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The Economic Development in the Context of the Development of Foreign Trade in Poland – a Comparison to some EU Countries

Abstract. The themes of the impact of foreign trade on economic growth has been repeatedly assumed by investigators and were most often related to various aspects: the openness of the economies, economic prosperity, competitiveness and diversification of export. The objective of the research was the evaluation of changes in economic development and the development of foreign trade in Poland comparing them with the EU and some EU countries. Particular attention was given to the issue of diversification and competitiveness of exports by putting the hypothesis that the greater product diversification of Polish export, the greater its competitiveness, which leads to economic growth. The work uses the following test methods: descriptive methods, statistical methods, the indexing methods of which Indicator of the Absolute Deviations and Revealed Comparative Advantages were calculated. Export diversification can lead to speeding up the pace of economic growth. By analyzing in detail the situations in Poland can conclude that it is advisable to diversify of the export structure.

Key words: economic growth, export diversification, export competitiveness, comparative advantage

JEL Classification: F14, F43, R11

Introduction

The main objective followed out in the process of management of the economies should be permanent, stable and sustainable development which allow to achievement of the highest possible standard of living for their inhabitants. To meet their needs, the authority is committed, inter alia, to creation of new jobs, new businesses, shapes the relationships between human activities and the environment. These and other activities aimed at creation of such conditions that ensure the competitiveness of the economy. Among the factors affecting the economic development, the large role was played by foreign trade and its size and structure often determines the level of life for many people. Foreign trade affects the size of the GDP and its structure, leading to specialisation, enables and facilitates technological progress, leads to benefits achieved thanks to competition. As stated Rymarczyk (2007) countries participating in the international exchange gain, while countries closed to foreign trade – they lose. Otherwise presentation of the issue was by Rynarzewski (2013), which stated that although the modern international trade is growing faster than world production, affecting the economic development of countries, the benefits of participation in the international division of labour, however, are significantly higher in developed countries than in developing countries. Stressed that countries less economically advanced, which specialize in the production and export of raw materials, are exposed to

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particularly high instability of export revenues and adversely affect over a long period on terms of trade. The same foreign trade of these countries in terms of petrification their economic structure may not just positively as in developed countries affect their economic development.

In the paper, only export flows were analyzed. Particular attention was given to the issue of diversification and competitiveness of exports by putting the hypothesis that the greater product diversification of Polish export, then the greater its competitiveness, which leads to economic growth.

The issue in the literature

The themes of the impact of foreign trade on economic growth has been repeatedly assumed by investigators and were most often related to various aspects: the openness of the economies, the multiplier effect, economic prosperity, competitiveness of export and their impact on economic development. Analyzing the impact of international trade on economic growth, the diversification of exported goods was taken into account. The concept of diversification (heterogeneity) of foreign trade plays an important role in the theory of international economics. It is assumed that it refers to the degree of variability in the structure of foreign trade in a given period of time. Stands out the products and geographical diversification of this trade. By far the greater attention in the literature is devoted to the differentiation of the product of foreign trade (Cadot, Carrere, Strauss-Kahn, 2013; Parteka, Tamberi, 2013). Both types of diversification positively affect economic growth (Kenji, Mengistu, 2009). Greater diversification in terms of the number of exported products contributes to the economic development, however, in the literature of the subject can be found, and different test results. "On the one hand, an increase in the diversification of exports and increase in GDP per capita record both developing economies with quite diverse export, such as China and Poland, and the economy with fairly uniform export, such as Malta does Kuwait. r This type of phenomenon occurs, for example, in the United Arab Emirates or Brunei. There are also countries with highly diversified export structure such as Germany or United States, in which the degree of diversification of exports is not change together with the increase of GDP per capita" (Parteka, 2015, p. 17).

One of measures of the degree of concentration, is a pointer Herfindahla-Hirschmanna (HH). UN studies indicated a trend towards greater consolidation of product structure of this export. Between 1995 and 2011 there has been an increase in the average value of that measurement from 0.0915 to 0.1342. In the period 1995-2009 the degree of concentration of exports in developing countries as measured by the index of the Herfindahl-Hirschmanna was above the degree of concentration of exports in developed countries during the overall period of time (UNDP 2011, p. 24–25). According to Herzer and Nowak-Lehmann (2006), export diversification can positively affect economic growth by reducing the dependence of exports from a limited number of goods. This argument is true, in particular, in the case of developing countries dependent on the export of primary products (raw materials and agricultural products), which in accordance with the hypothesis of Prebisch-Singer leads to deterioration of the pricing terms of trade. This means that the developing countries achieve the benefits of diversification of exports as opposed to developed countries, that achieve higher dynamics of national income through greater specialization (Hesse 2008). According to empirical research carried out by Rynarzewskiego for 76 developing countries and 20

economically developed countries for two decades, 1963 – 1972 and 1973 – 1982 the average concentration of goods export measured by Hirschmanna index was for the countries poorly advanced respectively 0.540 and 0.524, and for developed countries 0.182 and 0.168 (Rynarzewski, 1992a). Although studies differ in the scope of time, however, the conclusions for significant differences between the levels of concentration of exports in developing countries and developed countries are fully identical.

Redding (1999) and Young (1991) have an opinion that countries at some period of development may need to choose (trade-off) between the specialization according to the theory of relative costs and specialization in those sectors of the economy, in which countries do not have the relative advantage. This choice stems from the fact that, despite the lack of actual relative advantage in these sectors can be expected to gain a competitive advantage in the future as a result of increasing productivity of the factors of production.

Another aspect of this work is the competitiveness of exports. One of the most frequently quoted definition of competitiveness is the one formulated by Tyson, which specifies that it is the ability to produce goods and services that are able to meet the international competition, while the citizens of the country are a sustainable and rising standard of living (Tyson, 1992, p. 317). In the assessment of the competitiveness of the country used a variety of indicators. In the presented definition focuses on two elements: countries' export position and level of life of the inhabitants. Their measurement can be carried out using different gauges, which of course gives different results of research, on which point Białowąs (2012) by calculating the competitiveness EU countries using different gauges. After analysing based on indexes revealed comparative advantage, stated that, the most competitive in exports of high technology products are France, the Netherlands, Ireland, in medium, and high technology (Germany) and in the modern market services and, in particular, the financial, insurance, business, computing and telecommunications - United Kingdom, Ireland, Luxembourg, Finland, Netherlands, Sweden. Similar results presented Śledziewska (2015), which stated that the Member States of the EU are losing on their competitive position in the global export. Declining share of most of the "old" EU (especially France, Germany and the United Kingdom) and the New Member States (NMS) showed the largest increases in competitive position before the 2004 year. In the export structure and their changes taking place between EU 15 and NMS has been observed great diversity. You can even invade general statement, that the "old" EU mainly exports high-tech products and the "new" low-technology. And during the established period was a systematic increase in low-competitive high-tech products in the export of NMS, including Polish (Śledziewska, 2015 s. 97). Polish advantage invest primarily in food and other consumer goods.

To summing up we can say:

- The factor that allows to change the size and structure of national income is the trade flows and its diversification and competitiveness.
- Through the foreign exchange we can better adapt the national income to the needs of interior accumulation.

Export allows you to expand production scale and is an incentive to invest, product and process innovation as well as other actions conducive to improving their competitiveness. Export contributes to the economic development.

These two categories of economic are double dependency; Helpman i Krugman (1985) argue that growth in the economy implies the development of export.

Entry to the EU, which means the elimination of export restrictions, created emerging economies attracted for significant investment, improvement of the product competitiveness on the international stage, gives the impulse to the expansion of the export.

Growing from a few years in Poland and other Central and Eastern European countries export is seen as a factor encouraging economic development.

The methodology

The general thesis about the diversification of exports and its impact on economic development can prove unreliable, as was pointed out in the literature of the subject. You need to classify countries in such a way as to be able to indicate the path of development for individual economies. The aim of the work is therefore to estimate the level of diversification of the Polish export on the EU market and to show the relationship between export competitiveness and economic development. By comparing the results obtained with a deliberately, three selected EU countries and putting together with the results of other researchers have attempted to indicate pathways for Poland.

In the research, it was used statistical base of the World Trade Organization – WTO and EU – Eurostat. Economic development regarded as long-term transformation process engaged in the economy, includes both quantitative and qualitative changes. In work presented quantitative changes. GDP was selected as a measure of economic development and export – one of the streams of foreign trade.

Analysis of the Polish export was performed on world market in relation to the EU, and some EU countries. Was made a deliberate choice of one country of Central and Eastern Europe and two Western European countries. The intention was to compare Poland to diverse and similar economies - first, developed and developing economies, the second had a different structure as Germany, which is an industrial and export-based economy and France, which in addition, has a well-developed agricultural sector and Hungary, which are at a similar level of development and have a similar structure of production (a traditional sector of the economy is agriculture) and that can be a big competitor in this sector, as France. Besides, according to the World Bank, Hungary recorded the largest change of relationships export to GDP.

The time framework covered the years 2000-2016, although a detailed analysis covers the period 2000-2013. The work uses the following research methods: descriptive methods, statistical methods, the indexing method of which two indicators were calculated. The formulas were presented below.

Indicator of the absolute deviations of the national export from world exports, calculated according to the following formula:

$$S_{jt} = \frac{\sum|h_{ijt} - h_{it}|}{2} \tag{1}$$

where: h_{ijt} – share of branches i in total countries' export j in times t, h_{it} – share of branches i in total world export in times t.

Diversification indicator shows whether the export commodity structure of a given country or group of countries differs from the structure of the world. This indicator takes values from 0 to 1. The higher the ratio the greater the differences between the export

structure of commodity given country or group of countries and the structure of goods of world export.

The following index was Revealed Comparative Advantages – RCA, that points to the involvement of the shares of the product group in the total exports compared with the involvement of those shares in analising partner.

$$RCA = \frac{E_{ik}}{E_i} : \frac{E_k}{E} \tag{2}$$

where: E_{ik}- export of commodity group i from country k, E_k – total export from country k, E_i – world export of commodity group i, E – total world export.

The indicator above 1 attests to the competitive advantage of the test country relative to partners, while the indicator below unity indicates a lack of this advantage.

The results of the research

As a result, the studies conducted, it can be concluded that in the surveyed countries reported is a systematic increase in GDP per capita from 2000 year. This measure in 2013 year oscillated in Germany 32 000 euro, in France close to 28 000 euro, in Polish and Hungary close to 17500 euro (fig. 1). Of course, in the "old" EU countries (OMS) is a different level of economic development, emerging above the EU average, although it should be noted that in the years 2000-2013 observed a higher rate of growth in the New Member States (NMS). It was in these countries, almost twice the GDP growth, while for Germany was 1.4 times and for France 1.3 (table 1).

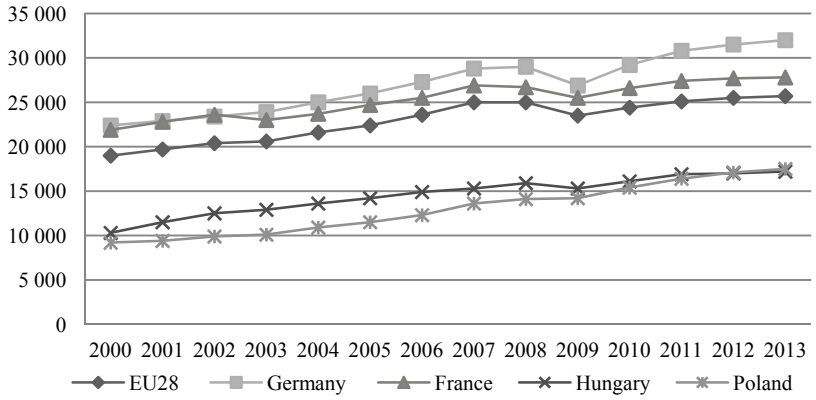

Fig. 1. GDP per capita (PPS) in UE and selective countries

Source: own elaboration based on Eurostat data.

It is worth noting that the pace of change in the countries was higher in 2004-2008 than 2000-2004; the exception was Hungary, where in the pre-accession period were the greatest rate of change. In the last five-year period observed was a decrease in the rate of growth in comparison with the previous period. During the 2013-2009, the fastest pace of development characterised by Poland, then Germany, Hungary and France.

Table 1. Changes of GDP per capita (PPS) in UE and selective countries in selective periods

	2013/2000	2004/2000	2008/2004	2013/2009
EU28	135,26	113,68	115,74	109,36
Germany	142,86	111,61	116,00	118,96
France	126,94	108,22	112,66	109,02
Hungary	166,99	132,04	116,91	112,42
Poland	190,22	118,48	129,36	123,24

Source: own elaboration based on Eurostat data.

Table 2 shows changes in the exports of the countries concerned in the same periods. From 2000-2013, the largest increases were observed for Polish, Hungary, Germany and France. Between 2008-2004 growth rate was higher than in the years 2004-2000 in all countries. In the last five years the largest export growth was in Poland, Hungary, Germany and France. The conclusions of the analysis of economic growth measured by GDP per capita and export growth are almost identical. Indicate that the changes of export affects the changes of GDP in different countries.

Table 2. Changes of export in UE and selective countries in selective periods

	2013-2000	2004-2000	2008-2004	2013-2009
EU28	172,00	113,97	133,53	138,32
Germany	182,12	122,43	134,42	135,50
France	123,32	102,47	115,28	125,69
Hungary	265,18	146,35	165,14	136,01
Poland	449,02	175,52	192,10	157,71

Source: own elaboration based on Eurostat data.

Further examined the competitiveness and diversification of the Polish export compared with individual countries. Poland against Germany and Hungary was more competitive on the world market in the case of goods: food and animal products and fuel and lubricants, did not have a competitive advantage in the case of manufactured goods, as the RCA rate fluctuated during the period in the limits of 0.91-0.95 (fig. 1 and 2).

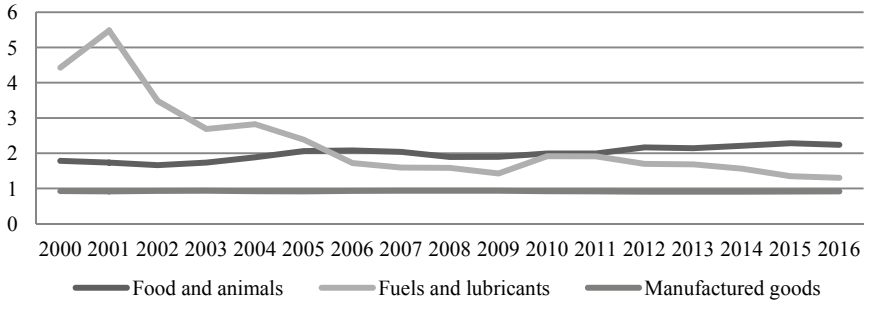

Fig. 2. Poland competitiveness in three commodity groups on the world market

Source: own elaboration based on Eurostat data.

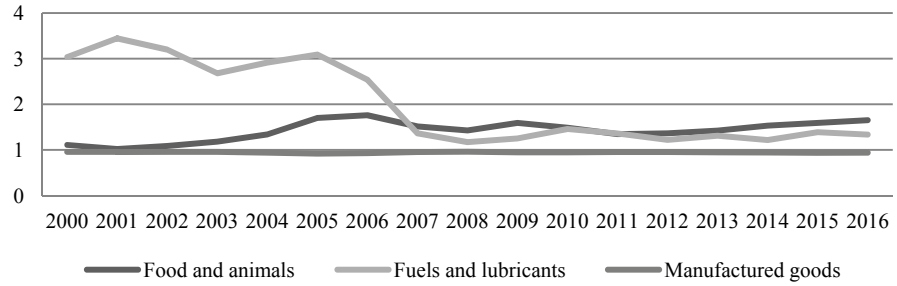

Fig. 3. Poland competitiveness in three commodity groups on the world market

Source: own elaboration based on Eurostat data.

In the case of comparison Polish export and French export you will notice that in recent years the RCA rate fluctuates within the limits of the unity. It means that relatively we have not any advantages nor competitive losses during the tested period. We ca observe strongly decreased in the fuel and lubricants group and slightly increased in the case of food and animals.

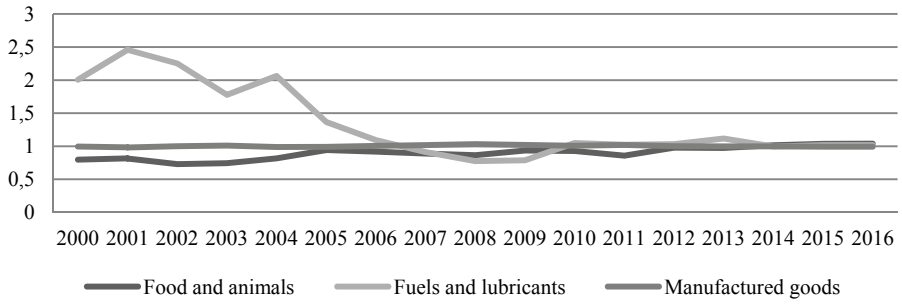

Fig. 4. Poland competitiveness in three commodity groups on the world market

Source: own elaboration based on Eurostat data.

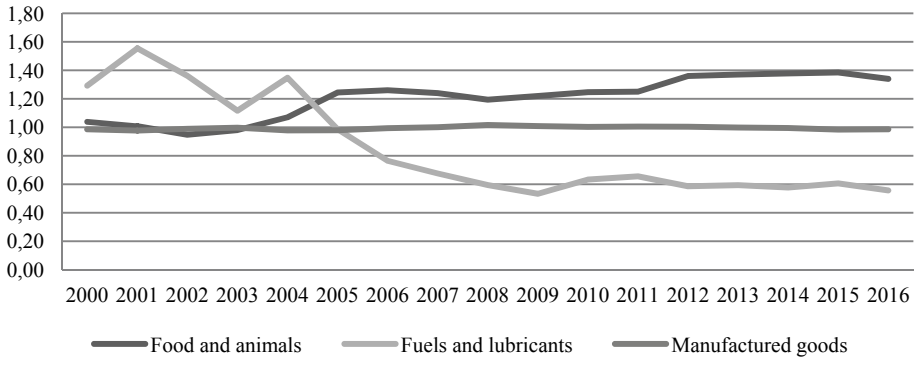

Fig. 5. Poland competitiveness in three commodity groups on the world market

Source: own elaboration based on Eurostat data.

Goods exported from Poland compared to goods exported from other EU countries to the world market have competitive advantage for food and animals, does not have this advantage for the product groups of fuel and lubricants and for manufactured goods the index of RCA was in the test period about 1.

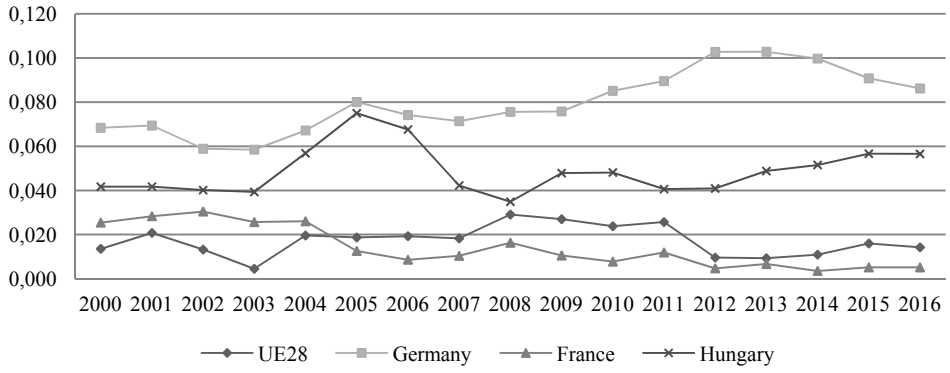

Fig. 6. Diversification of the Polish export versus EU and selected partners in 2000-2016

Source: own elaboration based on Eurostat data.

Polish export diversification indicator is presented in Figure 6. The most diverse is between Germany and Hungary export, where diversification indicators were 0.09 and 0.06, respectively. Much greater concentration of commodity structure of export is in the case of France and EU, where the rate fluctuated within the limits of 0.01 in the year 2016. It should be noted that this ratio during the period grew for Germany and Hungary and decreased for France and the EU. This leads to the conclusion that the more varied the export structure then the better indicators of competitiveness reached Poland.

Summary and conclusions

After analyzing the literature you can highlight the following groups of countries where GDP[2] growth

1. does not result from changes in the diversification of exports:
   a) the countries have high diversification index – the developed economies,
   b) the countries with a low index of diversification - economies exporting raw materials.
2. Results from the changes in the diversification of export structures:
   -countries with low and medium index of diversification - developing economies.

Poland is characterized by low diversification of exports. So belongs to the second group of countries, for which the path to development should be the product export diversification.

[2] Growth of GDP depends on many factors in the work only changes of the size and structure of export were under consideration.

Diversification of the Polish export was the biggest against Germany and Hungary. Relative to these countries Poland had a comparative advantage in export for a group of food and live animals, and fuels and lubricants. RCA for industrial goods was 0.91, 0.93 respectively. Poland against any country did not have a comparative advantage for industrial goods. So with the countries with a higher diversification of exports are higher comparative advantage. The hypothesis that the greater product diversification of Polish export, than the greater its competitiveness, which leads to economic growth was positively verified.

Export diversification can lead to speeding up the pace of economic growth in some countries. By analyzing in detail the situations in Poland can conclude that it should be the pursuit to diversify of the export structure.

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