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The Optimum Currency Area Theory and the EMU

An Assessment in the Context of the Eurozone Crisis

The eurozone crisis has revealed certain shortcomings of the EMU, such as its vulnerability to asymmetric shocks and its inability to act as predicted by the theory of optimum currency areas. Although the share of intra-EU trade has increased since the introduction of the euro, dissimilarities in economic structure combined with high degrees of industrial specialisation have increased the EMU's vulnerability to asymmetric shocks. Moreover, the lack of labour mobility or a transfer payment system limits the EMU's crisis adjustment capabilities. However, most of the implemented and proposed stabilisation measures seek to remedy this vulnerability by promoting economic integration, further fiscal discipline and debt redemption.

When 11 European countries abandoned their national currencies and formed the Economic and Monetary Union (EMU) in 1999, European leaders hoped that the common currency would boost economic integration among member countries. More than ten years after the creation of the common currency area, the eurozone crisis has put the euro under massive pressure and raised questions on whether the initial goals of the common currency were overly optimistic. The euro turned out to be a heavy burden for some periphery countries when the monetary union was hit by an asymmetric shock, i.e. the financial crisis of 2007-08. It appears that European countries were insufficiently integrated to join a common currency, as predicted by Mundell's theory of optimum currency areas (OCA).[1] In the wake of the eurozone crisis, the implications of the OCA theory have therefore regained relevance.

This paper discusses the performance of the EMU as a currency union in the context of the eurozone crisis and analyses the impact of several stabilisation measures on the euro area. The eurozone crisis revealed several shortcomings of the EMU, such as its vulnerability to asymmetric shocks and its inability to act decisively. We therefore aim to analyse the EMU in respect to the fulfilment of the OCA criteria in order to find out where the main weaknesses lie. Moreover, we will investigate whether the implemented and proposed stabilisation measures that are primarily designed to overcome the eurozone crisis are also suitable to improve the EMU's performance as a currency union in the long run.

Below, we discuss the theory of optimum currency areas before evaluating the EMU with respect to the fulfilment of the OCA criteria. We then examine stabilisation measures, three of which have already been implemented and two of which are still in the proposal stage, regarding their impact on the EMU as a currency union. We conclude with a summary of the main findings.

The theory of optimum currency areas

The theory of optimum currency areas pioneered by Mundell was further complemented by McKinnon and again by Kenen.[2] The theory addresses the question of under which circumstances a country benefits from membership in a currency union. According to the OCA theory, a country that considers membership in a currency union has to balance the economic stability loss (i.e. losing national monetary policy) against the monetary efficiency gain (i.e. a competitiveness gain due to a decline in the general price level, stimulated aggregate demand and enhanced exports) of a single currency. Baldwin and Wyplosz stress that the loss of economic monetary policy sovereignty becomes most significant for members of a currency union if poorly integrated member countries face asymmetric macroeconomic shocks.[3] In particular, an economic shock is considered to be asymmetric if only one part of the currency union is hit by the shock while the other

1 R.A. Mundell: A Theory of Optimum Currency Areas, in: American Economic Review, Vol. 51, No. 4, 1961, pp. 657-665.

2 R.I. McKinnon: Optimum Currency Areas, in: American Economic Review, Vol. 53, No. 4, 1963, pp. 717-725; P.B. Kenen: The Theory of Optimum Currency Areas: An Eclectic View, in: R.A. Mundell, A. Swoboda (eds.): Monetary Problems of the International Economy, Chicago 1969, University of Chicago Press, pp. 41-60.

3 R.E. Baldwin, C. Wyplosz: The economics of European integration, 2nd ed., London 2006, McGraw-Hill Education.

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part is spared or if member countries differ widely in terms of the shock's impact on their economies. Hence, if some countries in a currency union experience a positive (negative) demand shock, this would lead to disequilibrium, as output and prices in those countries would be too high (low). The union's common central bank could then increase its money supply and help countries to recover economic strength, but only at the cost of inflation. Thus, in the presence of an asymmetric shock, the central bank's monetary policies to overcome the shock in some countries would come at the expense of others. According to Clement et al., adjustment to asymmetric shocks must occur through labour mobility, changes in price and wage levels, and fiscal transfer payments among member states.[4]

The OCA criteria

The OCA theory offers a set of criteria with which to assess a country's suitability for membership in a currency union. These criteria can be divided into two groups. The first group consists of criteria that reduce the exposure of member countries to asymmetric shocks: similarity of economic structure, openness/intraregional trade and a low degree of specialisation. The second contains criteria that facilitate the adjustment to asymmetric shocks: homogeneity of preferences, factor mobility and transfer payments.

Looking at the first group of criteria, Baßeler et al. point to the importance of countries' *similarity in economic structure*.[5] A currency union's exposure to asymmetric shocks is reduced if the differences among member countries are small. That is because the sensitivity to an economic shock is comparable among all countries, and monetary policy will serve all member countries similarly. The *openness* criterion (aka the McKinnon criterion), described by Baldwin and Wyplosz and originally introduced by McKinnon suggests that foregoing an exchange rate does not entail a serious loss of policy independence for member countries that are very open to international trade.[6] The nominal exchange rate is no longer an important adjustment tool for very open countries, because changes in its nominal value are quickly followed by changes in domestic prices, leaving the real exchange rate unaffected. *Intraregional trade* within a monetary union is commonly thought to boost the integration of product markets and hence to foster economic integration through closer trade links. Finally, a *low degree of specialisation* (aka the Kenen criterion) implies that the impact of sector-specific shocks is relatively small if countries produce a wide range of products.

4 R. Clement, W. Terlau, M. Kiy: Grundlagen der angewandten Makroökonomie. Eine Verbindung von Makroökonomie und Wirtschaftspolitik mit Fallbeispielen, 4th ed., München 2006, Vahlen.

5 U. Baßeler, J. Heinrich, B. Utecht: Grundlagen und Probleme der Volkswirtschaft, 18th ed., Stuttgart 2006, Schäffer-Poeschel.

6 R.E. Baldwin, C. Wyplosz, op. cit.; R.I. McKinnon, op. cit.

Turning to the second group of OCA criteria, the *homogeneity of preferences* is considered an essential prerequisite in order to guarantee efficient crisis management. As monetary policy is transferred to a supranational level, a consensus on the way to deal with asymmetric shocks becomes a necessary condition for monetary policy that serves as a one-size-fits-all approach for the entire currency union. *Factor mobility* comprises the free movement of labour and capital. As Mundell points out, residents of depressed regions can migrate to prospering regions.[7] In addition, Eichengreen identifies capital movements as an alternative stabilisation tool.[8] International capital flows reduce the danger of balance-of-payments problems that result in devaluation and capital losses for foreign investors, as money can be easily shifted into more favourable investments. A *transfer system* may also contribute to overcoming economic shocks.[9] Transfer payments can support the recovery of depressed countries if a country that runs the risk of sliding into recession receives transfer payments from other member countries.

Evaluation of the EMU as a currency area

Ehrig et al. point out that the idea of European economic integration was and is still based on the endogeneity hypothesis, which states that political integration automatically follows the welfare increase gained through economic integration.[10] EMU optimists believed that a common currency would further stimulate labour and capital mobility and thus induce a greater degree of economic integration.[11] Nonetheless, pessimists and advocates of the heterogeneity hypothesis, such as Karras and Matthes, had warned that the EMU could contribute to a further aggravation of economic divergences and therefore argued that the introduction of a common currency should have been postponed until the euro area had achieved the necessary properties of an OCA.[12]

Group 1: Exposure to asymmetric shocks

We now evaluate the EMU's susceptibility to asymmetric shocks according to its members' similarity in economic

7 R.A. Mundell, op. cit.

8 B.J. Eichengreen: European monetary unification. Theory, practice and analysis, Cambridge, MA 1997, MIT Press.

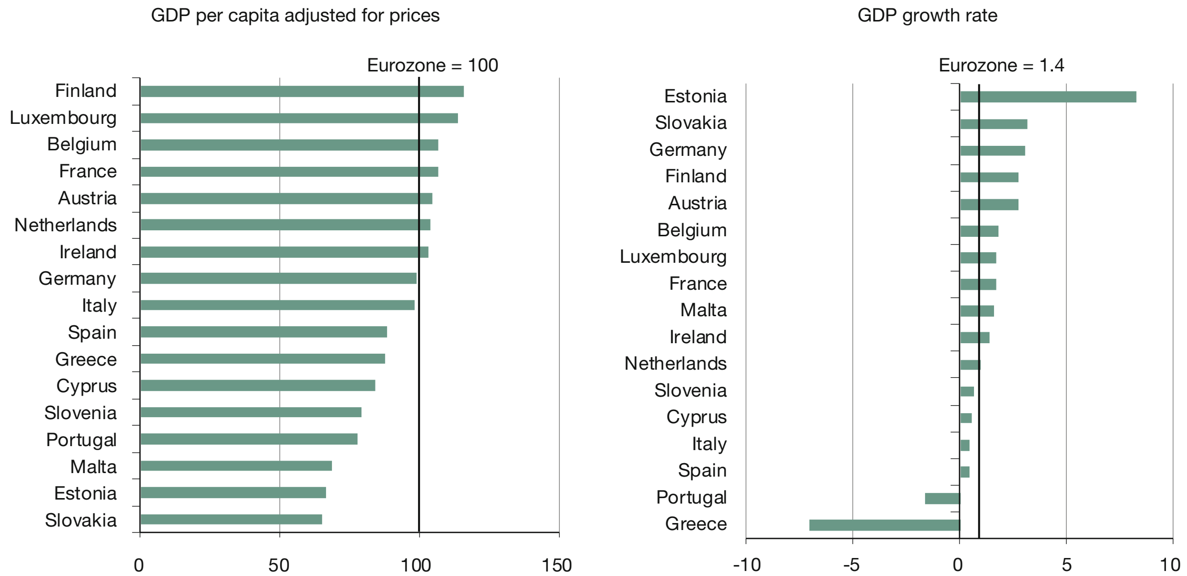
9 R.E. Baldwin, C. Wyplosz, op. cit.

10 D. Ehrig, U. Staroske, O. Steiger (eds.): The euro, the Eurosystem and the European Economic and Monetary Union. Reviews and prospects of a unified currency, Berlin, Piscataway, NJ 2011, Lit; Transaction Publishers.

11 C. Engel, J.H. Rogers: European product market integration after the euro, in: Economic Policy, Vol. 19, No. 39, 2004, pp. 347-384.

12 G. Karras: How homogenizing are monetary unions? Evidence from the US states, in: The North American Journal of Economics and Finance, Vol. 14, No. 3, 2003, pp. 381-397; J. Matthes: Ten Years EMU – Reality Test for the OCA Endogeneity Hypothesis, Economic Divergences and Future Challenges, in: Intereconomics, Vol. 44, No. 2, 2009, pp. 114-128.

Figure 1
Income and growth rate disparity in the euro area, 2011
in %



Source: Eurostat: General and Regional Statistics, 2013.

structure, openness/intraregional trade and low degree of specialisation.

Similarity in economic structure

Income is heterogeneously distributed in the eurozone. Figure 1 displays regional GDP per capita adjusted for prices in the left-hand panel and GDP growth rates in the right-hand panel, both for the year 2011.

There are considerable income gaps between EMU countries and the euro area average, ranging from 65% of the eurozone average in Slovakia to 115% in Finland. Differences in growth rates are also high, ranging from -7.11% in Greece to 8.28% in Estonia in 2011. Moreover, Heilmann et al. point out that the discrepancies in the euro area are obvious when looking at the labour market situation.[13] In 2012, the unemployment rate in Spain climbed to 24.4% while unemployment in Germany declined to 6.5%.[14] The high levels of unemployment in Spain, as well as in Greece (17.7%) and Ireland (14.66%), can be attributed to the recessionary developments in the respective countries following the outbreak of the crisis in 2008.

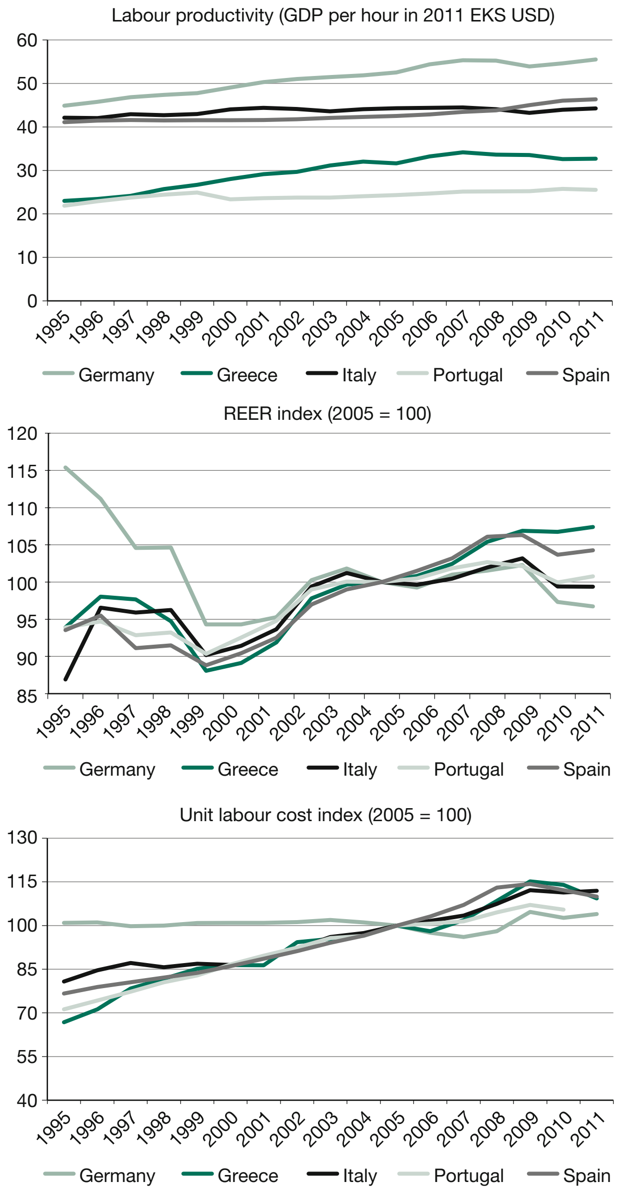
To determine the competitiveness of the EMU's core and periphery, we compare labour productivity and domestic price and cost developments between 1995 and 2011 for Germany, Greece, Italy, Portugal and Spain in Figure 2.

EMU member countries differ considerably in terms of labour productivity. The top graph in Figure 2 shows labour productivity in constant US dollars between 1995 and 2011. As the figure makes clear, the productivity gap has increased over time, and by 2011 labour in Germany had become twice as productive as labour in Portugal, for example. Additionally, the crisis does not seem to have had a considerable impact on labour productivity, as labour productivity discrepancies between the EMU's core and periphery remain as large as in the pre-crisis years. Busch et al. suggest using the real effective exchange rate (REER) as a benchmark to relate the nominal exchange rate to price and cost indicators.[15] The REER is calculated using the nominal effective exchange rate and an index of domestic and foreign costs, where a lower REER means a real devaluation. The middle graph of Figure 2 shows how Germany's competitiveness has increased since 2009 while this has not been the case in periphery countries. Finally, the lower graph of Figure 2 shows the development of unit labour costs. Labour costs in the eurozone periphery increased steadily between 1995 and 2008 and since then have stagnated. Conversely, labour costs in Germany have remained relatively stable and were surpassed by those in the periphery states in 2005.

13 D. Heilmann, H.C. Müller, U. Sommer: Das entkoppelte Land. Die deutschen Unternehmen machen trotz der Euro-Krise gute Geschäfte, in: Handelsblatt, No. 207, 2012, pp. 6-7.
14 Organization for Economic Co-operation and Development: Key Short-Term Economic Indicators, 2013, http://stats.oecd.org/.

15 B. Busch, M. Grömling, J. Matthes: Ungleichgewichte in der Eurozone, Ursachenanalyse und wirtschaftspolitische Empfehlungen, Köln 2011, Institut der Deutschen Wirtschaft.

Figure 2
Labour productivity, REER and unit labour costs



Sources: The Conference Board: Total Economy Database, 2013; World Bank: The World Bank Database, 2013.

Openness/Intraregional trade

The degree of participation in international trade reflects the openness of a country, which Baldwin and Wyplosz define as the share of economic activity that is devoted to international trade.[16] Using data from the World Bank, we calculate the ratio of total exports and imports to GDP for 2011 and annual growth rates between 2000 and 2011 for EU countries and the US. The data confirms that European countries, in particular small countries like Luxembourg (161%) and Malta (96%), are very open. Furthermore, the EU as well as the eurozone exceed the US in terms of openness, as the euro area's average share of imports and exports is almost three times as high as the corresponding share in the US.[17]

Figure 3 shows intra-EU27 trade between 1999 and 2011. Despite a steep drop in 2009, intra-EU27 trade increased by nearly five percentage points in this period. While the share of intra-EU27 trade was generally high even before the euro was launched (which can mainly be attributed to the Single Market Programme in 1992), there is some evidence for further trade integration after the introduction of the euro. However, this increase is lower than had initially been expected. Rose and van Wincoop expected the euro to increase intra-EU trade by over 50%.[18] A study by Micco et al. also found evidence for a positive impact.[19] However, the euro's impact was less significant and caused trade within the currency union to increase by only 8-16%.

Specialisation

A study by Persson uses the Krugman index of specialisation to examine whether the common currency increased industrial specialisation in the US and in the EU after the introduction of a common currency.[20] According to the study, EU data show that European countries experienced a moderate increase in specialisation, with the mean value of all indices rising from 0.39 to 0.43 between 1993 and 2008. The US indices, however, do not provide a clear picture. From 1970 through 2008, mean values ranged from 0.45 to 0.51 with repeated ups and downs. Persson concludes that industry portfolios of individual European countries became more specialised and that production moved to countries with a relative advantage in the production of certain goods. Consequently, EMU member countries became less alike in their sensitivity to macroeconomic turbulence, and the EMU's vulnerability to asymmetric shocks increased. This is in contrast to the non-existent impact of the dollar on specialisation tendencies in the US. Pers-

16 R.E. Baldwin, C. Wyplosz, op. cit.

17 World Bank: The World Bank Database, 2013, http://data.worldbank.org/.

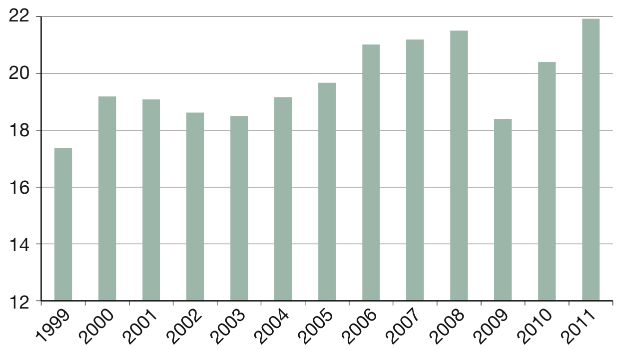
18 A.K. Rose, E. van Wincoop: National Money as a Barrier to International Trade: The Real Case for Currency Union, in: American Economic Review, Vol. 91, No. 2, 2001, pp. 386-390.

19 A. Micco, E. Stein, G. Ordonez: The Currency Union Effect on Trade: Early Evidence from EMU, in: Economic Policy, Vol. 18, No. 37, 2003, pp. 315-336.

20 K. Persson: Endogeneity and Specialization Theories of Optimal Currency Areas: A Comparative European Study, Lund University, 2011, http://lup.lub.lu.se/luur/download?func=downloadFile&recordOId=1973762&fileOId=1973763. The Krugman specialisation index measures the extent to which a country's manufacturing activity differs from the manufacturing patterns of the average of all countries under investigation. The index takes a value between zero and two. An index equal to zero implies that all countries produce the same goods in the same proportion and an index of two implies that countries produce only different goods. See R.E. Baldwin, C. Wyplosz, op. cit.

Figure 3
Intra-EU27 trade

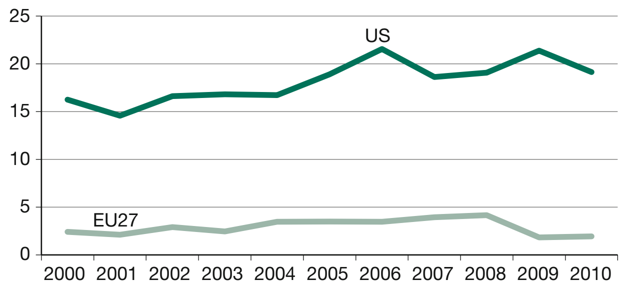
in % of GDP



Note: The numbers shown are calculated from total intra-EU27 trade divided by the total GDP of the EU27. Total intra-EU27 trade is defined as the average of imports from and exports to EU27 member countries.

Source: Eurostat: International Trade, 2013.

Figure 4
Gross migration rates in the EU27 and US, 2000-2010



Note: Gross migration (per thousand residents) is calculated as the sum of in and out migration in a region/country changing place of residence within a year.

Source: EU27 data from Eurostat: Population and Social Conditions Statistics, 2013; US data from US Census Bureau: Current Population Survey: Geographical Mobility 2001-2011, 2013.

son therefore assumes that the US specialisation process has levelled out and that the US seems to be a more stable currency area than the EMU.

Group 2: Adjustment capability

In order to assess a monetary union's ability to cope with and adjust to asymmetric shocks, we now turn our attention to homogeneity of preferences, factor mobility and transfer payments.

Homogeneity of preferences

When a group of countries decides to give up national currencies and form a currency union, it usually pursues a common objective. More than ten years after the completion of the EMU, member countries appear far removed from common support for the idea of European integration. Ludwig realises that the recent debate about the future development of the EMU is also a sign of inefficient decision-making processes in the euro area.[21] He notes that the German government would promote economic integration in order to transform the EMU into a real fiscal union. The periphery countries, on the contrary, support the idea of Eurobonds in order to unify Europe's debts – an idea which is rejected by the German government. The differing opinions are a logical result of the divergent effects of the crisis on various EMU countries and thus of widely differing preferences regarding fiscal policies. European identification appears limited, and preferences among European leaders do not coincide. It follows that the decision-making process remains decentralised and restricts the eurozone's ability to act.

Factor mobility

A number of studies have found that European labour markets are among the most inflexible in the world, especially compared to their US counterparts. This inflexibility can mainly be attributed to persisting labour market rigidities and low labour mobility. The geographic mobility of EU workers is very low across euro area borders as well as within their own countries.[22]

Figure 4 uses data from Eurostat and the US Census Bureau to show the gross migration rates in the EU and US between 2000 and 2010. The results corroborate the low levels of European migration found by previous studies.[23] While Figure 4 suggests a slight convergence of gross migration rates between 2000 and 2008, Europeans still appear much less willing to move than US citizens. Consequently, asymmetric shocks are likely to lead to rising unemployment rates, as the impact of labour mobility to ease the negative effects of asymmetric shocks within the EU is limited.

One of the greatest benefits to entry into the EMU is the more deeply integrated and unified financial markets. Lane measured the proportion of EMU countries' international portfolio holdings that are allocated to eurozone partners and concluded that this proportion increased noticeably between 1997 and 2003.[24] Barr et al. find that the euro also enhanced foreign direct investment between member countries, since a greater share of the flows of foreign direct investment went to coun-

21 T. Ludwig: Wir haben keine Zeit zu verlieren, in: Handelsblatt, No. 217, 2012, p. 8.

22 P.R. Krugman, M. Obstfeld: International economics. Theory and policy, 8th ed., Boston 2009, Pearson Addison-Wesley.

23 More than 16 out of 1000 Americans emigrated from one region (i.e. Northeast, Midwest, South and West) to another in 2010, whereas only 4 out of 1000 Europeans moved to another EU27 country that year.

24 P.R. Lane: The Real Effects of European Monetary Union, in: The Journal of Economic Perspectives, Vol. 20, No. 4, 2006, pp. 47-66.

tries in the euro area than to EU countries not using the euro.[25] Marinheiro shows that although capital market integration can be considered fully developed in the US as well as in the EMU, capital flows in the US can offset larger parts of economic shocks than in the euro area.[26] He estimates that US capital markets can redistribute almost 48% of asymmetric shocks in output that occur at the state level. In the euro area, the redistribution of the asymmetric shocks in output at the national level is estimated at 15%.

Transfer payments

In the face of an asymmetric shock, a transfer payments system is a valuable feature in a currency union that helps to reestablish economic equilibrium. While the US can look back on a long tradition of fiscal federalism, a comparable system does not yet exist in the EMU.[27] However, a significant increase of the European budget in the near future is unlikely.

Is the EMU an optimum currency area?

This evaluation of the EMU clearly reveals that it does not currently represent an optimum currency area. There are many shortcomings that need to be addressed. Member countries differ in terms of economic performance and structure. In particular, the common currency induced greater industrial specialisation, which, in turn, increased the vulnerability of the eurozone to asymmetric shocks. Moreover, the EMU's ability to act is restricted, as national preferences with regard to decision-making and crisis management differ greatly. Alternative compensation tools such as labour mobility and transfer payments that would help to cushion the negative effects of an asymmetric shock are lacking. These weaknesses reflect the EMU's difficulties in responding adequately to asymmetric shocks in a way that serves all member countries. Although some steps have been taken to boost fiscal and economic harmonisation, discrepancies across the eurozone remain large, and factor markets are not sufficiently unified. Hence, the euro area is "a combination of rapid capital migration and limited labour migration" rather than an economically well-integrated currency union.[28]

The eurozone crisis and its management

According to the European Commission, the greatest successes in overcoming the euro crisis have been the intervention of the European Central Bank (ECB) as lender of last resort, the agreement on a European banking supervision and the Greek government bond buyback in December 2012.[29] Moreover, several recent proposals also attempt to contribute to an improvement of the current economic situation in the EMU, such as a suggestion by the German Council of Economic Experts to create a European Redemption Pact (ERP) to bring the public debt ratios of EMU countries below the Maastricht reference value of 60%. A separate proposal advocates for currency devaluation through price reduction in the periphery of the eurozone to regain competiveness. In view of the dramatic outcome of the macroeconomic shock on the periphery of the EMU, for the stabilisation measures to be effective, they should calm down financial markets, mitigate speculative pressures on the euro and stabilise the eurozone. Hence, we evaluate these implemented and proposed stabilisation measures and their potential to overcome the crisis according to the EMU's vulnerability to asymmetric shocks, its ability to act and its adjustments to asymmetric shocks.

The ECB as lender of last resort

The ECB first announced its decision to implement a securities market programme on 14 May 2010. The programme was to be of limited duration and aimed at increasing liquidity in failing markets and stabilising interest rates, thereby encouraging lending to the real economy. However, the ECB's unlimited bond-buying programme is opposed by many critics. Fears arose that the ECB would violate its monetary mandate and compromise its independence with the purchase of the government bonds of crisis countries. The lack of a legal basis for the ECB's debt purchases has often been criticised. Sester argues that the ECB's bond-buying programme violates the ban on monetary financing of governments, which is laid down in Article 123 of the Treaty on the Functioning of the European Union (TFEU).[30]

Does the ECB's bond-buying programme decrease the risk of speculative currency attacks?

Even though the ECB's intervention in the government bond market is not embodied in a legal sense, the announcement of the bond-buying programme removed fears that the euro could collapse. In view of negative speculation on the euro's stability, Eichengreen states that the central bank should be responsible for the elimination or at least the mitigation of adverse expectations that might create self-fulfilling anxieties of

25 D. Barr, F. Breedon, D. Miles: Life on the Outside: Economic Conditions and Prospects outside Euroland, in: Economic Policy, Vol. 18, No. 37, 2003, pp. 573-613.

26 C.F. Marinheiro: Output Smoothing in EMU and OECD: Can We Forego Government Contribution? A Risk Sharing Approach, CESifo Working Paper, No. 1051, 2003, http://www.cesifo-group.de/portal/pls/portal/docs/1/1189522.PDF.

27 B.J. Eichengreen, op. cit.

28 P.R. Krugman, M. Obstfeld, op. cit., p. 587.

29 European Commission: European Economic Forecast – Autumn 2012, European Economy, No. 8, 2012.

30 P. Sester: The ECB's Controversial Securities Market Programme (SMP) and its role in relation to the modified EFSF and the future ESM, in: European Company and Financial Law Review, Vol. 9, No. 2, 2012, pp. 156-178.

a convertibility crisis in a currency union.[31] Therefore, with the ECB in charge of financial stability, the risk of future losses of confidence in the stability of the euro has been reduced. Consequently, the ECB's intervention as lender of last resort decreases both the risk of speculative currency attacks and the EMU's vulnerability to asymmetric shocks.

European banking supervision

After months of struggles, the European Commission announced on 13 December 2012 that European leaders had agreed to place large banks in the eurozone under the direct supervision of the ECB.[32] Smaller banks will remain overseen by national regulators, but the ECB will be able to step in and take control in certain justified cases. However, doubts remain on whether banking supervision and monetary policy can be separated effectively. Kanter argues that an independent conciliation panel would ensure that banking supervision tasks and monetary policy could not correlate.[33] Engelen, however, worries that the ECB, now also in charge of banking control and supervision, is poised to become the most powerful institution in the euro area.[34]

Does European banking supervision stabilise the EMU?

The establishment of an EU-wide regulatory authority for the banking sector is an important step towards the strengthening of the EMU as a currency union. The achievement of uniformity in the European banking sector through coherent rules and sanctions is likely to induce the further coordination of fiscal policies and a simplification of supranational decision-making in at least the financial sector. To conclude, European banking supervision induces deeper economic integration as well as the improvement of the EMU's ability to act by extending the policy area subject to regulation at the European level. This stabilises the EMU and its common currency.

The Greek bond buyback

In December 2012 Greece erased €20 billion of its €344 billion debt after buying back €31.9 billion of its own bonds at 33.8% of their face value,[35] thus securing the backing of the International Monetary Fund, which had imposed a debt buyback requirement in order for Greece to get its next round of bailout funding. Although many investors had hoped that the buyback would set the Greek economy on the path to recovery, Welter points out that the repurchase of bonds did not decrease Greek debt by as much as had been expected.[36]

Do financial aid payments enhance the EMU's capability to adjust to asymmetric shocks?

The implication of the European Financial Stability Facility (EFSF) bailout payments is an indirect financing of Greek debt by EMU member states. Hence, member states are providing financial support payments to countries in financial difficulties. Consequently, there are de facto transfer payments occurring in the eurozone, even though they are not part of a fiscal federal system. The establishment of the EFSF rescue systems can be considered a first step for the realisation of a certain type of transfer system to improve the EMU's capability to adjust to asymmetric shocks.

The European Redemption Pact

The key idea of the ERP proposal by the German Council of Economic Experts is to transfer all public debt above the Maastricht limit into the European Redemption Fund (ERF), for which EMU members would be jointly and severally liable. Every participating country would be obligated to make regular payments to the ERP in order to redeem the transferred debt. The volume of the ERF would decline continuously through the regular payments, and the ERF would cease to exist as soon as all transferred debt had been redeemed. The combination of debt redemption and disciplining measures in the ERP would be likely to sustainably stabilise the eurozone by enforcing a maximum debt level of 60% of GDP. However, Mayer and Heidfeld criticise that the joint liability of the ERP implies that third parties would assume liabilities for their fellow member countries, which is prohibited by Article 125 of the TFEU.[37]

What is the implication of the European Redemption Pact for the EMU?

Siegling argues that the ERP should aim for fiscal discipline among EMU members.[38] With the commitment to severe consolidation rules, member states would relinquish part of their fiscal authority and thus transfer part of their sovereignty

31 B.J. Eichengreen: One Money for Europe? Lessons from the US Currency Union, in: Economic Policy, Vol. 5, No. 1, 1990, pp. 117-187.

32 European Commission: Commission proposes new ECB powers for banking supervision as part of a banking union, European Commission – Press Release IP/12/953, 2012.

33 J. Kanter: European Leaders Hail Accord on Banking Supervision, in: New York Times, 14 December 2012, http://www.nytimes.com/2012/12/14/business/global/eu-leaders-hail-accord-on-banking-supervision.html.

34 K.C. Engelen: Die Bankenunion ist eine Falle, in: Handelsblatt, No. 203, 2012, pp. 10-11.

35 BBC Online: Greece buyback puts debt at 34% of its value, 2012, http://www.bbc.co.uk/news/business-20691992.

36 P. Welter: Griechen kaufen Griechen, in: Frankfurter Allgemeine Sonntagszeitung, No. 41, 2012, pp. 39.

37 F.C. Mayer, C. Heidfeld: Eurobonds, Schuldentilgungsfonds und Projektbonds – Eine dunkle Bedrohung?, in: ZRP – Zeitschrift für Rechtspolitik, July 2012, pp. 129-131.

38 C. Siegling: Ein Schuldentilgungspakt für Europa, 2012, http://www.carsten-sieling.de/files/Beitrag_Governancetrialog_Staatsschuldenkrise_final.pdf.

to the supranational level. Doluca et al. assume that the absolute commitment to reduce debt and to keep national debt ratios below 60% of GDP implies increased financial discipline and the further coordination of fiscal policies among member countries.[39] As EMU member countries would be jointly liable for part of the transferred debt, interest rate spreads across the euro area would be likely to decrease as investors gain confidence in the solvency of the eurozone as a whole, which would reduce the EMU's vulnerability to asymmetric shocks.

Real devaluation through price reduction

A real devaluation for countries within a currency union is only achieved through price reductions in individual countries. Price reductions create current account surpluses and therefore place struggling countries in a position to regain competitive capacity and repay their foreign debt. In addition, Sinn proposes a "euro sabbatical", in which countries could leave the eurozone temporarily if they did not want to undergo a costly slump of prices.[40] By doing so, they would be able to devalue their local currency and improve their competitiveness while maintaining the possibility of re-entry into the common currency area. Hedtstück and Backhaus point out that a real devaluation in the periphery countries would have contrary effects for the core countries.[41] Germany, for instance, would have to accept an increase in its domestic price level and would hence forfeit some of its competitiveness. Moreover, De Grauwe argues that adjustment programmes that aim at a reduction of the domestic price level (e.g. cuts in government spending, social benefits and nominal wages) increase the risk of a recession, because unemployment and budget deficits are likely to increase.[42]

Would a real devaluation through price reduction enhance EMU countries' productivity?

If a distressed country decides to remain in the EMU and regain competitiveness through a reduction of domestic price levels, the competitiveness of stronger eurozone economies would decline. While some countries might increase their competitiveness, other countries would be likely to lose competitive capacities. Moreover, (temporarily) leaving the currency area could decrease divergent pressures on the currency if every country that suffered a loss of competitiveness left the EMU. However, Lane points out that countries leaving the EMU temporarily would have to deal with considerably higher risk premiums, which is why the possibility of all distressed countries leaving the eurozone is considered unlikely.[43]

Overall assessment of stabilisation measures

Most of the implemented/proposed stabilisation measures decrease the EMU's vulnerability to asymmetric shocks or enhance its ability to act. The EMU continues to face adjustment difficulties in reaction to macroeconomic disturbances, as labour mobility remains low and financial transfers are granted only as emergency payments rather than as a long-term stabilisation mechanism for financially distressed regions.

Conclusion

The euro did not promote further economic integration within the EMU. Although the share of intra-EU trade increased, dissimilarities in economic structure, combined with high degrees of industrial specialisation, increased the EMU's vulnerability to an asymmetric shock. Moreover, the lack of adjustment tools such as labour mobility or a transfer payment system makes it very costly for the EMU to recover from the current crisis. Most of the implemented and suggested stabilisation measures attempt to tackle the problem of the eurozone's high sensitivity to macroeconomic distress by promoting economic integration, fiscal discipline and debt redemption. The establishment of rescue programmes such as the EFSF addresses the EMU's limited adjustment capability to asymmetric shocks, as these programmes represent a form of transfer payments, even as fully developed fiscal federalism remains highly unlikely. Limited labour mobility amongst European countries, however, appears to be rigid and remains the main obstacle to the EMU's adjustment capability.

The economic stability loss from foregoing exchange rates and national monetary policies is greater than monetary efficiency gains – especially for European periphery countries. European economic integration is still in its infancy and requires further action to reduce its future cost and thus make the EMU more resistant to macroeconomic disturbances. Awareness of the necessary steps to be taken has slowly grown. Efforts to overcome the current economic crisis will simultaneously improve the EMU's long-term performance as a currency union.

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