ACTA ECONOMICA
Volume XVI, No. 28 / June 2018
ISSN 1512-858X, e-ISSN 2232-738X

REVIEW SCIENTIFIC PAPER

UDC: 338.124.2:339.738(4)
DOI: 10.7251/ACE1828097T
COBISS.RS-ID 7742744

Branka Topić-Pavković[1]

Specificity of Fiscal Policy in the Monetary Union

Специфичност фискалне политике у монетарној унији

Abstract

The condition of the optimal currency area as a theoretical basis of the monetary integration considers the harmonization of the fiscal and monetary policy crucial in achieving the efficient functioning of the monetary union. The issue of sustainability of the monetary union without fiscal union reaches real intensity in times of crisis and market instability. In that context, this paper focuses on the relation of uncoordinated fiscal policies and non-fulfillment of the fiscal criteria of convergence with the functioning and sustainability of the monetary union. The aim of this research is to establish whether, based on the analysed theoretical assumptions and empirical case, the fiscal criteria are respected in practice in the member countries, and how specificity of the fiscal policy influences the monetary integration especially in the years of crisis. We started research with the cost-benefit analysis of the monetary union pointing out to the specific costs and benefits occurring when a country joins the monetary union. We examined the fiscal parameters of the convergence criteria of the member states pointing to the problem of heterogeneity of members and deviations from the reference values of the Union. The results show that the metodology used to establish the set norms of the fiscal convergence cannot cor-

[1] University of Banja Luka, Faculty of Economics, Banja Luka, Bosnia and Herzegovina, e-mail: branka.topic-pavkovic@ef.unibl.org.

respond symetrically to all member countries. The results also point to the fact that, unlike symmetrical, in the emergence of asymmetric shocks, i.e. disorders that affect various countries differently, membership in the monetary union becomes more expensive because of the inability to conduct monetary policy.

Key words: monetary integration, fiscal policy, convergence criteria, budget, public debt, fiscal discipline, European Monetary Union, asymmetric shocks

Introduction

Economic as well as political factors have always been the basis of European integrations: from desire to stop wars and destructions to economic benefits of further integration and establishment of democratic society in Europe. Changes in international economic relations in the late 1960s gave an impulse to the establishment of a new world monetary and exchange rate system. Economic theory forsees automatic increase in the monetary and inflation rate abroad in the case of a steady monetary increase in countries with a reserve currency, as this was the case with the USA in the second half of the 1960s. This occurs due to the fact that foreign national banks are buying a reserve currency in order to maintain their exchange rates and to increase their own money supply during this process. Contemporary international monetary systems are reflections of complex economic and socio-political relations, and as such have to be observed from many aspects.

Advantages of a common currency – decrease in transactions costs, increased price transparency and monetary stabililty compared to the costs of replacement of their currency and introduction of a new one have been sound reasons which made the Member States give up their monetary souvereignty and transfer it to supranational level. The European Monetary Union with a common central bank and a currency is a specific form of monetary integration, as it has been formed without prior official political, i.e. fiscal union. Desirous of defending more effectively economic interests of Europe, the objective of the European countries, partly for political reasons, was to establish closer economic integrations and to form a strong economic power which will be equal competitor in the international economic scene. Nevertheless, the Union neglected the fact that the economic, institutional and political difference between countries joining the monetary union could influence efficiency of integration. Even then the renowned economists warned that this could be a risky venture mainly because the monetary union was not accompanied by the common budget, fiscal union.

In that context, this paper focuses on the issues of a single monetary and non-compliant fiscal policy and how it reflects on fiscal discipline as precondition of Monetary Union succes. We research relation of uncoordinated fiscal policies and non-fulfillment of the fiscal criteria of convergence with the level of functioning and sustainability of the monetary union. As we will show in the paper, the *cost-benefit* analysis of the monetary union indicated that the economic differences of the countries joining the union can influence the integration efficiency. The cost-benefit analysis delivers different results for different member states. On the other hand, nonfulfillment of the fiscal criteria in accessing the EMU makes an unstable base for further integration existence.

Integration of fiscal policies in the union refers to the role of public finances as well as to the budget share. It studies the basic principles, structure and influence of fiscal (tax and budget) systems of the integrated countries. Integration of fiscal policies implies not only harmonisation of national tax and subvention systems, but even issues such as public expenditures, transfers (redestribution) within states and between the states, regions, economic sectors and individuals, as well as prevention of cyclic disturbances and stabilization policy.

The condition for optimal currency area as a theoretical basis of the monetary union considers harmonization of the fiscal and monetary domain crucial for achieving optimal combination. High level of fiscal policy integration stands out as a special criterion. At this point, we will analyze why metodology used to establish the set norms of the fiscal convergence cannot correspond symetrically to all member countries. The fiscal system of the Union is very complex and differs from national fiscal systems of the member states. That is the reason, as the results of this analysis show, why fiscal discipline in monetary union has an important role in succesuful monetary integration of the member states and maintenance of the existing level of economic stability and prosperity.

1. Theoretical basis of the economic rationality of a common currency

Establishment of the Economic and Monetary Union (EMU), has been characterized as a huge success of modern integrations. The idea of the EMU establishment derived from the fact that the monetary integration had significant economic advantages of adopting a common currency such as decreasing transaction costs, higher price transparency and monetary stability in relation to costs of the exchange and introduction of a new currency.

One of the basic objectives of the EMU establishment was a common monetary policy and maintenance of price stability on the whole territory of the European Union.

Introduction of a common currency has been motivated by the following:

- The role of the money as an accounting unit is less adequately fulfilled when there are more currencies;
- Foreign currency market becomes narrow for a certain currrency when there are a number of currencies, and
- The fewer currencies, the higher share of import of goods and services in consumption (Mundell, 1961).

As easiest measurable and simultaneously the most visible gain from the monetary union De Grauwe (2004) mentions direct and indirect gains from eliminating transaction costs related to change of the national currency and elimination of the risk deriving from unpredictible future movements in exchange rates.. Transaction costs related to the exchange of the national currency occur when one currency is exchanged for another, and they disappear when countries adopt the common European currency. Price transparency distinquishes itself as indirect gain of the introduction of a common currency, i.e. consumers are enabled now to see all prices in the same currency and to compare them easily and buy where it is cheaper. However, the available data show that there is still a relative difference in the price of the selected products. On the other side, the existing differences in regulations, customs, language and culture are factors which have to be adopted and overcome through monetary integration.

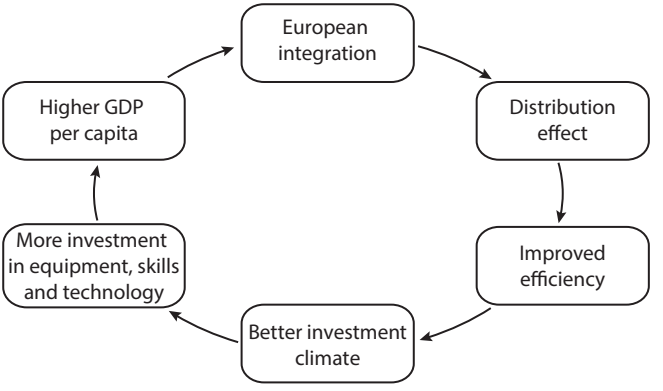
In addition, the monetary union contributes to elimination of uncertainity of change in the exchange rate. From the microeconomic point of view, the uncertainty of the future changes in exchange rates leads to uncertainity of future company incomes in a sense of uncertainity regarding future prices of goods and services. Elimination of change uncertainity of the exchange rate has undoubtedly an effect when a country enters the EMU, as the currencies of certain countries are stabilised by their accession to the EU. From the macroeconomic point of view, the advantage of a common curency is reflected in the enhanced macroeconomic stability a result of the general price stability, access to financial market, possibilities to use external financing, etc. It is important to emphasize that investors at financial markets, by eliminating foreign currency risk, decrease the risk premium as a part of the interest rate price on government bonds, i.e. debt costs of the member states decrease.

Advantages of the euro as an international curency are aditional incomes and fostering of the domestic financial market activities as foreigners will invest in assets and create debt in that currency. This will enable domestic banks to attract capital, as it will be attracted by the share and bond market. (Furtula, 2007).

Increase effects derived from economic integration are also observed from the aspect of integration effects on the factor market. European integration influences the increase mainly by influencing the level of investment in human capital,

physical capital and knowledge. Shematic summary of the logic of increase effect is as follows: European integration – redestribution effect – efficiency improvement – better investment climate – more investments in machinery, skills and / or technology – higher GDP per capita. (Baldwin and Wyplosz, 2010). In case of middle-term increase effects, increase in GDP per capita ends in time at a new, higher level. In case of long-term increase effects, the increase rate is permanently getting higher.

Figure 1.
Increase effects in EMU.



Source: adapted from Baldwin, R.; Wyplosz, C. (2010). The Economics of European Integration. Belgrade: Data Status, page 16.

2. *Cost-benefit* analysis of the monetary union

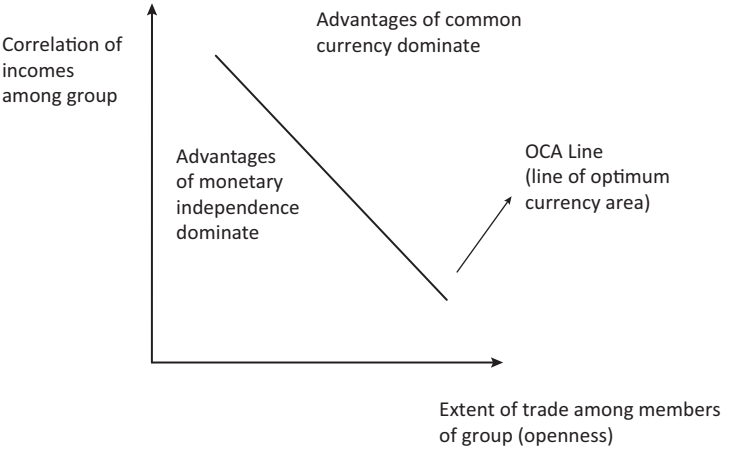
In this part of the research paper, we will introduce the cost-benefit analysis of the monetary union as a base for making a decision on whether and why a country should enter monetary union. Basic advantages and benefits of a common currency introduction are the following: higher microeconomic efficiency through increased money usefulness; higher price transparency; elimination of nominal exchange rate uncertainity within the area (which is significant from the aspect of internal market strengthening, decreaese in the investment risk, fostering of foreign direct investments in the currency area); and increased macroeconomic stability as a result of general price stability, access to financial market, possibilities to use external funding sources, etc.

Unlike described benefits from the introduction of a common currency, abandoning the instruments of economic policy in the monetary union, i.e. dismissing the possibility for a member state to manage its monetary policy, is mentioned as the most important cost of the monetary union. This means that by joining the monetary union a country is deprived of the right to influence the change of the

currency price, to determine the money supply or to change short-term interest rates. Costs of exchange and introduction of a new currency together with the increased administrative costs incurred due to the establishment of new monetary institutions are also costs at the expense of the country joining the union.

As it has already been pointed out that the economic, institutional and political differences of the countries joining the union can influence the integration efficiency, the cost-benefit analysis delivers also different results for different member states. We shall analyse the cost-benefit theory on the level of the monetary union by using the basis criteria in the establishment of an optimum currency area. Countries with broader openness toward EU partners have visible net benefits from their membership in the EMU. The higher the openness level of the economies, the bigger the correlation of income among potential union members, i.e. the more similar the incomes, the greater the advantage of introduction of a common currency. On the contrary, the lower level of the mutual trade between the member countries, the bigger income differences, and the costs of the monetary union dominate.

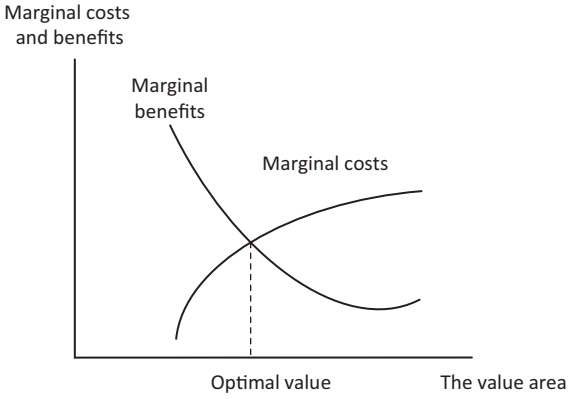
Graph 1.
Level of the economic openness and effects of introduction of a common currency.



Source: adapted from Mongelli, F. P. (2002). *New views on the optimum currency area theory: What is EMU telling us?* ECB, Working Paper No. 138.

One of assumptions of the OCA theory is that the benefit from the increased use of a common currency is growing as the area within which it is used is getting wider, and that its limit benefit is positive. However, it decreases with the widening of the area, because the added benefit of the accession of one more country in the already wide currency area is lower than in the case when the initial area is narrow. (Baldwin and Wyplosz , 2010).

Graph 2.
Logic of the optimun currency area theory.



Source: Author of Graph 2 – Branka Topić Pavković

This in fact can be understood if we know that each of the member states is different, and that the common currency area is getting more and more heterogeneous in terms of the living standard, tax system, inflation rate, etc. Differences between states, either from economic or political aspect are a favourable basis for the development of asymmetric shocks, i.e. different states experience different shocks. In this case, the exchange rate becomes very useful in the settlement of disturbances and market instability mitigation, and justification of integration is called into question. If the countries A and B undergo the same symmetric negative shocks, they are in the same situation and encounter the same difficulties. These states, i.e. the union they belong to, adapt their common foreign currency exchange rate to the rest of the world, so that the loss from the exchange rate as an instrument of the monetary policy is not felt considerably when joining the union. Unlike symmetric shocks, the asymmetric ones are disturbances which differently affect different countries and when they occur the membership in the monetary union becomes restrictive. In this case the things that suit one state harm the other one, and this is explained by the role of the common central bank which is not able to simultaneously undertake actions to the benefit of both countries. This is inevitable cost of the establishment of the monetary union, because in the case of asymmetric shock the common exchange rate cannot isolate all states belonging to the monetary union. Therefore the approximation of the level of development and similarity in the real economic performances of the member states, in sense of their convergence, is set as the basic prerequisite of efficient and successful EMU functioning and utilization of all EMU advantages in order to neutralize the negative effects of asymetric shocks.

3. Characteristics of fiscal policy in the monetary union

In the previous chapter it was mentioned that all member states of the monetary union transferred their monetary sovereignty to supranational monetary institution, surrendering thereby one of the two macroeconomic instruments, i.e. monetary policy. Monetary policy in coordination with the fiscal policy is the presupposition for successful functioning of a certain economy. In this context the issue of fiscal policy is gaining special importance since the fiscal policy remained entirely within the competence of the member states. The EU fiscal system structure is characterized by three basic elements, and these are: EU budget as the only instrument of policy implementation from the central EU level, tax harmonization and coordination of the stabilisation capacity of fiscal policies through the Stability and Growth Pact.

Since the European Monetary Union is based on the monetary integration theory, i.e. the optimum currency area criteria, it is also necessary to consider fiscal policy from the aspect of the optimum currency area theory in order to fully understand the role and importance of the fiscal policy within the monetary union. Why is this approach necessary? Integration of fiscal policies in the union refers to the role of the state finances and the share of the budget. It studies the principles, stucture and influence of the fiscal (tax and budget) system of the integrated states. Integration of fiscal policies implies not only harmonization of national tax systems and subventions, but also issues such as public expenditures, transfers (redistributions) within states and between states, regions, economic sectors and individuals, and prevention of cyclic disturbances and stabilization policy.

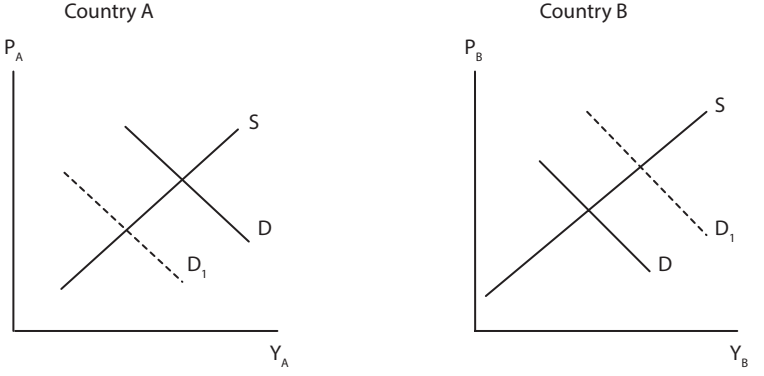
Fiscal system of the Union is highly complex and differs from national fiscal systems of the member states. It has important role in market integration and maintenance of the existing level of the EU economic and monetary integration. Fiscal system encompasses the EU budget and tax systems of the member states are harmonised through certain directives and agreements. By respecting certain regulations on the EU level the member states have souvereignty in determination of the height and structure of their budgets whereby they must endeavour to have either a balanced or surpluse budget. The analysis of the implementation and role of the monetary union fiscal policy through the prism of the optimum currency area theory will be explained by the means of theoretical attitudes of the relevant literature.

In his analysis De Grauwe (2004) starts from the assumption of two state members of the monetary union which have centralized significant portion of their national budgets through central European authorities. The analysis starts with the example of asymmetric demand shock between the mentioned states. Namely, if in the country A the output decreases and unemployment increases,

this will have double effect on the European budget since it is centralized. In the A state tax revenues collected through European government decrease, whereas the payment of unemployment benefits increases. Contrary to the country B, in which the output increases and unemployment decreases. The result is that tax revenues from the country B collected by the European government increase, whereas expenditures of the European government in the country B decrease. It can be noticed that the centralized European budget automatically redistributes the income from B to A, thus mitigating the social consequences in the A state caused by the change in demand. This can be understood as insurance system, whereby the states experiencing negative shocks receive compensation through automatic transfers from states experiencing positive shock (Graph 3).

This issue is further considered in the case of fiscal policies remaining within the competence of each member state, i.e. when there is no centralized (government) budget between the observed states. This is e.g. the current status and conduct of the fiscal policy in the EMU. In the state A where there is a negative, asymmetric shock in relation to the state B, negative demand will lead to increased deficit in the government budget.

Graph 3.
Asymmetric shock in the countries A and B.



Source: adapted from De Grauwe, P. (2004). Economics of MonetaryUnion. Novi Sad: Zoran Stojanović Publishing/bookshop , page 56.

With decreased tax income in the state A and without automatic transfers from the state B, there is a simultaneous expenditure increase caused by the increase in unemployment benefits. The opposite is happening in the state B – government budget shows either surplus increase or deficit decrease. In the case of decentralized budget, the state A will borrow money on the capital market increasing thus its external debt.

In the case of asymmetric shocks being the major source of monetary union costs, the fiscal policy is the only available instrument. In fiscal policy changes in consumption and taxes influence the budget equalibrium, which immediately raises the question of public debt financing. According to the optimum currency area theory, if the costs are permanent, it is important that there is a sufficient flexibility level of wages and prices and /or work mobility. If there is no such flexibility, the insurance mechanism may become unsustainable, because it implies then permanent transfers from one state to another (in centralized system), or huge public debt (in decentralized system). Insurance system should be used only temporary as response to temporary shocks, or as a mode of gaining time unless other adjustments are provided. Therefore the key question is: *To what extent should government budgets be centralized and what are the effects of this centralization?*

We have seen on the basis of the abovementioned that automatic, permanent transfers from one member state to another should be used only occasionaly. If such cases were frequently repeated, it is evident that this would reduce fiscal discipline of the member states whose deficits are growing, taking into account the transfers from the states with surplus. In other words, the transfers of social protection of the affected states reduce their need for adjustment. The OCA theory points out that it is desirable to have a certain degree of national budgets centralization in adjustment to asymmetric shocks in different regions. A state or a region experiencing permanent shock (in this example through decreased demand for output) should adjust to the shock by changing wages and prices or by moving production factors. If states affected by shocks were not motivated enough for this adjustment, permanent and large transfers would cause a problem, as at a certain time the citizens of prosperous states would not be willing to pay taxes for others, particulary in case of multiple national heterogeneity like the EMU. Frequent use of social transfers would inevitably lead to more permanent transfers from one group of states to another one, which in the long run would endanger the unity of the European (Monetary) Union. (De Grauwe, 2004).

4. Empirical research of fiscal convergence criteria

In this section we will analyze the fiscal parameters of the member states of the monetary union. Based on the collected official data from relevant agencies, statistical institutes and financial reports, and a secondary survey consisting of analysis of scientific articles, we compiled data from the member countries that are the subject of the analysis. The time period of observation is determined as the moment of introduction of a common currency, in the years before the crisis, during the crisis and upon leaving the crisis period. The expected results should

indicate the causal relation of the unfulfilled fiscal convergence criteria and the worsening during the crisis when market volatility is more pronounced and intensified. This hypothesis is based on the dependent variable - monetary integration and its indicators - Public debt as a percentage of GDP and Budget deficit as a percentage of GDP, and the crisis as independent variable.

According to the Maastrich Treaty, nominal convergence has to be fulfilled prior to introduction of the euro. But according to the optimum currency area theory real convergence is also very important. In the beginning of 1980s the majority of researches were dedicated to *cost-benefit* analysis of monetary integration and functioning of common European money. The analysis and study of the respective literature points out to the importance of convergence. The fiscal criteria of budget convergence stand out among the basic convergence criteria and imply the following:

1. Budget deficit of the member states should not be higher than 3% of GDP (and if it is higher, deficit should continuously fall and significantly approach the rate of 3%); on the other hand, if deviation from the benchmark is exceptional and temporary, the remaining thereby should be close to the benchmark, i.e. 3%.
2. Public debt should not exceed 60% of GDP (if this is the case, the debt should be significantly decreased and approximated to the benchmark at an appropriate pace).

4.1. Theory and empirical research of budget deficit of the member states

The complexity of the functioning of the European Monetary Union is reflected in the presence of numerous factors used in the analysis of the monetary integration process, especially in the formulation of quantitative and qualitative criteria. Considering the limited scope of the research space, in this paper we focused on quantitative fiscal indicators. EMU represents a set of heterogeneous states that do not differ only in their size and characteristics, but also in different deviations from the reference values of the Union. The subject of the research includes the analysis of the correlation between the level of convergence of the member states and the emergence of the debt crisis, whose roots are found in the fiscal indiscipline of the members. In accordance with the above described fiscal convergence the variables determining criteria are analysed together with their indicators in the EMU member states.

Table 1.
Budget deficit/surplus of the EMU member states in the period 2002- 2016 (in % GDP)

Year	2002	2005	2007	2008	2010	2013	2016
Member States							
Belgium	-0.1	-2.5	-0.1	-1.1	-4.0	-3.1	-2.5
Germany	**-3.8**	-3.3	0.2	-0.2	-4.2	-0.1	0.8
Estonia	0.3	1.6	2.4	-2.7	0.2	-0.2	-0.3
Ireland	-0.4	1.6	0.2	-7.0	-32.1	-6.1	-0.7
Greece	**-4.8**	-5.2	-6.5	-10.2	-11.2	-13.2	0.5
Spain	-0.3	1.3	2	-4.4	-9.4	-7.0	-4.5
France	-3.1	-2.9	-2.7	-3.2	-6.8	-4.1	-3.4
Italy	-3.1	-4.4	-1.6	-2.7	-4.2	-2.9	-2.5
Cyprus	**-4.4**	-2.4	3.5	0.9	-4.7	-5.1	0.5
Luxembourg	2.1	0	3.7	3.3	-0.7	1.0	1.6
Malta	**-5.7**	-2.9	-2.3	-4.2	-2.4	-2.4	1.1
Netherlands	-2.1	-0.3	0.2	0.2	-5.0	-2.4	0.4
Austria	-0.7	-1.7	-0.9	-1.5	-4.4	-2.0	-1.6
Portugal	**-3.4**	-6.5	-3.1	-3.8	-11.2	-4.8	-2.0
Slovenia	-2.4	-1.5	0	-1.4	-5.6	-14.7	-1.9
Slovakia	**-8.2**	-2.8	-1.8	-2.4	-7.5	-2.7	-2.2
Finland	4.2	2.9	5.3	4.2	-2.6	-2.6	-1.8
Euro area (19 countries)	-2.7	-2.5	-0.7	-2.2	-6.2	-3	-1.5

Source: adapted from Eurostat, European Commission. Convergence Report, http://appsso.eurostat.ec.europa.eu/nui/submitViewTableAction.do

In the table above we can see movements of the budget deficit/surplus of the EMU member states in the period from before the crisis, throughout the crisis and until 2016. We can notice that it mostly moved within the allowed limits before the crisis, but during the crisis (2008, 2010) it exceeded the benchmark. In 2016, through appropriate measures of fiscal policy and stabilization in the global market we can see positive trends and stabilization of these parameters.

The review of this indicator imposes a conclusion that the reference value established by the Maastricht Treaty, which amounts to 3% as the maximum of the deficit in GDP, has not been met by all member states even in the moment of accession to the monetary union (these values are bolded in the Table 1). Acceding countries were given the opportunity to improve the fiscal position of the country through the convergence of economic parameters of the country in the next few years (e.g. Germany, Cyprus, Malta and Slovakia improved the state of finances). It is evident that some of the countries did not succeed in this criterion of fiscal discipline, but the restrictive measures have never been applied to them.

Under the crisis, there is an increased need for state funding and additional increase in borrowing costs, which makes it difficult to access the international capital market, while raising the cost of borrowing at the same time. If interest rates on government debt exceed the rate of economic growth, debt is dynamically placed, leading to an increasing government debt and budget deficit. We can conclude that the state of the budget deficit worsened further in the conditions of the crisis due to higher borrowing of countries and the fall in GDP, which makes debt repayment more difficult.

An important indicator for the analysis of fiscal discipline and fiscal sustainability as its goal is the consolidated gross debt in relation to the deficit expressed as a percentage of GDP. Higher public debt increases the risk of non-performance of liabilities based on the debt of the country, which through the higher borrowing costs leads to the problem of sustainability of the budget deficit and deepening of the debt crisis. Over the past years, a significant increase in budget deficits and accelerated public debt growth have been recorded in many European countries as a result of insufficient fiscal discipline in the years preceding the crisis. Taking into account the decline in potential GDP growth in the medium term, there was a justified concern about the growth of the deficit/GDP ratio and the sustainability of the fiscal positions of individual countries, and the ability of governments to service the commitments.

What creates dillema and provokes criticism in academics and expert circles are the set norms for the indicators of budget convergence. Namely, according to budget deficit indicator as GDP % , it is said that it should not be higher than 3% GDP, and public debt should not exceed 60% of GDP. Where exactly these values come from and have they been defined properly? Budget norms of 3% and 60% derive from formulation determining the height of the budget deficit necessary to stabilize public debt.[2]

$$d = gxb$$

whereby:

b – level at which the public debt is stabilized (expressed in % of GDP),
g – growth rate of nominal GDP,
d – government budget deficit (expressed in % of GDP).

This formula shows that in order to stabilize the public debt at 60% of GDP, budget deficit should be run to the level of 3% of GDP and this only with the nominal growth rate of 5% of GDP (0,03=0,05*x*0,6). The question to be asked is: Why is the public debt stabilized exactly at 60%? The reason why the percentage

[2] For more detailed explanation refer to Bini-Smaghi et al. (1993). https://link.springer.com/article/10.1007/ BF01000518

of 60% was determined by the Maastricht Treaty is that it was then the average of the debt /GDP ratio in the European Union. However, other numbers such as 70% or 50% would also be valid with the note that the deficit level in this case should amount to 3,5%, i.e. 2,5%. This rule is further conditioned by future nominal GDP growth. If the nominal GDP growth rises above or falls below 5%, the budget deficit stabilizing the government debt at 60% will rise above (or fall below) 3%.

When the country's debt is continuously growing with no prospect of timely stabilization, the country is likely to become insolvent. The essence of fiscal sustainability indicators reflects in stabilization of the debt/GDP ratio ("primary budget stabilization"). Sustainability problem can be formulated as follows: budget deficit leads to increased goverment debt which will have to be repaid in future. If interest rates on government debt exceed the economic growth rate, the debt is set dynamically which leads to growing government debt in relation to GDP. The government has to take care that the primary budget has a surplus. If it does not run a surplus, the debt /GDP ratio will increase, which will certainly lead to government debt default (De Grauwe, 2004).

Within the context of theoretical consideration of the debt crisis it is pointed out to the importance of a country's solvency, and therefore the basic determinants are involved in the mentioned theoretical models. Openness of a country can infuence the costs of debt servicing and thereby the readiness of a certain country to either repay its debt or not. Therefore, the macroeconomic and institutional variables of debt sustainability were most in the light of country's solvency (Roubini, 2001), fiscal vulnarability concept as inability to avoid excessive *budget deficit* and public debt (Hemming and Petrie, 2002), particularly within the fiscal sustainability concept. As it is the case with the relation of country's debt to GDP, higher indebtedness creates with public and private market participants perception of increased default risk on country's debt. This makes pressure and incurs higher costs of new indebtedness, decreasing thereby the solvency of country. (Alexopoulou, Bunda and Ferrando, 2009).

4.2. Public debt of the EMU member states

When borrowing, states must respect certain principles. The basic principle is that capital borrowed abroad or in the country should be invested in production and export oriented projects with a higher profit rate than interest on borrowed loans, in order to ensure long-term economic growth, debt service and minimize losses from the risk of changing foreign exchange rates. Only through increasing GDP, exports and competitiveness can result in higher budget revenues and facilitate public debt repayment. If foreign debt exceeds 50% of GDP, the economy becomes extremely vulnerable to the volatility of financial markets and the

growth of interest rates, debt servicing becomes a heavy burden, and countries are entering a period of weakening economic growth dynamics.

In the previous section our results show that the crisis with decline in the economic activity of countries, the decline in trade flows, and the withdrawal of capital further aggravate budget deficit and the state of the indebted countries.

The important reason which occured as explanation and justification of budget convergence is default risk on debt and bailout in the monetary union (Roubini, 2001). When a country joins the monetary union it loses control of its national bank, and thereby also the instrument in form of sudden inflation and devalvation, by which it can reduce the real value of the public debt. MacKinnon (1996) claimed that this would lead to making pressure on the government to organize total debt default, which would spread in the Union. The debt level of the certain EU member states is so high, that the probability of the total debt default in absence of public debt real value decrease through inflation and devalvation, is likely to increase.

On the other hand, government bonds of the member states are distributed within the states due to high financial integration in the EMU, and if a certain state does not repay its debt, it will have more influence on individuals and financial institutions outside the respective state than in the case the state was not in the union. This further strenghtens the pressure on other governments to bail out a state with debt default. If they are permitted to join the Union, when they are hit by crises due to their debt default, they will make stronger pressure on someone to bail them out. This was the very reason why the clause "no bail out" was embedded in the Maastricht Treaty defining clearly that no member of the Union should be liable for bailing out other member states in crisis. On the basis of the abovementioned argumentation, the request for fulfilling the budget convergence criteria by a potential member is clear and justified.

Table 2 shows the general increase in the level of public debt/GDP in the period 2008-2012, from the average reference value of 60% to the average level of 90.8%. This increase in public debt is particularly noticeable in Greece, Italy, Portugal and Ireland. The dominant fact is a constant increase in this indicator on average EMU level, reaching over 90% at the end of 2012, and at the beginning of 2013, when it reached its peak of 91.3% of GDP.

In 2012, the ratio of public debt and GDP amounted to 157.2% of GDP in Greece, 127% of GDP in Italy, 127.1% in Portugal, and 117.4% in Ireland. The differences in GDP growth, public revenues and expenditures, and consequently public debt and budget deficit in relation to the reference values of the Maastricht criteria, have resulted in a constantly growing deficit and huge public debt within the EMU. This is the result of insufficient fiscal discipline in the years that preced-

ed the crisis, and reflect the direct or indirect consequences of recent turbulences in the global financial market.

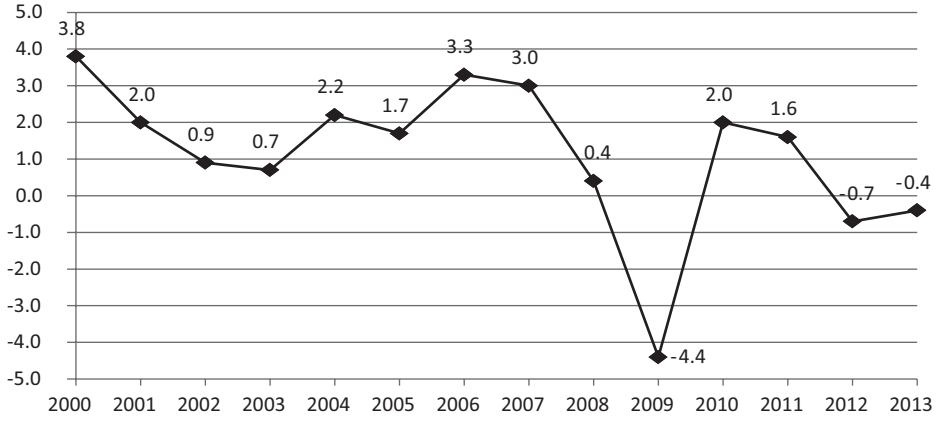
Table 2.
Public debt of the EMU member states in the period 2002-2016 (in % GDP)

Year	2002	2003	2005	2007	2008	2010	2012	2013	2016
Member States									
Belgium	**103.4**	98.4	92	84	92.5	99.7	101.1	105.5	105.7
Germany	60.7	64.4	68.6	65.2	65.1	80.9	81	77.4	68.1
Estonia	5.7	5.6	4.6	3.7	4.5	6.6	9.8	10.2	9.4
Ireland	31.8	31	27.2	24.9	42.4	86.1	**117.4**	**119.4**	72.8
Greece	**101.7**	97.4	100	107.4	109.4	146.2	**157.2**	**177.4**	**180.8**
Spain	52.6	48.8	43.2	36.3	39.5	60.1	86	95.5	99.0
France	58.8	62.9	66.4	64.2	68.0	81.6	90.6	92.4	96.5
Italy	**105.4**	104.1	105.7	103.3	102.4	115.4	**127**	**129.0**	**132.0**
Cyprus	65.1	69.7	69.4	58.8	45.1	56.3	86.6	102.6	**107.1**
Luxembourg	6.3	6.2	6.1	6.7	14.9	19.8	21.7	39.0	20.8
Malta	57.9	66	68	60.7	62.6	67.5	70.8	38.8	57.6
Netherlands	50.5	52	51.8	45.3	54.7	59.3	71.3	23.7	61.8
Austria	66.2	65.3	64.2	60.2	68.4	82.4	74.4	68.4	83.6
Portugal	56.8	59.4	67.7	68.4	71.7	96.2	**124.1**	67.8	**130.1**
Slovenia	27.8	27.2	26.7	23.1	21.8	38.4	54.4	81.0	78.5
Slovakia	43.4	42.4	34.2	29.6	28.5	41.2	52.7	129.0	51.8
Finland	41.5	44.5	41.7	35.2	32.7	47.1	53.6	70.4	63.1
Euro area (19 countries)	**68**	**69.2**	**70.3**	**66.4**	**68.6**	**83.8**	**90.8**	**91.3**	**88.9**

Source: adapted from Eurostat, available at:http://appsso.eurostat.ec.europa.eu/nui/submitViewTableAction.do

Observing the growth rate of GDP over the years and considering that in 2001 there was political and economic uncertainty due to high prices of oil derivatives, a terrorist attack in the United States and weakening of international security and capital markets, there was a slowdown in global economic growth. At the same time, the reactions of the financial markets and market participants were under the influence of the introduction of the euro as a single currency and the expected repercussions on the international economy.

Graph 4.
Real GDP growth rate at the level of the European Monetary Union.



Source: Eurostat, author

After the first years of introduction of the euro, in the period 2003-2007, generally the acceleration of the growth rate was noticed (except for the slower decline in 2005 as a result of the growth of indebtedness of the EMU countries). During 2008-2009, a recession rose minus 4.4% of GDP. Mild recovery began in 2010 and 2011, but not in all EMU countries, which recorded a longer and deeper recession (Greece, Portugal, and Ireland). In 2011 and 2012, there was a general decline in the rate of GDP, slower growth and several new countries entering the negative growth zones. The GDP growth rate indicator is used as a measure to assess the process of integration and accession to the European Monetary Union, in terms of the degree of convergence of the member states. In addition to being an indicator of a decrease in the levels of development of member states, it is also used as an indicator of the institutional quality of each country.

Developing countries, or often referred to as peripheral EMU countries, are indebted for insufficient domestic accumulation for investment and the need for faster economic growth and competitiveness towards the rest of the Union and abroad. In doing so, a country must conduct an effective public debt management policy so as to avoid conflict between short-term and long-term general macroeconomic goals: monetary stability, economic growth and fair distribution of benefits and burden of public debt repayment to current and future generations. The basic question is how to use borrowed money, because the ability to service debt in the future depends largely on achieving other macroeconomic goals (economic growth, the balance of payments and the state budget, employment growth and living standards).

A state with increasing public debt produces negative spillover effects in other parts of the monetary union. A state which allows its debt/GDP ratio to grow continuously will increasingly borrow on the capital market of the Union, which will influence the raising of the interest rate of the union. Raising of the interest rate will influence reversibly the growth of government debt in other member states. If governments of these states opt for stabilization of the debt/GDP ratio, they will have to conduct a more restrictive fiscal policy. Thereby the unsustainable debt increase of one state makes other states conduct a more deflatory policy. Therefore this will be for the benefit of other states to have control mechanism which should impose limits to the size of the budget deficit in the member states. (Buiter and Kletzer, 1990).

The summarized results of the previous analysis indicate that differences in the real economic parameters of member states are the base for questionable development and further success of the monetary union. The initial differences in the fullfilment criteria of access to monetary union and the lack of convergence with other members, make the Union fragile and unstable. However, member countries could function with these inequalities as long as the average GDP growth is positive and borrowing is moderate. The real problems arise when crisis and market disturbances emerge and when asymmetric shocks occur due to the differences between the economic strength of individual countries. Oriented towards additional borrowing to get out of the crisis, there was a constant increase in public debt, consequent growth of the budget deficit which mostly made servicing liabilities difficult.

5. Concept of fiscal discipline in the monetary union

As previously noted, the importance of fiscal discipline is unquestionable. Basic arguments for introduction of fiscal discipline in the monetary union is a fact that a state with increased government debt produces negative spillover effect to other member states of the EMU. Namely, a state with a continuously growing debt/GDP ratio, will increasingly borrow on the capital market of the union, which will lead to a rise in the interest rate of the Union. Raising the interest rate will reversibly influence the increase in the government debt in other states. Economic policy measures undertaken in such cases, mostly austerity measures, lead to deflatory policy due to restrictive fiscal measures. Therefore it will be to the benefit of other states to have a control mechanism which should impose limits to the size of budget deficit in the member states. Upward movement of the interest rate can also lead to pressures on the European Central Bank to relax its monetary policy, which would disturb the basic principles of the monetary union as well as its stabilization goals.

The necessity of rules in fiscal policy relates to the mode in which the monetary union affects the fiscal discipline of the member states. In order to consider clearly the differences and opposite arguments, we will summarize discussion and draw conclusions from elaborations on this topic made by relevent authors.

Generally speaking, there are two factors which can change the countries' motive reagarding the size of their budget deficit when joining the monetary union (De Grauwe, 2012). The first one leads to more lax, the other one to more rigid discipline. Speaking about *more lax fiscal discipline* of the EMUstates it implies that the monetary union leads to excessive budget deficit of the member states from two aspects. By issuing government bonds, the risk premium involves the risk that in future a state will devaluate its currency and its debt default risk. The first risk is weaker in the EMU considering the fact that the member states issue debt in "foreign currency", i.e. there is no devalvation risk (they do not face immediately the rise in the interest rate on newly issued debt). The other risk component – debt default creates moral hazard problem. It derives from the difficulty to assess the risk which market participants encounter due to the implicit guarantee, i.e. the clause on bail-out impossibility.

But, will the member states really avoid helping a higly indebted state, whose negative spillover effects could spread to other parts of the EMU? We think it is necessary to consider the following cases in sense of whether the debt default is more likely in the EMU, which would in this case increase the other risk component (bailout possibility).

The question whether by joining the EMU the fiscal discipline of the member states increases or decreases from the aspect of debt default, will be considered with regard to discussions by following authors McKinnon (1996), Eichengrenn and von Hagen (1996). There are two ways in which states do not repay their debt: either by not repaying it at all, or by reducing its real value with a sudden inflation and devalvation. The latter option is possible in souvereign states with no supranational bank, which is not the case with the EMU. In the EMU the goverment would be put under pressure towards total debt default, which in fact could claim that there was an increased risk of total debt default in the monetary union. McKinnon (1996) explicitly claimed that the debt default risk would increase due to high indebtedness of the respective member states of the monetary union with simultaneous impossibility of inflation or devalvation. Differences in interest rates through yield spreads on long-term government bonds point out to the level of the risk involved. The occuring diferrential is explained as a premium which the government of the respective state has to pay for the risk related to the possibility of devaluation of its currency, and increased by the risk of total payment suspension.

With regard to the aspect of *more strict fiscal discipline* of the member states, there is a factor striving to destimulate states from running excessive deficit. States joining the union decrease thier ability to deficit monetization, more precisely, there is no possibility to cover the deficit by excessive currency issuance. As result, governments of the member states of the monetary union face stronger budget limitations compared to souvereign countries. Souvereign countries have "softer" budget limits, which enables them to run a deficit. Analysis of the union states and souvereign ones shows that the average budget deficit of the member states of the monetary union tends to be lower than those of souvereign countries. That is why it is possible that restrictions in form of "no money issue" are a strong destimulation for running a budget deficit. Additional indirect data for the hypothesis that the size of deficit depends on strictness of budget restrictions are results delivered by Moesen and Van Rompuy (1990). They classify industrial countries according to the level of the total government expenditure. The tested hypothesis is that there are more centralized than decentralized governments facing softer budget restrictions. This is because in a centralized country a larger portion of the total government expenditure can be financed through the currency issuance.

Fiscal rules embedded in the Maastricht convergence criteria and in the Stability and Growth Pact reflect on creation of the EMU with its primary objective-price stability. Economic growth is not possible without fiscal discipline of all member states. Therefore, we will point to their correlation and summarize reasons for the importance of introduction of fiscal rules in the monetary union:

- Necessity to introduce fiscal rules in form of Pact can be justified from the aspect that most countries run an excessive deficit, particularly after joining the monetary union.
- Fiscal restrictions deriving from these criteria are primarily result of fear that too big deficits and public debt of the member states can influence the rise in interest rates in other EMU members, which can significantly affect price stability.
- High fiscal deficits can ruin the ECB credibility, and flexible monetary policy may influence more liberate conduct of fiscal policies of the EMU member states.
- It is feared that market participants, when drawing up their expectations, may assume that certain members will break the rule "no bailout" and help certain member states overcome their fnancial difficulties.
- Member states wishing to join the EMU should respect the set rules, and these are primarily the Maastricht convergence criteria and implementation of the Stability and Growth Pact.

Conclusion

The Economic and Monetary Union has ben characterized as huge success of modern integration. Monetary policy in coordination with fiscal policy is supposition of successful functioning of one economy. In this context the issue of fiscal policy gains special importance considering the fact that fiscal policy remained entirely within the competence of the member states. Framework and supervision of the EMU fiscal policy laid down by the Stability and Growth Pact implied fulfillment of nominal and consequently real convergence which strives to establish credidential instrument of development and stability policy in the union. The conceptual economic convergence implies an accelerated process of social development that results in the approximation of the value of economic variables among the member states, which primarily relates to nominal and real convergence. When introducing a common currency, it is necessary, according to the Maastricht Treaty, to fulfill the nominal convergence (five criteria for convergence). But, according to the theory of optimal currency area, real convergence is very important.

Through this research we highlighted the advantages and costs of monetary integration from the perspective of an individual country. Recognizing the importance and necessary criteria for joining the monetary union, we analyzed the fiscal indicators of the member states at the moment of joining the monetary union. As previously noted, the results show that some countries have significantly lower starting parameters than the other countries. These differences in real parameters represent an unstable base for further development and the success of the functioning of the monetary union, since the countries did not improve their fiscal positions in coming years. However, countries could function in this way as long as the average GDP growth was positive and borrowing was moderate. Real problems were created at the begining of the crisis and market disturbances. Oriented towards additional borrowing as a way of getting out of the crisis, there was a constant increase in public debt and consequent growth of the budget deficit. As a consequence, borrowing costs rise, the repayment of debt becomes increasingly difficult and the asymmetric shocks grow. Results show that the unfulfilled criteria of convergence of Member States contributed to the further deepening of the crisis and stressed the need for stricter fiscal discipline among members. This deterioration, with the impossibility of adapting monetary policy to shocks from the market, makes a single country question the benefits of the Monetary Union.

In order to implement a single monetary policy in the EMU, the ECB needs a significant degree of convergence of the member states in order for monetary policy to be successfully implemented. In the context of fiscal convergence, the share of the budget balance in GDP, the share of private consumption in GDP, the share of public debt in GDP, and the share of external debt in GDP are pri-

marily observed. With the development and expansion of the monetary union, along with the heterogeneity of the member states, in Europe it is still an uneven growth of macro economic indicators of the countries, which in time of crisis especially actualizes the role of fiscal discipline and fiscal policy in the monetary union.

As the results show, the issue of monetary union sustainability with its common monetary policy, but without fiscal, i.e. political unification, gains its intensity and real significance especially in crisis and market instabilities when asimmetric shocks and internal disbalances are more expressed. Practically all economic movements depend on the amount and structure of the public debt, and therefore managing public debt is becoming more important part of the total economic policy of a country. Long-term public debt increase must be lower than the rate of the economic growth, if we want to avoid illequidity problems of a country. We can point out that fiscal policy plays a crucial role in stability of the monetary union along with the fulfilling fiscal convergence criteria.

References

Alexopoulou, I., Bunda, I., & Ferrando, A. (2010). *Determinants of government bond spreads in new EU countries.* Eastern European Economics, 48(5), 5-37. https://www.ecb.europa.eu/pub/pdf/scpwps/ecbwp1085.pdf

Baldwin, R.; Wyplosz, C. (2010). Ekonomija evropskih integracija. Beograd: Data Status.

Buiter, W. i Kletzer, K. (1990). Fiscal policy interdependence and efficiency. http://www.willembuiter.com/fpiew3328.pdf

De Grauwe, P. (2004). Ekonomija monetarne unije. Novi Sad: izdavačka knjižarnica Zorana Stojanovića.

De Grauwe P. (2012). *Economics of Monetary Union*. Oxford: Oxford University Press

Eichengreen, B.; Von Hagen, J. (1996). Fiscal Policy and Monetary Union: Is There a Tradeoff between Federalism and Budgetary Restrictions? http://www.nber.org/papers/w5517

Furtula, S. (2007). Kompatibilnost Centralne banke Srbije sa ECB. Časopis Bankarstvo broj 7, 2007, Beograd: Udruženje banaka Srbije

Hemming, R.; Murray P.A. (2002). Framework for Assessing Fiscal Vulnerability. http://www.imf.org/external/pubs/ft/wp/2000/wp0052.pdf

Kenen, P. (1969).The Theory of Optimum Currency Areas: An Eclectic View.//Monetary Problems in the International Economy, ed. Robert Mundell and Alexander Swoboda, 41 54. Chicago: University of Chicago Press. URL: http://www.voxeu.org/article/kenen-euro

Lovrinović, I.; Ivanov, M. (2009). Monetarna politika. Zagreb: RRiF.

McKinnon, R. (2001). Optimum Currency Areas and the European Experience.//*The European Bank for Reconstruction and Development.* Economics of transition. 10. http://www.stanford.edu/~mckinnon/papers/optimumreveur.pdf

Mongelli, F. P. (2002). New views on the optimum currency area theory: What is EMU telling us? ECB, Working Paper No. 138.

Moesen, W.; Rompuy V. (1990). The Growth of Government Size and Fiscal decentralization paper presented at the 46th Annual Congress of the International Institute of IIPF Congress in Brussels

Mundell, A. R. (1961). A Theory of Optimum Currency Areas.//The American Economic Review, Volume 51. Issue 4. 657-665.URL: http://www.jstor.org/discover/10.2307/1812792? uid=3737568 &uid=2&uid=4&sid=21102271151101

Roubini, N. (2001). Debt Sustainability: How to Assess Whether a Country is Insolvent. http://www.people.stern.nyu.edu/ nroubini/ papers/debtsustainability.pdf

Vukmirica, V.; Špirić N. (2005). Ekonomska i monetarna integracija Evrope. Banja Luka: Ekonomski fakultet

Резиме

Услов оптималног валутног подручја као теоретске базе монетарне уније, сматра подударање домена фискалне и монетарне политике круцијалним за ефикасно функционисање монетарне уније. Проблематика одрживости монетарне уније са јединственом монетарном политиком а без фискалног уједињења прави интензитет, добија тек у условима кризе и тржишних нестабилности. У том контексту, фокус овог рада односи се на сагледавање везе неусклађених фискалних политика и не/испуњености фискалних критеријума конвергенције са степеном функционисања и одрживости монетарне уније. Циљ истраживања јесте да на бази анализираних теоретских поставки и кретања фискалних параметара земаља чланица, непосредно прије и током кризе, укажемо на њихов директан или индиректан утицај на монетарну интеграцију. У раду смо користили кост-бенефит анализу монетарне уније, указујући на специфичне трошкове и користи које настају када земља одлучи да се прикључи унији. Посматрали смо фискалне параметре критеријума конвергенције земаља чланица указујући на проблематику хетерогености чланица и одступања од референтних вриједности уније. Резултати анализе формулације постављених норми у буџетским индикаторима показују да методологија којом су утврђене постављене норме фискалне конвергенције не могу симетрично одговарати свим чланицама уније. Резултати указују и на чињеницу да, за разлику од симетричних, при настанку асиметричних шокова, као поремећаја који различито утичу на различите земље, чланство у монетарној унији има више трошкова него користи због немогућности вођења активне монетарне политике.

Кључне ријечи: монетарна интеграција, фискална политика, критеријуми конвергенције, буџет, јавни дуг, фискална дисциплина, Европска монетарна унија, асиметрични шокови.