ECB president Trichet showed some concern about recent developments, not least because of several attempts by French president Sarkozy to take effect on ECB policy.

¹⁸ See Funke and Koske (2008) for an empirical study.

Back to the roots

At the beginning of this paper I talked about optimal currency area criteria. Let me briefly review the last three political items that were pointed out by Baldwin and Wyplosz (2004) in the context of our present discussion. There were the solidarity criterion, the homogeneity of preferences criterion and the fiscal transfer criterion.

Solidarity cannot be forced upon the population but it has to develop over time. Preferences regarding monetary policy are more or less homogeneous, since the European Monetary Union is anchored by the ECB's commitment to low inflation. But EMU does not have a fiscal union; all member-states have full sovereignty and conduct their own fiscal policy. This is a large drawback, as we have seen during the last years, since fiscal transfers are an essential instrument when dealing with asymmetric shocks. Just as important is a credible no-bailout-rule that prevents the central bank and other governments from rescuing a member-state which faces a debt crisis. The Maastricht treaty contains such a clause. However, as we also have seen during the last years, the events proved this clause a lack of credibility. A rescue package for the distressed Greece was arranged by the European Union and the International Monetary Fund (IMF), followed by the establishment of the European Financial Stability Fund to protect other EMU members from a debt crisis. Also, the ECB purchased sovereign debt of member-states and thus ran into the risk of turning into a "bad bank", putting its independence status at risk. Would there have been an effective central fiscal authority implementing the no-bailout-rule, all countries of the Eurozone would have been forced to keep their budget balanced and Greece, just as other countries, may not have a debt crisis.

Another serious problem of the EMU is its composition. Member-countries are at different levels of economic development, making it a hard task to instrument an appropriate monetary policy. The results are wide common account imbalances. Before EMU, they were adjusted by floating exchange rates. Within Germany, for example, such imbalances are compensated by labor and capital movements as well as fiscal transfers. On the European level however, there is no effective fiscal union in place to implement those transfers.

One may argue that there is the Stability and Growth Pact (SGP) after all, monitoring fiscal deficits and debt ratios of member-states and imposing sanctions. Burda and Gerlach (2010) argue that strengthening the SGP is all we need to do, so that incidents like the falsified numbers submitted by Greece will not happen again.

Personally, I don't think that this would be enough. The European Monetary Union certainly needs an authority that credibly enforces the rules of the SGP on all member countries, as well as stricter limits on deficits (currently 3%) and debt to GDP ratio (60% at the moment). Sanctions also have to be much more intimidating. However, for the EMU to survive in the long run, it needs to account for risks such as another global financial crisis, and member-countries getting in trouble despite of their appropriate behavior. Even with the wide-spread fear of the EU becoming a "transfer union", fiscal transfers are needed to account for the large economic differences within the union. De Grauwe (2010) gets it to the point: "The present crisis shows that even if countries never intended to provide assistance to others, events can force them to do so. The same juxtaposition of intentions and actions exists on the domestic front. Governments that never intended to bailout their banks found themselves doing exactly that when the banking crisis erupted. Thus, at some point, a monetary union forces its members to show solidarity, whether they like it or not. That's why setting up an explicit solidarity (insurance) mechanism is important."¹⁹

Childhood Diseases

Bordo (2000) summarized several structural shortcomings of the European Monetary Union that have been pointed out in academic literature long before the world was hit by the subprime mortgage crisis. Most of them still are hot-topic in ongoing discussions about the future of EMU, so these childhood diseases are still far from being cured.

He criticizes that EMU as a whole doesn't have a lender of last resort, since the Maastricht treaty prevents the ECB from executing this function. A lender of last resort is important in times of crises since it provides liquidity to financial institutions who would otherwise fault in case of a bank run. In the latest case, the EU and the IMF had to jump in providing a rescue package for troubled financial institutions, followed by the establishment of the European Financial Stability Fund of 750 billion euros.

The lack of a central authority supervising the financial systems of all member-countries is his second point. Some people argue that if such an institution had existed from the beginning, consequences of the crisis would have been less bad. After long discussions, European policymakers adopted the Financial Supervision Package in September 2010, reinforcing financial regulation in all member-countries. Whether this is sufficient remains to be discussed.

¹⁹ More discussions about the future of EMU and what needs to be done in the eyes of several economists can be found in Baldwin et al. (eds.) (2010).

As a final point I just want to quote Bordo (2000, p. 4). This sentence should be able to speak for itself: “The absence of central co-ordination of fiscal policies within EMU in combination with unduly strict criteria for domestic debt and deficits, as set out in the Maastricht rules and the Stability Pact implies that EMU will not be able to respond to asymmetric shocks and disturbances in a satisfactory way.”

V Conclusion

I would suggest that the issue of optimum currency areas, or, more broadly, that of choosing an exchange rate regime, should be regarded as the central intellectual question of international monetary economics.

Paul Krugman (1994)

History shows that the creation, reign and dissolution of national monetary unions have hardly any connection with the criteria spelled out in the literature on optimal currency area inspired by the work of Mundell, McKinnon and Kenen.

Michael Bordo (2000)

These two clashing attitudes towards the importance of the optimal currency area theory leave enough room to form one’s own opinion on this subject. Given the present state of research, however, I would say that both are correct. The economic criteria brought forth by the founding fathers of this theory may be applied to some small open textbook economies, but they are hardly relevant in cases of large currency unions like the ones I introduced here. However, where these first attempts lacked crucial political and historical dimensions, Baldwin and Wyplosz (2004) supplemented them by adding conditions based on political unity to the classic criteria.

As we have seen in the analysis of past currency unions, political union can actually be regarded as the optimal currency area criterion. Thus we can conclude that for the European Monetary Union to become a success in the long run, solidarity must get stronger despite national and cultural borders between member-states. Moreover, for the countries of the eurozone to survive another heavy debt crisis as a union, an insurance mechanism needs to be installed in order to deal with it.

In other words: EMU needs a fiscal union.

References

- Agrawal, A. (2010). Central bank independence: A major victim of the 2007 crisis. STCI Primary Dealer Ltd. Discussion Paper, India.
- Baldwin, R., Gros, D., Laeven, L. (eds.) (2010). Completing the eurozone rescue: What more needs to be done?. VoxEU Ebook, CEPR.
- Baldwin, R., Wyplosz, C. (2004). The economics of European integration. McGraw Hill.
- Barry Eichengreen (1997b). Is Europe an optimum currency area?. In: Eichengreen (ed.). *European Monetary Unification: Theory, Practice and Analysis*. Cambridge Mass: MIT Press, 53-71.
- Bergman, M. (1999). Do monetary unions make economic sense? Evidence from the Scandinavian Currency Union, 1873-1913. *The Scandinavian Journal of Economics* 101 (3), 363-377.
- Bofinger, P. (1994). Is Europe an optimum currency area?. In: Steinherr (ed.). *European Monetary Integration*, London and New York, 38-56.
- Boomgaarden, H.G., Schuck, A.R., Elenbaas, M., de Vreese, C.H. (2011). Mapping EU attitudes: Conceptual and empirical dimensions of euroskepticism and EU support. *European Union Politics* 12(1), 1-26.
- Bordo, M. (2003). Does the euro have a future?. Paper Prepared for the Cato Institute 21st Annual Monetary Conference: The Future of the Euro, Washington D.C..
- Bordo, M. (2010). The euro needs a fiscal union: Some lessons from history. Rutgers University: Shadow Open Market Committee October 12.
- Bordo, M., Jonung, L. (2000). Lessons for EMU from the History of Monetary Unions. London. Institute of Economic Affairs.
- Burda, M.C., Gerlach, S. (2010). A credible Stability and Growth Pact: Raising the bar for budgetary transparency. In: Baldwin, Gros, Laeven (eds.). *Completing the eurozone rescue: What more needs to be done?*. VoxEU Ebook, CEPR.
- Corden, M. (1973). The adjustment problem. In: Krause and Salant (eds.). *European Monetary Unification and its Meaning for the United States*. Washington, Brookings, 159-184.
- De Grauwe, P. (2010). How to embed the Eurozone in a political union. In: Baldwin, Gros, Laeven (eds.). *Completing the eurozone rescue: What more needs to be done?*. VoxEU Ebook, CEPR.
- Funke, K., Koske, I. (2008). Does the law of one price hold within the EU? A panel analysis. *International Advances in Economic Research* 14 (1), 11-24.
- Giersch, H. (1973). On the desirable degree of flexibility of exchange rates. *Review of World Economics* 109 (2), 191-213.
- Graboyes, R.F. (1990). The EMU: Forerunners and durability. *Economic Review of the Federal Reserve Bank of Richmond* 76 (4), 8-17.
- Haberler, G. (1970). The international monetary system: Some recent developments and discussions. In: Halm (ed.). *Money in the International Economy*.

- Henriksen, I., Kaergård, N. (1995). The Scandinavian Currency Union 1875-1914. In: Reis (ed.). *International Monetary Systems in Historical Perspective*. London: Macmillan, 91-112.
- Horvath, J. (2003). Optimum currency area theory: A selective review. *BOFIT Discussion Papers* 15, Bank of Finland, Institute for Economies in Transition.
- Ingram, J.C. (1969). Comment: The currency area problem. In: Mundell, Swoboda (eds.). *Monetary Problems of the International Economy*. University of Chicago Press, 95-100.
- Kenen, P. (1969). The Theory of optimum currency areas: An eclectic view. In: Mundell, Swoboda (eds.). *Monetary Problems of the International Economy*. University of Chicago Press, 41-59.
- Krugman, P. (1993). Lessons of Massachusetts for EMU. In: Torres, Giavazzi (eds). *Adjustments and Growth in the European Monetary Union*. Cambridge University Press, 241-261.
- McKinnon, R.I. (1963). Optimum currency area. *American Economic Review* 53 (4), 717-725.
- Mill, J.S. (1848). Principles of political economy.
- Mundell, R.A. (1961). A Theory of Optimum Currency Areas. *American Economic Review* 51 (4), 657-665.
- Rose, A.K. (2006). Currency unions. *The New Palgrave*.
- Rose, A.K., Frankel, J. (1998). The endogeneity of the optimum currency area criteria. *Economic Journal* 108 (449), 1009-1025.
- Sharp, P.R. (2005). The history of monetary unions and the optimal currency criteria. Endnotes.
- Vanthoor, W.F. (1996). European Monetary Union since 1848: A political and historical analysis. Edward Elgar Publishing Limited. Cheltenham, UK.