

ECONOMIC GROWTH AND THE POST-CRISIS BARRIERS IN THE EURO AREA IN 1995-2016

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Abstract

The aim of the paper is an assessment of the economic growth in aspect of decreasing development gap against the U.S. in 1995-2016. The subject of the analysis and assessment is also the impact of demand and supply factors on GDP growth as well as the barriers limiting investment and consumption demand. The measure of euro area development gap is the level of labour productivity against the U.S. The main conclusions of the analysis are: a) rate of economic growth in the euro area was lower than in the U.S. in the whole period of 1996-2016, b) euro area development gap against the U.S. increased during the 2008-2009 crisis and as the effect of post-crisis stagnation, c) main barrier for growth of investment and consumption demand is the decrease of credit supply in consequence of increase in households' and non-financial corporations' indebtedness and non-performing loans (NPL).

Key words: euro area, the U.S., economic growth, supply and demand factors, barriers for demand growth in euro area

1. INTRODUCTION

Economic growth in Europe analysed in terms of diminishing the development gap towards the United States has been quite varied in the long term. In 1950-1970 the average annual GDP growth rate in Western Europe was high - 5.5% which was 0.5 p.p. higher than world GDP growth (Aldcroft 1987, p. 161). According to A. Maddison calculations (1982, p. 44) in 1950-1970 economic growth rate in 16 developed countries averaged 4.9%, in the United States 3.7%, in Japan 9.7% and in case of the largest European economies it was as follows: Germany 6%, Italy 5.5%, France 5.1%, the Netherlands 4.8% and the United Kingdom 3.0%. Until the beginning of the oil crisis in 1974 European countries continued to close the development gap to the United States due to high economic growth rates. Main factor contributing to the growth dynamics was higher growth of labour productivity, which in 1950s and 1960s was maintained on an annual average of 6% (in 12 euro area countries) while in the U.S. the average was around 2% (Gomez-Salvador et. al. 2006, p. 11). High labour productivity growth in Europe was a consequence of intensified industrialization while the U.S. experienced an increase in the share of services in the economy and that did not accelerate productivity growth. Foreign direct investment from the U.S. combined with advanced technology transfer was an important factor contributing to the GDP and labour productivity growth in Western Europe. After the creation of European Economic Community (1957) and a marked increase in internal trade due to the continued reduction of tariffs resulting in the completion of the customs union another factor appeared. It was a growing demand due to trade creation effect occurring in the customs union.

B. van Ark, M. O'Mahony, and M. P. Timmer carried out comparative analysis of economic growth and labour productivity in the United States and EU15 countries in 1950-2006 (Ark van, O'Mahony & Timmer 2008, p. 25-44). It confirmed an intensive development process in EU15 during the period of 1950-1973 resulting in the growth of GDP per capita from 45.5% of the U.S. level in 1950 to 76.8% in 1973. Another conclusion was a significant slowdown of economic growth and labour productivity in 1973-1995 and as a result a deceleration in the process of closing the development gap and the reversal of that process since the mid-1990s. In 1973-1995 average annual GDP growth in the EU15 was 2% while in the U.S. it was 2.8%. Labour productivity growth (as GDP per hour worked) in the EU dropped from 5.3% to 2.4% while in the U.S. - from 2.5% to 1.2%. In 1995-2006 the GDP growth rate in the U.S. increased to an annual average of 3.2%, and in the EU it was only 2.3%. Thus the EU

development gap towards the U.S. began to grow, especially due to the lower labour productivity growth rate.

Since the mid-1990s, for the first time since World War II, growth of labour productivity was significantly higher in the United States than in the EU, in 1995-2000 it was 2.3% on average while in the EU it was only 1.5%. According to research by M. Kabaj one of main features of the Community's economic growth in 1970-1995 was decreasing labour input, employment rate declined from 65.2% in 1965 to 58% in 1993 (Kabaj 1997, p. 42-43). Average annual hours worked per employed as well as activity rate were falling which resulted in an increase in unemployment. According to B. van Ark, M. O'Mahony, and M. P. Timmer in 1973 average annual hours worked per capita in EEC compared to the U.S. was 101.9 and in 1995 it dropped to only 76.2 (Ark van, O'Mahony & Timmer 2008, p. 30). This phenomenon was subject to a lot of research that points out to three main reasons for the declining activity rate in Europe in 1970-1995. Preference for free time over work among Europeans as a consequence of improving living standards and security through the welfare state policies was the most commonly named reason (Alesina, Giavazzi 2006, p. 43-56). E.C. Prescott claims that situation on the supply side of the labour market is a result of tax policy, income tax rates and differentiation in this respect within the G7 as well as EU countries (Prescott 2004, p. 1-13). High taxes lead to the declining interest in work. The third reason for the declining activity rate was associated with the power of trade unions, sectoral negotiations and an increase in social protection of the unemployed (Alesina & Giavazzi 2006, p. 41-54).

In 1996-2005 many significant changes occurred in the process of economic development both in the U.S. and the EU. These were intensified by the technological revolution that was mainly clustered in the U.S. economy and changes in the economic policy of the European Union. High-tech boom in the U.S. contributed to the diffusion of modern technologies and an increase in labour productivity throughout the economy. In the same time the EU labour productivity growth rate began to decrease. As a consequence so did GDP growth. Realisation of the labour market policy focused on lowering unemployment resulted in the change of capital-labour ratio and the deepening of the declining tendencies in EU labour productivity growth. On the other hand, higher labour productivity growth rate in the U.S. compared to the EU was a product of (Ark van & Inklaar 2003, p. 263): 1) much higher share of employment in the ICT producing sector, 2) faster productivity growth rate in services using ICT technologies. Thus the main reason for the declining productivity in the euro area and deepening of the gap towards the U.S. (since mid-1990s) was limited use of ICT technology in basic services.

The years 2008-2016 are another clear stage in the functioning of the European Union and the euro area provoking questions regarding their current and future economic position. They include financial crisis, recession of 2008-2009, public debt crisis, second wave of recession in 2012-2013 and the lack of solid recovery. Economic results of the euro area (19) and the U.S. in 2009-2015 were notably different. In the United States average annual GDP growth was 1.5% and in the euro area it was 0%. Recession of 2008-2009 due to its depth and long-term consequences is among the four deepest recessions in world history. Declining GDP growth rates in the developed countries and in particular the prolonged economic slowdown in the euro area were interpreted by L. Summers (2013) as threat of new secular stagnation.

The goal of the paper is to evaluate euro area's economic growth in regards to the closing of the development gap towards the United States in 2008-2016. It includes impact assessment on GDP of the supply and demand factors and identification of those limiting growth of investment as well as consumer demand. Main criteria for the evaluation are: growth rates of real GDP, labour productivity, total factor productivity (TFP) in the euro area (19) and the U.S. based on annual averages for the following sub-periods: 1996-1999, 2000-2007, 2008-2016. The main measure of development gap assumed in the paper is the level of labour productivity in euro area in comparison to the U.S. in the following years: 2007, 2009, 2012 and 2016. Analysis and evaluation are supplemented by annual average growth rates of real GDP, employment, labour productivity, investment, consumption and TFP for 2008-2016. Data were derived from three databases: The Conference Board, OECD and IMF.

2. COMPARISON OF ECONOMIC RESULTS IN THE EURO AREA (19) WITH THE UNITED STATES IN 1996-2016

Table 1 includes average annual changes in real GDP in 19 euro area countries and the U.S. in the last 20 years and forecasts for 2017-2021. The data confirm divergence in terms of economic development in the euro area compared to the United States in 1996-1999. Furthermore, only 5 out of 19 euro area countries (Ireland, Estonia, Luxembourg, Latvia and Lithuania) had average GDP growth rates higher than the U.S. (4.9%), and Finland's rate was equal to the U.S.. Particularly low growth compared with the U.S. occurred in Italy and Germany. Development gap deepened in the next analyzed period of 2000-2007, but it was getting slower as the average annual GDP growth rate in the U.S. declined compared with the late 1990s by 1.9 p.p., and in the euro area by 0.3 p.p. The highest spread of economic growth rates (in favour of the U.S. obviously) occurred in 1999 and in 2003-2005. However, in 2006-2007 the euro area and the U.S. growth rates were similar (Mucha-Leszko 2007, p. 235). When we look at individual countries - the situation varied. The following countries continued to close the gap towards the U.S.: Latvia, Ireland, Estonia, Lithuania, Slovakia, Luxembourg, Slovenia, Cyprus, Greece, Spain and Finland - so 11 out of 19 countries. Their average growth rates were between 8.5% and 3.5%. Nevertheless, it is worth mentioning that most of these were the new members of the euro area. Lower economic growth occurred in Germany and Italy, while Portugal experienced a significant decline in GDP growth rate. Clear slowdown in economic growth dynamics pertained to highly developed members of the euro area (Austria, Belgium, Finland, France and the Netherlands).

Country	1996-1999	2000-2007	2008-2016	Forecasts 2017-2021
Austria	2.9	2.4	0.7	1.2
Belgium	2.7	2.3	0.8	1.4
Cyprus	3.4	4.2	-0.5	2.1
Estonia	6.0	7.9	0.3	3.0
Finland	4.9	3.5	-0.4	1.4
France	2.7	2.1	0.5	1.7
Germany	1.7	1.6	1.0	1.3
Greece	3.6	4.0	-3.3	2.6
Ireland	12.8	8.1	2.0	2.9
Italy	1.6	1.5	-0.8	0.9
Latvia	5.1	8.5	-0.1	3.8
Lithuania	5.0	7.6	1.1	3.3
Luxembourg	5.6	4.6	2.0	3.1
Malta	4.7	2.9	3.0	3.1
The Netherlands	4.4	2.3	0.5	1.7
Portugal	4.2	1.5	-0.5	1.1
Slovakia	3.8	5.7	2.3	3.6
Slovenia	4.3	4.3	0.1	1.6
Spain	3.8	3.8	-0.1	1.9
Euro area*	2.6	2.3	0.3	1.5
USA	4.9	3.0	1.4	1.9

*includes all current members of the euro area

Table 1. Real GDP growth in the euro area (19) and the U.S. in 1996-2016 and forecasts for 2017-2021 (period average in %)

Source: (The Conference Board 2017a; The Conference Board 2017b), forecasts: (International Monetary Fund 2016).

In 2000-2007 economic growth rates of the euro area countries were diverse, however one can point out a number of tendencies. Firstly, new member countries, and in particular the Baltics, had high GDP growth rates, mainly due to the inflow of foreign direct investment. Secondly, introduction of the common currency and the taking-over of the monetary policy by the European Central Bank allowed countries with higher inflation rates to gain access to cheap money, and countries with lower inflation bore cost of expensive money. This, in turn, resulted in low economic growth rates of the most developed EU15 countries. High economic growth in the Baltic States and Spain was, to a large extent, a consequence of the credit boom. Another problem with the centralization of monetary policy stemmed from its maladjustment to individual countries economic cycles. It is the reflection on the choice of optimum interest rate for the whole euro area and the optimum rate for each individual country. Monetary Tension Index (MTI) can be used to assess the degree of adjustment of the optimum euro area interest rate to the situation in an individual country. A positive value of MTI signifies too restrictive monetary policy and a negative result - too soft policy and a threat of a credit boom. In 1999-2003 the following countries had positive MTI, meaning too restrictive policy: Germany, Austria, France, and Belgium. On the other hand, the subsequent group was characterized by negative MTI: Ireland, the Netherlands, Portugal, Spain, Finland and Italy (Fernandez & Gonzalez 2004, p. 25). Assessment of the euro area monetary policy according to the IMF report was similar. It was emphasized that real interest rates were in contrast to countries' economic situation. ECB monetary policy in 1999-2003 was pro-cyclical and led to the increase in demand and inflation in countries with high GDP growth rates. However, too high interest rates limited growth of internal demand in Germany, Austria, France and Belgium (International Monetary Fund 2004, p. 103-124, cited by: Fernandez & Gonzalez 2004, p. 27).

To sum up, in 2000-2007 annual average economic growth rate in the U.S. was higher than in the euro area (19) by 0.7 p.p. What had the crucial impact on stimulating demand and GDP growth was monetary policy realized since the appearance of the first symptoms of recession in March 2001 (a decline in employment and private investment). The Federal Reserve conducted exceptionally active monetary policy in 2001, reference rate of federal funds was lowered 11 times and in December the discount rate was 1.25% which was the lowest since 1955 (Mucha-Leszko & Kąkol 2009, p. 54-55). It was maintained on that level until mid-2003 when it was lowered again to 1%. Inflation in 2001-2004 was in the 2-3% range which meant that the real interest rate for federal funds was actually negative for 31 months - from October 2002 to April 2005 (Mucha-Leszko & Kąkol 2009, p. 55). Raising of the interest rates began in mid-2004 and continued in the subsequent years. They peaked in 2006-2007 reaching 4.5-5.25% (Mucha-Leszko & Kąkol 2009, p. 55).

European Central Bank lowered its interest rates by 275 basis points in 2001-2003 and left them unchanged until December 1st 2005. In 2006 and till June 2007 ECB carefully raised the rates counterbalancing the inflation pressure due to high liquidity resulting from the escape from portfolio investment and exchange of securities into high liquidity cash resources as a consequence of financial and economic insecurity, especially in 2001-2003, but also in 2005-2006 (Mucha-Leszko 2007, p. 158-159).

Financial crisis began in the United States and its main reasons stems from Fed policy oriented at creation of variable rate mortgage loans which resulted in many borrowers getting caught in a debt trap. Adjustable rates lowered cost of acquiring loans in the first years and later the interest rose even if federal funds rate remained unchanged (Fleckenstein & Sheehan 2008, p. 124). Fundamental problem in the banking sector as well as economy appeared when Fed began to raise federal funds interest rate in mid-2004. Credit boom and a growing real estate bubble (2005-2006) resulted in the continuous increasing of interest rates - 8 times in 2005, and then some in the subsequent 2 years. Total real estate debt in the U.S. at the end of 2006 amounted to 13.3 trillion dollars and was equal to American GDP (Fleckenstein & Sheehan 2008, p. 172). Debt was used to finance economic growth in accordance with the Fed chairman - A. Greenspan's approach to fostering economic growth. American economy became more dependent on the condition of the real estate market - 40% of new jobs were created in connection with the housing sector. Real estate bubble began to burst in 2007. As a result prices of houses began to plunge. This contributed to the increase in the share of non-performing loans and foreclosures. Lower level of liquidity in the banking sector caused the decrease in the value of

securities issued by banks and financial institutions. A change in monetary policy was a consequence of that. It drastically limited access to credit through the raising of interest rates and implementing more strict requirements for borrowers.

First symptoms of the crisis in Europe appeared in the UK with the deterioration of the Northern Rock mortgage bank economic situation. Initially Bank of England tried to save it through a loan but eventually it had to be nationalized. Due to the significance of the financial sector in the British economy, the UK has taken firm recovery action assigning 500 bln GBP for that goal (Langley 2015, p. 83-86). Financial crisis and a change in monetary and in particular credit policy resulted in a drop of demand and a worldwide recession which started in late 2008 and peaked in 2009. A decline in real GDP was less than 4% in the EU and euro area, 5% in Japan and less than 3% in the United States. Rescue packages for banks and anti-cyclical fiscal packages as well as fiscal consequences of automatic economic stabilizers led to growing budget deficits and the debt crisis.

According to table 1, annual average GDP growth rate in 2008-2016 was 0,3% in the euro area while in the U.S. it was 1.4%. Thus the development gap began to grow again. GDP growth rates in various countries were diverse - from -3.3% in Greece to 3% in Malta. The following countries had a negative growth rates: Greece, Cyprus, Finland, Italy, Portugal, Spain and Latvia. Other euro area countries had growth rates between 0.1% and 3%. The highest growth occurred in: Malta, Slovakia, Luxembourg, Ireland, Germany, Lithuania, Belgium, Austria, France, the Netherlands, Estonia and Slovenia.

Country	1996-1999	2000-2007	2008-2016
Austria	1.7	1.9	0.6
Belgium	1.7	1.3	0.3
Cyprus	2.0	1.7	0.6
Estonia	8.4	5.5	1.5
Finland	2.9	2.6	-0.1
France	1.8	1.7	0.5
Germany	1.8	1.7	0.5
Greece	2.8	2.6	-1.3
Ireland	8.4	4.9	3.0
Italy	0.6	0.4	0.0
Latvia	4.4	7.8	1.7
Lithuania	5.4	6.5	2.1
Luxembourg	2.5	1.2	-0.1
Malta	4.2	2.7	1.5
The Netherlands	1.8	1.6	0.3
Portugal	1.8	1.2	0.9
Slovakia	4.8	5.2	1.8
Slovenia	5.3	3.9	0.3
Spain	0.0	0.4	1.3
Euro area*	1.2	1.0	0.2
USA	2.7	2.5	1.0

*includes all current members of the euro area, average productivity in the euro area by a number of workers

Table 2. Labour productivity growth in the euro area (19) and the United States in 1996-2016 (GDP per hour worked, periodical averages in %)

Source: (The Conference Board 2017a; The Conference Board 2017b).

Prolonged economic stagnation is a proof of growth barriers existing as an aftermath of the 2008-2009 crisis. **Firstly**, largest losses in terms of GDP decline occurred in economically weaker countries that had high growth rates before the crisis, mostly due to easy access to cheap money. Credit boom appeared in the Baltics, especially as a result of foreign investment inflow after the EU accession. Average annual growth rate in Estonia in 2000-2007 was 8.4% (European Commission 2011, p. 32). Growing incomes and cheap loans led to the overheating of the Estonian economy in 2007, and the subsequent drop in demand in 2008-2009 resulted in a GDP decrease of 19%. Labour market elasticity, limiting working time, declining wages and increasing labour productivity contributed to the decrease in average production costs and significant improvement of competitiveness, in particular in terms of exports (European Commission 2011, p. 34).

Secondly, Lithuania and Latvia also financed their economic growth through foreign loans. Foreign capital impacted economic growth during good economic times and decline in GDP during the crisis of 2008-2009. Recovery from GDP losses was not possible in the short term.

Thirdly, data in table 1 confirm that more developed countries are more resistant to economic downturn. In 2008-2016 countries that had not suffered from significant destabilization of their banking sectors and did not need to bear high cost of bailouts managed to recover much more quickly. The largest budgetary burdens due to bailouts occurred in the Netherlands 11.3%, Ireland 6.7%, Luxembourg 6.6%, Slovenia 4.1% and Germany 3.5% (Riet van 2010, p. 15; Kąkol & Mucha-Leszko 2011, p. 230). The debts of enterprises and households and inability to adhere to payment deadlines seriously limited the GDP growth as well.

Country	2007	2009	2012	2016
Austria	90	86	86	86
Belgium	110	104	102	103
Cyprus	67	64	63	65
Estonia	48	45	48	50
Finland	90	82	82	82
France	102	97	96	98
Germany	101	95	96	96
Greece	62	57	52	50
Ireland	95	95	102	113
Italy	84	78	77	76
Latvia	42	38	41	44
Lithuania	46	43	48	50
Luxembourg	151	133	129	137
Malta	59	56	58	61
The Netherlands	105	99	98	99
Portugal	52	50	51	51
Slovakia	57	54	57	61
Slovenia	65	58	60	61
Spain	75	74	76	77

Table 3. Level of labour productivity in the euro area in selected years in 2007-2016 (US=100, GDP per hour worked)

Source: (The Conference Board 2017a).

Fourthly, the 2008-2009 crisis resulted not only in the bankruptcy of enterprises but in some cases - in the collapse of whole industries which is a serious hindrance in terms of rebuilding export capacity and lasting economic recovery. By the end of 2013 the highly developed countries had not managed to rebuild their industrial production to the level of the first quarter of 2008 (Shinn 2014, p. 110-111) and the less developed ones surpassed that level by 30%. The countries with large, though varied, losses in

terms of production were: France, Portugal, Italy, Spain, Greece and Cyprus. The best results in recovering production capacity were achieved in Portugal and France - respectively 89% and 84% of first quarter of 2008 production level. The remaining countries' recovery ranged between 80% and below 60% of the pre-crisis levels. Only Germany and the U.S. managed to get close to their first quarter of 2008 production levels. Crisis of 2008-2009 intensified the process of deindustrialization that had started in the 1980s and hastened since the mid-1990s resulting in the declining share of manufacturing in the developed economies. Basically this phenomenon was an outcome of structural changes and the highly developed countries reaching the post-industrial and knowledge-based stage of their economic growth. Nevertheless, the process was also affected by globalization and competitive pressure from emerging economies, especially in case of labour-intensive products. Specialization of Southern countries of the euro area in more labour-intensive sectors of light industry contributed to the occurrence of larger losses in industrial production due to cost competitiveness of less developed countries and a decrease in price competitiveness of Portuguese, Spanish and Italian products as a result of real exchange rate appreciation after the introduction of the euro and backing down of transnational corporations from those countries and moving their production from the euro area to countries with lower costs, in particular to Asia. Deindustrialization in Europe was not limited to the Southern countries. It also encompassed Scandinavia (Finland and Sweden), the UK, France, Belgium, Luxembourg and Malta. However, in 2015 share of manufacturing in gross value added (GVA) increased in comparison to 2009 in some of the EU countries, such as: the Czech Republic, Hungary, Slovenia, Germany, Slovakia, Lithuania and Romania (Mucha-Leszko 2016b, p. 183).

Country	1996-1999	2000-2007	2008-2015
Austria	0.1	0.6	-0.5
Belgium	0.2	0.1	-0.8
Cyprus	1.3	1.0	-1.2
Estonia	3.9	2.0	-1.4
Finland	2.2	1.4	-1.3
France	0.4	0.4	-0.5
Germany	0.3	0.5	-0.2
Greece	0.4	0.6	-2.6
Ireland	5.4	1.1	0.3
Italy	-0.5	-0.6	-0.9
Latvia	3.6	3.5	-1.3
Lithuania	1.0	2.7	-0.9
Luxembourg	2.1	0.1	-1.4
Malta	3.1	1.6	0.8
The Netherlands	0.0	0.2	-0.7
Portugal	0.5	-1.1	-0.9
Slovakia	0.2	3.9	0.8
Slovenia	2.0	0.9	-1.0
Spain	-1.1	-1.0	-0.6
Euro area*	0.1	0.1	-0.6
USA	0.5	0.3	-0.1

*includes all current members of the euro area.

Table 4. TFP growth in the euro area (19) and the U. S. in 1996-2016 (periodical averages in %)

Source: (The Conference Board 2017c; The Conference Board 2017b).

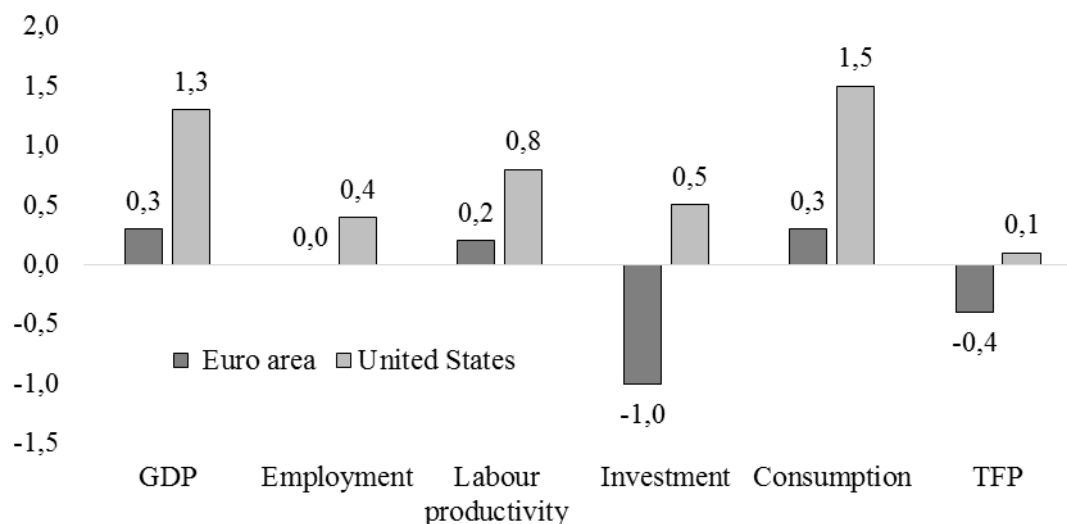
Fifthly, deindustrialization resulted in the weakening of the labour productivity growth rate. In 2008-2016 average annual labour productivity growth rate (GDP per hour worked) was 1% in the United States and only 0.2% in the euro area (19) (tab. 2). As a consequence of the higher labour productivity

growth in the U.S. the ratio of euro area to the U.S. labour productivity declined in most of the euro area countries in 2007-2016 (tab. 3). Positive changes in terms of closing the development gap occurred in case of the Baltic States, Slovakia, Ireland and Spain. The rate of labour productivity growth depends on capital inputs as well as total factor productivity (TFP). Indicators of TFP changes in table 4 point to the deepening of the technological gap of the euro area towards the U.S. Increase of TFP can be viewed as a measure of innovativeness, technological progress and structural changes. In 2008-2016 there were clear regressive tendencies in the euro area, and a decline of TFP had a negative impact on labour productivity. Employment growth rates were variable, both positive as well as negative resulting in zero change of employment level in 2008-2016 (tab.5). As a consequence, the main factor of GDP growth in the euro area was labour productivity, which was strongly affected by a decline in investment and the lack of technological progress.

In order to obtain a more detailed knowledge on the post-crisis barriers to economic growth in the euro area and assess the threat of secular stagnation a more in-depth analysis has been carried out including both supply and demand aspects of economic growth factors.

3. FACTORS CONTRIBUTING TO THE PRESERVATION OF ECONOMIC STAGNATION IN THE EURO AREA

Analysis of growth rates as well as selected factors of GDP growth in the euro area and the U.S. in 2008-2016 (tab. 5) reveals that: 1) recession in 2009 was deeper in the euro area than in the U.S., 2) since 2010 the U.S. has been experiencing economic growth ranging between 1,5% and 2,6%, 3) euro area has suffered from a second wave of recession in 2012-2013, and even if recovery in 2010-2011 was just slightly weaker than in the U.S. - after the second wave of recession (in 2014-2016) the growth rates were noticeably lower compared to the U.S., 4) throughout the whole period of 2008-2016 economic situation in the euro area much more clearly resembled economic stagnation, while in case of the U.S. - the losses from recession have been recovered and average annual growth rate in 2010-2016 remained at 2% (in the euro area it was only 0,9%).



* TFP average is for 2008-2015

Figure 1. Average annual changes in real GDP, employment, labour productivity, investment, consumption and TFP in the euro area and the United States in 2008-2016*

Source: data in table 5.

	2008	2009	2010	2011	2012	2013	2014	2015	2016	Average for 2008-2015/2016
Real GDP										
Euro area	0.5	-4.6	2.0	1.5	-0.9	-0.3	0.9	1.7	1.5	0.3
United States	-0.3	-2.8	2.5	1.6	2.2	1.5	2.4	2.6	1.5	1.3
Employment										
Euro area	0.8	-1.9	-0.6	0.1	-0.4	-0.7	0.6	1.0	1.0	0.0
United States	-0.4	-3.7	-0.6	0.5	1.8	1.0	1.6	1.7	1.7	0.4
Labour productivity (GDP per person employed)										
Euro area	-0.4	-2.9	2.5	1.3	-0.6	0.3	0.4	0.7	0.4	0.2
United States	0.1	1.0	3.1	1.1	0.4	0.5	0.8	0.9	-0.2	0.8
Gross investment										
Euro area	-0.9	-11.0	-0.4	1.6	-3.3	-2.5	1.5	2.9	3.1	-1.0
United States	-4.8	-13.1	1.1	3.7	6.3	3.1	4.2	3.7	0.6	0.5
Private consumption										
Euro area	0.3	-0.9	0.7	-0.1	-1.2	-0.5	0.8	1.8	1.5	0.3
United States	-0.3	-1.6	1.9	2.3	1.5	1.5	2.9	3.2	2.6	1.5
Total Factor Productivity (calculated as Tornqvista index)										
Euro area	-1.3	-3.4	1.4	0.6	-0.7	0.0	0.0	0.4	---	-0.4*
United States	-0.9	-0.1	1.8	-0.2	0.1	-0.3	0.2	0.2	---	0.1*

*average for 2008-2015

Table 5. Percentage changes of real GDP growth, employment, labour productivity, investment, consumption and TFP in the euro area and the United States in 2008-2015/16

Source: Growth of real GDP, employment, labour productivity and TFP: (The Conference Board 2017b); consumption and investment growth: (OECD 2016).

Comparison of the euro area and the U.S. economic growth rates brings up the question of the causes of economic stagnation in the euro area. Analysis of macroeconomic indicators presented in tab. 5 and fig.1 can be used to draw a conclusion that higher GDP growth in the U.S. resulted from: 1) higher growth of labour productivity and employment, 2) increasing investment, while in the euro area investments were declining and the investment demand has not recovered, nevertheless, indicators for 2014-2016 announce some positive changes in this respect, 3) until 2014 even private consumption negatively affected economic growth in the euro area, it has only started growing since 2014, still slower than in the U.S., 4) negative average total factor productivity growth in the euro area in 2008-2015 is a confirmation of declining investment consequences as well as low propensity towards innovation. Economic gap of the euro area towards the U.S. in 1995-2015 was at around 30-26% of GDP per capita.

The aforementioned results require to focus more on the causes of low propensity to invest maintained since the 2009 recession. There can be many reasons, but the most common seem to be the following (Mucha-Leszko 2016a, p. 438-439): 1) attraction of capital by the financial market, 2) lower investment needs connected with the development of e-business, 3) lower rate of natural increase in

population, 4) slower increase in labour force and employment and lower capital inputs for job creation, 5) public debt and decreasing expenditure for public investment, 6) a decrease in investment demand due to economic uncertainty and a lacking interest of private businesses in introducing technological progress, 7) a slowdown in world trade turnover (Mucha-Leszko & Wojtas 2017, p. 959-974), 8) sluggish implementation of structural reforms in the euro area, 9) limited access to loans due to significant variability in terms of levels of non-performing loans and changes in credit policies of the banking sector, winding down their trans-border loans (European Commission 2017, p. 9-19).

European Commission focuses on the assessment of economic consequences of constrained lending by banks with high levels of non-performing loans (NPLs). Banks, as well as countries of the euro area, are quite diverse in that respect. Using the criterion of the NPL ratio in banks balance sheets the EU members were divided into three groups according to European Commission analysts (tab. 6).

Groups	EU members
Group I currently not showing high NPL ratios ($\leq 10\%$ of banks' loan portfolio) and not done so in the last 15 years	Belgium, Denmark, Finland, France, the Netherlands, Germany, Sweden, United Kingdom, Luxembourg
Grupa II currently not showing a high NPL ratio ($\leq 10\%$ of banks' loan portfolio) but have done so in the last 15 years and/or NPL ratios rose strongly in a short period of time (at least a doubling between 2008 and 2013)	Austria, Czech Rep., Estonia, Spain, Latvia, Lithuania, Poland, Slovakia, Hungary
Group III currently showing a high NPL ratio ($> 10\%$ of banks' loan portfolio)	Bulgaria, Croatia, Cyprus, Greece, Ireland, Malta, Portugal, Romania, Slovenia, Italy

Table 6. Groups of EU members according to the level of NPLs

Source: (European Commission 2017, p. 12).

Real range of NPL ratio within the EU countries remains between 1-2% in case of Estonia and Finland, and 45% in Cyprus and Greece. Macroeconomic consequences of the high ratio of non-performing loans in group III include: 1) lower than the EU and euro area average usage of loans both by consumers and enterprises which limits maintaining economic recovery, 2) worsening of banks' balance sheets which leads to the rationing of banks' lending and thus limiting its impact on increase in consumption and investment, 3) spreading of the consequences of the non-performing loans throughout the whole euro area since it is highly integrated and interconnected in particular in terms of the banking and finance sectors.

One of the features of the euro area banking system is an important role of the trans-border activity of its largest banks, especially to the geographically closest countries. The institutions affected by high ratio of NPLs at first feel compelled to cut back their cross-border lending activities thus the decrease in the supply of credit pertains to the whole euro area negatively impacting investment, consumption and GDP growth not only in the group with the highest ratio of NPLs, but everywhere else as well. According to the European Commission, after 2013 the situation in terms of access to bank loans in the euro area has began to improve. Since 2014 the GDP growth in the euro area has been stable and the mid-term forecast confirms sustainability of that trend.

4. CONCLUSIONS

- 1) Comparison of the euro area (19) results with the U.S. leads to quite a complex interpretation as the area comprises of countries that are very diverse in terms of: economic growth and achieved level of development as well as productivity, innovativeness, competitiveness, economic structure and also some systemic features characterizing euro area members. Basic long-term macroeconomic data for the euro area and the U.S. allow for the evaluation of economic dynamics both in times of economic boom and crisis, and assessment of the euro area development gap towards the United States, including the consequences of the most recent economic crisis. Completion of the comparative analysis also permits to assess economic results of the euro area in terms of benefits of currency union introduction.
- 2) When interpreting macroeconomic data pertaining to the euro area one needs to take into consideration the fact that a large group of its members is less developed compared with the high developed Western European economies. Looking at labour productivity compared to the U.S. (tab. 3) the group of economically weaker economies in 2007 included: Latvia, Lithuania, Estonia, Portugal, Slovakia, Malta, Greece, Slovenia and Cyprus. An improvement in labour productivity was achieved by the Baltics, Slovakia and Malta, while the completely adverse tendencies occurred in Portugal, Slovenia, Cyprus and Greece. Thus benefits of monetary union were varied.
- 3) In 2007-2016 regression in terms of labour productivity compared to the U.S. also pertained to all the highly developed members of the euro area: Austria, Belgium, Finland, France, Germany, the Netherlands and Italy. The development gap towards the U.S. measured by labour productivity of the economically strongest EA countries expanded.
- 4) Economic growth in the euro area since the mid-1990s has been lower than in the U.S., but during the pre-crisis years the diversity of GDP growth rates has diminished. Nevertheless, economic crisis of 2008-2009 turned out to be a tough trial for the euro area. During recession limited autonomy in conducting their macroeconomic policy hindered fast and effective anti-cyclical activities. Some countries outside the euro area were more effective in terms of stimulating demand, such as Sweden or Poland.
- 5) Data in tab.5 and graph 1 allow to draw a conclusion that main advantages contributing to the U.S. achieving sustainable economic recovery over the euro area were: higher and continuous increase in investment and private consumption as well as growing labour productivity.

The euro area in 2008-2016 suffered from a decrease in investment and an average annual consumption growth was 0.3%. According to the European Commission the debt of households and non-financial corporations in banks as well as an increase in the share of non-performing loans in 2011-2013 can be considered serious barriers to economic growth in the euro area since a decline in the supply of loans also meant an increase in its interest rates.

Since 2014 GDP in the euro area has been growing, an increase in investment and private consumption has continued as well as in case of employment and labour productivity. Economic recovery is based on both supply and demand side factors. Mid-term forecasts of economic growth also seem promising. Recent economic results as well as forecasts until 2021 allow to claim that the threat of secular stagnation in the euro area has been lifted.

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