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Macro-economic stability in Poland against the backdrop of Union tendencies in the light of the concept of MSP

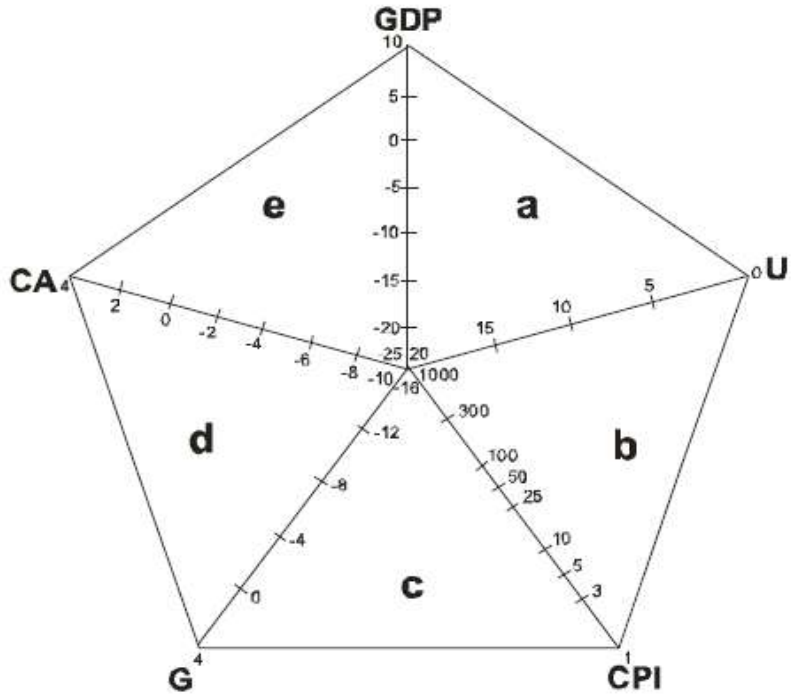
Introduction

This article aims to analyse the tendencies shaping the factors that determine the level of macroeconomic stability and to assess this level in Poland against the backdrop of different groups of the European Union member states (EU28 countries, Western Europe, Central and Eastern Europe and Southern Europe) over the period 2006-2015 by using the method of the Macroeconomic Stability Pentagon (MSP). This method facilitates the construction of synthetic stability indicators for specific countries and regions and the comparison of these factors in space and time, which is why it is used to assess the competitiveness of specific economies and the formulation of current and long-term economic policy goals. The basis of the concept was developed by A.W. Phillips and R. Mundell. In Poland, the expanded five-indicator model for the assessment of macroeconomic stability was proposed in 1990 by the Foreign Trade Research Institute [Walawski 2015, p. 69] and was later used to assess the level of optimisation of the competitive goals of economic policy by, amongst others, G. Kołodko [1993].

Chapter 1. Method presentation

In the MSP analysis, macroeconomic stability is identified as the state of general equilibrium in the economy - that is an internal and external equilibrium, when the functions of production, demand and supply for all factors of production form an internally dependent system (Walrasian equilibrium or Pareto efficiency). The subject of the analysis in the method being presented are the rate of economic growth, the unemployment rate, rate of inflation, public finance balance and the foreign current account, whose values form the apexes of a pentagon scaled in such a way that the more desirable the indicator value, the further the points depicting them are found from the centre of the system. An optimal system is illustrated in figure 1:

Figure 1. The optimal shape of a Macroeconomic Stability Pentagon



Source: E. Siek, *Macroeconomic stability pentagon*. Educational materials, The Department of International Business and Finance, Kazimierz Pułaski University of Technology and Humanities in Radom, p. 3

while the total area of the pentagon is expressed by the formula below:

$$MSP = \left[(\Delta GDP \cdot U) + (U \cdot CPI) + (CPI \cdot G) + (G \cdot CA) + (CA \cdot \Delta GDP)\right] \cdot K,$$

where:

ΔGDP – rate of GDP growth (%)

U – unemployment rate (%)

CPI – consumer price index (%)

G – ratio of budget balance to GDP

CA – ratio of current account to GDP (%)

K – ½ sin72º (a constant value of 0,4756 equal to half the sinus of the angle found at the central apexes of each of the triangles marked in Figure 1 by the letters a,b,c,d,e; this angle, by assumption, forms a fifth of a full angle thus measuring 72º)

The total area of the pentagon is the sum of the areas of the triangles labelled in Figure 1 by the letter a (real sphere triangle whose area is dependent on the economic growth indicator and the unemployment rate), b (stagflation triangle whose area depends on the unemployment rate and inflation), c (budget and inflation triangle), d (financial equilibrium triangle whose are is determined by the size of the budget balance and the foreign current account) and e (external sector triangle which is a function of the

current foreign account and GDP growth). The optimal state in an economy is when the area of the pentagon is equal to 1, that is, every triangle reaches maximum size equal to 0.2 (5 x 0.2 = 1). This state is impossible to achieve due to many factors. The constituent parts of the MSP are area MSP1 which is dependent on internal factors (the sum of the areas of triangles a, b and c) and area MSP2 which is dependent on external factors (the sum of the areas of triangles d and e). The values of MSP1 and MSP2 make it possible to identify factors that determine the progress of the stabilisation or destabilisation process. While establishing the area of each triangle it is important to consider that their sides are scaled differently. Most of the scale units on the sides of the pentagon are expressed in percentage points. The exception is the side depicting the level of inflation where a logarithmic scale is used (because of the large variation in the observed values). Because the classic model does not include the phenomenon of deflation, in this article the CPI axis has been appropriately scaled and the modified scale has been prepared as two variations: a) the outer limit has been set at -2.0 percent (this method is recommended by K. Raczkowski [2016]); the flaw of this approach is that only small scale deflation phenomena (when the rate of inflation drops from +1.0 percent to -2.0 percent) are perceived as a desired situation that positively influences the general level of macroeconomic stability b) the outer limit, in accordance with the classic scale, was set at +1.0 percent; with this approach every drop in inflation below the outer limit causes an appropriate shortening of the CPI side (scale with regression). Setting new outer limits was also necessary in the case of the GDP, G and CA (the limits were set at 15, 10 and 15 percent respectively), because many of the indicators characteristic to the countries under review exceeded the classic scale. Despite these corrections, the exceptionally high economic growth rate in Ireland in 2015 (26.3 percent) still fell outside the scale, which according to many economic event commentators did not fully reflect reality. As a result, in this paper for the year 2015 Ireland has been assigned the maximum economic growth rate available on the modified classic scale (15 percent).

Chapter 2. Macroeconomic indicators in the European Union and their determinants

According to the figures at the end of 2015 the EU economy was the biggest in the world with a GDP equal to 14.7 b EUR[1]. In the joint GDP of the EU28 the biggest share

[1] Eurostat data, http://ec.europa.eu/eurostat (accessed: 08.03.2017).

belonged to Germany, France, Great Britain, Italy and Spain. Despite having by far the greatest economic potential in the world from a nominal point of view, the GDP per capita in EU countries was significantly lower than in the USA, and from 2008 the gap continued to grow. The average macroeconomic indicator values for EU countries in the years 2006-2015 are illustrated in Table 1.

Table 1. Average macroeconomic indicators in the EU[a)] in the years 2006-2015 (%)

Indicator	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
GDP[b)] growth rate	5,1	5,0	1,2	-5,6	1,7	1,7	-0,4	0,5	2,3	3,3
Unemployment	4,8	4,2	4,1	5,7	6,5	6,5	7,0	7,2	6,8	6,2
Inflation	3,0	3,3	5,3	1,4	2,0	3,2	2,9	1,3	0,4	-0,1
Public finance balance/GDP	-1,1	-0,3	-2,1	-6,4	-6,3	-4,6	-3,8	-3,5	-2,9	-2,0
Current account balance/GDP	-4,1	-5,0	-4,9	-1,3	-1,1	-0,8	0,1	1,4	1,7	2,2

[a)] Average for EU28.

[b)] real GDP.

Source: Own calculations based on: http://ec.europa.eu/eurostat (accessed: 08.03.2017).

From the end of WW II until the end of the 1970s Europe went through a period of the most dynamic growth. In 2007 the rate of economic growth started to slow down and this tendency continued until 2009, when EU countries experienced a recession (the average GDP dropped by 5.6 percent). The biggest drops in GDP were noted in the Baltic States (Lithuania, Latvia and Estonia where in 2009 the GDP dropped by over ten percent), Finland, Slovenia and Croatia (single-digit decrease). The key factor responsible for the economic slowdown was a gross drop in investments, caused mainly by a reduction in fixed asset expenditure (predominantly in the building sector). The reduction was a reaction to the earlier "overinvestment". The foreign trade balance had a positive influence while the total consumption had a neutral influence (the drop in private consumption was offset by an increase in government spending) on the growth of the GDP in member states [Balcerowicz, Rzońca, Kalina, Łaszek 2016, pp. 9, 26-28]. Following the introduction of government rescue schemes, in 2010 the average GDP growth of EU countries was 1.7 percent, and the growth trend was maintained in 2011. In 2012 the average GDP of the EU28 countries in real terms was 0.4 percent lower than in the previous year. In the years 2013-2015, because of an increase in internal demand (mainly private) and investment stimulus (financed by structural funds and company loans) [*EU Regular Economic Report* 2015, p. 27 and 48], the European

economies got back on the path of growth (initially the fiscal changes and foreign trade balance had little effect on growth) [*European Economic Forecast* 2014, p. 1-3]. The pace of growth, however, varied across the EU. Analyses that take into account cumulative growth of the GDP *per capita* between 2008-13 show that the countries developing the fastest were Poland, Slovakia, Lithuania, Bulgaria, Sweden, Germany, Malta, Estonia and Latvia. Countries whose economies developed the slowest, beside the PIIGS countries, were Luxembourg, Slovenia and Cyprus. In the majority of the second group countries, the economic slow-down was due to a decrease in net export [*Forecast for 2013 from European Commission spring forecast* 2016, p. 29-31]. In Southern Europe the slump was connected to the drop in the competitiveness of the economies, partly caused by the public finance crisis and together with it a lack in wage discipline (Greece, Portugal) as well as a delay in implementing structural reforms laid out in the Lisbon Strategy and the "Europe 2020" strategy (Italy, Spain) [Albiński 2014, p. 24].

The economic slowdown in EU countries after 2007 was accompanied by an increase in the rate of unemployment between 2009 and 2013. In the first phase of the crisis (2008-2009), average unemployment rose by 1.6 percent. Between 2009 and 2013, after stopping the stabilisation programmes introduced by the governments of some countries, unemployment rose by another 1.5 percent. In 2009 the largest growth in unemployment numbers was recorded in countries that were the worst hit by the economic recession (Baltic States) as well as Slovakia and Spain. Between 2009 and 2013 the total increase in unemployment was the highest in Greece, Cyprus, Spain, Croatia, Portugal and Bulgaria. The highest annual rates of unemployment exceeded 20 percent and were recorded in Greece and Spain[2] between 2011 and 2014. In Spain where the recession was at a moderate level, the labour market situation turned out to be very sensitive to changes in the economy and brought to light the ineffectiveness of the solutions introduced by the cabinet of J. Nazara, based on short-term contracts and "junk employment agreements" [Hajder 2013, p. 53]. In the years 2014-2015 the clear acceleration in economic growth had a positive effect on employment figures and in 2015 the average rate of unemployment in EU countries dropped to 6.2 percent.

Between 2006 and 2011 the average rate of inflation in EU member states measured using the HICP indicator fluctuated in the range of 1.4-5.3 percent. A clear downward

[2] Eurostat data, http://ec.europa.eu/eurostat (accessed: 08.03.2017).

trend began in 2012; in 2015 average inflation stood at -0.1 percent, which caused fears of deflation. Among the reasons for the deflation pressure were: a drop in energy prices and a drop in internal demand (due to the slowing economy, more restrictive fiscal policy in the aftermath of the public finance crisis in the Eurozone [Mastromatteo, Rossi 2015, p. 336-350], and the associated "internal devaluation" in the PIIGS countries[3] as well as the raising of interest rates by the EBS in 2001 [Ducrozet, Kukla 2011]) [*Understanding deflation* 2015, Bednarczyk 2015], although opinions on this subject are divided. In European Union countries the divergence in inflation rates was far smaller than the economic growth or unemployment rates. At the end of 2015, the lowest (negative) inflation rates were recorded in 11 EU countries: Bulgaria, Greece, Spain, Croatia, Cyprus, Lithuania, Poland, Romania, Slovenia and Finland. Only Malta had an inflation rate higher than 1 percent.

In the years 20067/2007 the average EU budget deficit relative to the GDP fell by 0.8 p.p., while in 2007 only two member states exceeded the allowed 3 percent limit (one of the convergence conditions) – namely Greece and Hungary. Over the next two years the average negative balance of the EU government and local government sector grew to -6.4 percent, and in 2009 budgetary discipline limits were exceeded by 22 member states (including Germany and Austria who are deemed to be the most conservative in fiscal matters). In the period under research the highest level of deficit was recorded in 2010 in Ireland where it stood at 32.1 percent of the GDP[4]. The only, or certainly the primary, cause of growing deficits in EU countries was the increase in the nominal budget spending, stemming more from current budgetary policy than economic recession. In the PIIGS countries the increase in budget spending was stimulated by an increase in pay which exceeded the increase in labour productivity, as well as the bank crises [Albiński, 2014]. The improvement in the balance sheet of the government and local government sector registered from 2010 was primarily caused by an increase in income relative to budget spending, brought on by, amongst others, the effects of actions taken as part of fiscal consolidation [Giżyński 2011, p. 179-193]. In 2015 the average level of deficit in EU28 settled at 2.0 percent. Three member states recorded a budget surplus (Germany, Estonia and Luxembourg). In six countries the level of deficit exceeded 3

[3] I. Baldini, P. Manasse, *What's wrong with Europe*, http://voxeu.org/article/what-s-wrong-europe (accessed: 05.08.2016).
[4] Eurostat data, http://ec.europa.eu/eurostat (accessed: 11.03.2017).

percent of the GDP[5] (Greece, Spain, France, Croatia, Portugal, Great Britain), while nine were under the excessive budget deficit procedure (Croatia, Cyprus, France, Greece, Spain, Ireland, Portugal, Slovenia and the United Kingdom).

During the period under research, the highest average current account deficit in the balance of EU payments was recorded in 2007 (-5.0 percent of GDP). From 2009 this deficit shrunk consistently and in 2012 the average balance of current accounts closed with a surplus (0.1 percent of GDP). The surplus persisted until 2015 showing a tendency for growth. Before the recession the current account balances of member states were largely asymmetrical. The imbalance mainly concerned the so-called Eurozone core (Germany and Northern European countries recorded a high surplus) as well as Central and Eastern European countries (Latvia, Estonia, Lithuania, Romania, Slovakia) and the PIIGS countries (where large deficits were recorded). In literature on the subject these imbalances are explained in two ways [Kuziemska 2010, p. 89-105; Belke, Dreger 2011, p. 2]. According to convergence theory, the deficits of poorer countries (as well as surpluses of richer countries) form as a result of the free flow of capital, a reduction in national savings and an influx of foreign investment. In the light of the theory of competitiveness a real appreciation in the rate lowers the competitiveness of economies. After 2008 the average current account of EU28 was the result of two tendencies [Kuziemska 2010, s. 102]. Firstly, countries with a large deficit at the beginning of the crisis experienced a drop in private sector demand (in PIIGS countries it was the result of implementing restrictive economic policy measures) and a slightly less drastic drop in exports. There were also changes to the internal demand structure, in particular imported products were substituted by local ones. This resulted in a decrease in the deficit of current accounts. Secondly, in countries characterised by a current account surplus, private demand proved more resilient to perturbations, but a decrease in current account balance was influenced by growing public deficit and a drop in world trade (because of a greater openness among economies). The result was a decrease (but not the elimination) of current account surplus.

Chapter 3. Macroeconomic indicators in Poland and their determinants

Poland is the largest new member state in the European Union. According to figures published at the end of 2015, it was in sixth place in the expanded Union (EU-28) in area, population and GDP (7.1 percent, 7.5 percent and 2.9 percent respectively) and

[5] Eurostat data, http://ec.europa.eu/eurostat (accessed: 11.03.2017).

24th for GDP *per capita* (according to PPS)[6]. Poland's share in the economic potential of EU28 was therefore lower than it would seem from its geographic and demographic attributes (a similar disproportion concerns all the Central and Eastern European countries), although our country's position has improved significantly since entering the European Union. The main macroeconomic indicators for Poland are illustrated in Table 2.

Table 2. Basic macroeconomic indicators for Poland in the years 2006-2015 (%)

Indicator	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
GDP[a] growth rate	6,2	7,0	4,2	2,8	3,6	5,0	1,6	1,4	3,3	3,9
Unemployment	13,9	9,6	7,1	8,1	9,7	9,7	10,1	10,3	9,0	7,5
Inflation	1,3	2,6	4,2	4,0	2,6	3,9	3,7	0,8	0,1	-0,7
Public finance balance/GDP	-3,6	-1,9	-3,6	-7,3	-7,3	-4,8	-3,7	-4,1	-3,4	-2,6
Current account balance/GDP	-4,0	-6,3	-6,7	-4,0	-5,4	-5,2	-3,7	-1,3	-2,1	-0,6

[a] real GDP.

Source: Eurostat data, http://ec.europa.eu/eurostat (accessed: 11.03.2017).

Between 2006 and 2008 the Polish economy was developing relatively quickly – GDP growth stood at 4.2-7.0 percent. As a result of the world-wide economic financial crisis, the pace of growth dropped to 2.8 percent in 2009, however, Poland was the only EU country not to experience a recession. According to experts, the Polish development model relied on the private sector and resulted mainly from productivity gains, dynamic exports development, strong internal demand, influx of Union funding, foreign direct investment, positive demographics and a stable banking system[7]. It has also been emphasised that during the economic crisis the main growth stimulator was foreign demand – because of the strong depreciation of the zloty the Polish economy became more competitive on foreign markets, which is why in 2013 the current account balance was close to a state of equilibrium.

The level of unemployment in Poland until 2015 was regularly at a higher level than the EU-28 average, however, in the last few years under analysis these differences were diminished. Polish unemployment is characterised by strong variations by region. Other

[6] Eurostat data and own calculations based on Eurostat data, http://ec.europa.eu/eurostat (accessed: 11.03.2017).

[7] W. Bogdan, D. Boniecki, E. Labaye, T. Marciniak, M. Nowacki, *Poland 2025 – Europe's new growth engine*, McKinsey&Company, http://mckinsey.pl/wp-content/uploads/2015/10/Poland-2025_full_report.pdf (accessed: 11.03.2017), p. 12.

significant factors in the level of unemployment are variations due to gender and age. Unemployment is Poland depends not so much on the economic situation as it does on structure, so it results from a lack of adjustment to the level and structure of manpower resources to the real needs of the economy, which condemns some to professional idleness or the need to requalify, restructure or the liquidation of unprofitable branches of production [Głąbicka 2001, p. 91]. According to research carried out thus far it appears that the level of unemployment in Poland is shaped mainly by variations in demand and, to a lesser degree, factors such as the inflexibility of the labour market or the demotivating role of social benefits [Polakowski, Szelewa 2013, p. 7; Bartosik 2012, p. 25-57]. Consistently, the greatest challenges in the labour market are the high level of unemployment among the youth and the labour participation rate [*Commission Staff Working Document* 2015, p. 3-4].

The Maastricht criterion on price stability was already fulfilled by Poland in 2005-2007. In 2006 Poland (with an inflation rate of 1.3 percent) found herself in the group of countries with the most stable prices. In 2009 the rate of inflation fell by 0.2 percentage points compared with 2008. In the years 2008-2009 and 2011-2012 the inflation rate in Poland was close to the optimal level, that is, it allowed for sustainable development (that is, as estimated by P. Baranowski [2008, p. 109] a level of 3.5-5 percent for EU-15). The rapid drop of the HICP indicator between 2013 and 2015 (in 2015 for the first time since 1971 Poland recorded a negative inflation rate of -0.7 percent) should rather be associated with external factors: a moderate economic situation and a negative demand gap experienced by Poland's main trading partners (a drop in import prices partially limited by the constantly low PLN) and a decrease in the price of food and fuels [*Raport o inflacji* 2015, p. 17].

In the years 2006-2007, because of disciplined budget spending and better than expected economic indicators, it was possible to significantly limit the budget deficit as a ratio of the GDP [Konstanciak 2011, p. 58] (improvements in this area were been recorded since 2003). However, between 2008 and 2010 the deficit grew steadily (reaching a level of -7.3 percent in 2009-2010) which was the general tendency across Europe. In July 2009 the Council of the European Union placed Poland under the excessive deficit procedure, obligating Poland to reduce the negative balance of the public sector finances to 3 percent of the GDP by 2012. In 2010 Poland became one of the European countries with relatively the highest deficit (next to Great Britain and the PIIGS countries). A significant reason for the deterioration of the balance between

2008-2010 was the drop in budgetary income in relation to the GDP associated with the then current budgetary policy (lowering of certain taxes and benefits contributions), the pro-cyclicality of tax income in Poland (especially company taxes) and changes in the tax system which allowed companies to reduce their tax basis by losses incurred in previous years [*Finanse publiczne w Polsce w okresie kryzysu* 2012, p. 13-15]. In 2010 Poland belonged to a group of countries with the highest real and nominal GDP growth in the Union (with Slovakia, Luxembourg, Germany, Malta and Sweden) – therefore changes in the GDP favoured an improvement in the economic results of the national budget. However, this opportunity could not be capitalised upon mainly because of the inflexible nature of budget spending (its main part is made up of donations and subsidies [Lubieniecka 2013, p. 250]). According to D. Malinowski [2012, p. 80-85], the main reason for the increase in the negative balance of public finance in 2010 was the growth in nominal budgetary spending, although what transpires from the Finance Ministry report [*Finanse publiczne w Polsce w okresie kryzysu* 2012, p. 27], is that the growth was mainly due an increase in spending to finance Union projects, meanwhile its impact on the budget deficit was *de facto* neutral, because it was offset by equal amounts of income. The reason for increased spending and therefore a rise in the deficit during the economic crisis is given by S. Owsiak as the necessity to co-finance Union projects with national public funding[8], which is confirmed in the Ministry of Finance report. The drop in the ratio of government and local government sector deficit to the GDP from 2011 can be credited to the relative increase in income as well as a drop in budgetary spending. The income began to grow as a result of, among others, an increase in the VAT rate (from January 2011), favourable GDP conditions (a big increase in private consumption and public investments, a rise in the proportion of pension contributions to the Social Insurance Fund (FUS) (from May 2011), increases in excise duty, pro-cyclicity of company income tax, an increase in social security contributions (from 2012) [*Finanse publiczne w Polsce w okresie kryzysu* 2012, s. 23 i 29]. The drop in spending was mainly the result of fiscal consolidation and the introduction of numerous structural solutions (such as, the discipline and stability rule in public finance regulations, salary limits in national budgetary entities, a ban on regulations that

[8] Statement by S. Owsiak, Recording of panel discussion "The desired directions and scenarios for fixing public finance in Poland" [*Ekonomiczne i prawne uwarunkowania i bariery redukcji deficytu i długu publicznego* [Economic and legal conditions and barriers for the reduction of deficit and public debt] 2011, p. 27].

increased spending and fiscal rules for local authorities)[9]. On 19 June 2015 the ECOFIN Council decided to lift the excessive deficit procedure from Poland and at the end of 2015 the ratio of public finance to GDP settled at -2.6 percent.

Despite the steady real growth of the GDP and the significant depreciation of the zloty recorded since 2009, in the period under research Poland constantly recorded a current account deficit. It was mainly caused by deficits in trade and the current account (the result of involving non-residents in Poland), partially balanced by fund transfers from the EU [Sawicki 2014, p. 101; Kuziemska 2012, p. 210] (the current account deficit itself was financed by the surplus in the capital account). The reduction of the deficit which started in 2013 (in 2015 the current account deficit stood at -0.6 percent of the GDP) was mainly associated with a positive trade balance caused by the economic recovery in Western Europe. According to the *catching-up theory* a negative current account balance is typical for countries that are *catching-up*.

Chapter 4. Measures of macroeconomic stability – Poland against the backdrop of EU countries

Based on the values of macroeconomic indicators (GDP, U, CPI, G, CA), partial measurements PSM1 and PSM2 were established as well as the synthetic measure PSM for EU28 countries, Western Europe (10 "old" and the most developed EU member states), Central and Eastern Europe (countries that joined the EU in 2004, 2007 and 2013 except Cyprus and Malta), Southern Europe (PIIGS countries, Malta and Cyprus) and Poland between 2006 and 2015. In the case of the abovementioned European regions these were average values calculated using measurements obtained for individual countries. Charts 2-6 illustrate the changes to the total area of triangles a, b, c, d, e which form the pentagon of economic stability for Poland and each region in the period under research (the lengths of the sides of the regional pentagons were the average length measured for the individual member states) with a CPI value limit of -2.0 percent, while Charts 2a-6a with a CPI value limit of +1.0 percent (scale with regression). Comparisons of the values of the averaged indicators with the indicators gathered for Poland are illustrated in Charts 7-9 and 7a-9a respectively.

[9] *Informacja o działaniach podjętych przez Polskę w celu realizacji rekomendacji Rady w ramach procedury nadmiernego deficytu* [Information about the actions taken by Poland to meet the Council recommendations regarding the excessive debt procedure], Warsaw, April 2014, http://www.mf.gov.pl/documents/764034/1002171/EDP+raport+2014.04.pdf (accessed: 11.03.2017), p. 9.

Charts 2 – 6. Macroeconomic stability pentagon divided into European regions between 2006-2015 – modified classic scale

Chart 2. EU28

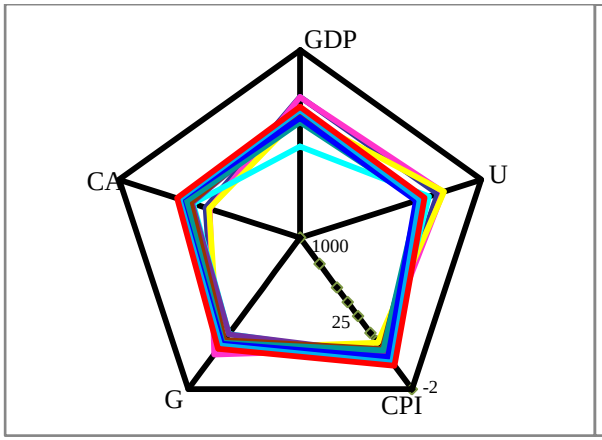


Chart 3. Western Europe

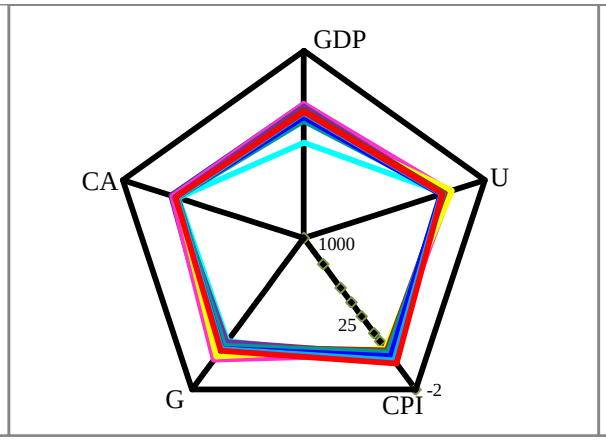


Chart 4. Central and Eastern Europe

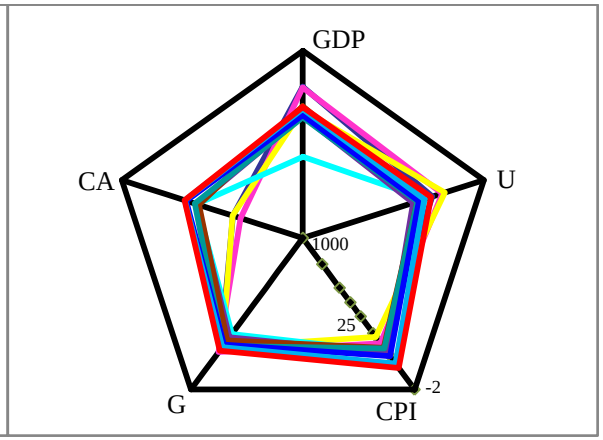


Chart 5. Southern Europe

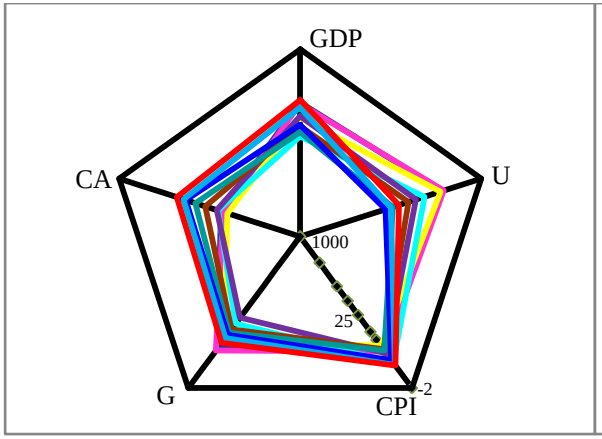
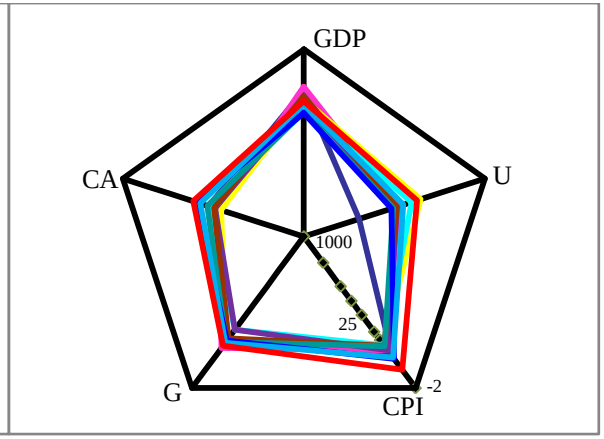


Chart 6. Poland



Source: Own calculations based on Eurostat data, http://ec.europa.eu/eurostat (accessed: 11.03.2017)**.**

Charts 2a – 6a. Macroeconomic stability pentagon divided into European regions between 2006-2015 –scale with regression

Chart 2a. EU28

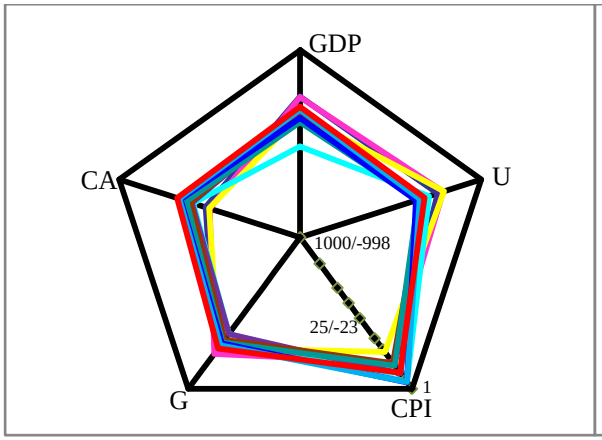


Chart 3a. Western Europe

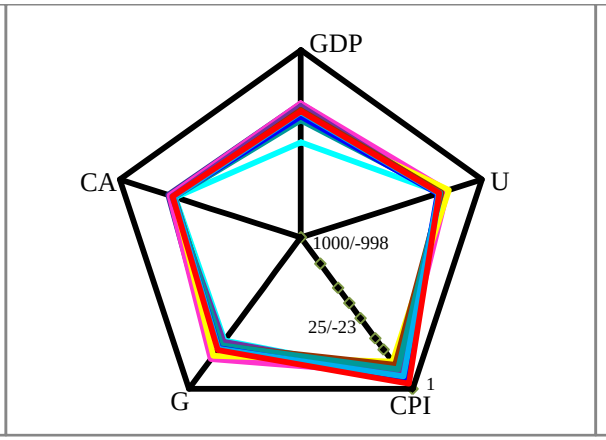


Chart 4a. Central and Eastern Europe

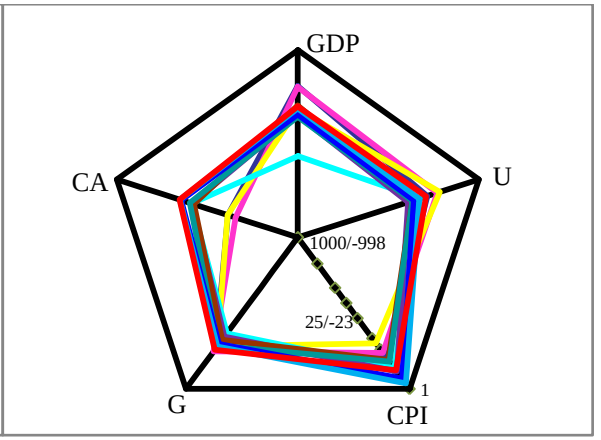


Chart 5a. Southern Europe

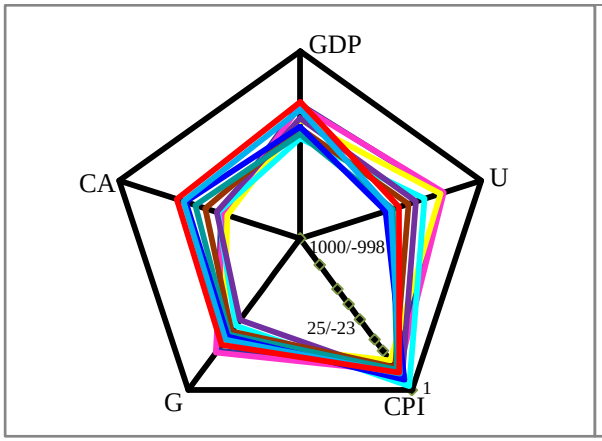
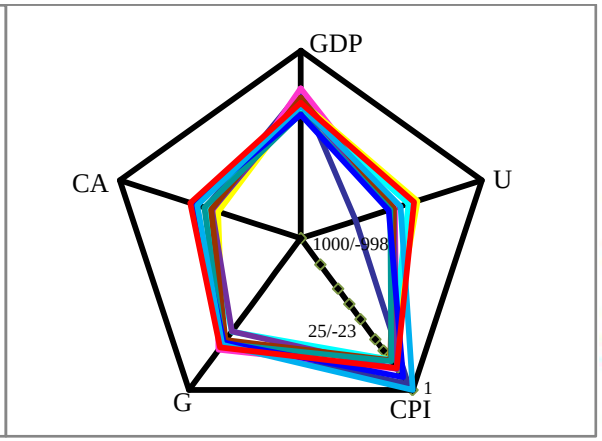
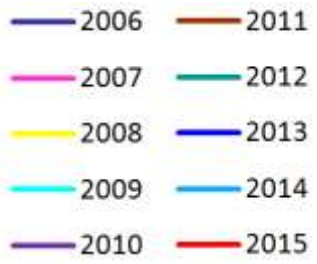


Chart 6a. Poland

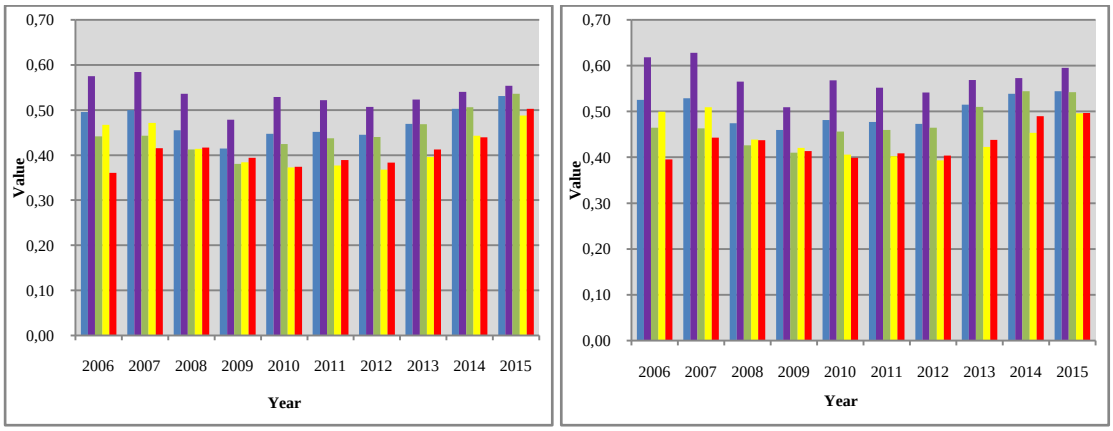




Source: Own calculations based on Eurostat data, http://ec.europa.eu/eurostat (accessed: 11.03.2017)**.**

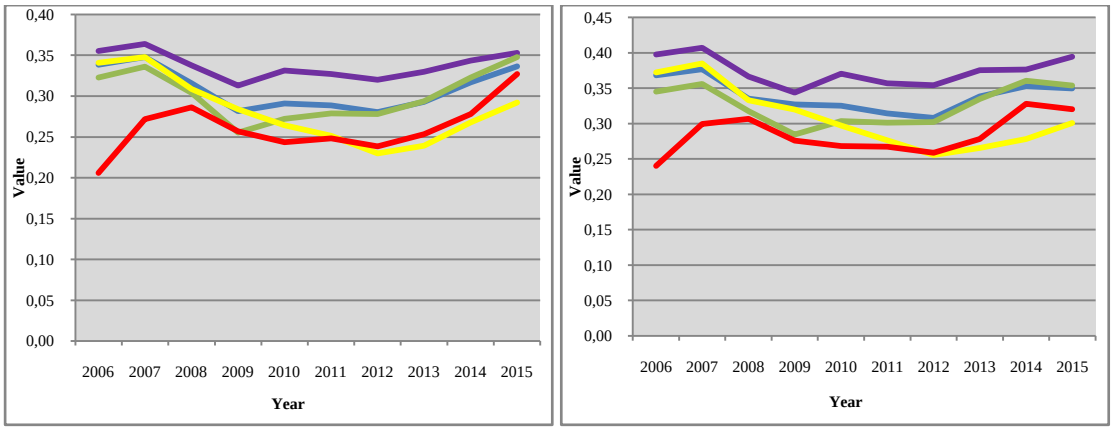
Charts 7 – 7a. Synthetic MSP indicators for Poland and specified European regions between 2006-2015

Chart 7. Modified classic scale **Chart 7a. Scale with regression**



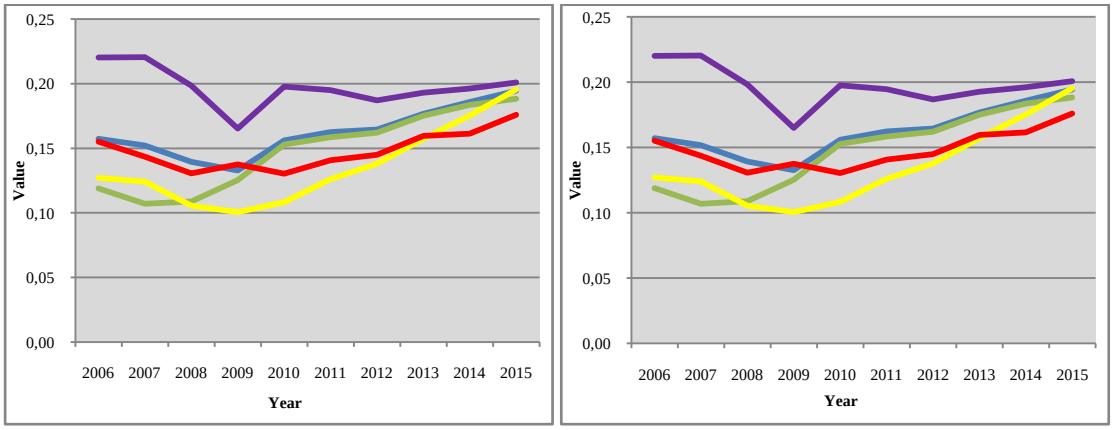
Charts 8 – 8a. MSP1 indicator for Poland and specified European regions between 2006-2015

Chart 8. Modified classic scale **Chart 8a. Scale with regression**



Charts 9 – 9a MSP2 indicator for Poland and specified European regions between 2006-2015

Chart 9. Modified classic scale **Chart 9a. Scale with regression**



EU28 - average value
Western Europe - average value
Southern Europe - average value
Central and Eastern Europe - average value
Poland - average value

Source: Own calculations based on Eurostat data, http://ec.europa.eu/eurostat (accessed: 11.03.2017).

Due to the small intensity of deflation processes in Europe, the conclusions flowing from an analysis based on the modified classic scale and the scale with regression are similar. Based on an analysis of Chart 7 and 7a it can be established that in the years 2008-2009 (that is during the last global financial crisis) the MSP indicator in all the examined EU regions decreased (in Poland and in the countries of Southern Europe the decreasing tendency persisted in 2010), whereas the period 2010-2011 is basically the beginning of an increasing tendency which lasts until the end of the research period (in Western Europe this tendency started in 2013), as well as an increase in the level of macroeconomic stability. In the period 2014-2015, in all the regions apart from Western Europe, the stability exceeded the levels observed before the crisis. Western European countries were, however, the most economically stable over the whole period under analysis (they had the highest values of PSM, PSM1 and PSM2 among all the reviewed groups; cf. Charts 8, 8a as well as 9 and 9a). After the crisis, Southern European countries were left with the lowest levels of the MSP indicator. The average level of macroeconomic stability of the Central and Eastern European countries was consistently close to the analogous average for EU28, and in the period 2014-2015 it exceeded it slightly. An analysis of the length of the sides of the pentagons drawn for the different groups of countries as well as Charts 2-6 points to a conclusion that the main negative factors influencing the synthetic MSP measurement were:

- For Western European countries – a drop in the rate of economic growth in the period 2008-2009,
- For Central and Eastern European countries – a drop in the rate of economic growth in 2009, the high unemployment rate in the period 2010-2013 and the deficit in the current account in the period 2006-2008,
- For Southern European countries – the slow rate of economic growth in the period 2008-2012, the high unemployment rate in the period 2009-2015 and the deficit in the current account in the period 2006-2011.

The shape of the pentagon for EU28 was the resultant of the abovementioned tendencies.

In the case of Poland, despite the clear increase in the MSP indicator in the period 2013-2015, its value over the whole period was basically below the average values for EU28, Western Europe and Central and Eastern Europe (in the case of the latter, the crisis years of 2008-2009 were an exception) and above the average recorded in Southern European countries (with the exception of the period 2006-2008 and 2014).

An analysis of the partial indicators MSP1 and MSP2 (Charts 8 and 8a as well as 9 and 9a) allows for more detailed conclusions regarding the potential direction of macroeconomic policy changes in Poland. The MSP1 indicator for our country over the whole period of analysis was lower than the average calculated for the countries of EU28, Western Europe and Central and Eastern Europe, and until and including 2011– also lower than the average for the countries of Southern Europe. From 2012 the indicator in Poland exceeded the levels observed in Southern Europe. Additionally, using the scale with regression indicates that in the years 2014 and 2015 our country experienced a noticeable increase and then a drop in the stability of the internal sphere (which is not reflected when using the modified classic scale). Until and including 2009 the MSP2 indicator in Poland was close to the average for EU28 and higher than the average for Central and Eastern European countries, and until and including 2013– higher than the average for Southern Europe. In the period 2014-2015 Poland had the lowest level of the MSP2 indicator from all the country groups under review. Based on the lengths of the pentagon sides drawn for Poland it can be concluded that factors which positively influenced the state of the internal sphere were the positive rate of economic growth and low inflation. A decidedly negative factor for the value of MSP1 was the high rate of unemployment, which over the entire period under analysis exceeded the EU28 average and partially nullified the positive effects of the GDP and CPI. For Poland, the relatively low MSP2 values were due the strongly negative (until 2012) ratio of the current account balance to the GDP which in the period 2009-2011 coincided with a high ratio of budget deficit to the GDP.

Conclusions

The analyses presented here allow for the conclusion that in the recent years EU28 countries have returned to the level of macroeconomic equilibrium from before the crisis in the period 2008-2009. In the majority of the countries, including Poland, this level was even exceeded in the period 2014-2015. The exception was the Western European countries, although this group had the highest MSP values over the whole period under research. Although the MSP indicator rose in Poland from 2013 and was higher than the levels observed in Southern European countries, until 2015 its level was still lower than not only EU28, but also the average levels set for the Central and Eastern European countries. This state of affairs was mainly brought about by the high level of unemployment, which despite its tendency to decrease was consistently above

the Union average. Until 2012, the level of macroeconomic stability in our country was negatively influenced by a relatively high current account deficit, and in the period 2009-2011 – a high budget deficit (with the consequence of Poland being placed under the excessive deficit procedure). As much as a negative current account balance is characteristic of "catching-up countries" and has recently been significantly reduced, the level of unemployment in Poland is mainly shaped by demand and it is therefore expected that this problem will continue to present a challenge to meeting future economic policy goals.

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