*DOI: 10.19192/wsfip.sj3.2016.4*

Jan OSTOJ*

# 16 YEARS OF THE EURO AREA – INCREASE OF GDP AND PAYMENT BALANCE (PRELIMINARY DATA ANALYSIS)

***Summary***
*The paper makes an attempt at description of the impact of monetary integration on the most important macroeconomic indicators of the Euro area against the background of those countries which retained their national currency. As the main indicator describing changeability of economic growth in the EU countries the author assumed the average annual real GDP growth calculated in relation to the base value of GDP in 2003. The profile of payment balance (BPM5) of selected countries focuses on relations resulting from financing of trade turnover account balance by balance of the financial account and, particularly on direct and portfolio investments. The analysis was conducted in the context of basic relationships from the theory of the optimum payment area.*

***Key words:*** *gross domestic product (GDP), currency exchange rate, export import balance*

## Introduction

Upon entering the Euro area first member states only disposed of the theory of optimum currency area. The theory was fairly logical and it helped to avoid a number of mistakes in the initial phase of creating the monetary union still, it was far from being perfect. At the moment it is already possible to evaluate to what extent integration processes met the expectations of particular countries. No doubt, the GDP growth is in the centre of attention as it is the measurement of economic growth of a country and also, indirectly, of the prosperity of its citizens. The second equally important yardstick of development of the Euro area are the

* Jan Ostoj Bielsko-Biała School of Finance and Law, Department of Finance and Information Technologies, e-mail: jostoj@wsfip.edu.pl

changes in the payment balance of countries which provide answers to questions on the condition of their economies which are assessed from the perspective of export of excessive capital or extent of their mutual dependence.

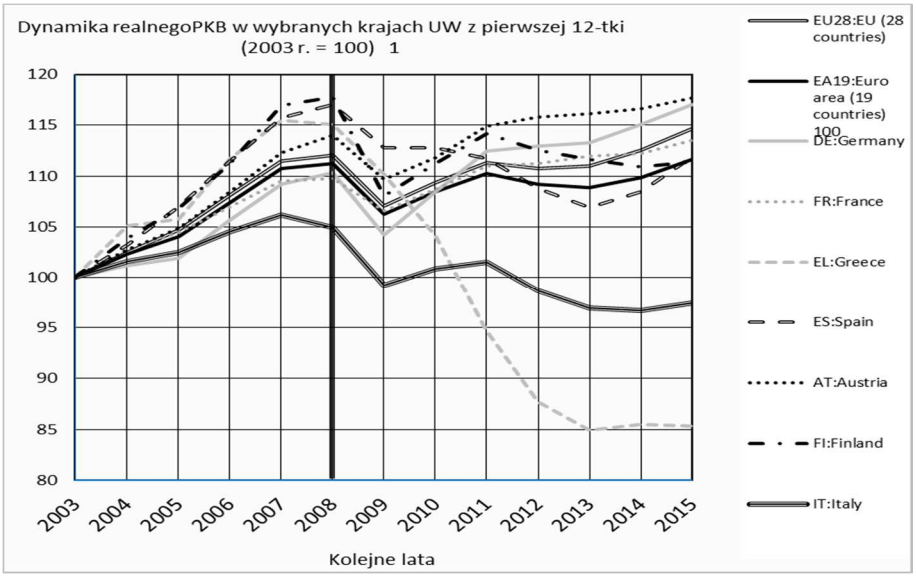
## 1. The Euro area versus economic growth

### 1.1. Belonging to the Euro area and GDP Dynamics of the 'Big Twelve' countries

From the perspective of the undertaken research topic it is necessary to answer the question whether there is a link between adopting Euro as the currency and the condition of national economy expressed by the GDP growth. For this purpose average annual real GDP growth of the major twelve EU countries, which in 2000 introduced Euro as their currency, was compared. As the reference point year 2003 was taken (2003 = 100). The solid line represents changeability of current real GDP against its base level (Image 1). The thin solid double line reflects the average annual real GDP growth of all 28 EU member states[1].

[1] Source: own calculations based on Eurostat data, http://ec.europa.eu/eurostat/tgm/table.do?tab=table&init=1&plugin=1&language=en&pcode=tec00115 (access 16/05/2016).

**Image 1. GDP growth of the twelve countries which adopted Euro as their currency in 2000.**




Source: own calculations based on Eurostat data, http://ec.europa.eu/eurostat/tgm/table.do?tab=table&init=1&plugin=1&language=en&pcode=tec00115 (access 16/05/2016).

Image 1 shows that in most of the countries the GDP growth in 2015 was similar as compared with the year 2003 (112-117%). It does not mean, however, that the paths leading to this state were identical for all the countries. For instance, in 2008 Finland saw the highest growth of 117% and Germany second lowest growth (the lowest belonged to Italy). But in 2015 the positions of these countries were completely reversed. The highest average annual real GDP growth in 2015 saw Austria and Germany (2003 = 100). In case of Germany the dynamics in the period 2011-2015 were considerably higher than EU[2] and EA[3] average. Austria is a country which stood out from this group of countries. Its average annual real GDP growth in the examined period (2003=100) was always higher or comparable with average annual real GDP growth of EA and EU.

Studying the changeability of average annual real GDP growth in the European Union (EU-28) and the Euro area (EA-19) it can be observed

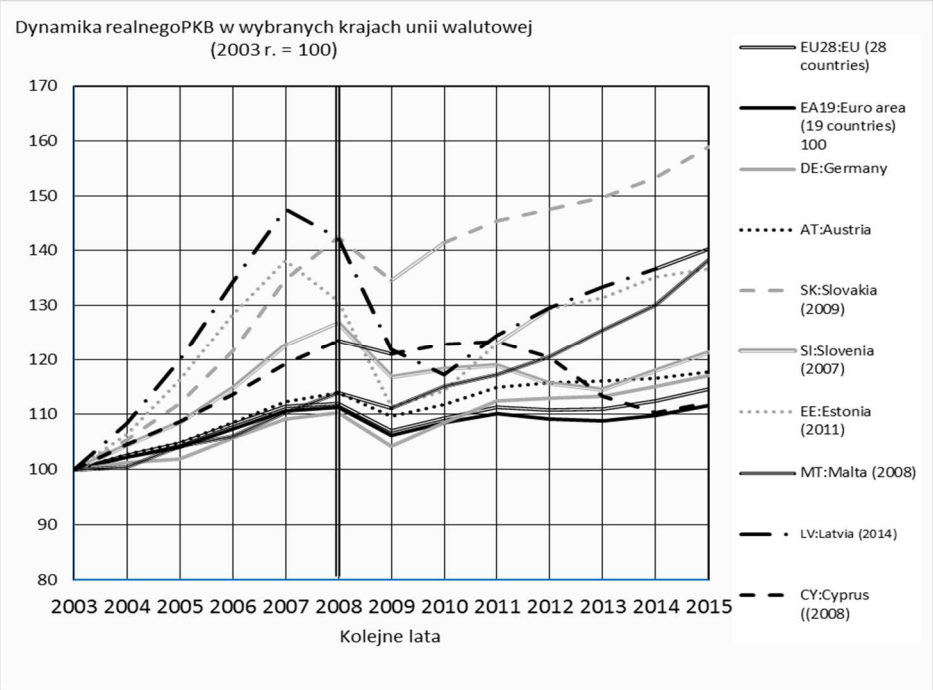
[2] European Union countries.
[3] Euro area – monetary union countries.

that the GDP growth dynamics of EU-28 are always higher (double line) than the corresponding value for EA-19 (solid line). It must not be forgotten though, that the average of EA-19 is considerably lowered by Greece and Italy. These two countries are an exception to the upward trends of the monetary union members. In Italy despite initial growth (2003-2007), GDP growth shrank in the examined period by three percentage points to about 97% as compared to the year 2003. In Greece the fall was even bigger (15 percentage points to the level of about 85%). Undoubtedly, in the final years of the research period (2012-2015) these two countries were responsible for considerable decrease of average annual real GDP growth of the Euro area. Nevertheless, it can be seen that before 2008 in Italy and Greece the dynamics of real GDP were on the rise but still the GDP dynamics of EU-28 countries were slightly higher than in EA-19 countries. Without any doubts, this situation was triggered by dramatic slowdown of German economy. The slowdown was also observed in Italy and other countries and it seems that such slow down is a characteristic feature of initial phase of entering the monetary union. Hence, on the basis of the above analysis it cannot be unequivocally assumed that being a member of Euro area causes slowing down of GDP growth in the long-term perspective.

### 1.2. GDP dynamics of new members of the Euro area

To complete the above analysis, it is important to include in the study the changeability in the average annual real GDP growth in the countries that joined the monetary union later than in 2000. To assure continuity of the scientific argument the referential values for the average annual real GDP growth of all 28 EU member states, all 19 EA member states and selected EA-19 countries with respect to countries that joined the Euro area later than in 2000 (Image 2).

**Image 2. Average annual real GDP growth in selected EA countries.**




Source: own calculations based on Eurostat data, http://ec.europa.eu/eurostat/tgm/table.do?tab=table&init=1&plugin=1&language=en&pcode=tec00115 (access 16/05/2016).

Moreover, in Image 2 the first year of changeability in the average annual real GDP growth in respective countries one year after entering the monetary union is expressed by segments of a double line incorporated in the graph. The vertical line marks the beginning of the financial crisis of 2008.

Even a rough analysis of changeability in the average annual real GDP growth shows that countries that entered the monetary union before, during and after the 2008 recession were hit by the crisis. 'Old' members of the Euro area such as Germany or Austria saw the decrease in dynamics of annual real GDP growth as compared to 2003. Similar situation could be observed in the whole EU and EA (the fall was rather insignificant i.e. 3-5 percentage points). However, there were countries that experienced much more dramatic falls. Latvia and Estonia as countries outside the monetary union had seen very high dynamics of annual real GDP growth (140-150%, 2003=100); in the time of crisis their GDP growth was lower by 25-30 percentage points. Slovakia also

outside the Euro area, had enjoyed GDP growth of more than 40%, and suffered a fall of 8 percentage points when the recession came.

Image 2 also shows the Slovenia's entry into the Euro area in 2007 did not protect its GDP fall in 2008. Slovenia's GDP suffered more than Slovakia's which at that point in time was still outside the monetary union. On the contrary, when Malta adopted Euro as it currency in 2008 it did not have a bigger impact on its real GDP than on GDPs of Estonia or Latvia, which at that time still retained their national currencies. Thus, it is impossible to put forward a thesis that membership in the monetary union strengthens or weakens a country's resistance to financial crisis. More important is rather specific and characteristic for a given period conditioning for the countries' respective economies. One the other hand, one may not claim that belonging to the EA does not have any impact on intensification or alleviations of the effect of financial crisis in a given country. For sure, such impact does exist but for the time being in light of the specific factors which determine the framework of functioning of a given country, this impact is of secondary importance.

From the perspective of the final result i.e. the average annual real GDP growth in 2015 as compared with year 2003, it is clear that the growth was much higher in case of countries which entered the monetary union later than the first twelve countries. The average annual real GDP growth for 'the first twelve' was in the range 112%-118%, whereas dynamics of the rest of EA members reached the level of 122%- 159% of the accepted base (2003). The only exception here was Cyprus whose initial real GDP growth exceeded 120%, but later fell to the average value for all EA states. Such situation may be explained by the fact that countries entering the monetary union after 2003 generally represented lower level of economic development than 'the first twelve', they were the runners-up hence they had more space for faster growth. Moreover, relatively low GDP of these countries did not have a considerable influence on the joint GDP of Euro area with respect to their adoption of Euro currency.

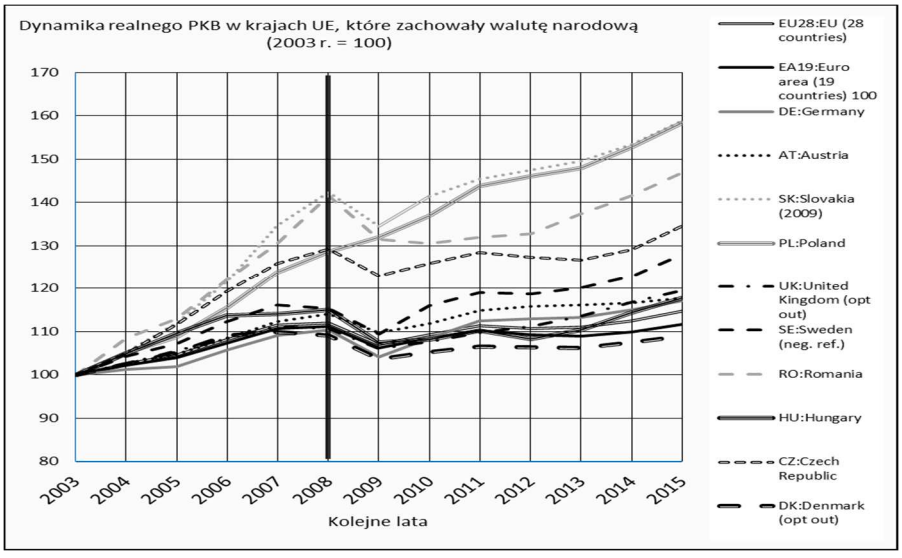
The analysis conducted above also reveals the costs of entry into the monetary union i.e. the slowdown of real GDP growth in the first couple of years after adoption of Euro currency. This phenomenon could be observed in Slovakia and Estonia. In case of Malta, Slovenia and Cyprus it cannot be stated clearly as the date of their entry into Euro area coincided with the global financial crisis. Latvia, on the other hand, adopted Euro in 2014 so for the moment it is to early to determine the

changeability of its average annual real GDP growth. After 2010 (the end of crisis) it can be observed that dynamics of average annual real GDP growth accelerate faster in case of new EA members. The 'old twelve' (including referential countries Germany and Austria) show smaller GDP growth. Out of the new members only Slovenia broke away from the positive trend and entered the path of accelerated growth as late as in 2013. Summing up, the thesis that may be assumed here is that being a member of the monetary union has an undisputed impact on the economy of a given country in the long-term perspective.

### 1.3. Dynamics of GDP growth in EU countries which retained their local currency

In the context of the present analysis one should also take a closer look at the average annual real GDP growth of the EU countries which have not adopted Euro as their currency. In order to provide comparability with the results of analysis conducted above, as the referential values the dynamics of real GDP growth of Germany, Austria and Slovakia were adopted. The results of the analysis are presented in Image 3.

**Image 3. Average annual real GDP growth in EU countries which retained their local currency.**




Source: own calculations based on Eurostat data, http://ec.europa.eu/eurostat/tgm/table.do?tab=table&init=1&plugin=1&language=en&pcode=tec00115 (access 16/05/2016).

Image 3 reveals a strong relation between average annual real GDP growth of developed countries and developing countries. Unlike developing countries, in developed countries slower dynamics of GDP growth can be observed. Thus, a reasonable approach of pairing countries with similar level of development was applied.

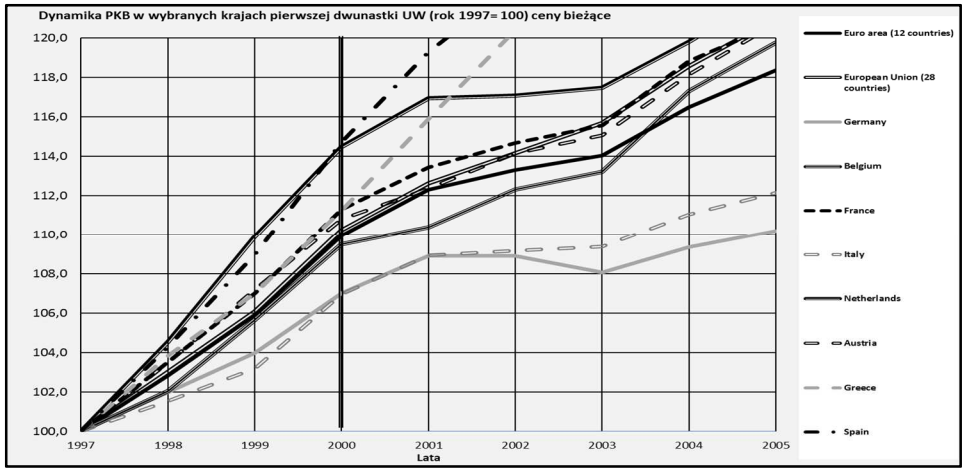
As it is widely known, highly developed countries are characterized by considerably high GDP *per capita*. Such countries are for example Great Britain and Sweden, they both refrained from adopting Euro as their currency. In the long perspective the two countries showed better potential of real GDP growth (2012-2015), than Germany or Austria. The 'running-up' countries such as Poland, Romania or Czech Republic (with the exception of Hungary) enjoyed even bigger average annual real GDP growth than Great Britain and Sweden. It leads to a conclusion that the main factor that determines high potential of growth of a given economy is a relatively low level of its development at the start, and membership in the Euro area is of secondary importance here. A proof which may support this thesis is the fact that Slovakia, which has been a member of EA since 2009, showed exactly the same average annual real GDP growth as Poland which, till this day, retains its national currency. Thus in the discussed area one may formulate the following conclusions:

- highly developed countries (GB, Sweden) which retained their national currencies in the long-term perspective show better potential of their real GDP growth than countries which belong to the EA from its very beginning (Germany, Austria);
- in general refraining from adoption of Euro did not immunise countries against shocks of recession – all non-Euro countries noted a decrease in real GDP dynamics (with only one exception – Poland);
- it is not a rule that retaining the national currency in the long-term guarantees high increase in real GDP growth as seen on the example of Poland and Slovakia (high dynamics of GDP growth) and Great Britain and Hungary (low dynamics of GDP growth).

### 1.4. Costs of entering into the Euro area

Adoption of new solutions in economy always entails certain, widely understood costs of their implementation. That is why it is vital to ask a question whether the first twelve countries that adopted Euro as their currency indeed paid the price in the form of slowdown of their real GDP growth. The answer to this question is presented in Image 4.

**Image 4. Real GDP Dynamics in selected countries of 'the first twelve" of EA (1997=100) current prices**




Source: own calculations based on Eurostat data, www. http://ec.europa.eu/eurostat/data/database (access 01/05/2016).

The graph above shows that adoption of Euro had a considerable impact on the economic growth of the first twelve after the year 2000. Introduction of Euro currency in non-cash transactions as of 1 January 1999 did not bring about ad hoc effects in the growth of GDP of EU member states. On the contrary, it can be stated that GDP in terms of current process went up. However, already in the year 2000 in most of the countries **slowdown in GDP growth** was observed. Real GDP growth also decelerated as current prices went up. The second wave of impact on the economic growth of monetary union countries came on 1st of July 2002 when the national currencies were ultimately discontinued and replaced by cash Euro. After 2002 further slowdown of growth calculated in GDP current prices was observed in majority of EU countries. In 2003 in Germany the slowdown was counted in absolute terms which means that taking into account inflationary push the drop in real GDP was even more dramatic. The exception from this rule were Greece and Spain that later, in times of financial crisis suffered the most.

Summing up this part it can be claimed that entry into the monetary union meant for many countries a slowdown in their GDP growth. In case of Slovakia and Estonia a similar phenomenon can be observed (Image 2).

## 2. Efficiency of mechanism of national currency protection

### 2.1. GDP versus dynamics of local currency exchange rate

In the environment where national currencies are in operation, a natural protection against asymmetric shocks, a drop in demand for domestic production, is weakening the national currency's exchange rate against currencies of other countries or other currency areas[4]. This protective mechanism counteracts GDP falls resulting from demand shocks. Data necessary for assessment of usefulness of this mechanisms are presented in Image 5.

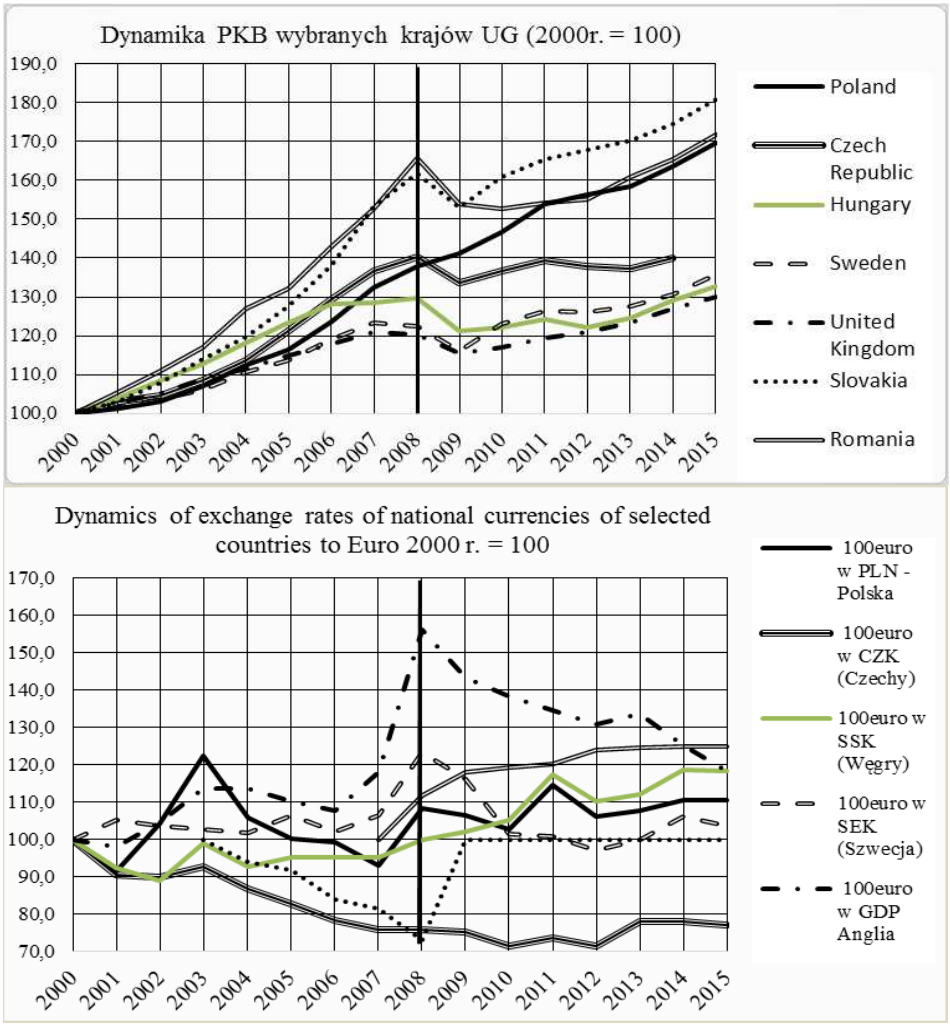
As it is widely known, in 2008 the European Union as a whole as well as majority of its countries experienced considerable decreases in their real GDPs – as results from the top section of Image 5. As the base year for calculations the author assumed the year 2000. The same year was assumed in evaluation of changeability of exchange rates of national currencies (apart from Slovakia and Romania for which countries the base years were 2003 and 2007 respectively[5]). It was possible to evaluate real strengthening or weakening of currency of a given country to a reference point of the base rate of the year 2000 (100 € expressed in national currency). The bigger deviation of a national currency upwards from the base value of 100 the bigger its depreciation to Euro. Image 5

[4] According to the classical theory of optimum currency areas, exchange rate of a national currency reacting to changes in economic environment is a vital element of asymmetric shocks absorption. It means that fluctuations of a real exchange rate reflect the existence of the shocks and extent of their neutralisation. (See for example: Mundell R. A.,1961: *A Theory of Optimum Currency Areas*, American Economic Review, 51 (4), pp. 651-656). It should not be overlooked however that these mechanisms have their limitations: if an economy relies on import of resources weakening of the exchange rate will alleviate the demand shock as it makes the export offer cheaper but at the same time it makes import more expensive (e.g. fuels) and production less profitable. Moreover, contemporary currency markets are closely interconnected and investors on these markets rely mainly on technical analysis. Hence, the exchange rates are more and more a derivative of specific situations on currency markets rather than changes in the real sphere (see for instance: De Grauwe P. (2000): *Exchange Rates in Search of Fundamentals: The Case of Euro-Dollar Rate*, CEPR Discussion Paper, 2575; Canzonerii M.B, Valles J., Vinals J. (1997): *The Exchange Rates as an Instrument of Macroeconomic Adjustment: Empirical Evidence and Relevance for European Monetary Union*, Banco de Espana, Economic Bulletin, pp. 61-68.

[5] Due to lack of access to earlier data.

shows the efficiency of the protective mechanism in the studied period. It shows fluctuations of GDP and changeability of national currencies to Euro in the same period.

**Image 5. Dynamics of GDP in selected EU countries and Dynamics of exchange rates of national currencies of selected countries to Euro.**




Source: own calculations based on data on GDP dynamics:Eurostat, www. http://ec.europa.eu/eurostat/data/database (access 01/05/2016) - exchange rates as of 31 December of the examined year – according to Polish Statistical Yearbooks, currency calculator http://www.money.pl/pieniadze/kalkulator/ and Poland 1989 - 2014, Central Statistical Office, Warszawa 2015, p. 16-19. *Slovakia – since 2009 in the Eurozone – since 2009 dynamics of national currency = 100.

Image 5 shows that British Pound reacted in the most dramatic way with respect to its GDP decrease. The exchange rate of GBP to Euro fell by 50 percentage points when compared with the year 2006. This however, did not stop the British average annual real GDP growth from slowing down by 5 percentage points. Similar situation could be observed in Sweden. Consistent depreciation of national currency, though not as dramatic as in case of GB and Sweden, was observed in Romania and Hungary. On the other hand, in Slovakia and Czech Republic the opposite processes took place: their currencies strengthened in the year before the crisis.

Poland was the only European country with its national currency still in operation which experienced stable GDP growth in 2008 when the foreign currency was depreciated. However, taking into account the situation in other European countries it does not offer sufficient grounds for a statement that the mechanism of protection of national currency against external shock is equally effective in all conditions.

Looking at the above graphs it cannot be inferred that the exchange rate mechanism is a sufficient tool for protection of the economy against external shocks. The reasons for this may be found in specific factors conditioning the decrease of GDP dynamics, concurrent depreciation of comparable currencies and the level of openness of the studied economy. Also increased mobility of flows on financial markets helps to reflect genuine current situation on the market not the situation in the real sphere.

It is worth mentioning that resistance to external shocks depends also on income and price flexibility of world demand for exported goods, and, from the perspective of the exporter, on material structure of demand.

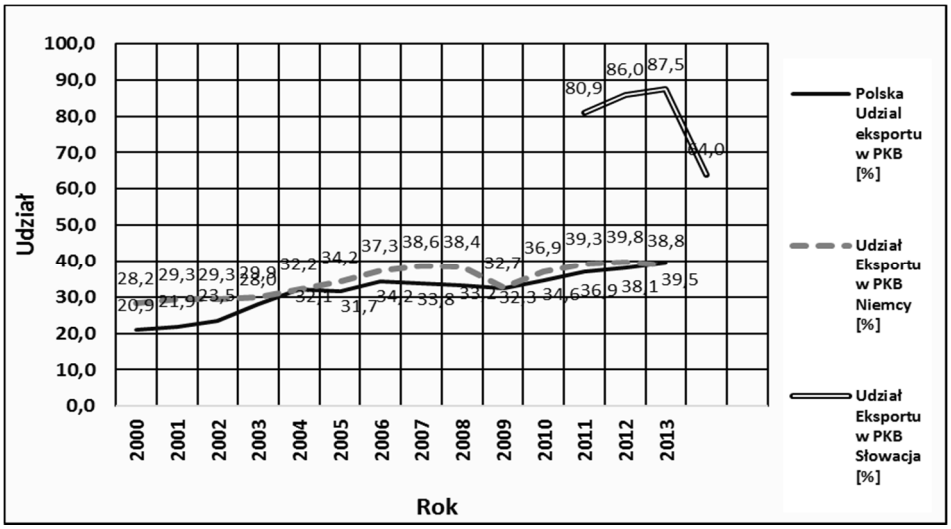
### 2.2. Openess of the economy – demand for export

It seems that full explanation of the phenomenon of the resistance of economy to external shocks can be found somewhere else. One of the channels transmitting such shocks is dependence of a country's economy on external demand i.e. demand for export. The level of this dependence is measured by the share of export value in the value of GDP of that country. Image 6 contains comparison of shares of export in national GDPs on the example of Germany, Poland and Slovakia[6].

[6] Comparable data available for analysis since 2011.

As it can be seen the share of export in GDP in case of Poland and Germany in the studied period (2008) was similar and amounted to 33,8% and 38,4% respectively. In Slovakia this share was considerably bigger in the same year (71,0%)[7]. Hence, the thesis about the impact of openness of the economy on efficiency of the currency protection mechanism is confirmed. However, in the period before 2008 the Slovak crown was getting stronger what would suggest that the protective mechanism was not working or was under the influence of the situation on financial markets which to some extent resulted from the fact that Slovakia was due to enter the Euro area.

**Image 6. Share of export in GDP of Poland, Slovakia and Germany.**




Source: own calculations based on: *Bilans płatniczy Polska w latach 1994-2013*. http://www.nbp.pl/home.aspx?f=/statystyka/bilans_platniczy/bilansplatniczy_r-BPM5.html; Table of most important macroeconomic indicators in Slovakia. The Embassy of the Republic of Poland in Bratislava; data obtained from Slovakian Central Statistical Office, the National Bank of Slovakia and the Slovakian Ministry of Finance. http://www.bratyslawa.msz.gov.pl/pl/wspolpraca_dwustronna/wspolpraca_gospodarcza/sytuacja_gospodarcza/gospodarka_slowacji_w_pierwszym_kwartale_2015_roku?channel=www; Die Deutsche Zalungsbilanz fur das Jahr 1999, Deutsche Bundesbank, Monatsbericht March 2000; Die Deutsche Zalungsbilanz fur das Jahr 2002, Deutsche

[7]See: The Ministry of the Economy of the Republic of Poland, Trade and Investment Section of Polish Embassy in the Republic of Slovakia. rig.katowice.pl/files/Słowacja.docx (access 05/05/2016).

Bundesbank, Monatsbericht March 2003; Die Deutsche Zalungsbilanz fur das Jahr 2004, Deutsche Bundesbank, Monatsbericht March 2005; Die Deutsche Zalungsbilanz fur das Jahr 2007, Deutsche Bundesbank, Monatsbericht March 2008; Die Deutsche Zalungsbilanz fur das Jahr 2010, Deutsche Bundesbank, Monatsbericht March 2011; Die Deutsche Zalungsbilanz fur das Jahr 2011, Deutsche Bundesbank, Monatsbericht March 2012; Die Deutsche Zalungsbilanz fur das Jahr 2013, Deutsche Bundesbank, Monatsbericht March 2014; Die Deutsche Zalungsbilanz furdas Jahr 2014, Deutsche Bundesbank, Monatsbericht March 2015.

Looking from another perspective though, low share of export in British GDP (25,8%[8]) and sharp depreciation of the British Pound in 2008 (Image 5) seem to support the thesis that the protective mechanism was inefficient in this particular case.

## 3. Resistance to endogenic sources of over-production crises in the Euro area

The main reason for over-production crisis is on one hand accumulation of savings which may not be transformed in global demand and, on the other, mandatory investment in stock. In such situation the economy is unable to purchase the goods it manufactured.

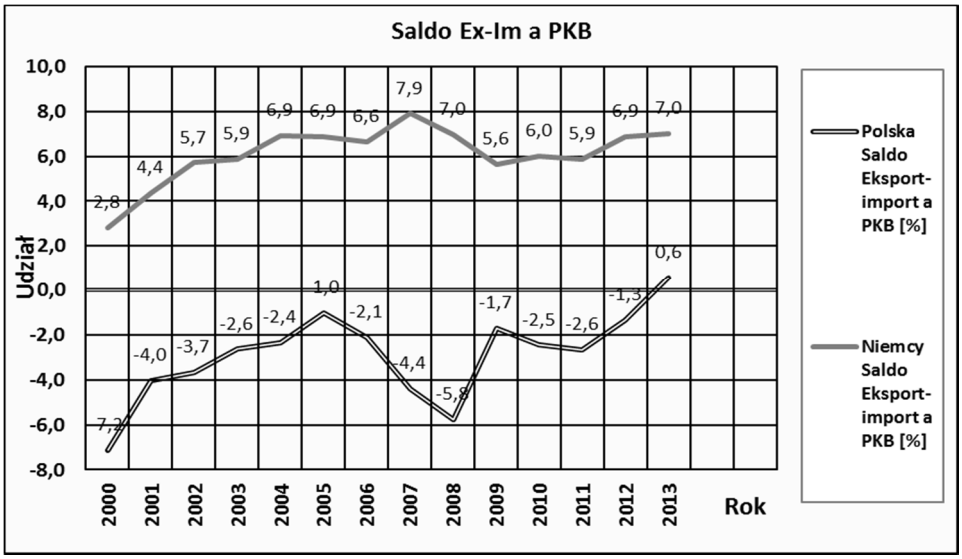
In order to dispose of the problem it is necessary to export the surplus of over-production. Then the exporting country gets positive foreign trade balance. At the same time however, the country must assure foreign residents financing for the purchase of goods which constitute positive export-import balance. To this aim there is a number of tools such as paid transfer of savings abroad in the form of loans granted to foreign residents, purchase of proprietary rights and laws e.g. bonds, licenses, permits, concessions and other laws including proprietary rights to land, manufacturing facilities etc.

Such activities are included in the payment balance. The item export-import balance is entered in the current account while savings transfer for the disposal of foreign residents is entered in the financial account. From this perspective it would be interesting to take a closer look at these figures in selected EU countries (Image 7). The graph shows that the mechanism of over-production is successfully applied by Germany. Over 13 years of existence of monetary union Germany doubled its positive

[8] See: Statistical Yearbook of the Republic of Poland 2015, year LXXV Warszawa, p. 885.

foreign trade balance with respect to GDP i.e. GDP export. It certainly was made easier thanks to the removal of currency exchange rate mechanism within the monetary union. Nowadays (2015) the share of EU member states in German export is as high as 66%[9], in the first two quarters of 2015 half of export volume went to the EA countries[10].

**Image 7. Share of export-import balance in GDP (Poland and Germany)**



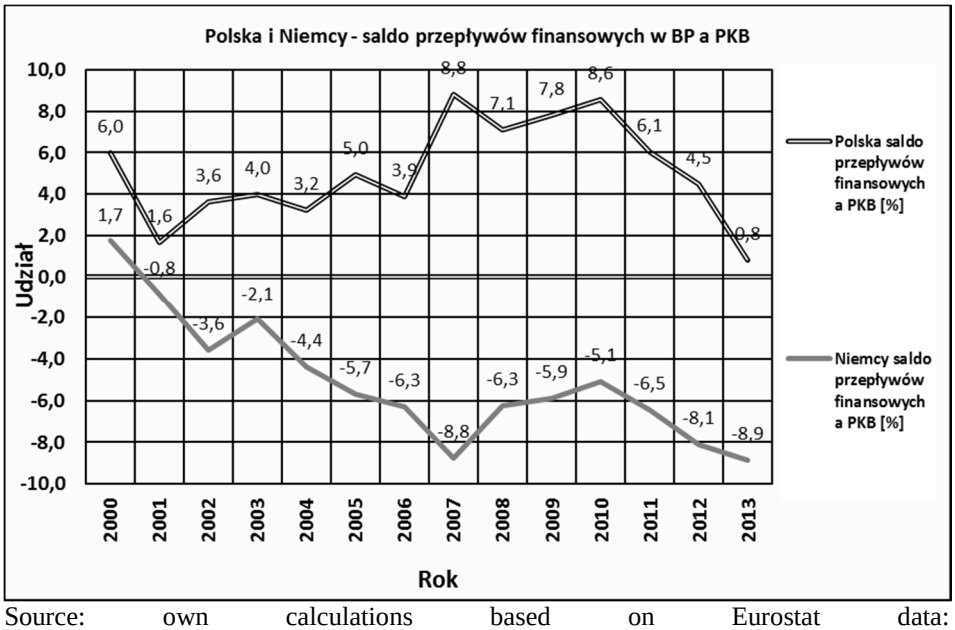

Source: own calculations based on: Eurostat, www. http://ec.europa.eu/eurostat/data/database (access 01/05/2016) Bilans płatniczy Polska w latach 1994-2013. http://www.nbp.pl/home.aspx?f=/statystyka/bilans_platniczy/bilansplatniczy_r-BPM5.html; (Access 04/05/2015);Die Deutsche Zalungsbilanz fur das Jahr 1999, Deutsche Bundesbank, Monatsbericht March 2000; Die Deutsche Zalungsbilanz fur das Jahr 2002, Deutsche Bundesbank, Monatsbericht March 2003; Die Deutsche Zalungsbilanz fur das Jahr 2004, Deutsche Bundesbank, Monatsbericht March 2005; Die Deutsche Zalungsbilanz fur das Jahr 2007, Deutsche Bundesbank, Monatsbericht March 2008; Die Deutsche Zalungsbilanz fur das Jahr 2010, Deutsche Bundesbank, Monatsbericht March 2011; Die Deutsche Zalungsbilanz fur das Jahr 2011, Deutsche Bundesbank, Monatsbericht March 2012; Die Deutsche Zalungsbilanz fur das Jahr 2013, Deutsche Bundesbank, Monatsbericht March 2014; Die Deutsche Zalungsbilanz furdas Jahr 2014, Deutsche Bundesbank, Monatsbericht March 2015.

[9] http://www.informatorekonomiczny.msz.gov.pl/pl/europa/niemcy/ ministerstwo spraw zagranicznych (access 13/11/2016).

[10]http://www.bankier.pl/wiadomosc/Rekordowe-wyniki-niemieckiego-handlu-7277308.html

Thus, an important question arises: *how* a country with 'negative export-import balance year after year' is going to pay for the import surplus over its own export? There is a number of solutions to do so but the most important one is **to acquire rights to obtain revenues on the importer's territory.** It is reflected in 'financial flows' in financial account of payment balance, this position also includes foreign direct and portfolio investments. In case of positive balance of direct investment account, foreign residents invest more in the country than local residents abroad: there is an inflow of aggregated foreign savings to the country. When the balance of direct investment is negative the situation is reverse. Changeability of financial flow balances on the example of Poland and Germany is presented in Image 8.

**Image 8. Poland and Germany – share of flows in financial account in GDP**




Source: own calculations based on Eurostat data: http://ec.europa.eu/eurostat/data/database (access 01/05/2016); Bilans płatniczy Polska w latach 1994-2013. http://www.nbp.pl/home.aspx?f=/statystyka/bilans_platniczy/bilansplatniczy_r-BPM5.html; (access 04/05/ 2015); Die Deutsche Zalungsbilanz fur das Jahr 1999, Deutsche Bundesbank, Monatsbericht March 2000; Die Deutsche Zalungsbilanz fur das Jahr 2002, Deutsche Bundesbank, Monatsbericht March 2003; Die Deutsche Zalungsbilanz fur das Jahr 2004, Deutsche Bundesbank, Monatsbericht March 2005; Die Deutsche Zalungsbilanz fur das Jahr 2007, Deutsche Bundesbank, Monatsbericht March 2008; Die Deutsche Zalungsbilanz fur das Jahr 2010, Deutsche Bundesbank, Monatsbericht March 2011; Die Deutsche Zalungsbilanz fur das Jahr 2011, Deutsche Bundesbank, Monatsbericht March 2012; Die Deutsche Zalungsbilanz

fur das Jahr 2013, Deutsche Bundesbank, Monatsbericht March 2014; Die Deutsche Zalungsbilanz furdas Jahr 2014, Deutsche Bundesbank, Monatsbericht March 2015.

Image 8 indicates that before creation of the monetary union Germany saw a *per saldo* inflow of foreign capital (balance of financial flows was positive and amounted to 1,7% GDP). The inflow of savings to Germany facilitated accumulation of undeveloped reserves of savings generated in this country. At the moment these reserves are invested abroad and their outflow reaches 9% of GDP. It is obvious that such situation is only possible thanks to considerable demand for German investments and loans, and especially loans for that matter. The credit granted by German residents amounted to 90% of financial flows in payment balance of Germany (2007); in the two-year period 2012-2013 it was about 40-20%[11].

Introduction of common currency meant the removal of the protective mechanism in the export-import area (depreciation of national currency leads to increase of export and reduces import). But it must not be overlooked that such protection of exchange rate has application in the realm loans granted in foreign currencies. Depreciation of the borrower's currency makes the loan much more expensive. Similarly, depreciation of importer's currency makes import uneconomical. It is a very unfavourable situation for a country with considerable surplus of export over import e.g. Germany whose economy before the creation of the Euro area felt strongly any limitations in trade balance as well as in demand for loans financing the purchased goods. The demand decides about the level of development of surpluses of free capital. It should also be highlighted that at the moment Germany is in possession of a considerable excess of free capital thus the country is determined to locate this excess in foreign investments. Such pressure sometimes translates into high risk investment decisions. According to information found on the website www. Forsal.pl, the German Institute of Economic Research (DIW) established that in the period 2006–2012 German companies lost more than 600 billion Euro[12] in failed foreign

[11] Own calculations based on: Die Deutsche Zalungsbilanz fur das Jahr 2007, Deutsche Bundesbank, Monatsbericht March 2008 and Die Deutsche Zalungsbilanz fur das Jahr 2013, Deutsche Bundesbank, Monatsbericht March 2014.

[12] See: http://forsal.pl/artykuly/715631,niemcy-mistrz-nieudanych-inwestycji-zagranicznych.html (access 13/11/2016).

investments. It means that statistically each German household lost 15.000 Euro which is an equivalent of ¼ of the price of a luxury car Porsche Cayenne[13].

Poland seems to be in an opposite situation. With the appearance of the Euro area the balance of direct foreign investments in Poland lowered, then rose to reach a stable level of 3-5% in the period of 2002-2006 (Image 8). Foreign investments in Poland reached their peak in the times of crisis as at that moment Poland appeared to be a low risk country. In such favourable conditions it was possible to finance the surplus of import over export. Initially Poland was a leading importer of foreign capital (maximum balance of financial flows reached 8,8% GDP in the studied period) but in 2013 the ratio went down to 0,8% PKB. The sustainable export-import balance (0,7% of GDP) indicates healthy condition of Polish economy in 2013 as regards international flows. From a subordinate position Poland has become an equal partner in international trade and financial flows.

## Conclusions

Reassuming the above deliberations one may formulate a number of conclusions. Between 2003 and 2015 most of the 'Big Twelve' monetary union countries showed similar average annual real GDP growth. At the end of the day the best performers in this respect are Germany and Austria. Spain has started to overcome the effects of recession after a continuous fall in real GDP in the period 2008-2013. In Greece the crisis brought about a dramatic fall of real GDP (by 30 percentage points) to freeze at the level of 85% of the result achieved in 2003. In Italy yet another situation could be observed – the initial growth was stopped at the level slightly above the figure achieved in 2003. Examination of such diversified situation in particular countries did not allow the author to formulate a premise that entry into the Euro area was a factor that stimulated spreading of the crisis. However, it is a characteristic feature that average annual real GDP growth in the monetary union area is always lower than identical ratio for all members of the European Union.

Countries which entered the Euro area before, during and after the global recession were hit by the crisis to similar extent as far as their GDP is concerned. For Slovenia joining the Euro area meant the fall of

[13]Ibidem.

its real GDP. Malta's entry into EA in 2008 seemed to have no impact at all on its GDP. In Estonia and Latvia which at that time still had their national currencies in operation the fall in real GDP was also observed. When Slovakia and Estonia adopted Euro after the crisis it did not provoke any fall in their real GDP in contrast to 2008 when the two countries experienced a serious fall. Nevertheless, both Slovakia and Estonia saw a considerable slow down of GDP growth after they adopted Euro.

In case of all members of the monetary union (the first twelve and the rest) regardless of the economic situation in Europe and in the world, right after the entry of the country into the common currency area at least a slowdown in real GDP growth could be observed. One may then conclude that in the studied period slowdown in the real GDP was the price countries had to pay for becoming the member of the common currency area.

Moreover, the study has shown the developed countries such as Great Britain and Sweden which retained their national currency, in the long perspective saw better potential of real GDP growth than Germany or Austria. In general, however, keeping the national currency and the possibility to apply the protective mechanism did not immunise EU countries against external shocks. All countries, except Poland, noted some kind of real GDP growth slowdown. It is also not a rule that retaining national currency guarantees fast growth of real GDP in the long-term what can be seen on the example of Poland and Slovakia (high dynamics of real GDP growth) versus Great Britain and Hungary (low dynamics of real GDP growth).

The mechanism of protecting exchange rate against external shock does not work in all economic conditions and it cannot be compensated by other factors such as decrease in exchange rates of concurrent currencies, the extent of openness of a given economy, increased mobility of flows on financial markets as well as the extent of income and price flexibility of world demand for goods in the international turnover. Introduction of a common currency removes the protective mechanisms in the export-import area but not only there. It results in the growth of export of highly developed countries which are able to manufacture products which are at the same time better in quality and less expensive. Common currency also creates better conditions for development of surplus capital by means of granting more credits for the purchase of these goods

**Literature**

[1.] Canzonerii M.B, Valles J., Vinals J., *The Exchange Rate as an Instrument of Macroeconomic Adjustment*: Empirical Evidence and Relevance for European Monetary Union, Banco de Espana, Economic Bulletin, 1997.
[2.] De Grauwe P., *Exchange Rates in Search of Fundamentals: The Case of Euro-Dollar Rate*, CEPR Discussion Paper, 2575, 2000.
[3.] Mundell R. A., *A Theory of Optimum Currency Areas*, American Economic Review, 51 (4), 1961.
[4.] *Polska 1989 - 2014*, a report from Central Statistical Offie, Warszawa 2015, (www.stat.gov.pl).
[5.] *Polskie 10 lat w UE*, a report from the Ministry of Foreign Affairs, Warszawa 2014.

**Sources of data**

[1.] Eurostat. Real GDP growth rate – volume; Hyperlink to the table: http://ec.europa.eu/eurostat/tgm/table.do?tab=table&init=1&plugin=1&language=en&pcode=tec00115; Date of extraction: 16 May 2016 20:47:42 CEST.
[2.] Eurostat. GDP and main components (output, expenditure and income) [nama_10_gdp];
[3.] http://ec.europa.eu/eurostat/data/database; Extracted on 01.05.16.
[4.] Polish Statistical Yearbooks for the period 2008-2014.
[5.] Die Deutsche Zalungsbilanz fur das Jahr 1999, Deutsche Bundesbank, Monatsbericht March 2000.
[6.] Die Deutsche Zalungsbilanz fur das Jahr 2002, Deutsche Bundesbank, Monatsbericht March 2003.
[7.] Die Deutsche Zalungsbilanz fur das Jahr 2004, Deutsche Bundesbank, Monatsbericht March 2005.
[8.] Die Deutsche Zalungsbilanz fur das Jahr 2007, Deutsche Bundesbank, Monatsbericht March 2008.
[9.] Die Deutsche Zalungsbilanz fur das Jahr 2010, Deutsche Bundesbank, Monatsbericht March 2011.
[10.] Die Deutsche Zalungsbilanz fur das Jahr 2011, Deutsche Bundesbank, Monatsbericht March 2012.
[11.] Die Deutsche Zalungsbilanz fur das Jahr 2013, Deutsche Bundesbank, Monatsbericht March 2014.

[12.] Die deutsche Zalungsbilanz fur das Jahr 2014, Deutsche Bundesbank, Monatsbericht March 2015.
[13.] Table of most important macroeconomic indicators in Slovakia. The Embassy of the Republic of Poland in Bratislava; data obtained from Slovakian Central Statistical Office, the National Bank of Slovakia and the Slovakian Ministry of Finance. http://www.bratyslawa.msz.gov.pl/pl/wspolpraca_dwustronna/wspolpraca_gospodarcza/sytuacja_gospodarcza/gospodarka_slowacji_w_pierwszym_kwartale_2015_roku?channel=www (access 4/05/2016).