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CONVERGENCE PROBLEMS IN THE EUROZONE

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A b s t r a c t

This paper analyses the issue of convergence in the Eurozone. The overarching objective was to evaluate the monetary and fiscal convergence of the countries in the Eurozone during the recent period. A further goal was to establish recommendations boosting the economic efficiency of the analysed currency integration of the Eurozone. The paper pinpoints crucial theoretical underpinnings and the current analysis of the Eurozone. Empirical data pertinent to macroeconomic indicators, which were collated and statistically analysed, were also used to delineate crucial issues of convergence in the Eurozone.

PROBLEMY KONWERGENCJI W STREFIE EURO

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S ł o w a k l u c z o w e: strefa euro, kryteria konwergencji, optymalne obszary walutowe, Pakt stabilności i wzrostu.

A b s t r a k t

Problemy funkcjonowania strefy euro, wynikające z braku dostosowywania się jej członków do kryteriów konwergencji uzgodnionych w traktacie z Maastricht, stanowią ważny obszar badawczy w ramach międzynarodowej integracji gospodarczej na etapie unii walutowej. Celem podjętych badań była ocena dotychczasowej konwergencji monetarnej i fiskalnej państw obszaru waluty euro oraz próba sformułowania zaleceń umożliwiających zwiększenie efektywności ekonomicznej analizowanej integracji walutowej. W ramach badań przeprowadzono studia literaturowe obejmujące zarówno dorobek teoretyczny na temat optymalnych obszarów walutowych, jak i bieżącą analizę funkcjonowania strefy euro. Na podstawie danych wtórnych dotyczących makroekonomicznych wskaźników ujętych w kryteriach konwergencji, które uporządkowano i poddano analizie statystycznej, sformułowano główne obszary problemowe konwergencji w Eurolandzie.

Introduction

Implementation of the monetary union within the European integration has been a lengthy process and requires thorough preparation to achieve success. The increasing economic interdependence of the European Union (EU) countries has contributed to harmonisation of their market cycles, which, in the light of the optimum currency area theory, represents one of the major premises for creating monetary unions. However, the criteria of monetary and fiscal convergence criteria formulated in the Treaty of Maastricht that represented the conditions for participation in the Eurozone (Euroland) has not always been observed from the very beginning of its existence. During the following years, that negative practice was continued.

Faced with permanent non-compliance with the key principles for the functioning of the Eurozone, the answer to the question concerning improvement in the mechanism of its operation, particularly under the crisis conditions, seems particularly relevant. Different corrective scenarios can be considered, including: reformulation of the criteria for participation in the Eurozone, establishing special funds for securing the stability of the zone, a more restrictive system of controls and sanctions concerning compliance with the Maastricht criteria (including even exclusion of a state from the zone) or – in extreme cases – withdrawing from further implementation of monetary union in the EU.

Presenting the difficulties in the Eurozone operation resulting from non-performance of the agreed programme of monetary and fiscal convergence by Member States was the main objective of the conducted studies. The authors of the paper attempted to formulate answers to the questions concerning the consequences of such practices on the grounds of the optimum currency area theory and the possible measures to obtain larger economic benefits at this stage of economic integration.

Methodology of studies

The nominal convergence of the Eurozone Member States resulting from the criteria formulated within the frameworks of the Treaty of Maastricht, which was signed in 1992 (effective date 1.11.1993), was the subject of the studies. The time scope of the analysis undertaken encompassed the period from 1998, i.e. the evaluation of convergence of the initial members in the Eurozone, until 2010 when the decision was taken on accepting the 17th member of the zone – Estonia.

The literature study was the first stage of the research. The focus was on the concept of implementation of the monetary union as one of the stages in the international economic integration. Particular attention was devoted to the optimum currency areas theory – in both the initial version developed by Mundell and its later modifications. Moreover, the existing scientific resources concerning the current operation of the monetary union within the EU were subject to a critical review.

During the next research stage, the available secondary data were used. The data concerned macroeconomic indicators included in the convergence criteria within the frameworks of the Eurozone. Databases of the Eurostat and the European Central Bank were used as the data sources. The secondary material obtained was processed and presented using the descriptive statistics methods in the form of tables and graphic presentation of the results.

The outcomes of the conducted research formulated within the summary and conclusions are presented in the last part of the paper.

Results of studies

For years, a discussion has been pending in the subject literature concerning the benefits and costs resulting from applying the common currency. Different criteria have been defined on which the choice of the exchange rate system optimal for a given economy depends. Robert Mundell was the first to describe this phenomenon, naming it the "optimum currency area" theory. The optimum currency area is a region in which a single currency or many currencies with fixed exchange rates are circulated (MUNDELL 1961, p. 658). Within the optimum currency area, the benefits of possessing a common currency or applying fixed currency exchange rates exceed the costs of such a solution. Consequently, it is optimum for the countries forming an optimum currency area to accept a common currency, while in relations with the countries from outside the optimum currency area it is recommended to apply the flexible exchange rates (TCHOREK 2010, p. 41). Resignation from the right to issue one's own currency involves certain costs. Consequently, satisfying the specified conditions is necessary if establishing the monetary union is to mean increased wealth for a given country – which is the fundamental aim of economic integration at that stage.

As the risk of appearance of asymmetric shocks is the fundamental problem in the functioning of monetary unions, the optimum currency area theory focuses on the factors that minimise that risk (Tab. 1). According to the definition, an asymmetric shock occurs when changes in demand and supply influence one or several countries more extensively than the other countries (ROGUT 2010, p. 214). The presented factors focus mainly on the degree of

Table 1

Criteria of the traditional theory of optimum currency area

Factors decreasing the costs of abandoning the exchange rate and monetary policy	
Low susceptibility of the economy to shock (*symmetry*):	ability of the economy to absorb shocks (*flexibility*)
Correlation of the market cycles Similarity of the inflation rates Diversification of production	flexibility of wages and prices mobility of production factors integration of the financial markets fiscal integration
Degree of openness of the economy	

Source: TCHOREK 2010, p. 46.

convergence and integration of economies. The higher it is, the less susceptible the member states are to asymmetric shocks. They also have a higher capacity to absorb them. Additionally, the important role of the diversification of production by the individual countries and flexibility of their labour markets are highlighted, with particular consideration for the mobility of labour within the integrated region.

Concerning fiscal integration, the linked problem of political integration also appears. According to the theory, creating a monetary union budget, which, similar to the national budgets, would play the role of the intervention tool in case of asymmetric shocks, would be the optimal solution. However, if such a budget were to be effective, it would have to have significant funds available (e.g., the domestic budgets frequently exceed one-third of the GDP of the country), which under conditions of economic integration would be difficult, or even impossible, to achieve. It should be highlighted that the current EU budget does not fulfil a regulatory function. Additionally, it has relatively low funds available, oscillating around 1% of the GNI of all the European Union countries.

Studies conducted during the 1990s did not clearly show that the European nion satisfied the principles of the optimum currency area and, consequently, implementation of a common European currency was justified. Numerous economists were even convinced that the entire contemporary EU-15 was not an optimum currency area and that only some selected countries of it formed one (DE GRAUWE 2003, p. 93). This means that even at that time, the ambitious project of the Eurozone was rated, from the economic perspective, negatively to a certain extent. It seems that in its implementation, a major role was played by political ambitions in the leading European Union countries and institutions.

A slightly different approach to the consequences of monetary integration has been brought about by the concept of the new theory of optimum currency area, which highlights the benefits of possessing a common currency while marginalising its costs (MONGELLI 2002, p. 8). This attitude resulted from the following premises:

a) marginalisation of the monetary policy role as a tool for long-term regulation of the economy,

b) belief that the use of the exchange rate mechanism may result in major deviations in the economy and, consequently, may be the cause of an economic shock,

c) emergence of an endogenous effect resulting from the monetary union and, consequently, an increase of integration and macroeconomic stability in the member states.

A particularly important role should be attributed to the concept of the endogenous nature of the optimum currency area that was popularised by Jeffrey Frankel and Andrew Rose. They highlighted that intensified trade exchange between countries supports correlation of their market cycles (FRANKEL, ROSE 1996, pp. 21-22). As the outcome, the economic integration advancement at the monetary union level causes economic synchronisation of an area linked together by a common currency and consequently levels the risk of the appearance of asymmetric shocks. The levelling of the prices in the individual countries is particularly well- visible and has been empirically proven in the Eurozone countries (DE GRAUWE, MONGELLI 2005, pp. 16–17). Consequently, the intensity of trade integration, as well as the correlation of market cycles of a candidate to the monetary union, may change under the influence of implementing the common currency. This means that accession to the monetary union may influence the degree to which a given country satisfies the criteria of the optimum currency area. Hence, even if a country does not satisfy those criteria *ex ante*, it may satisfy them after accession to the union and, consequently, the evaluation of whether a country is a good candidate for the monetary union based exclusively on the historical data might be misleading.

Implementation of the monetary union stage in the countries of the European Communities started during the 1970s with the Werner plan. (ZOMBIRT 2008, p. 490). However, the stormy changes taking place in the global economy of those days resulting mainly from the collapse of the Bretton Woods exchange rate system and the fuel crisis contributed to the necessity of resignation from the ambitious plan of rapid implementation of the common European currency. The establishment in 1979 of the European Monetary System (EMS), which was based on the European Currency Unit (ECU) – a quasi-currency based on the basket of currencies of the current nine members of the Communities – represented the next step towards monetary union. In addition to the important role in the settlements within the EC (e.g.

between the central banks or accounting for the budgets) and in the international financial market, the ECU became the nucleus for the future common means of tender of the united Europe – the euro. The EMS played also the function of an important institutional experience for the European Central Bank and the European System of Central Banks currently operating.

The Treaty of Maastricht was of key importance for the establishment of the Eurozone (WIKTOR 2005, p. 192). It outlined a binding economic doctrine indicating the conditions for the optimum currency area functioning and, consequently, the willingness to achieve the highest benefits possible from the introduction of the single currency in the EU. The list of criteria that had to be fulfilled by the candidates to the membership in the monetary union among the current and future EU countries was formulated[1]. In article 140 of the Treaty of Maastricht, three criteria related to the monetary policy and two concerning the fiscal policy were formulated:

1) inflation may not exceed the average inflation from the three EU Member States with the most stable level of prices by more than 1.5 p.p.;

2) the long-term interest rates may not exceed the average level of such rates from the three EU Member States with the most stable level of prices by more than 2 p.p.;

3) the currency of the candidate to the Eurozone must participate in the ERM II system for at least 2 years without the possibility of devaluating its exchange rate;

4) the budget deficit may not exceed 3% of the GDP;

5) the public debt should not exceed 60% of the GDP and a country that is not able to satisfy that condition should show a decreasing debt level trend, which would allow attainment of the required cap.

The formulated convergence criteria, combined with the high level of economic interdependence of the EU countries achieved during 40 years of European integration were to guarantee the effective – from the economic perspective – functioning of the euro as a currency, offering benefits to all the countries of the zone. However, the problem with observation of the criteria set in that way and the absence of clear institutional mechanisms allowing their enforcement became obstacles to the target outlined in that way. It seems that as a consequence of absence of the advanced integration of the EU countries in the political dimension, it was extremely difficult to reach an agreement

[1] Two of 12 countries that signed the Treaty of Maastricht, secured themselves (within the frameworks of the so-called opt-out clause) the possibility of staying outside the Eurozone. Those were Denmark and the United Kingdom. On the other countries, as well as the future EU members, the duty of implementing the euro as currency was imposed (this also applies to Poland). The date, however, for implementation of the common currency was not determined. It is assumed that this should take place when all the criteria of convergence formulated in the Treaty of Maastricht are satisfied.

concerning sanctions, including exclusion from the Eurozone, for the countries not satisfying the requirements formulated. Additionally, many countries treated the criteria of Maastricht as the conditions of entry into, and not the conditions of participation in, the monetary union and, immediately after joining the Eurozone, their macroeconomic indicators started deviating from the allowed standards. It should also be highlighted that much greater problems concerned maintaining convergence in the budgetary policy, which have recently surfaced during the global economic crisis.

Table 2

Performance of convergence criteria in the EU-15 countries in 1998

Item	HICP inflation	Long-term interest rate	Budget deficit	Public debt
Reference value	2.7%	7.8%	-3%	60%
Belgium	1.4	5.7	-1.7	**118.1**
Germany	1.4	5.6	-2.5	**61.2**
Spain	1.8	6.3	-2.2	**67.4**
France	1.2	5.5	-2.9	58.1
Ireland	1.2	6.2	1.1	59.5
Italy	1.8	6.7	-2.5	**118.1**
Luxemburg	1.4	5.6	1.0	7.1
Netherlands	1.8	5.5	-1.6	**70.0**
Austria	1.1	5.6	-2.3	**64.7**
Portugal	1.8	6.2	-2.2	60.0
Finland	1.3	5.9	0.3	53.6
Greece	**5.2**	**9.8**	-2.2	**107.7**
Denmark	1.9	6.2	1.1	59.5
Sweden	1.9	6.5	0.5	**74.1**
United Kingdom	1.8	7.0	-0.6	52.3

Source: Own work based on the: Convergence Report 1998. European Monetary Institute, Frankfurt/Main.

Consent for accession to the Eurozone on the date of its establishment – 1.01.1999 – of the countries that did not satisfy the budget discipline requirements represented an additional factor that showed that fulfilment of the convergence criteria may be violated without punishment (Tab. 2). Out of the 11 initial Member States of the zone, only 5 satisfied the agreed level of public debt. It should be highlighted that two countries – Belgium and Italy – exceeded the allowed debt value by two-fold meaning that it was neither an incidental nor a short-term phenomenon. Consequently, the situation provided an excuse for the other countries not to strictly observe fiscal policy discipline in the future.

Satisfactory convergence results were attained during the studied period when the responsibility for monetary policy was transferred from the level of the Member States to the Community level (in particular, the European Central Bank). The increased inflation (relative to the reference value) appeared only at the initial period of the zone functioning – during the years 1999–2000 – and as a consequence of the global economic crisis of 2009–2010 (Eurostat 2011). Additionally, the values were not vary high, they were of a provisional nature and in most cases applied to some countries only (particular problems with inflation were recorded in Greece).

The Stability and Growth Pact adapted in 1997 became an attempt at maintaining the budgetary convergence necessary to assure stability of the common currency and prevent excessive loosening of the fiscal policy (*Raport*... 2009, p. 17). It encompasses three documents: the Resolution of the European Council (taken at the summit in Amsterdam on 17 June 1997) and two Council Regulations ECOFIN (1466/97 and 1467/97). The mechanism of control and strengthening fiscal discipline within the framework of the Pact is implemented using three groups of instruments: a system of multiple surveillance and control of situation in the individual countries, the fiscal rules in the form of the defined quantitative limits and orders concerning the deficit and public debt and the detailed operational development of the excess deficit procedure. The Pact, however, has been evaluated by the Union countries as controversial – highly restrictive and intervening strongly in the political autonomy of the individual countries (MARINHEIRO 2008, p. 189). Additionally, while the Eurozone countries were deprived of their own monetary policies, the fiscal policy was the sole macroeconomic instrument allowing mitigation of asymmetric shocks (ROSATI 2010, p. 615). The proposals were even formulated to accept the increased the budget deficit of countries in situations when the government expenditures were rational or the country found itself in a difficult economic situation (WYPLOSZ 2005). Consequently, during its entire history, the public debt of the Eurozone exceeded the fixed 60% of the GDP while the allowed value of budgetary deficit was exceeded during bad market periods – in 2003 and during the years 2009–2010 (Fig. 1). Loosening of fiscal policies during the global financial crisis of the end of the first decade of the 21st c. is particularly clear. During that time, the public debt in the Eurozone exceeded 80% of the GDP while the budget deficit exceeded 6% of the GDP.

The problems of fiscal convergence in the Eurozone have been differentiated clearly from a geographic perspective from the very beginning of its existence. Only two countries – Finland and Luxemburg – have satisfied the budget discipline assumptions formulated in Maastricht across the entire period. The remaining Member States, including the leading economies of the monetary union: Germany, France and Italy, exceeded the set criteria notori-

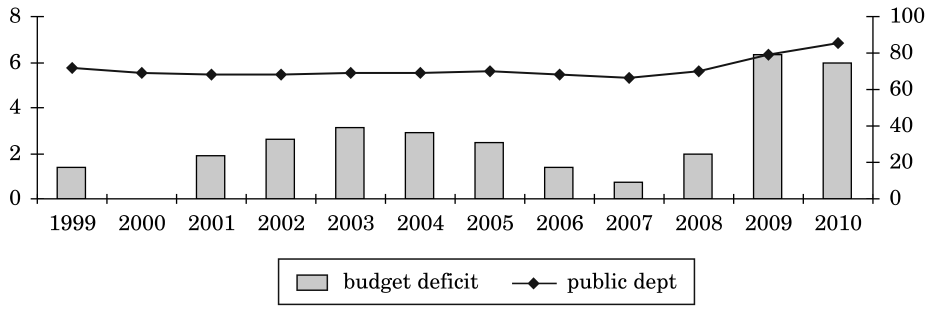

Fig. 1. Budget deficit and public debt in the Eurozone 1999–2010
Source: Own work based on the Eurostat data
(http://epp.eurostat.ec.europa.eu/portal/page/portal/eurostat/home, read on 28.06.2011).

ously and significantly. Greece has had the largest scale of fiscal divergence, which, since its accession to the Eurozone, has not even come close to budget deficit or public debt reference values[2] (Tab. 3). Consequently, in 2010, Greece reached the limit of solvency and without financial aid from the EE countries and the International Monetary Fund it would have gone bankrupt. The situation of Greece found evident negative reflection in the confidence in the euro as a currency and further in its exchange rate stability in the global financial market. Hence, non-compliance with the agreed budgetary regime has numerous consequences: domestic economic destabilisation in a country that runs the expansive fiscal policy; undermining the credibility of the common currency and consequently possible perturbations in the other economies of the zone and, finally, lack of reaction to systematic non-compliance with the principles of "healthy" public finance causing difficulties in building a strong European currency.

In the proposed Eurozone management reform proposals, much focus is placed on penalising countries that do not apply the criteria of Maastricht and a relatively minor role is attributed to the preventive measures that would allow avoiding such strong fiscal divergence in the future (De Grauwe 2011, s. 18). It should be remembered that the fact that the member state create debts in the currency of which they have no direct control is the fundamental problem of the monetary union Member States. This is the consequence of the current institutional situation in the Eurozone – the combination of monetary policy centralised around the European Central Bank and the fiscal policy conducted independently by each of the countries (von Hagen, Wyplosz 2008,

[2] Following accession of Greece to the Eurozone in 2001 it was found out that the earlier statistics for that country concerning the macroeconomic indicators were adulterated for the purpose of satisfying the criteria for membership in the monetary union.

Fiscal convergence in Eurozone

Table 3

Item	2000		2003		2007		2010	
	budget deficit, % GDP	public debt, % GDP	budget deficit, % GDP	public debt, % GDP	budget deficit, % GDP	public debt, % GDP	budget deficit, % GDP	public debt, % GDP
Reference value	-3.0	60	-3.0	60	-3.0	60	-3.0	60
Belgium	0.0	**107.9**	-0.1	**98.5**	-0.3	**84.2**	**-4.1**	**96.8**
Germany	1.3	59.7	**-4.0**	**63.9**	0.3	**64.9**	**-3.3**	**83.2**
Ireland	4.7	37.8	0.4	30.9	0.1	25.0	-32.4	96.2
Greece*	-3.7	103.4	**-5.6**	**97.4**	**-6.4**	**105.4**	**-10.5**	**142.8**
Spain	-1.0	59.3	-0.2	48.7	1.9	36.1	-9.2	60.1
France	-1.5	57.3	**-4.1**	**62.9**	-2.7	**63.9**	**-7.0**	**81.7**
Italy	-0.8	**109.2**	**-3.5**	**104.4**	-1.5	**103.6**	**-4.6**	**119.0**
Finland	6.8	43.8	2.4	44.5	5.2	35.2	-2.5	48.4
Luxemburg	6.0	6.2	0.5	6.1	3.7	6.7	-1.7	18.4
Netherlands	2.0	53.8	**-3.1**	52.0	0.2	45.3	**-5.4**	**62.7**
Austria	-1.7	**66.5**	-1.5	**65.8**	-0.9	**60.7**	**-4.6**	**72.3**
Portugal	-2.9	48.5	-3.0	55.9	**-3.1**	**68.3**	**-9.1**	**93.0**
Slovenia*	-3.7	no data	-2.7	27.3	-0.1	23.1	**-5.6**	38.0
Malta*	-6.2	55.9	-9.9	69.3	-2.4	62.0	**-3.6**	**68.0**
Cyprus*	-2.3	58.8	-6.5	68.9	3.4	58.3	**-5.3**	**60.8**
Slovakia*	-12.3	50.3	-2.8	42.4	-1.8	29.6	**-7.9**	41.0

* Greece became a Eurozone member in 2001, Slovenia in 2007, Malta and Cyprus in 2008, and Slovakia in 2009.
Source: Eurostat data (http://epp.eurostat.ec.europa.eu/portal/page/portal/eurostat/home, access on 28.06.2011)

p. 18). Moreover, one should be aware that a significant part of the debts that became the essence of the economic crisis in the Eurozone initiated in 2009 concerned private entities (DE GRAUWE 2010, s. 2). Consequently, reforming or granting the European Union entities more power to i enforce the Stability and Growth Pact might prove ineffective. Ideas have also been floated on changing the convergence criteria or to apply a more flexible interpretation of them, also in case of the new Member States. However, such an approach has resulted in negative reactions from both the EU institutions and the Eurozone Member States as the risk exists that loosening the Maastricht criteria would weaken the credibility of Eurozone and its institutional foundations (JONAS 2006, p. 328).

The absence of a common budget of the Eurozone countries that would fulfil the regulatory role in the situations of bad economic market represents an additional factor hindering the functioning of a single currency area. The

European Stability Mechanism established in May 2010, requires that the EU countries, together with the European Commission, until 2013 shall allocate 500 billion euro, i.e. around 6% of the GDP of the Eurozone to offer a solution. This aid is to be offered in the form of both a credit line and credit guaranties (SIEMIONCZYK et al. 2010).

The labour market flexibility and the mobility of labour within the monetary union area represent an important aspect highlighted by the classic theory of the optimum currency area. In the case of the EU countries (both at the beginning of the Eurozone and today) those conditions have been satisfied only to a minor extent. Although one of the major principles of the common market, the principle of free flow of labour, has been in operation for years, the European Union labour market is characterised by a lack of homogeneity that is manifested in the diversified employment structures, unemployment rates, wages, pension systems, etc. This diversification was clearly evident during the last economic crisis in the form of the different labour market reactions to the situation in different countries of the EU (BRUHA et al. 2011, p. 19). Moreover, this market is characterised by a very low level of migration – in 2000 only 0.1% of the EU-15 population changed their place of residence (for comparison, in the US in 1999, the equivalent value of migrations between States was 5.9%) (HEINZ, WARD-WARMEDINGER 2006, p. 7). The presented state of the EU labour market makes it hard to expect that in the case of asymmetric shocks emerging within the Eurozone, this market would fulfil a stabilising role.

Conclusion

Construction of the single currency area in Europe currently encompassing 17 EU countries has proved a difficult task that has not been attained entirely successfully. Preparations for implementing the euro as a currency based on extensive theoretical resources concerning the optimum currency area should be evaluated positively. Both the institutions established to conduct the monetary policy in the Eurozone and the Eurozone membership criteria have satisfied the guidelines conditioning the success of this undertaking. However, the consent for participation in the euro project of countries which from the very beginning did not comply with the agreed principles or started violating them immediately after accession to the Eurozone was a problem that hindered implementation of the plan. Such behaviours did not meet with an effective reaction from the EU institutions. Both a system of appropriate sanctions and preventive measures were missing. Consequently, a significant divergence occurred, particularly in the fiscal policy, which combined with economic recession initiated in Europe in 2009, brought dangerous instability to the economies of some of the Eurozone countries. The difficulties encountered by the European Central Bank in implementation of the monetary policy deserve particular highlighting as under conditions of not maintaining the fiscal convergence in the Eurozone it has no possibility of taking decisions that are optimal (for all the zone members). Moreover, the Eurozone was deprived of two factors that contribute significantly to protection against asymmetric shocks, i.e. a flexible and mobile labour market as well as a budget allowing intervention in the euro market in poor market situations.

The present problem in the functioning of the Eurozone is caused, to a significant extent, from insufficient political integration of the European Union and, consequently, difficulties in governing the Eurozone. It is estimated that the EU is currently at the point where a decision has to be taken as concerns the further direction of its development: strengthening the integration and increasing the EU effectiveness as an important global player, rationalisation of the Union integration and fragmentation process or continuation of the focus on the internal community market (BARCZ 2008, s. 28–33). Stronger cooperation of only those countries of the EU that possess the euro is also possible. Given the current experience in the functioning of the Eurozone, it can be concluded that only an intensification of cooperation would allow achievement of benefits from a monetary union by all of its members. Only strong and effective Eurozone management will secure exchange rate stability and build up the credibility of the euro in the long-term. In other cases, it may be the case that from an economic perspective, a return to national currencies or a limitation of the number of Eurozone members will be more effective.

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