

Economics and Business Review

Volume 2 (16) Number 2 2016

CONTENTS

ARTICLES

Testing the weak-form efficiency of agriculture's capital markets

Binam Ghimire, Kolja Annussek, Jackie Harvey, Satish Sharma

The risk of the increasing divergence of the eurozone and the problem of macroeconomic imbalances in a three-gap model

Jacek Pera

Structural barriers to research and development activities in emerging markets: the case of Poland, the Czech Republic, Slovakia and Hungary

Anna Odrobina

Relationships and trust in perceiving price fairness: an exploratory study

Michael B. Hinner

Comparing consumers' value perception of luxury goods: Is national culture a sufficiently explanatory factor?

Beata Stępień, Ana Pinto Lima, Lutfu Sagbansua, Michael B. Hinner

Attitude toward luxury among Polish and Portuguese consumers

Wioleta Dryl, Arkadiusz Kozłowski

The institutionalization of practice: a processual perspective on value co-creation

Zofia Patora-Wysocka

The value of trust in inter-organizational relations

Małgorzata Chrupała-Pniak, Damian Grabowski, Monika Sulimowska-Formowicz

Improving student outcomes through the well designed use of computer technology in university business classes

Wendy Swenson Roth, Deborah S. Butler

BOOK REVIEWS

Robert B. Cialdini, Steve J. Martin, Noah J. Goldstein, *Mała wielka zmiana. Jak skutecznie wywierać wpływ [The small big. Small changes that spark big influence]*, Gdańskie Wydawnictwo Psychologiczne, Sopot 2016 (*Henryk Mruk*)

Rodrik Dani, *Economics Rules. The Rights and Wrongs of the Dismal Science*, W.W. Norton & Company, New York 2015 (*Marzena Brzezińska*)

Editorial Board

Ryszard Barczyk
Witold Jurek
Cezary Kochalski
Tadeusz Kowalski (Editor-in-Chief)
Henryk Mruk
Ida Musiałkowska
Jerzy Schroeder
Jacek Wallusch
Maciej Żukowski

International Editorial Advisory Board

Udo Broll – School of International Studies (ZIS), Technische Universität, Dresden
Wojciech Florkowski – University of Georgia, Griffin
Binam Ghimire – Northumbria University, Newcastle upon Tyne
Christopher J. Green – Loughborough University
John Hogan – Georgia State University, Atlanta
Bruce E. Kaufman – Georgia State University, Atlanta
Steve Letza – Corporate Governance Business School Bournemouth University
Victor Murinde – University of Birmingham
Hugh Scullion – National University of Ireland, Galway
Yochanan Shachmurove – The City College, City University of New York
Richard Sweeney – The McDonough School of Business, Georgetown University, Washington D.C.
Thomas Taylor – School of Business and Accountancy, Wake Forest University, Winston-Salem
Clas Wihlborg – Argyros School of Business and Economics, Chapman University, Orange
Jan Winiecki – University of Information Technology and Management in Rzeszów
Habte G. Woldu – School of Management, The University of Texas at Dallas

Thematic Editors

Economics: *Ryszard Barczyk, Tadeusz Kowalski, Ida Musiałkowska, Jacek Wallusch, Maciej Żukowski* •
Econometrics: *Witold Jurek, Jacek Wallusch* • **Finance:** *Witold Jurek, Cezary Kochalski* • **Management and Marketing:** *Henryk Mruk, Cezary Kochalski, Ida Musiałkowska, Jerzy Schroeder* • **Statistics:** *Elżbieta Gołata, Krzysztof Szwarz*

Language Editor: *Owen Easteal* • **IT Editor:** *Marcin Reguła*

© Copyright by Poznań University of Economics and Business, Poznań 2016

Paper based publication

ISSN 2392-1641

POZNAŃ UNIVERSITY OF ECONOMICS AND BUSINESS PRESS
ul. Powstańców Wielkopolskich 16, 61-895 Poznań, Poland
phone +48 61 854 31 54, +48 61 854 31 55, fax +48 61 854 31 59
www.wydawnictwo-ue.pl, e-mail: wydawnictwo@ue.poznan.pl
postal address: al. Niepodległości 10, 61-875 Poznań, Poland

Printed and bound in Poland by:
Poznań University of Economics and Business Print Shop

Circulation: 300 copies

The risk of the increasing divergence of the eurozone and the problem of macroeconomic imbalances in a three-gap model¹

*Jacek Pera*²

Abstract: The negative effects of the last financial and economic crisis as seen in the deterioration of the state of public finances of the eurozone Member States highlighted weaknesses in the present institutional system. The fact that structural reforms have stopped, as well as unfavourable demographic changes, make the convergence processes and the growth of eurozone economies slow down. Increasing divergence with regard to trade balance deficits, budget deficits, investments and private savings is a significant limiting factor here. The aim of this paper is to answer the question as to whether the present situation of the eurozone economies is of a convergent or divergent nature. For this purpose the following have been analysed and assessed: the last financial crisis' consequences for eurozone countries; basic indicators related to the EU Member States' macroeconomic situation; domestic economies convergence/divergence in the eurozone – in relation to other Member States; increased divergence of regional development within a country, the so-called regional divergence; criteria of convergence; macroeconomic factors and – as mentioned before – the listed indicators resulting from the research method adopted. The method of study in this paper was the analysis of the risk of the eurozone's macroeconomic imbalance on the basis of the three-gap model. Results of the analysis showed significant imbalances within individual economies in terms of all the above mentioned parameters. This analysis showed the increasing trend related to eurozone divergence.

Keywords: convergence, divergence, risk, eurozone, imbalance.

JEL codes: F02, F15, H6.

Introduction

The financial and economic crisis that began at the turn of 2008 called for a need to reflect upon the eurozone's economic condition and made the eurozone Member States change the way they had perceived their economic man-

¹ Article received 11 December 2015, accepted 16 May 2016.

² Cracow University of Economics, Department of International Economic Relations, ul. Rakowicka 27, 31-510 Kraków, peraj@uek.krakow.pl.

agement system. The negative effects of the last financial and economic crisis expressed by a deterioration of the status of public finance of the eurozone Member States highlighted the weaknesses of the present institutional system. The fact that structural reforms have stopped, as well as unfavourable demographic changes, make the convergence processes and the growth of eurozone economies slow down. Increasing divergence in terms of the trade balance deficit, budget deficit, investments and private savings is a significant limiting factor here. One of the most important sources causing the risk of enhancing long-term economic stagnation of the eurozone Member States is the due to the ignoring of convergence criteria which has happened without any sanctions.

The aim of this paper is to answer the question as to whether the present situation of eurozone Member States economies is of a convergent or divergent nature. The aim is to answer the question as to whether the present situation of eurozone Member States' economies is of a convergent or divergent nature. For this purpose the following have been analysed and assessed: the consequences of the last financial crisis for eurozone countries; basic indicators related to the EU Member States' macroeconomic situation; domestic economies convergence/divergence in the eurozone – in relation to other Member States; increased divergence of regional development within a country, the so-called regional divergence; criteria of convergence; macroeconomic factors and the listed indicators resulting from the research method adopted. This dependency has been examined with the use of the three-gap model.

The paper is divided into three sections. The first section deals with the description of the problem of convergence and divergence in the theory of economics and in the eurozone. The second section is devoted to the analysis of the risk of the eurozone's macroeconomic imbalance on the basis of the three-gap model. The paper is closed with a conclusion.

1. The problem of the eurozone's increasing divergence

Convergence is the process of levelling the economic variables (mainly by means of levelling economic growth, most often shown as GDP *per capita* measured by purchasing power parities) between different countries or regions caused by the faster development of poorer countries and regions. Convergence is possible due to the faster growth of countries which are economically less developed than relatively rich countries. This growth may result from a greater accumulation of production factors (labour, capital) or from their increased productivity. The level of convergence depends to a large extent on the homogeneity of the group of countries analysed. In the traditional understanding of convergence the countries with similar levels of development (e.g. developed) confirm the occurrence of convergence phenomena, whereas less developed countries show divergence tendencies. Divergence is the reverse process.

There are many different concepts and definitions of convergence. According to the synthetic approach the idea of economic convergence in relation to countries and regions may be interpreted in two ways: 1) as sigma (σ) convergence, when the diversity of the income level per person decreases (e.g. GDP *per capita*); 2) as beta (β) convergence when less developed economic systems show faster growth in comparison with more developed economic systems, i.e. when there is a reverse relationship between the initial level of income (GDP *per capita*) and the pace of growth. Convergence β is a necessary, but insufficient condition for the occurrence of convergence σ . The fact that less developed countries show faster growth does not guarantee that the diversity of income will decrease [Barro and Sala-i-Martin 1992]. There is also the absolute (unconditional) convergence, type β , when poor countries or regions develop faster than the rich ones, irrespective of the initial conditions and level of growth, as well as conditional convergence (often referred to as club convergence) where the processes of convergence relate to a relatively homogeneous group of countries or regions (with similar income or structure parameters) [Adamczyk-Łojewska 2011: 58].

In case of Europe the following should contribute to convergence: the process of economic liberalisation and opening up to international exchange as well as integration within the European Union (EU) structures. The results of studies conducted by various authors [Adamczyk-Łojewska 2003, 2007; Rokicki 2004; Miazga 2007] related to individual countries open to international cooperation and economic integration within the EU which indicate the possibility that two opposing processes occur – the convergence of the domestic economy in relation to other EU Member States on the one hand and the increased diversity of regional growth within a country, i.e. regional divergence on the other. Research shows [Miazga 2007: 219] that in the years 1985–2002 there was not a real reduction of regional disproportions in the GDP *per capita* level (type σ convergence) within the EU, despite the occurrence of convergence β . On the contrary in many countries, e.g. Greece or Italy, regional convergence increased. Analysis related to cohesive countries reducing their distance in relation to the EU's average have shown a lack of progress in subsequent years, i.e. 2007–2015 in levelling the differences between regions of these countries, which is confirmed by the case of Greece and other PIIGS countries (Portugal, Italy, Ireland and Spain). Both Greece and Italy have reported a 4.6% average increase in the last 16 years since entering the eurozone (the situation is not better within other eurozone countries). In Italy there has never been economic boom. Only disintegration has been reported. Italy has real structural problems, one of them being the common currency itself. The euro is too expensive for Italian experts and too restrictive for the government, which has to cut the budget more drastically than would be necessary without the currency union. Greece's economic problems have their source in social policy. Subsequent governments made the country indebted to maintain the citizens'

standard of living, rather than introduce reforms that could lay the foundations of solid economic growth. The EU's stabilisation mechanisms have not helped in Greece nor in Italy. These two EU countries are not exceptional – the euro harms even those countries which are perfectly governed. The common currency has put Europe into cognitive dissonance. People hate the saving measures yet they have an emotional attitude towards everything that is related to the euro. The problem is that it is because of euro that they have to cut budgets so resolutely. Hence those parties that are against the saving measures reckon that they have to promise the impossible in order to come to power. As a consequence they suggest stopping budgetary cuts without leaving the eurozone. However such actions lead to the situation which is current in Greece and thus eventually to a country's divergence within the eurozone.

Table 1 includes the basic indicators related to the EU Member States' macroeconomic situation which describe the level and degree of convergence/divergence. The period from the 2007 crisis has been analysed. The loss of confidence in the banking sector within the eurozone countries led to the decrease of new loans which translated into lower consumption and investment. In the following years the gradual easing of the loan policy increased the level of consumption which translated into GDP growth. Currently, when the interest rates float around the zero lower level of a nominal interest rate the monetary authorities of the eurozone are not interested in aiming at their further reduction. Also the possibilities of running an effective macroeconomic policy through stimulating economic activity have been exhausted. According to prognoses for 2015 it is expected that in the face of a predicted economic slowdown there will not be a significant GDP increase in the eurozone countries. Data included in Table 1 clearly show that there might be a significant GDP decrease predicted for 2015 in case of 12 eurozone countries and only 7 countries might report its increase in comparison to 2014. These tendencies indicate the increasing divergence within the eurozone. The most important structural barriers to growth are: unfavourable demography (ageing of eurozone countries' societies), productivity growth slowdown, increasing unemployment, problems with paying debts and problems with non-sustainable retirement systems [Gandolfo 2015: 315–316]. The billions introduced in to the eurozone countries' economies in the form of the so-called anti-crisis packages have not caused the desired effects of a significant enhancement of growth or the generation of new workplaces. Saving measures implemented are faced with a negative reaction of the markets as they emphasise the necessity of reducing consumption and cause relatively small growth in other areas. Especially the slowdown in the growth of productivity in most EU economies, including the eurozone countries, that has been observed for many years brings negative consequences for economic growth. In the face of the failure of the Lisbon Strategy focused on making the European economy the most dynamic economy in the world growing competitiveness of the developing countries and the productivity growth in the

Table 1. The level of internal stability of eurozone in 2007–2015 – selected indicators

Country/ The level of internal stability of the Euro Zone/GDP per capita/Period	GDP in 2014	GDP in Q1 2015	Period ^a									
			2007	2008	2009	2010	2011	2012	2013	2014	2015 ^b	
Austria	1.8	0.1 ^c	Inflation in percent	4.6	1.5	1.1	2.2	3.4	2.9	2.0	-0.2	1.2
			Unemployment in percent	4.0	4.2	4.6	4.2	4.2	4.7	5.1	5.1	5.0
Belgium	1.2	0.9	Inflation percent	3.1	2.7	0.3	3.4	3.2	2.1	1.2	0.3	1.3
			Unemployment in percent	7.0	7.1	8.2	7.6	7.1	8.1	8.5	8.6	8.6
Cyprus	-3.9	0.2	Inflation percent	-	1.8	1.6	1.7	4.2	1.5	-1.3	0.3	0.9
			Unemployment in percent	-	4.1	6.2	6.1	9.7	13.8	16.5	15.3	15.5
Estonia	4.0	1.8	Inflation percent	-	-	-	-	4.1	3.6	2.0	0.5	0.9
			Unemployment in percent	-	-	-	-	11.2	9.6	8.4	7.5	7.9
Finland	1.0	0.1	Inflation percent	1.9	3.4	1.8	2.8	2.6	3.5	1.9	1.2	1.8
			Unemployment in percent	6.5	6.8	8.8	8.1	7.6	7.9	8.4	8.9	8.9
France	1.1	0.7	Inflation percent	2.8	1.2	1.0	2.0	2.7	1.5	0.8	0.5	0.8
			Unemployment in percent	7.8	8.4	9.9	9.7	9.9	10.7	10.2	10.5	10.6
Germany	1.8	1.0	Inflation percent	3.1	1.1	0.8	1.9	2.3	2.0	1.2	0.8	0.9
			Unemployment in percent	7.9	7.1	7.4	6.6	5.6	5.4	5.1	4.9	4.0
Greece	0.6	0.4	Inflation percent	3.9	-9.3	2.6	5.2	2.2	0.3	-1.8	-1.8	1.8
			Unemployment in percent	8.0	7.9	10.2	14.4	21.3	26.2	27.3	26.0	26.0
Ireland	1.4	0.9	Inflation percent	3.2	1.3	-2.6	-0.2	1.4	1.7	0.4	0.4	1.4
			Unemployment in percent	4.7	8.2	12.9	14.6	15.0	14.0	12.1	10.9	10.0
Italy	-0.1	0.1	Inflation percent	2.8	2.4	1.1	2.1	3.7	2.6	0.7	0.2	0.9
			Unemployment in percent	6.3	7.0	8.4	8.3	9.5	11.4	12.5	13.2	13.9

American economy achieved by means of investment funding and the ongoing revolution of ICT it is justified to state that the stagnation of the European economy may turn out to be a long-term phenomenon. An insufficient number of innovations aimed at increasing the growth of productivity, especially in relation to production factors in the area of market services – mainly trade, finance and business services, postpones the possibility of achieving a significant economic growth in the EU eurozone Member States.

The process of ageing in European societies in the near future may result in demographic breakdown leading to a further weakening of productivity and increasing structural unemployment [Gandolfo 2015: 315–316]. According to Eurostat data the unemployment indicator in the eurozone increased in February 2015 in relation to October 2014 and reached the highest level in the history of the eurozone amounting to 16.0%. The lowest unemployment in 2015 is expected to be in Germany – 4.0%, Austria 5.0%, and Malta 5.7%. The highest unemployment rate was reported in Greece 26.0%, Spain 25.0% and Cyprus 15.5%. The number of unemployed people in 19 eurozone countries oscillates around 21.2 million people whilst the estimated number of unemployed in the whole EU is around 30.5 million. Taking into consideration all the EU Member States it has to be noted that there are around 5.8 million people without jobs amongst those who are 25 and younger (which corresponds to 23.7% of the whole EU and 24.4% of the eurozone). The highest unemployment level within this age group is in Greece and Spain (57.6% and 56.5% respectively). The decrease of the working age population will constitute a significant barrier to economic growth and the indicator of eurozone further divergence. According to prognoses the number of working people in the EU will decrease by nearly 10% by 2050 whereas the number of non-working people will be 20% higher. The level of inflation is a major threat for the eurozone demonstrating its divergence. In the period analysed there were 81 cases of exceeding the threshold values in relation to the reference values. It is predicted that the highest inflation in 2015 will occur in Slovenia 3.0% and Slovakia 2.9%.

Summing up Table 1 data it can be clearly stated that there is an increasing divergence and diversity amongst the EU Member States with regard to the indicators shown. The level of convergence depends to a large extent on the homogeneity of the analysed group of countries. In the traditional understanding of convergence countries with similar levels of development (e.g. developed) confirm the occurrence of convergence phenomena whereas less developed countries show divergent tendencies. Individual countries open to international cooperation and economic integration within the EU indicate the possibility that two opposing processes occur – the convergence of the domestic economy in relation to other EU Member States on the one hand and the increased diversity of regional growth within a country, i.e. regional divergence on the other hand. The level of inflation, unfavourable demography (ageing of eurozone countries' societies), productivity growth slowdown, increasing un-

employment, problems with paying debts and problems with non-sustainable retirement systems are a major threat for the eurozone demonstrating its divergence.

2. The risk of macroeconomic imbalance of the eurozone on the basis of a three-gap model

The three-gap model is a simple concept derived from the two-gap model in a domestic economy. This original idea has been evolving in literature related to growth issues. A conceptual base for the modernist approach to development and growth was established by Karl Polanyi, Everett von Hagen, Robert Heilbroner and W.W. Rostow. Based on the historical analysis of the growth experience of countries in Western Europe and the USA the modernists suggested that:... „growth is one-way, progressive, gradual and irreversible. It results from endogenous factors and conditions of every economy, leading individual societies to successive stages of development” [Hettne 1983: 247–266; Wiarda 1999: 50–69; Mazumdar 2005: 98–120]. According to modernists: „all countries, whether underdeveloped, developing or developed, follow the same universal growth paths, i.e. from traditional to modern economies”. This concept presented the natural, evolutionary way of economic growth, drawing strength from capitalism, accumulation, private business and industry Mazumdar 2005: 98–120]. Hence underdeveloped and developing countries can overcome lower than normal growth and make up for the backwardness by using the growth experience of developed countries.

Over decades different factors and key conditions for the process of making up for the development distance have been extolled. These include: (a) generating large savings and investments, (b) using appropriate manufacturing technologies (R. Nurske, A.E. Kahn, G.M. Meier, H. Lebenstein, A.K. Sen, E.F. Schumacher) and economies of scale in developing countries [Rosenstein-Rodan 1943], (c) stimulating structural and demographic transformation [Clark 1953; Ranis, Fei 1961; Matsuyama 1992; Becker, Murphy, and Tamura 1990], (d) intensification of the technological development and investing in the human factor [Schulz 1962; Krueger 1968; Becker 1975; Lucas 1988], (e) distribution of income [Kuznetz 1955; Sen 1983], limitation of natural resources [Grossman, Krueger 1995] or the opening of domestic economies for globalisation [Ruttan 1998: 1–26]. The two-gap model has been used to explain the way foreign aid for developing countries could foster the elimination of domestic gaps: those of saving-investment and import-export. The role of foreign aid in the three-gap model is different. Easterly [1997] pointed to the uncertainties related to the empirical correctness of the two-gap model basic assumptions. Taylor [1993] proved that the approach based solely on the saving-investment

gap does not reflect the nature of problems related to financing growth by foreign aid. He introduced the third gap: the fiscal one, which allowed the inclusion of budget limits, such as:

$$(G - T) = (S - I) + (M - E), \quad (1)$$

where:

G – budget expenditure,

T – budget revenue,

S – savings,

I – investment,

M – import,

E – export.

The three-gap model is constructed by breaking the whole of public expenditure (G) into two parts: recurrent expenditure (Gr) and development – investment expenditure (Gd). It is represented by the following formula (2):

$$Gd = (T - Gr) + (S - I) + (M - E). \quad (2)$$

State development expenditure (Gd) should be considered synonymous with public investment. In terms of amounts they correspond to the sum of three gaps in domestic economy: (1) original budget balance ($T - Gr$), (2) discrepancy between private savings and investments as well as (3) trade balance. Development expenditure (Gd) on infrastructure enhancing the performance of the public sector or decreasing the costs of the private sector's economic activity require increased budget expenditures (Gr) to support it in subsequent periods. If they do not result in the increase of budget revenues, and the other elements remain the same, then the increase of investment expenditure (Gd) will lead to a greater budget deficit ($T - Gr$). In the case of EU Member States public investment expenditure may be represented as the sum of local funds (LF) and unrepayable foreign funds (FF):

$$Gd = LF + FF. \quad (3)$$

Due to the rules of financing infrastructure projects from EU funds, which require some domestic participation, both LF and Gd become dependent variables. In spite of the possibility of non-acceptance of part of the EU aid left at the Member State's disposal such a decision is usually politically unacceptable. Governments aim at using available funds to the largest extent. However it may lead to macroeconomic destabilisation caused by the extension of all

domestic gaps. In order to understand the reasons for foreign aid's negative effect in a better way we have to show the mechanisms and phenomena caused by investments that are co-financed by EU funds. If a budget shows a primary surplus ($T - Gr > 0$) it is the source of development expenditure funding (Gd). If, however, the requirements for a domestic contribution to investment expenditure exceed the surplus (or there is primary deficit) public authorities have several possibilities of obtaining extra funds.

The sheer fact of obtaining funds necessary for co-financing investments (Gd) from EU funds is connected with macroeconomic destabilisation resulting from the increase in public debt and a deterioration of the primary budget balance as well as with the effect of crowding out and lowering the profitability of the export sector. Other problems resulting from the use of foreign aid at a level exceeding the resources available domestically relate to the factual implementation of investment projects and exploitation of the infrastructure thus created. The extension of the export-import gap results from the lack of proper goods and services necessary to implement the undertaken projects. Thus foreign aid stimulates imports which leads to a deterioration of the current account balance due to the increase of domestic absorption [Młodkowski 2008: 191–194].

If a budget shows a primary surplus ($T - Gr > 0$) it is the source of development expenditure funding (Gd). If, however, the requirements for the domestic contribution to investment expenditure exceed the surplus (or there is primary deficit) the authorities of the eurozone have several possibilities to obtain extra funds. These activities will, however, lead to the increased risk of macroeconomic imbalance in the zone. First, money supply can be increased (MP). This option is not available in the eurozone because there are restrictions as far as the inflation rate is concerned, resulting from the actions aimed at meeting the Maastricht nominal criteria. Second, foreign-exchange reserves can be used. However this solution will also lead to an increased money supply and the risk of imbalance resulting in inflation. An additional risk in the situation of decreasing foreign-exchange reserves is the danger of a balance of payments crisis and the introduction of foreign-exchange restrictions. The supply of foreign capital financing the current account deficit may be withheld. Third, the demand for money on the domestic market may be shown. It will require an increase in domestic savings or withdrawal from some part of private investments. The fact that the public debt is financed by foreign investors influences indirectly the ability of domestic entities to make investments with their own capital. Foreign private savings allocated in treasury securities are a strong impulse for appreciation. The effect of crowding out private investments by public expenditure (G) in an open economy with a floating exchange rate is not done through an increase of the interest rate, which remains unchanged due to the inflow of foreign private savings. The inflow of capital causes the appreciation of domestic money which leads to decreased profitability of all investment

undertakings focused on export production. Apart from that the increase of import profitability results in the fact that projects supposed to compete with imported goods are abandoned. Their relative profitability is decreased and those entities which are governed by rationality will choose to import instead of produce domestically. Production investments will be suspended as the result of excessive public expenditure financed with foreign savings. This is how the effect of crowding out in open economy with a floating exchange rate will happen. Fourth, the demand for money on international markets may be shown. In this case, there will also be a strong appreciation impulse as the expenditures (Gd) will be made in domestic money. Despite the increase of foreign reserve assets it entails an increased risk of specific foreign debt. Additionally period costs (of interest) will have an adverse effect on the primary budget balance and the current account balance (the idea of twin deficits). The sheer fact of obtaining funds necessary for co-financing investments (Gd) from EU funds is connected with macroeconomic destabilisation and risk resulting from the increase in public debt and the deterioration of the primary budget balance as well as with the effect of crowding out and lowering the profitability of the export sector as well as production for the domestic market [Młodkowski 2008: 193–195]. According to the latest Eurostat data public debt in the second quarter of 2015 increased to 93.4% of GDP in the eurozone and in the whole EU to 86.8% of GDP. These data show a major deterioration of eurozone countries' financial situation in the past eight years. Interventionist actions undertaken by these economies' governments as the result of the 2007 crisis have played a significant part. It should be noted, however, that the crisis itself was not the source of the extent of the current eurozone problems. Public finance had been characterised by unfavourable tendencies in the period that preceded the crisis. There were already excessive deficits and public debts in the majority of eurozone countries when the recession started after the period of prosperity of the first decade of the 21st century. Taking into account the high initial debt level of some countries above 100% GDP, e.g. in Greece, Italy or Belgium, the issue of government solvency or debt stability of those countries arises. The results of the research into the relationship of public debt to GDP clearly show that the fiscal situation of all eurozone countries has deteriorated since 2008. In the longer perspective this may entail the necessity to limit the debt level without restricting the level of economic growth which is already weak in the majority of eurozone countries [Cooper, Kempf, and Peled 2014: 465–491; Cuestas, Gil-Alana, and Staehr 2014: 64–66; Stanek 2014: 20–35; Molendowski and Stanek 2014: 56; Stanek 2015: 209–210].

Currently the major cumulation of eurozone country deficits – Table 2 – translates into increased public debt which further leads to higher costs for debt service and causes a growth in market interest rates. It leads directly to the deterioration of credit terms so the pace of investment and consumption falls and in consequence economic growth slows down and the scale of divergence

increases [Kutan and Yigit 2014; Kose, Prasad, and Terrones 2014: 45–49]. The budget deficit in the eurozone (Table 2) increased from 0.7% GDP in 2007 to 5.0% in 2014. In the period analysed there were 86 cases of violation in eurozone countries' budget deficits in relation to the reference level.

In 2014 the greatest budget shortfall was recorded in Greece where the deficit amounted to 13.1% GDP. Great Britain came right after Greece with 8.0% deficit and Spain with 7.9% deficit. Deficit in those countries – Greece in particular – is the consequence of increased consumption coupled with irrational expenses of individual governments as well as lower than expected revenues from the one-off tax on large company income and the reduction of revenues from income tax and road tolls. The greatest budget surplus was recorded in Hungary: 2.9% GDP, Luxembourg 0.3% and Germany 0.2%. Prognoses for 2015 for all eurozone countries are the same or predict an increase which shows the ongoing process of divergence.

In terms of trade balances (Table 2), there have been 106 violations in the form of trade flow deficits in eurozone countries. Only Germany, Ireland and the Netherlands report a stable, positive level of trade flow – during the whole period. In 2015 a positive trade balance is predicted only for eight countries (Belgium, Finland, Germany, Ireland, Italy, the Netherlands, Slovakia, Slovenia). Based on the analysis of data related to the trade balance of the eurozone countries it can be clearly stated that there is a growing divergence in this respect. The adjustment of current account balances within the eurozone poses a threat for this economic zone's emergence from recession. A potential consequence of a reduction in domestic demand, including imports, in the countries with current account deficits is the further slowdown of the pace of economic growth. The source of some part of divergence observed in the current account balances and the differences in competitiveness are internal imbalances [Chu et al. 2015: 360–374; Bhattarai, Lee, and Park 2015: 375–397; Kuziemska 2010: 89]. Based on Table 3 we can see a general decrease in the trend both in terms of savings and investments. Saving rates have varied between –0.54% in 2007 to the predicted 16.02% in 2015. In case of Greece and the Netherlands a negative savings level of –4.2% and –1.56% respectively is predicted to occur in 2015. This situation is influenced by cultural factors, economic stability, purchasing power of one's remuneration and the commonness of life insurance. As has been stated before, the level of savings in the period analysed decreased in all eurozone countries. Such a tendency is also predicted for 2015.

Investment expenditure in all eurozone economies decreased. The tendency is unfavourable as much as the decrease in investment means the slowdown of the process of company modernisation and increased competitiveness, as well as limiting the performance of the basis of economic growth. The highest average investments rates throughout the whole period analysed occurred in Germany (61.9–56.3%). The lowest investment rates occurred in Greece (9.0–0.5%). The level shown is determined by the attractiveness of capital allocation. Thus, for

understandable reasons, it is the highest in Germany – the country with a high rate of return, and the lowest in Greece, where a systematic outflow of foreign capital is observed. Prognoses for 2015 for all eurozone countries in terms of savings and investments are the same, or predict an increase, which shows the ongoing process of divergence in that respect. Empirical research undertaken by many authors as an international cross-section show that there are both convergence and divergence processes in the world economy. Big, structurally and developmentally diverse groups of countries are characterised rather by processes of divergence. Thus absolute convergence does not appear. As shown by research [Maddison 2001] on a global scale, in the last 40 years of the 20th century income discrepancies between countries became much larger and the tendency towards divergence and increase in the gap between developed and peripheral countries prevailed.

In the group of eurozone countries subject to the study (where in 2000 the convergence coefficient β -type was positive (0.33) in the years 2000–2014, i.e. the countries with a relatively low GDP *per capita*, were usually characterised by a relatively lower growth rate than in developed countries. In the period studied the relationship between the lowest and highest *per capita* income also increased. In the second half of the 20th century this ratio was 1:38, whereas in 2014 it was 1:71. At the same time, in some groups of relatively uniform countries (with average income, especially developed) that have reached a certain growth threshold and developed an appropriate economic and institutional structure fostering growth, including countries that were economically integrating as part of the EU, there are convergence tendencies. Hence what can be observed is mainly the process of conditional convergence and so-called club convergence.

M. Próchniak and R. Rapacki's research [2009: 166] related to a group of 27 post-socialist countries transforming their economic systems provide some interesting results in terms of the issues discussed. Research has shown that in the years 1990–2005 both convergence and divergence processes could be observed in those countries. Within the whole group of 27 former socialist countries the discrepancies in terms of growth rose after 16 years of transformation from 1:8 to 1:16. In the sub-group of countries with an average income, where the GDP *per capita* was higher than USD 2935 in 2000 (this criterion was met by 70 countries with less than 57% of the global population, this does not seem to make sense). The β -type convergence coefficient was negative (-0.6) in the years 1960–2000 which shows little convergence [Blanchard and Giavazzi 2014: 123–132]. In the group of developed countries, according to the classification of the World Bank, with a so-called higher average income, GDP higher than USD 9075 in 2000. (this criterion was met by 37 countries with less than 18% of global population), the β -type convergence coefficient was highest in the years 1960–2000 (-1.68) [Blanchard and Giavazzi 2014: 133]. The problems of economic convergence and divergence shown with the example of countries partic-

icipating in the Commonwealth of Independent States, the relationship between the pace of economic growth and the initial income level was positive, which indicates a growing discrepancy in terms of growth. At the same time the economic growth paths of eight countries from Central and Eastern Europe (new Member States since 2004, UE-8) have shown a visible convergence since 1993. The income gap of eight joining countries from Central and Eastern Europe, both individually and as a group, decreased slowly in the years 1993–2005 in relation to 15 Member States (i.e. both β -type and σ -type convergence occurred). Yet, according to the aforementioned authors, the process of convergence in the newly joining countries (UE-8) was slow. The β -type convergence parameter estimated for the years 1993–2005 (at the level of 2.53–2.65%) means that if the pace of growth of the period studied is maintained approximately 30 years must pass before the growth gap between Central and Eastern Europe countries decreases by half [Fatás 2014]. The progress of divergence (as well as the numbers shown above) within the eurozone are proved by other research [Merler and Pisani-Ferry 2012]. Despite initial progress in terms of real convergence, in the light of Maastricht criteria disciplining effect, divergence has appeared in the place of expected convergence. To a great extent the reason for this has been the fast integration of financial markets. Thus the integration that was supposed to absorb shocks has turned out to be their source. As the result of too low interest rates and a fast increase in unit labour costs the research [Di Mauro and Forster 2010] and [Di Mauro, Foster, and Mima 2010] has shown that some of the eurozone countries (Greece, Spain, Ireland, Portugal, Italy) have lost their price competitiveness on international markets in relation to developed countries from outside EU – eurozone economies remain relatively specialised as far as labour intensive goods are concerned. Greater availability of financing has led to increased capital import and demand for imported goods and services on the one hand, but on the other it led to higher prices and costs thus decreasing export capability. It was reflected in the growing external imbalance in the form of large current account deficits and a growing negative investment position [Laski and Podkaminer 2012: 253–270]. The analysis performed as part of the three-gap model confirms the existing disintegration mechanisms and processes within the eurozone. Unfortunately the eurozone was created by countries whose economies are not similar, nor even flexible. The approximate measure of diversity can be the discrepancy in terms of growth measured as GDP *per capita*, differences in terms of economic growth and structure of economies (determined both by the demand and supply structure of GDP produced). Moreover eurozone countries (apart from a few small ones such as Ireland, the Netherlands, Finland, Austria) are characterised by relatively high costs of their labour market as well as products and services market regulations which significantly reduces the ability to absorb shocks flexibly. The expectations related to the euro's influence on the correlation of trade and economic cycles have turned out to be too optimistic.

Table 2. Trade balance and budget deficit in the eurozone countries in 2007–2015

Country/ Indicator/ Period	The balance of trade in EUR Million						
	2007	2008	2009	2010	2011	2012	2013
Austria	-468.0	-922.0	-763.0	-627.0	-865.0	-687.0	-569.0
Belgium	-677.4	-725.4	474.9	-715.3	-524.5	-811.5	-139.2
Cyprus	-	-417372.0	-394492.0	-449581.0	-394239.0	-327388.0	-30157.0
Estonia	-	-	-	-	-61.1	-239.2	-142.9
Finland	138.0	-29.1	-170.1	147.4	-590.6	-795.4	-547.0
France	-4064.0	-2094.0	-4514.0	-5599.0	-5428.0	-5475.0	-5226.0
Germany	10471.9	7338.9	12482.4	12580.4	12520.0	11940.0	13619.0
Greece	-3474.4	-3142.7	-2784.9	-2114.6	-1601.6	-1428.6	-1398.1
Ireland	1314.0	28852.0	261140.0	364250.0	29836.0	27381.0	34283.0
Italy	-2015.7	-481.9	-137.8	3017.6	1407.1	2314.3	3610.3
Latvia	-	-	-	-	-	-	-
Lithuania	-	-	-	-	-	-	-
Luxembourg	-0.35	-0.39	-0.38	-0.61	-0.53	-0.62	-0.45
Malta	-	-68757.0	-75938.0	-103667.0	-75221.0	-34596.0	-125345.0
Netherlands	3512.8	2510.7	2016.6	3773.6	4117.8	3109.3	3302.8
Portugal	-1838.6	-1794.3	-1770.1	-2005.4	-1202.5	-1039.5	-1031.6
Slovakia	-	-	-61.0	-200.0	-56.0	80.0	-69.0
Slovenia	-307.3	-320.4	-181.3	-226.8	-212.3	-190.7	-104.8
Spain	-9834.7	-6927.7	-4071.2	-5365.2	-4549.6	-1294.0	-1829.9

^a Q1 2015.

^b Grey colour indicates values exceeding the reference value of an indicator in the given year.

Source: Own study based on: [Eurostat 2015; Global Stability Report IMF 2015; UNCTAD 2015].

		The budget deficit (in % GDP)								
2014	2015 ^a	2007	2008	2009	2010	2011	2012	2013	2014	2015 ^a
-108.0	-772.0	-0.9	-0.9	-4.1	-4.5	-2.6	-2.6	-1.5	-2.0	-1.8
144.6	1517.8	-0.1	-1.0	-5.6	-3.8	-3.7	-4.1	-2.6	-3.0	-2.8
-268260.0	-287724.0	-	0.9	-6.1	-5.3	-6.3	-6.4	-5.4	-5.0	-4.9
-190.1	-84.9	-	-	-	-	1.0	-0.2	-0.2	-0.5	-0.9
-25.0	265.0	5.3	4.3	-2.5	-2.5	-0.5	-1.8	-2.1	-2.5	-2.0
-3674.0	-2658.0	-2.7	-3.3	-7.5	-7.1	-5.2	-4.9	-4.3	-3.0	-3.2
18944.0	24000.0	0.2	-0.1	-3.2	-4.3	-1.0	0.1	0.0	0.2	1.0
-1778.1	-1476.0	-6.5	-9.8	-15.6	-10.3	-9.1	-8.9	-12.7	-13.1	-13.0
40950.0	3973.0	0.1	-7.3	-14.0	-31.2	-13.1	-8.2	-7.2	-7.8	-7.0
5741.0	4184.0	-1.6	-2.7	-5.4	-4.6	-3.9	-3.9	-3.8	-3.9	-4.0
-267.8	-188.2	-	-	-	-	-	-	-	-2.9	-3.0
-	-271.6	-	-	-	-	-	-	-	-	-3.9
-0.75	-0.41	3.7	3.0	-0.8	-0.9	-0.6	-0.6	0.1	0.3	0.1
-215683.0	-253330.0	-	-4.6	-3.8	-3.7	-2.7	-3.3	-2.8	-2.8	-3.0
4908.6	3191.0	0.2	0.5	-5.6	-5.1	-4.7	-4.1	-2.5	-2.3	-2.0
-1029.7	-740.6	-3.1	-3.6	-10.2	-9.8	-4.2	-6.4	-4.9	-4.9	-5.4
-13.0	459.0	-	-	-8.0	-7.7	-4.8	-4.1	-4.8	-4.9	-5.2
39.7	167.3	0.0	-1.9	-6.1	-6.0	-6.4	-6.9	-7.0	-6.8	-6.8
-1821.8	-1657.3	1.9	-4.5	-11.2	-9.3	-8.5	-10.6	-7.1	-7.9	-8.1

Table 3. Savings and investments in the eurozone countries in 2007–2015

Country/ Indicator/ Period	The rate of private savings (in %)										The rate of private investment (in %)									
	2007	2008	2009	2010	2011	2012	2013	2014	2015 ^a	2007	2008	2009	2010	2011	2012	2013	2014	2015 ^a		
Austria	14.37	13.59	11.08	17.59	12.45	15.13	17.31	8.62	8.19	36.8	34.5	38.3	32.4	29.3	28.4	28.0	27.8	27.8		
Belgium	8.94	8.93	10.01	7.98	7.32	7.02	6.98	6.68	6.02	45.8	44.5	45.6	44.0	43.8	42.9	42.0	40.1	40.0		
Cyprus	-	4.02	4.00	3.92	3.99	4.01	3.72	3.67	6.98	-	19.3	19.3	18.4	18.2	17.9	17.6	16.9	16.9		
Estonia	-	-	-	-	10.3	7.97	8.75	8.70	8.61	-	-	-	-	9.0	9.0	8.2	7.8	7.8		
Finland	2.41	2.54	0.80	0.86	1.05	0.72	0.47	0.40	0.33	52.7	50.7	49.6	49.7	49.0	48.0	45.3	42.9	40.1		
France	15.87	16.89	12.87	14.23	15.40	14.76	12.89	11.76	10.98	50.7	51.2	49.9	45.8	45.0	45.0	44.3	44.2	44.0		
Germany	11.10	11.60	10.80	10.60	10.40	10.10	10.00	9.20	9.10	62.9	61.1	59.3	59.1	58.5	57.3	56.9	56.5	56.3		
Greece	4.34	4.23	4.00	3.78	2.81	1.19	0.54	-0.24	-4.21	9.0	9.4	8.4	7.0	6.9	5.9	5.0	1.2	0.5		
Ireland	-3.29	6.46	6.59	4.58	5.39	5.38	5.74	17.49	6.45	19.5	19.4	19.0	18.7	18.0	17.5	14.5	11.6	11.6		
Italy	2.95	3.00	1.38	1.02	3.54	2.70	1.85	1.20	1.18	27.8	27.0	26.7	25.5	21.6	20.7	19.5	19.5	19.5		
Latvia	-	-	-	-	-	-	-	0.06	0.05	-	-	-	-	-	-	-	1.5	1.1		
Lithuania	-	-	-	-	-	-	-	-	0.40	-	-	-	-	-	-	-	-	0.6		
Luxembourg	19.45	16.21	20.82	19.81	17.39	17.09	16.98	16.78	16.02	29.0	28.9	28.1	27.5	26.8	26.0	25.7	25.0	19.0		
Malta	-	2.12	2.01	2.45	2.00	1.98	1.67	1.55	1.12	-	12.6	11.2	11.9	12.5	11.2	9.5	8.5	8.5		
Netherlands	6.67	5.56	4.56	3.98	3.78	1.79	-0.67	-0.98	-1.56	31.6	31.1	30.8	29.6	27.8	25.8	24.6	23.9	23.8		
Portugal	6.54	11.18	16.72	15.51	16.05	15.68	12.87	5.59	2.62	17.7	17.0	15.6	15.0	14.9	14.0	13.1	13.0	12.9		
Slovakia	-	-	23.01	19.89	13.67	12.89	11.45	11.40	11.39	-	-	23.4	22.4	21.4	24.5	25.2	24.4	23.3		
Slovenia	1.90	1.78	1.00	0.89	0.67	0.60	0.56	0.45	0.32	9.0	9.4	8.9	8.4	8.3	8.8	8.0	7.1	6.0		
Spain	2.98	2.90	2.03	2.03	2.00	1.87	1.76	1.50	1.00	18.5	18.0	17.4	17.2	17.0	15.0	14.5	11.7	10.0		

^a Q1 2015.

Source: Own study based on: [Eurostat 2015; OECD 2015; UNCTAD 2015].

Furthermore the integrated financial markets have been subject to fragmentation as a result of aversion to financing excessively indebted economies and the outflow of capital from these countries. It was caused by the financial markets losing trust in the durability of the eurozone and the lack of mechanisms for crisis management. Despite initial progress in terms of real convergence, in the light of Maastricht criteria disciplining effect, divergence has occurred in place of expected convergence. Their source has become the fast integration of financial markets to a great extent.

The doctrine of endogenic criteria inspired by Ros' research included only the effect of a common currency for trade, excluding the influence of the euro on financial integration. Capital flows from central to peripheral countries activated as a result of introducing the euro were seen as being consistent with the neoclassical model of growth and justified by increasing integration in terms of trade, capital and investment [Giavazzi 2002: 45–51]. Nevertheless they have led to consumption and investment booms as well as to boom and bust of economies. It turned out that in the case of the „one size fits all” problem, the common monetary policy functioning in a highly diversified economic area, can lead to effects directly opposite to those assumed by the hypothesis of endogeneity. The increased level of liquidity of economies led to inflationary pressure shown in many forms, e.g. as a strong inflation of financial assets or immovables, or as basic indicators of consumer prices. As a consequence of the growing differences in the pace of price increases within the eurozone countries a uniform monetary policy had different effects depending on the local conditions determining the real price of money as set by the level of domestic inflation. It led to significant differences between real interest rates. Different levels of economic growth, lack of the durability of meeting nominal convergence criteria and the dissimilarity of the economic structures of eurozone countries have led to diversification of real interest rates with the same nominal rate as the central bank. As the result of too low interest rates and the fast increase of unit labour costs some of the eurozone countries (Greece, Spain, Ireland, Portugal, Italy) have lost their price competitiveness on international markets. Apart from price competitiveness, losing this competitiveness was also due to negligence in terms of the structure of production focused on the manufacturing of low-tech products whose large scale export was the domain of developing countries entering global markets.

The three-gap model has shown significant imbalances in individual economies in terms of all the parameters, i.e. primary budget balance, private savings and investments and trade balance. In the period analysed a growing divergence in the eurozone can be observed in terms of all indicators determined by the three-gap model. Continuous violation of convergence rules and intensifying tendencies towards the removal of some Member States from the EU will lead to the increased process of eurozone divergence.

Conclusions

The three-gap model has shown – in relation to eurozone countries – significant imbalances in individual economies in terms of all the parameters, i.e. primary budget balance, private savings and investments and trade balance. It has also shown the increasing trend related to eurozone divergence. The consequences of the financial and economic crisis that began at the turn of 2008 called for the need to reflect upon the economic condition of the eurozone has made the eurozone Member States change the way they had perceived the economic management system until then.

The most important sources generating the risk of enhancing long-term economic stagnation of the EU and eurozone Member States are as follows: the unpunished violation of convergence criteria, lack of effective regulatory mechanisms, e.g. related to respecting fiscal discipline, which results in a growing debt that is not paid by some countries, demographic problems on the labour market (the process of ageing of European societies), continuing stagnation in terms of productivity and the lack of a unilateral approach of all the Member States towards common problems. The economic policy so far implemented by the eurozone countries is makeshift, chaotic and inconsistent. If this policy's direction does not change it will lead to further divergence of the eurozone, which in consequence may lead to its breakdown.

References

- Adamczyk-Łojewska, G., 2003, *Uwarunkowania strukturalne i przestrzenne rozwoju gospodarczego Polski*, Rozprawy, 109, Wydawnictwo Uczelniane ATR w Bydgoszczy, Bydgoszcz.
- Adamczyk-Łojewska, G., 2007, *Uwarunkowania strukturalne rozwoju gospodarczego Polski*, Wydawnictwo Uczelniane UTP w Bydgoszczy, Bydgoszcz.
- Adamczyk-Łojewska, G., 2011, *Problems of Economic Convergence and Divergence on the Example of the European Union Countries, Including Poland*, *Ekonomia*, no. 4: 58.
- Barro, R., Sala-i-Martin, X., 1992, *Convergence*, *Journal of Political Economy*, no. 100: 56.
- Becker, G., 1975, *Human Capital: A Theoretical and Empirical Analysis, with Special*
- Becker, G.S., Murphy, K.M., Tamura, R., 1990, *Human Capital, Fertility, and Economic Growth*, *Journal of Political Economy*, vol. 98, no. 5, part 2.
- Bhattarai, S, Lee, J.W, Park, W.Y, 2015, *Optimal Monetary Policy in a Currency Union with Interest Rate Spread*, *Journal of Global Economics*, vol. 96, iss. 2.
- Blanchard, O., Giavazzi, F., 2014, *Current Account Dficits in the Euro Area. The End of the Feldstein Horioka puzzle?*, Massachusetts Institute of Technology Working Paper Series, no. 03–05: 123–132.
- Chu Angus, C., Cozzi Guido, Lai Ching-Chong, Liao Chih-Hsing, 2015, *Inflation, R&D and Growth in an Open Economy*, *Journal of Global Economics*, vol. 96, iss. 2.
- Clark C., 1953, *Population Growth and Living Standards*, *International Labour Review*.

- Cooper, R., Kempf, H., Peled, D., 2014, *Insulation Impossible: Monetary Policy and Regional Debt Spillovers in a Federation*, Journal of the European Economic Association, 12(2).
- Cuestas, J.C., Gil-Alana, L.A, Staehr, K., 2014, *Government Debt Dynamics and the Global Financial Crisis: Has Anything Changed in the EA12?*, Economics Letters, 124.
- Di Mauro, F, Forster, K., 2010, *Globalization and the Competiveness of the Euro Area*, Ministry of Economy and Finance, Working Paper, no. 5: 45–53.
- Easterly, W., 1997, *The Ghost of the Financing Gap: How the Harrod – Domar Growth Model Still Haunts Development Economics*, World Bank Mimeo.
- Eurostat 2015.
- Fatás, A., 2014, *EMU: Countries or Regions? Lessons from the EMS Experience*, European Economic Review, vol. 41, no. 3–5: 231.
- Gandolfo, G., 2015, *Monetary Unions*, in: *New Palgrave Dictionary of Money and Finance*, t. II, Macmillan.
- Global Stability Report IMF, 2015.
- Grossman, G.M., Krueger, A.B., 1995, *Economic Growth and the Environment*, Quarterly Journal of Economics, vol. 110.
- Hettne, B., 1983, *The Development of Development Theory*, Acta Sociologica, vol. 26, no. 3: 32.
- Kose, M.A., Prasad, E.S., Terrones, M.E., 2014, *How Does Globalization Affect the Synchronization of Business Cycles?*, American Economic Review.
- Krueger, A.O., 1968, *Factor Endowments and per capita Income Differences among Countries*, Economic Journal, vol. 78.
- Kutan, A., Yigit, T., 2014, *Nominal and Real Stochastic Convergence of Transition Economies*, Journal of Comparative Economics, no. 34: 23.
- Kuziemska, K., 2010, *Problem nierównowag na rachunkach obrotów bieżących w strefie euro*, Folia Oeconomica, no.238: 89, Łódź.
- Kuznetz, S., 1955, *Economic Growth and Income Inequality*, American Economic Review, vol. 45.
- Laski, K., Podkaminer, L., 2012, *The Basic Paradigms of EU Economic Policy-making Need to Be Managed*, Cambridge Journal of Economics, no. 36 (1).
- Lucas, R.E., 1988, *On the Mechanics of Economic Development*, Journal of Monetary Economics, no. 22: 98.
- Maddison, A., 2012, *The World Economy. A Millennial Perspective*, Development Centre Studies OECD, Paris.
- Matsuyama, K., 1992, *Innovation and Growth in the Global Economy*, Journal of International Economy, vol. 33.
- Mazumdar, K., 2005, *Socio-economic Factors Determining Adult Literacy in Developing Countries*, International Journal of Social Economics, vol. 32, no. 1.
- Merler, S., Pisani-Ferry, J., 2012, *Sudden Stops in the Euro Area*, Bruegel Policy Contribution, no.12: 45–46.
- Miazga, A., 2007, *Polityka regionalna a konwergencja w UE i w Polsce w świetle nowych teorii geografii ekonomicznej*, in: Michałek, J.J., Siwiński, W., Socha, M. (red.), *Polska w Unii Europejskiej. Dynamika konwergencji ekonomicznej*, Wydawnictwo Naukowe PWN, Warszawa.

- Młodkowski, P., 2008, *Tendencje dywergencyjne wywołane integracją gospodarczą a osiągnięciem spójności społeczno-ekonomicznej krajów członkowskich dzięki pomocy unijnej*, Nierówności społeczne a wzrost gospodarczy, no. 12, Uniwersytet Rzeszowski, Rzeszów.
- Molendowski, E., Stanek, P., 2014, *Global and Regional Implications of the Euro Area Crisis*, Wydawnictwo Naukowe PWN, Warszawa.
- OECD 2015.
- Próchniak, M., Rapacki, R., 2009, *Konwergencja typu beta i sigma w krajach transformacji w latach 1990–2005*, in: Rapacki, R. (red.), *Wzrost gospodarczy w krajach transformacji, konwergencja czy dywergencja?*, PWE, Warszawa.
- Ranis, G., Fei, J.C.H., 1961, *A Theory of Economic Development*, American Economic Review, vol. 51.
- Reference to Education*, University of Chicago Press, Chicago.
- Rokicki, B., 2004, *Różnice w poziomie rozwoju regionalnego w Hiszpanii w okresie przed i po akcesji do Unii Europejskiej*, Ekonomista, no. 5: 78.
- Rosenstein-Rodan, P.N., 1943, *Problems of Industrialization in Eastern and Southern Europe*, Economic Journal, vol. 53.
- Ruttan, V.W., 1998, *The New Growth Theory and Development Economics: A Survey*, The Journal of Development Studies, vol. 35, no. 2: 1–26.
- Schultz, T.W., 1962, *Reflection on Investment in Man*, Journal of Political Economy, Supplement.
- Sen, A., 1983, *Development: Which Way Now?*, The Economic Journal, vol. 93.
- Stanek, P., 2014, *Public Debt Sustainability and the Participation of the New Member States in the Euro Area*, Poznań University of Economics Review, no. 4.
- Stanek, P., 2015, *Stabilność zadłużenia publicznego w wybranych krajach Unii Europejskiej – determinanty i próba oceny*, Miscellanea Oeconomicae, no. 1: 209–210.
- Taylor, L., 1993, *The Rocky Road to Reform: Trade, Industrial, Financial and Agriculture Strategies*, The World Development, vol. 21, no. 4: 53.
- UNCTAD 2015.
- Wiarda, H.J., 1999, *Towards Consensus in Interpreting Latin American Politics: Developmentalism, Dependency and „the Latin American Tradition”*, Studies in Comparative International Development, vol. 34, no. 2: 5–69.

Aims and Scope

Economics and Business Review is the successor to the Poznań University of Economics Review which was published by the Poznań University of Economics and Business Press in 2001–2014. The Economics and Business Review is a quarterly journal focusing on theoretical and applied research work in the fields of economics, management and finance. The Review welcomes the submission of articles for publication dealing with micro, mezzo and macro issues. All texts are double-blind assessed by independent reviewers prior to acceptance.

Notes for Contributors

1. Articles submitted for publication in the Economics and Business Review should contain original, unpublished work not submitted for publication elsewhere.
2. Manuscripts intended for publication should be written in English and edited in Word and sent to: review@ue.poznan.pl. Authors should upload two versions of their manuscript. One should be a complete text, while in the second all document information identifying the author(s) should be removed from files to allow them to be sent to anonymous referees.
3. The manuscripts are to be typewritten in 12' font in A4 paper format and be left-aligned. Pages should be numbered.
4. The papers submitted should have an abstract of not more than 100 words, keywords and the Journal of Economic Literature classification code.
5. Acknowledgements and references to grants, affiliation, postal and e-mail addresses, etc. should appear as a separate footnote to the author's name^{a,b,etc} and should not be included in the main list of footnotes.
6. Footnotes should be listed consecutively throughout the text in Arabic numerals. Cross-references should refer to particular section numbers: e.g.: See Section 1.4.
7. Quoted texts of more than 40 words should be separated from the main body by a four-spaced indentation of the margin as a block.
8. Mathematical notations should meet the following guidelines:
 - symbols representing variables should be italicized,
 - avoid symbols above letters and use acceptable alternatives (Y^*) where possible,
 - where mathematical formulae are set out and numbered these numbers should be placed against the right margin as... (1),
 - before submitting the final manuscript, check the layout of all mathematical formulae carefully (including alignments, centring length of fraction lines and type, size and closure of brackets, etc.),
 - where it would assist referees authors should provide supplementary mathematical notes on the derivation of equations.
9. References in the text should be indicated by the author's name, date of publication and the page number where appropriate, e.g. Acemoglu and Robinson [2012], Hicks [1965a, 1965b]. References should be listed at the end of the article in the style of the following examples:

Acemoglu, D., Robinson, J.A., 2012, *Why Nations Fail. The Origins of Power, Prosperity and Poverty*, Profile Books, London.

Kalecki, M., 1943, *Political Aspects of Full Employment*, The Political Quarterly, vol. XIV, no. 4: 322–331.

Simon, H.A., 1976, *From Substantive to Procedural Rationality*, in: Latsis, S.J. (ed.), *Method and Appraisal in Economics*, Cambridge University Press, Cambridge: 15–30.
10. Copyrights will be established in the name of the E&BR publisher, namely the Poznań University of Economics and Business Press.

More information and advice on the suitability and formats of manuscripts can be obtained from:

Economics and Business Review

al. Niepodległości 10

61-875 Poznań

Poland

e-mail: review@ue.poznan.pl

www.ebr.ue.poznan.pl

Subscription

Economics and Business Review (E&BR) is published quarterly and is the successor to the Poznań University of Economics Review. The E&BR is published by the Poznań University of Economics and Business Press.

E&BR is listed in ProQuest, EBSCO, and BazEkon.

Subscription rates for the print version of the E&BR: institutions: 1 year – €50.00; individuals: 1 year – €25.00. Single copies: institutions – €15.00; individuals – €10.00. The E&BR on-line edition is free of charge.

Correspondence with regard to subscriptions should be addressed to: Księgarnia Uniwersytetu Ekonomicznego w Poznaniu, ul. Powstańców Wielkopolskich 16, 61-895 Poznań, Poland, fax: +48 61 8543147; e-mail: info@ksiegarnia-ue.pl.

Payments for subscriptions or single copies should be made in Euros to Księgarnia Uniwersytetu Ekonomicznego w Poznaniu by bank transfer to account No.: 96 1090 1476 0000 0000 4703 1245.