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Analysis of the openness level and EU integration trends in the development of Polish economy

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Abstract. Active incorporation of a national economy into the world economic system is possible only if it is open. The purpose of this study is to analyze Poland's national economy openness level and, on this basis, to determine the main directions for foreign economic partnership development. The study used the authors' own methodology for analyzing the national economy openness. This methodology is based on studying the export-import of goods and services transactions dynamics at two levels: global and regional ones. The results of the analysis show that Poland is following the so-called information path of development. The dynamics of changes in Poland's export-import transactions' balance with the EU member states separately for services and goods, as well as the countries' ranking according to the foreign economic partnership development degree made it possible to identify the countries that are Poland's most important trade partners in services and goods sectors of the European market. As a supplement to this analysis, the study proposes a methodology for grouping countries according to the size and profitability of foreign trade

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turnover. This methodology allows building a matrix for selecting a foreign trade partner country for Polish entrepreneurs.

Keywords: national economy, economy openness, European market, export-import, Poland.

JEL Classification: F23, F63, O19, O52

1. INTRODUCTION

It is well known that fluctuations in oil prices (also known as oil price shocks) have always had strong The modern world realias testify to the expansion and strengthening of international interrelations in all spheres of human activity. The information technologies' development (and, above all, communication technologies) causes the growing dependence of each national economy on global economic processes. On the other hand, active incorporation of a national economy into the world economic system would be possible only if it is open.

The model of open economy is based on close relationships' formation with the world markets of goods and services. Openness of an economy implies, above all, freedom of foreign trade transactions and high share of export-import transactions in the country's GDP structure. The very idea of open economy is aimed at stimulating national economy's development on the basis of taking advantage from international trade and economic activity. Implementation of this idea requires various forms of entrepreneurial performance activation, oriented on foreign markets.

In addition to export-import operations, openness of a national economy is manifested through the movement of capital (outflow and inflow of investments into the national economy) and in the movement of national currency. All the selected elements (export-import transactions, capital flows and currencies) characterize the national economy development level, the degree of its openness and simultaneously determine its position and the possibility for future domination in the global economic space.

The main assumption of the current research is as follows: in the open economy model there is close relationship between economic equilibrium and the directions of country's internal development.

The purpose of this study is to analyze Poland's national economy openness level and, on this basis, determine the main directions for foreign economic partnership development.

In order to achieve the set goals the following steps have been taken:

1) the authors suggested their own scientific and methodical approach to the national economy openness analysis. The author's methodology for analyzing national economy openness is used here, based on studying the export-import goods & services' transactions' dynamics at two levels: global and regional ones. The two-level character of the proposed methodology is preconditioned by the realities of today's world economic processes: the widespread expansion of economic globalization processes, on the one hand, and the regionalization processes' deepening (regional integration and associations' formation), on the other;
2) based on the introduced methodological approach, analysis of Polish economy openness level has been conducted. The first step includes analysing Poland's gross export and import volumes between 2010 and 2015. Secondly, detailed analysis of foreign economic partnerships between Poland and other EU members has been conducted. As a result, the matrix of choice of a foreign trade partner state at the EU market has been developed. It is also applicable for practical use by international entrepreneurial structures.

3) as a result of this research it has been concluded that Poland's economy has high level of openness and this is the key factor supporting sustainable growth of its national social and economic systems.

The following methods have been used in this study: descriptive statistics method for identifying trends in trade operations of Poland; the method of statistical data grouping in order to classify the EU member states by the level of international economic partnership development.

In order to conduct the analysis of Polish economy openness data from the Central Statistical Office of Poland (Poland Macroeconomic Indicators and Knowledge Database Foreign Trade) have been used.

2. SCIENTIFIC AND METHODICAL APPROACH TO THE NATIONAL ECONOMY OPENNESS ANALYSIS

The analyses of the economy openness level and the identification of the impact of this factor on the national economy development have been considered in the works of prominent economists from all over the world. Thus, the American economist of Hungarian origin, Bela Balassa, in his work *Types of Economic Integration* (Balassa, 1976) suggested using the share of imports in the country's GDP as an indicator characterizing the country's participation in foreign economic operations. This indicator in modern scientific literature is usually called an "Import Quota". Import Quota is complemented by two other indicators: "Export Quota" which is the export share in the country's GDP (Gross Domestic Product), and "Foreign Trade Quota" that is the amount of export-import transactions (Foreign Trade Turnover, FTT) to the amount of the country's GDP in %.

Import Quota, MQ, %:

$$\boldsymbol{MQ = \frac{M}{GDP}100\ (\%)} \quad (1)$$

Export Quota, XQ, %:

$$\boldsymbol{XQ = \frac{X}{GDP}100\ (\%)} \quad (2)$$

Foreign Trade Quota, FTQ, %:

$$\boldsymbol{FTQ = \frac{FTT}{GDP}100\ (\%)} \quad (3)$$

Where M – Import, X – Export, FTT – Foreign Trade Turnover.

In order to implement more profound analysis of the economy openness, the "Share Of Imports In The National Consumption" (SINC) is calculated:

$$\boldsymbol{SINC = \frac{M}{GDP+M-X}100\ (\%)} \quad (4)$$

In total, these indicators are widely used in economic science and are the basic measures of the national economy openness level. The works of the following scientists are devoted to this area: Schiff M., Winters A. Regional Integration and Development (Schiff & Winters, 2003), Sharpatova Y.E. Classification of countries according to the degree of openness of the economy (Sharpatova, 2013), Gichiev N.S. The interconnection of the economic growth with the exogenic conditions of spatial development of foreign trade of the macroregion (Gichiev, 2016), Dutt S. D. and Ghosh D. The Export Growth-Economic Growth Nexus: A Causality Analysis (Dutt & Ghosh, 1996), Ghartey E. Causal relationship between Exports and Economic Growth : Some Empirical Evidence in Taiwan, Japan and the US (Ghartey, 1993), Sampathkumar T. , Rajeshkumar S. Causal relationship between Export and Economic Growth: Evidence from SAARC Countries (Sampathkumar & Rajeshkumar, 2016), Parikh A. Trade Liberalisation: Impact on Growth and Trade in Developing Countries (Parikh, 2007), Zestos G.K., Tao X. Causal relations in the United States and Canada (Zestos & Tao, 2002), Safdari Mehdi, Zaroki, Shahryar The Study Examining the Effect of Export Erowth on Economic Growth in Iran (Mehdi et al., 2012), Dar A.B., Bhanja N., Samantaraya A. Export Led Growth or Growth Led Export Hypothesis in India: Evidence based on Time-Frequency Approach (Dar et al., 2013), Obolenskii V. The openness of national economies: The world and Russia (Obolenskii, 2017), Sehrawat, M. and Giri, A. K. Financial Structure, Interest Rate, Trade Openness and Growth: Time Series Analysis of IndianEconomy (Sehrawat & Giri, 2017), Lundgren, A. and Westlund, H. The openness buzz in the knowledge economy: Towards taxonomy (Lundgren &Westlund, 2017).

The results of research conducted by scientists can be summarized as follows: exports have a significant impact on the national economies growth rates; this influence is a reflection of the value added growth in export-oriented industries. However, there is a time lag between the increase in foreign economic operations and the inclusion of an economic growth multiplier. Moreover, scientists noted an inverse dependency: economic growth leads to an increase in exports. However, the influence of direct and back action is not the same and depends on the initial level of the national economy development.

At the same time, one can distinguish the following criteria for the national economy openness: the economy is considered open when the value of foreign trade turnover is at least 25% of the country's GDP. In the open economy, the share of exports to the country's GDP should exceed the import share. The increase in the export operations volume points out on the country growing involvement in the labor international division processes; it is an automatic indicator of national economy increasing competitiveness, which has a stimulating effect on its development.

The country's participation in the labor international division implies, along with export operations enhancement, an increase in the import volume. The import increase, although it is a national economy openness indicator, does not always have a positive effect on its development. This is due, first of all, to the fact that the influx of imported goods takes market niches from domestic producers. The import share growth in the national consumption volume has a double meaning: on the one hand, it indicates the domestic demand expansion, and thus the national economy growth rate acceleration; on the other hand, the increase in the national economy dependence degree on imports, and hence the low competitiveness of the domestic commodity producer. In this situation, economic growth cannot be long-term.

For more detailed analysis, the considered open economy coefficients ought to be used in combination with macroeconomic indicators characterizing the capital movement and the national currency circulation.

Below, the author's methodology for analyzing the national economy openness will be used, which is based on studying the export-import goods and services transactions dynamics at two levels: global and regional ones (Tab. 1).

Table 1

Methods for the national economy openness analysis

Indicators	Indicator characteristic	Characteristics of an indicator group
1	2	3
The first stage: a general analysis of the national economy openness level (global aspect)		
Import Quota, MQ, %: Export Quota, XQ, %	The economy is open if the export and import operations share in the country's GDP is ≥ 25%. The economy openness stimulates its development if the share of exports in the country's GDP is ≥ 35%.	Indicators calculated on the total amount of the country's export and import operations and characterize the national economy participation degree in world economic processes
Basic rates of exports and imports growth,% Chain growth rates in exports and imports,%	The indicators reflect the trends and dynamics of the country's foreign trade development. The increase in the growth rates of export and import operations shows the increase of national economy openness.	
The balance between the goods and services export-import volume by year and cumulative total, as money unit	The positive balance of export-import transactions is a condition for macroeconomic stability in the country and is the source of investment resources necessary for its development.	

1	2	3
The second stage: the regional aspect of the national economy openness analysis		
Number of member countries of the regional integration association with which the analyzed country has a negative or positive balance in the export-import goods / services transactions	Identification and selection of the most effective foreign economic partners among the member countries of the integration association in the goods and services sector. Definition of the cooperation vector (goods / services export or import).	Indicators calculated separately for services and for goods that characterize the degree and direction (information or commodity-raw materials) of the national economy integration into the economic system of the regional integration association
Dynamics of changes in the balance between the goods / services export-import volume in the analyzed country, as money unit		
The balance between goods / services import-export by the country (with a negative / positive indicator value), a cumulative total, - balance dynamics, as money unit; - percentage of the total amount at the end of the period,%		
The second stage: the regional aspect of the national economy openness analysis		
Number of member countries of the regional integration association with which the analyzed country has a negative or positive balance in the export-import goods / services transactions	Identification and selection of the most effective foreign economic partners among the member countries of the integration association in the goods and services sector. Definition of the cooperation vector (goods / services export or import).	Indicators calculated separately for services and for goods that characterize the degree and direction (information or commodity-raw materials) of the national economy integration into the economic system of the regional integration association
Dynamics of changes in the balance between the goods / services export-import volume in the analyzed country, as money unit		
The balance between goods / services import-export by the country (with a negative / positive indicator value), a cumulative total, - balance dynamics, as money unit; - percentage of the total amount at the end of the period,%		
Growth chain rates in export-import transactions turnover of goods / services by countries,%	Definition of the countries with which there is an intensification of the foreign trade relations and revealing the largest trading partners and on this basis country ranking and strategic partners allocation in the export or import of goods / services sector	
The share of the integration association member-country in the export-import turnover of the analyzed country in the goods / services sector during the growing period,%		
The development coefficient of foreign economic partnership		
Indicators of export-import transactions of the analyzed country with the integration association countries-members (data on goods / services for the entire period of the study on an accrual result): - export-import transactions turnover; - country share in total turnover; - export-import transactions balance; - turnover profitability.	The construction of matrix for a foreign trade partner selection in the service / goods sector	

Source: developed by the authors

The two-level nature of the proposed methodology is conditioned by the realities of modern world economic processes: the widespread expansion of economic activity globalization processes, on the one hand, and the regionalization processes deepening (regional integration associations' formation), on the other hand.

3. ANALYSIS OF THE POLISH ECONOMY OPENNESS LEVEL

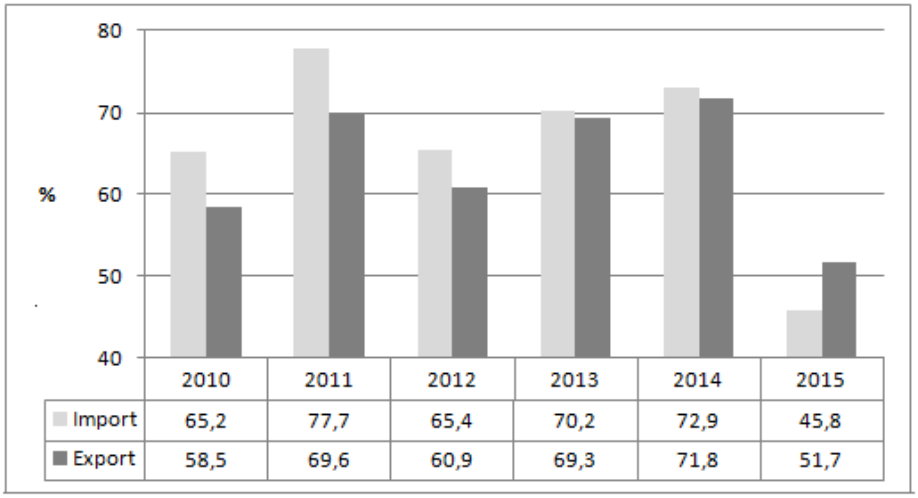
Based on the developed methodology, the Polish economy openness will be analyzed.

At the first stage, the general analysis of the Polish economy openness level will be conducted. Thus, the figures for the total amount of export and import operations in Poland have been calculated.

The basic indicators characterizing the national economy openness are the export and import quota. The results of calculating these indicators for Poland are shown in Fig. 1.

Analyzing the data in Figure 1, one can state that the Polish economy has a fairly high openness level. During the analyzed period, the average import quota was 66.2%. The greatest value of this indicator was observed in 2011 (the import share was about 77.7% of the country's GDP), the lowest was in 2015 (the import share was 45.8%). It should be noted that the reduction in the import quota in 2015 was largely due to political instability in the world and the European region, namely, the war in Ukraine and the imposition of economic sanctions against Russia.

The similar situation is observed in terms of export quota. The average export share to Poland's GDP for the analyzed period was 63.5%. The maximum value of the export quota was fixed in 2014 and comprised 71.8%; the minimum was in 2015 and amounted to 51.7%.



	2010	2011	2012	2013	2014	2015
Import	65,2	77,7	65,4	70,2	72,9	45,8
Export	58,5	69,6	60,9	69,3	71,8	51,7

Figure 1. Share of export and import operations in GDP of Poland, %

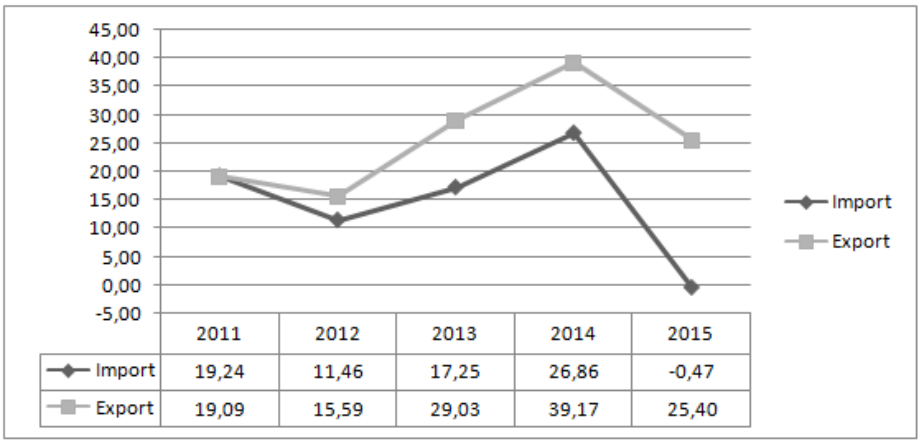
Source: calculated and compiled by the authors based on data provided by Central Statistical Office of Poland (Poland Macroeconomic Indicators and Knowledge Database Foreign Trade)

On the one hand, such high export values and import quotas testify to the high dependence of the Polish economy on external markets and the dynamics of their development (which causes high market risks). On the other hand, it is the high openness of the Polish economy that forms the prerequisites for economic growth and sustainable development of the national economy system. Due to exports, the national economy receives the money necessary for its development. In addition, export operations increase the profitability and efficiency of the national economy. Import opens access to new technologies, enters free market niches for lacking goods and services.

However, it ought to be noted that in the analyzed period (except for 2015) the import share in the country's GDP was higher than the export share. This situation is not very favorable for the national commodity producer development. Imported goods make up a high level of domestic competition. Another negative side of this phenomenon is the negative payment balance, which can lead to a monetary resources shortage in the economy, the national currency weakening and the inflationary processes development.

The next indicator that characterizes the national economy openness is the increase in the export and import volume. Figure 2 shows the basic growth rates in export and import of Poland, and in Figure 3 depicts the chain rates.

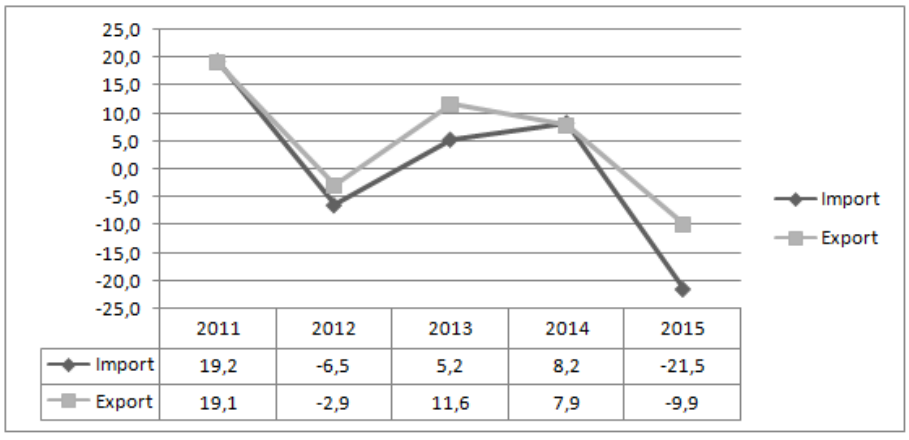
While studying the dynamics of Poland's export and import operations in relation to 2010 (Figure 2), the situation is as follows: the import and export volume increased in relation to the base year 2010 during 2011-2014; at the end of 2014, the growth in import was about 27%, and export was almost 40%. This situation indicates an increase in the Polish economy openness and is an indicator of the world economy growth and should have a positive impact on the national economy development. However, in 2015, there was a sharp decline in the import volume (it decreased by 0.47% compared to 2010) and export (the growth in 2015 to 2010 was 25.40%, and in 2014 it comprised 39.17). Thus, the trends of 2015 indicate a decrease in the foreign economic activity volume of Polish business entities.



	2011	2012	2013	2014	2015
Import	19,24	11,46	17,25	26,86	-0,47
Export	19,09	15,59	29,03	39,17	25,40

Figure 2. Growth rates of exports and imports in comparison to year 2010, %

Source: calculated and compiled by the authors based on data provided by Central Statistical Office of Poland (Poland Macroeconomic Indicators and Knowledge Database Foreign Trade)



	2011	2012	2013	2014	2015
Import	19,2	-6,5	5,2	8,2	-21,5
Export	19,1	-2,9	11,6	7,9	-9,9

Figure 3. Year by year exports and imports incremental rate,%

Source: calculated and compiled by the authors based on data provided by Central Statistical Office of Poland (Poland Macroeconomic Indicators and Knowledge Database Foreign Trade)

Analyzing the data presented in Figure 3, it can be stated that the growth in the volume of export-import operations depends to great extent on the goods and services world market conjuncture, on economic and political stability in the international arena. Therefore the maximum export and import operations growth rate was fixed in 2011 (19.2% and 19.1% for import and export, respectively).

An important indicator characterizing the efficiency of the open economy functioning is the balance between the export and import operations volume. This balance determines the presence or absence of financial resources necessary for the open socio-economic system sustainable development.

The results of the calculations show the following trends in the Polish economy (Figure 4).

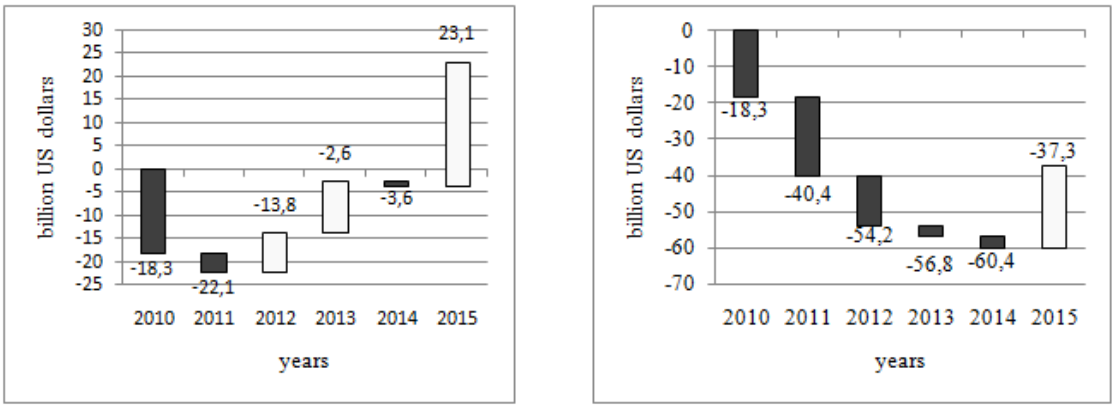


Figure 4a Figure 4b

Figure 4. Exports-import balance of goods and services
(Figure 4a - year by year, Figure 4b - cumulative total), billion US dollars

Source: calculated and compiled by the authors based on data provided by Central Statistical Office of Poland (Poland Macroeconomic Indicators and Knowledge Database Foreign Trade)

In the period under study, from 2010 to 2014, there was a negative balance between goods and services export and import. The peak of the gap between import and export falls on 2011 (the excess of import over export of goods and services was $22.1 billion). After 2011, the situation improved and the negative balance of export-import transactions declined to $2.6 billion in 2013 and $3.6 billion in 2014. In 2015, a positive balance of export-import transactions was recorded: export of goods and services in Poland exceeded import by $23.1 billion (Figure 4a). At first glance, this trend is positive and indicates the Polish commodity producer position strengthening in the international market. However, comparing with the previous calculations (Figures 1-3), it becomes clear that the positive balance of export-import transactions in 2015 was achieved not as a result of production volumes increasing and, accordingly, export of Polish products, but only due to a sharp decline of goods and services import (by 21.5% in 2015 compared with 2014). At the same time, a dramatic import drop occurred together with a significant (almost 10%) decline in goods and services export of the Polish commodity producer. Previous findings confirm the data shown in Figure 4b. So at the end of the analyzed period (that is, the end of 2015), the negative balance by the cumulative total for export-import transactions amounted to $ 37.3 billion.

Based on the results of the first stage of Polish export-import operations analysis, it can be claimed that the Polish economy is an open system of management, the prospects and quality of its development largely depend on the goods and services world markets conjuncture; while the structure of Poland's export-import operations (namely, the negative balance of export-import transactions) indicates a lack of financial resources for the national economy sustainable development.

At the second stage, for a more detailed analysis of the Polish economy openness, the dynamics of Poland's export and import operations with EU member states separately for goods and services has been examined. The concentration of research in the European Union is conditioned by Poland's membership in this regional integration association, and the division of all import-export transactions into goods and services will allow determining the qualitative directions for the Polish economy development.

The first step of the second stage of the analysis is the number of EU member states identification with which Poland has a negative and positive export-import transactions balance separately for goods and services. Figures 5 and 6 show the results of the calculations: in contrast to the total volume of export-import transactions, the number of countries with which Poland has a surplus in foreign trade operations exceeds the number of countries with a negative balance.

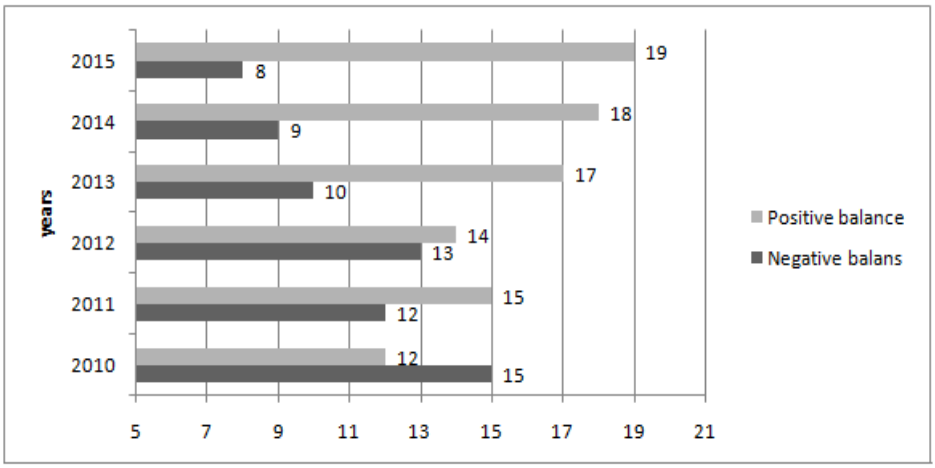


Figure 5. The number of EU countries where Poland has negative or positive export-import balance of transactions in services trade, units

Source: calculated and compiled by the authors based on data provided by Central Statistical Office of Poland (Poland Macroeconomic Indicators and Knowledge Database Foreign Trade)

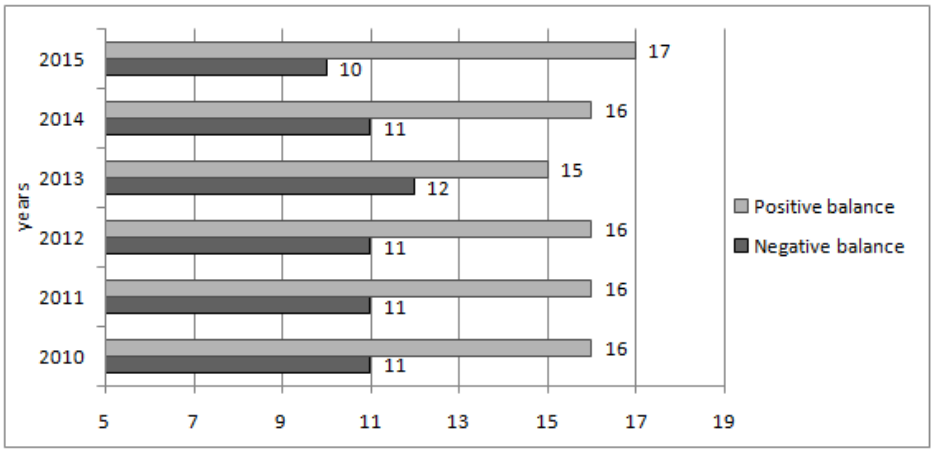


Figure 6. The number of EU countries where Poland has negative or positive export-import balance of transactions in goods trade, units

Source: calculated and compiled by the authors based on data provided by Central Statistical Office of Poland (Poland Macroeconomic Indicators and Knowledge Database Foreign Trade)

There are positive trends in services during the analyzed period (2010-2015). In 2010, Poland had a negative balance of export-import operations with 15 countries, and a positive one with 12 countries. In 2011, the situation changed alternatively (with 15 countries there was a surplus, and with 12 ones there was a negative trend). At the end of 2015, Poland already had a surplus in services with 19 countries and negative with 12 countries (Figure 5).

There was a different tendency with goods sector. The number of countries with which Poland had a positive balance of export-import transactions on goods throughout the analyzed period exceeded the number of countries with a negative balance. There was certain stability: 16 countries with which there was surplus and 11 countries with which the negative balance was observed in 2010-2012 and 2014; in 2013 the ratio was 15 to 12 and 2015 the data was 17 to 10 (Figure 6).

Analyzing the data in Fig. 5 and 6, it can be also noted that during the period under study, the export of services from Poland to other EU member states was intensified. That testified to the so-called information direction of the Polish economy development.

The balance of Poland's export-import operations with EU member countries, both in terms of services and goods, had positive dynamics (except for goods in 2011) and an upward trend (Figure 7). That situation testified to the intensification of foreign economic activity of Polish business entities.

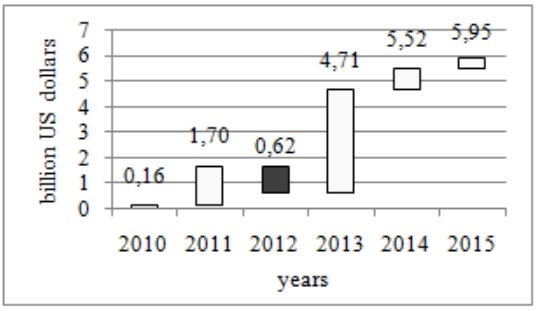


Figure 7a

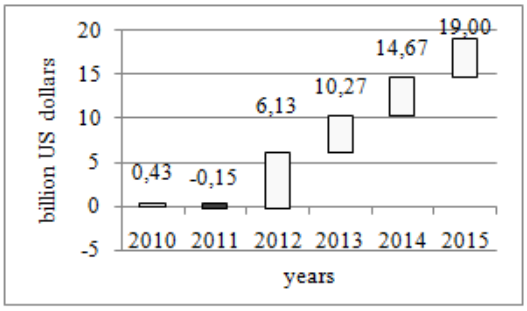


Figure 7 b

Figure 7. Dynamics of the export-import balance between Poland and the EU member countries (Figure 7a - balance of services, Figure 7b - balance of goods), billion US dollars

Source: calculated and compiled by the authors based on data provided by Central Statistical Office of Poland (Poland Macroeconomic Indicators and Knowledge Database Foreign Trade)

Further, the export-import transactions balance in Poland is to be examined in more detail, separately by country. Table 2 shows countries with which Poland has a negative balance of exports and imports of services. The data in Table 2 is ranked by 2015. The largest negative balance between exports and imports of services fell on Italy (3.28 billion US dollars), Croatia, Spain and Cyprus, about $ 1.3 billion. The amount of the negative balance for these four countries was almost 68.5% of the total balance at the end of 2015, the remaining countries accounted for 31.5% respectively.

Table 2

The EU member countries where Poland has negative export-import balance of services, cumulative total

A country	The balance between export and import of services, billion US dollars						Percentage of the total amount at the end of the period,%	Percentage of the total amount accrual,%	
	2010	2011	2012	2013	2014	2015		Down up	Top down
1	2	3	4	5	6	7	8	9	10
Italy	-0,81	-1,27	-1,77	-2,29	-2,72	-3,28	31,22	31,22	100,00
Croatia	-0,15	-0,39	-0,56	-0,76	-1,10	-1,37	13,01	44,23	68,78
Spain	-0,34	-0,55	-0,71	-0,90	-1,12	-1,29	12,28	56,51	55,77
Cyprus	-0,19	-0,43	-0,61	-0,86	-1,05	-1,26	12,03	68,54	43,49
Austria	-0,08	-0,07	-0,86	-0,95	-1,06	-1,04	9,94	78,48	31,46
Greece	-0,27	-0,47	-0,56	-0,68	-1,02	-0,95	9,09	87,57	21,52
Czech Republic	-0,13	-0,13	-0,06	0,00	-0,24	-0,46	4,40	91,97	12,43
France	-0,23	-0,18	-0,37	-0,49	-0,42	-0,40	3,84	95,82	8,03
Bulgaria	-0,02	-0,03	-0,07	-0,16	-0,23	-0,27	2,60	98,42	4,18
Portugal	-0,01	0,00	0,03	0,03	-0,03	-0,06	0,62	99,04	1,58
Great Britain	-0,08	-0,27	-0,62	-0,58	-0,33	-0,06	0,58	99,62	0,96
Malta	-0,01	-0,06	-0,07	-0,07	-0,04	-0,04	0,38	100,00	0,38
Total amount	-2,32	-3,87	-6,23	-7,71	-9,34	-10,49			
Average value	-0,19	-0,32	-0,52	-0,64	-0,78	-0,87			

Source: calculated and compiled by the authors based on data provided by Central Statistical Office of Poland (Poland Macroeconomic Indicators and Knowledge Database Foreign Trade)

Similar calculations are presented in Table 3 for countries with which Poland has a positive balance between export and import of services. The largest amount fell to Germany as $16.43 billion (or 56.4% of the total) and the Netherlands - $ 3.94 billion (or 13.6% of the total). Thus, at the end of the analyzed period 70% of the total balance fell on these two countries.

The analysis presented in Tables 2 and 3 allows identifying the most effective trade partners of Poland in the service sector at the European market. Based on this information, business entities can develop their strategies for entering the international market and adjust existing positions.

Table 3

The EU member countries where Poland has positive export-import balance of services, cumulative total

A country	The balance between export and import of services, billion US dollars						Percentage of the total amount at the end of the period,%	Percentage of the total amount accrual,%	
	2010	2011	2012	2013	2014	2015		Down up	Top down
Slovakia	-0,01	-0,11	-0,12	-0,04	0,00	0,01	0,05	0,05	100,00
Slovenia	0,04	0,05	0,06	0,08	0,12	0,14	0,48	0,52	99,95
Estonia	0,02	0,03	0,06	0,08	0,14	0,16	0,56	1,08	99,48
Romania	0,05	0,04	0,07	0,11	0,17	0,22	0,75	1,83	98,92
Latvia	0,01	0,02	0,02	0,08	0,20	0,29	0,99	2,81	98,17
Luxembourg	-0,03	-0,03	-0,04	-0,08	0,01	0,38	1,29	4,10	97,19
Hungary	0,06	0,13	0,09	0,19	0,30	0,43	1,49	5,59	95,90
Ireland	0,08	0,17	0,18	0,40	0,45	0,58	2,00	7,59	94,41
Denmark	-0,08	-0,14	-0,11	0,13	0,46	0,80	2,73	10,32	92,41
Lithuania	0,16	0,28	0,42	0,57	0,72	0,88	3,01	13,33	89,68
Belgium	0,05	0,18	0,22	0,42	0,80	1,19	4,08	17,41	86,67
Finland	0,09	0,26	0,48	0,73	1,08	1,49	5,10	22,51	82,59

Sweden	0,13	0,36	0,57	1,03	1,63	2,22	7,60	30,11	77,49
Netherlands	0,23	0,91	1,25	2,13	3,04	3,94	13,53	43,64	69,89
Germany	1,67	3,58	5,55	9,07	12,93	16,43	56,36	100,00	56,36
Total amount	2,48	5,73	8,71	14,91	22,05	29,15			
Average value	0,17	0,38	0,58	0,99	1,47	1,94			

Source: calculated and compiled by the authors based on data provided by Central Statistical Office of Poland (Poland Macroeconomic Indicators and Knowledge Database Foreign Trade)

As an additional data presented in the previous tables, it is necessary to analyze the chain growth rate in Poland's export-import transactions turnover with EU member countries in the service sector, as well as the EU member state share in the total turnover of Poland's export-import operations in services. According to the aggregated data, it is expedient to rank the EU member states and identify the most important partners of Poland in the service sector (Table 4).

Table 4

Indicators of Poland-EU economic partnership within services provision sphere

A country	**Chain rates of growth in turnover on export-import transactions in services,%**						**The share of the country in the export-import turnover of Poland with the EU countries in the service sector in 2010-2015,%**	**Country ranking 2010-2015**
	2011	**2012**	**2013**	**2014**	**2015**	**Avera-ge value**		
Denmark	8,34	3,37	9,08	8,01	-10,10	3,74	31,90	119,25
Great Britain	6,76	1,91	17,00	8,55	1,31	7,11	9,58	68,06
Netherlands	20,88	0,69	12,14	2,44	-9,07	5,42	7,72	41,83
Sweden	23,26	10,80	0,81	25,57	-3,76	11,34	3,33	37,78
Ireland	26,85	-1,63	21,72	16,37	-4,00	11,86	3,16	37,47
France	9,58	-0,24	24,46	-0,93	-10,58	4,46	7,05	31,43
Luxembourg	43,27	2,96	18,49	27,51	10,55	20,55	1,53	31,41
Denmark	24,63	-5,74	20,44	14,69	-1,43	10,51	2,89	30,41
Finland	14,91	0,79	25,13	2,74	1,08	8,93	1,50	13,36
Austria	22,42	-32,79	35,92	2,80	-10,94	3,48	3,63	12,63
Czech Republic	14,53	-8,67	7,59	8,59	-13,02	1,80	6,24	11,26
Hungary	13,98	17,38	24,91	-12,13	-7,50	7,33	1,39	10,17
Belgium	9,21	8,37	5,62	1,50	-11,46	2,65	3,68	9,74
Croatia	45,57	-25,72	21,04	53,24	-9,08	17,01	0,57	9,74
Spain	10,63	-13,92	15,24	12,28	-2,43	4,36	2,12	9,25
Romania	10,14	-0,01	42,64	0,83	-4,17	9,89	0,64	6,35
Italy	-14,49	3,59	16,98	8,41	-7,41	1,41	4,20	5,95
Latvia	39,82	19,06	-0,70	16,64	-16,14	11,73	0,49	5,70
Cyprus	16,94	-0,78	31,76	-1,83	-22,74	4,67	1,15	5,36
Lithuania	10,37	-4,64	34,51	-6,85	-17,83	3,11	1,60	4,99
Estonia	29,39	21,45	3,91	43,72	-12,85	17,12	0,27	4,64
Portugal	6,27	-17,06	21,47	42,56	-2,16	10,21	0,35	3,56
Malta	34,66	-22,83	-2,88	66,61	-11,50	12,81	0,27	3,49
Bulgaria	8,43	-14,82	30,28	-4,12	1,82	4,32	0,54	2,35
Slovenia	18,45	19,31	7,07	-12,17	-7,80	4,97	0,25	1,26
Greece	-11,67	-29,64	32,47	60,51	-86,35	-6,94	0,55	-3,85
Slovakia	13,95	2,31	-6,05	-11,24	-6,10	-1,43	3,39	-4,83
Average value	16,93	-2,46	17,45	13,86	-10,14	7,13	-	-

Source: calculated and compiled by the authors based on data provided by Central Statistical Office of Poland (Poland Macroeconomic Indicators and Knowledge Database Foreign Trade)

Analysis of the data presented in Table 4 allows drawing the following conclusions.

The highest growth rates for Poland's export-import operations in the services sector were observed in 2011 and 2013 (16.93 and 17.45% respectively). In 2015, there was a significant reduction in Poland's foreign trade in services with virtually all EU member countries, the average rate of growth in turnover for all countries was negative and amounted to (10.14)%.

If consider the average value of the growth rate turnover for export-import transactions during 2011-2015 for individual countries, it is possible to identify countries with which Poland has intensified its foreign trade operations in the service sector during the analyzed five years. These countries include: Luxembourg (the average growth in the chain turnover rate was 20.55%), Estonia (17.12%), Croatia (17.01%), Malta (12.81%), Ireland, Latvia and Sweden (11.86, 11.73 and 11.34% respectively). The relatively high dynamism in the Poland's cooperation development is observed with Portugal, Denmark, Romania, Finland and England (the growth rate of turnover for the analyzed period was 10.21-7.11%).

The next indicator presented in Table 4 is "the country's share in the export-import turnover of Poland with the EU countries in the service sector" makes it possible to identify the largest foreign trade partners of Poland in 2015. These include: Germany (the country share in total turnover was 31.90%), Great Britain (9.58%), the Netherlands (7.72%), France (7.05%) and the Czech Republic (6.24%), as well as Italy (4.20%). The share of the rest EU member states in the total turnover of Poland's export-import transactions in services was less than 4%.

On the basis of the indicators presented in Table 4, the EU member states are ranked and the strategic Poland's partners in the service sector are identified.

For carrying out the ranking procedure it is proposed to use the following formula:

$$K_d = \frac{\sum_{i=1}^{n}\left(\frac{Q_{ji}-Q_{ji-1}}{Q_{ji-1}}\right)}{n} \times \frac{Q_{jn}}{\sum(Q_{jn})} \times 10000 \quad (5)$$

Where Kd is the coefficient of foreign economic partnership development, *Qji* is turnover on export-import operations of the analyzed country with the j-th country in the i-th period (in money units), *Qjn* is turnover on export-import operations of the analyzed country with the j-th country in the n-th period (in money units), *n* is number of analyzed periods (in years).

In the proposed formula, the first multiplier is the average value of the chain growth rate in Poland's turnover for export-import operations in the service sector for each country; the second factor is the share of a particular country in the total turnover of Poland's export-import operations in services in 2015. Thus, a complex coefficient can be obtained, which, on the one hand, reflects the current situation of foreign trade cooperation, and, on the other hand, allows identifying the directions for the external economic partnership intensification.

Therefore, according to the rating, the most important foreign economic partners of Poland in the service sector among the EU member states are Germany, Great Britain, the Netherlands, Sweden, Ireland and France. Of the above countries, the largest value of the development ratio of foreign economic partnership is observed in Germany - 119.25, Great Britain - 68.06 and the Netherlands - 41.83, other countries have a coefficient of less than 40.

Further, the dynamics of the change in the export-import transactions balance of Poland with the EU countries in terms of goods (Tables 5 and 6) is ought to be analyzed.

Table 5

The EU member countries where Poland has negative export-import balance of goods, cumulative total

A country	The balance between exports and imports of goods, billion US dollars						Percentage of the total amount at the end of the period,%	Percentage of the total amount accrual,%	
	2010	2011	2012	2013	2014	2015		Down up	Top down
1	2	3	4	5	6	7	8	9	10
Austria	-3,40	-7,18	-6,77	-6,81	-7,29	-6,29	28,05	28,05	100,00
Belgium	-2,20	-4,37	-4,57	-4,57	-4,63	-4,73	21,09	49,14	71,95
Bulgaria	-0,42	-1,45	-2,24	-3,15	-4,23	-3,03	13,53	62,67	50,86
Cyprus	-8,44	-17,75	-14,84	-8,78	-5,74	-2,90	12,94	75,61	37,33
Czech Republic	-0,76	-2,05	-2,16	-1,97	-2,50	-2,32	10,35	85,96	24,39
Germany	-0,42	-0,89	-0,91	-1,01	-1,33	-1,50	6,70	92,66	14,04
Denmark	-0,29	-0,52	-0,47	-0,55	-0,60	-0,55	2,47	95,13	7,34
Estonia	-0,23	-0,64	-0,81	-0,75	-0,67	-0,51	2,26	97,39	4,87
1	2	3	4	5	6	7	8	9	10
Spain	-0,25	-1,01	-1,59	-1,49	-1,01	-0,36	1,60	98,99	2,61
Finland	-0,48	-1,02	-0,83	-0,31	-0,17	-0,23	1,01	100,00	1,01
Total amount	-16,90	-36,90	-35,18	-29,40	-28,15	-22,41			
Average value	-1,69	-3,69	-3,52	-2,94	-2,82	-2,24			

Source: calculated and compiled by the authors based on data provided by Central Statistical Office of Poland (Poland Macroeconomic Indicators and Knowledge Database Foreign Trade)

Table 5 presents the countries with which Poland has a negative balance between exports and imports of goods. The data in Table 5 is ranked by 2015. The largest negative balance between exports and imports of goods at the end of 2015 was in Austria (6.29 billion US dollars), Belgium and Bulgaria (4.73 and 3.03 billion US dollars, respectively, according to countries), then Cyprus (2.90 billion US dollars). The amount of the negative balance for these four countries was 75.6% of the total balance at the end of 2015, the remaining countries accounted for 24.4% respectively.

Table 6

The EU member countries where Poland has positive export-import balance of goods, cumulative total

A country	The balance between exports and imports of goods, billion US dollars						Percentage of the total amount at the end of the period,%	Percentage of the total amount accrual,%	
	2010	2011	2012	2013	2014	2015		Down up	Top down
France	0,01	0,01	0,01	-0,07	-0,15	0,02	0,04	0,04	100,00
Great Britain	0,00	0,05	0,08	0,08	0,08	0,04	0,07	0,11	99,96
Greece	0,24	0,47	0,42	0,38	0,45	0,49	0,88	0,99	99,89
Croatia	0,36	0,65	0,51	0,58	0,75	0,74	1,33	2,32	99,01
Hungary	0,25	0,53	0,58	0,61	0,72	0,83	1,48	3,80	97,68
Ireland	0,23	0,40	0,46	0,84	1,00	0,94	1,68	5,48	96,20
Italy	0,60	1,09	1,10	1,30	1,25	1,23	2,19	7,66	94,52
Lithuania	0,72	1,22	0,82	0,84	1,40	1,48	2,64	10,31	92,34
Luxembourg	0,67	0,98	-0,24	-0,55	0,86	1,60	2,85	13,16	89,69
Latvia	0,55	1,38	1,78	1,86	2,11	2,13	3,79	16,95	86,84
Malta	0,59	1,37	1,67	2,23	2,97	2,81	5,02	21,97	83,05
Netherlands	0,73	1,88	2,89	3,36	3,18	3,11	5,54	27,51	78,03
Portugal	1,04	2,74	3,41	3,48	3,71	3,84	6,85	34,36	72,49

Romania	1,34	2,18	1,77	2,38	3,45	4,04	7,20	41,55	65,64
Sweden	3,06	5,70	5,54	5,93	6,32	6,19	11,04	52,59	58,45
Slovenia	2,19	5,37	6,65	7,60	9,33	10,76	19,19	71,79	47,41
Slovakia	4,75	11,16	13,73	14,95	15,68	15,82	28,21	100	28,21
Total amount	17,32	37,17	41,16	45,80	53,10	56,08			
Average value	1,02	2,19	2,42	2,69	3,12	3,30			

Source: calculated and compiled by the authors based on data provided by Central Statistical Office of Poland (Poland Macroeconomic Indicators and Knowledge Database Foreign Trade)

Similar calculations are presented in Table 6 for countries with which Poland has a positive balance between exports and imports of goods. The largest amount was in Slovakia that was $15.82 billion (or 28.2% of the total) and Slovenia - $10.76 billion (or 19.2% of the total) and Sweden with $6.19 billion (or 11.0% of the total). Thus, by the end of 2015 almost 60% of the total amount of the positive balance for goods fell on these three countries.

The analysis of the data presented in Tables 5 and 6 allows the following countries to be identified as the most effective trade partners of Poland in the goods sector at the European market: Slovakia, Slovenia and Sweden.

The analysis of Poland's commodity exchange transactions with the EU member countries, presented in Tables 5 and 6, will be supplemented with indicators ranking the countries according to the degree of the external economic partnership development (Table 7).

Table 7

Indicators of Poland-EU economic partnership within sphere of goods trade

A country	**Chain rates of growth in turnover on export-import transactions in trade in goods,%**						**The country's share in the external commodity turnover of Poland with the EU countries in 2010- 2015,%**	**Country ranking 2010-2015**
	2011	**2012**	**2013**	**2014**	**2015**	**Avera-ge value**		
Germany	18,12	-9,52	8,58	11,88	-8,60	4,09	36,17	147,96
Czech Republic	21,44	-3,47	7,70	9,85	-10,43	5,02	7,04	35,31
Great Britain	17,72	-2,60	8,80	5,55	-4,91	4,91	6,27	30,79
Netherlands	16,86	-4,35	3,46	8,84	-6,42	3,68	6,85	25,18
Spain	12,14	-10,20	16,16	9,00	-2,50	4,92	3,05	15,02
Sweden	18,57	-7,78	11,51	10,09	-11,69	4,14	3,51	14,52
Slovakia	13,33	3,17	10,69	0,82	-11,41	3,32	3,59	11,91
Romania	25,11	-7,37	13,64	14,53	-6,14	7,95	1,46	11,58
Lithuania	41,53	-1,80	12,07	3,87	-15,63	8,01	1,42	11,37
Belgium	12,36	-8,15	11,61	10,64	-11,77	2,94	3,75	11,01
Austria	24,89	-8,53	6,46	6,85	-10,37	3,86	2,77	10,70
Hungary	16,37	-10,31	13,15	7,15	-11,03	3,07	2,96	9,09
Latvia	30,01	3,92	31,44	28,24	-24,15	13,89	0,65	9,04
Cyprus	192,54	-16,70	14,84	43,66	-22,94	42,28	0,20	8,59
Italy	9,85	-10,45	3,31	13,77	-10,34	1,23	6,97	8,55
France	10,63	-9,11	7,22	7,38	-10,55	1,11	6,79	7,56
Denmark	21,25	-12,39	10,18	7,23	-9,80	3,30	2,09	6,90
Bulgaria	20,85	1,56	38,81	2,33	1,09	12,93	0,42	5,47
Estonia	38,83	1,95	-0,45	31,71	-20,92	10,22	0,46	4,67
Finland	22,10	-10,14	5,29	21,30	-19,32	3,85	1,11	4,27

Ireland	-2,47	6,31	14,47	12,85	-0,97	6,04	0,63	3,81
Croatia	34,62	-19,13	13,31	19,69	19,73	13,64	0,20	2,78
Greece	33,16	-21,11	0,21	14,83	5,08	6,43	0,41	2,64
Portugal	9,32	-7,92	13,10	23,07	-8,75	5,77	0,39	2,26
Slovenia	6,76	-4,04	9,14	14,77	-8,64	3,60	0,54	1,94
Luxembourg	70,65	-11,85	-5,49	-1,54	-17,26	6,90	0,27	1,84
Malta	96,16	-45,86	39,22	64,24	-34,00	23,95	0,03	0,83
Average value	30,84	-8,37	11,79	14,91	-10,10	7,82	-	-

Source: calculated and compiled by the authors based on data provided by Central Statistical Office of Poland (Poland Macroeconomic Indicators and Knowledge Database Foreign Trade)

Analysis of the data presented in Table 7 allows drawing the following conclusions.

The highest rates of growth in export and import of goods in Poland were observed in 2011 and 2014 (30.84 and 14.91% respectively). In 2015, there was a significant reduction in Poland's trade in goods with virtually all EU member countries, the average rate of growth in turnover for all countries was negative and amounted to -10.10%, as for services.

The average value of the commodity turnover growth rate in Poland with the EU member states during 2011-2015 was 7.82%. Countries with which Poland intensively traded during the analyzed period included: Cyprus (the average value of the growth in the chain turnover rate was 42.28%), Malta (23.95%), Latvia (13.89%), Croatia (13.64%), as well as Bulgaria and Estonia (12.93 and 10.22% respectively). A sufficiently high dynamism in the Poland's cooperation development was observed with Lithuania and Romania (the growth rate of trade turnover for the analyzed period was about 8%).

According to the indicator "the share of the country in external trade turnover of Poland with the EU countries", the largest foreign trade partners of Poland in 2015 were Germany (the country's share in the total turnover was 36.17%), the Czech Republic (7.04%), Italy (6.97%), the Netherlands (6.85%), France (6.79%), Great Britain (6.27%). The share of the other EU member states in the total turnover of Poland's export-import operations was less than 4%.

On the basis of the indicators presented in Table 7, the EU member states can be ranked and the strategic partners for Poland in the commodity exchange sector can be identified.

According to the results of the rating, the most important foreign economic partners for Poland in the sphere of commodity exchange among the EU member states were Germany (external economic partnership development ratio 147.96), Czech Republic (35.31), Great Britain (30.79), Netherlands (25.18), Spain (15.02), Sweden (14.52). Other countries had a coefficient of less than 12. In accordance with the developed methodology, it is possible to proceed to the final stage of the Polish economy openness analysis, namely, to the construction of a matrix for selecting a foreign trade partner in the services / goods sector.

Table 8 presents the main data on Poland's export-import operations in the service sector with the EU member states as a cumulative result for 2010-2015. Based on these data, all analyzed countries were divided into four groups. The group "A" included countries with negative profitability of export-import turnover in the services sector with the cumulative result during 2010-2015 and shares in the total turnover below the average (which for the analyzed period was 3.7%). In group "B" there were countries with positive turnover profitability and shares in total turnover below the average. Group "C" included the countries with negative profitability of turnover and shares in total turnover above the average. Group "D" comprised countries with a positive return on turnover and shares in total turnover above the average.

Similarly to Table 8, Table 9 represents the countries-foreign trade partners of Poland grouping in the goods trade sector.

Table 8

Analysis of Poland's export-import transactions with EU member countries (sphere of services, 2010-2015, cumulative total)

Category	Country	Turnover in export-import operations in the services sector, billion US dollars	Share in total turnover of export-import transactions in services,%	The balance of export-import transactions in the service sector, billion US dollars	Profitability of turnover on export-import transactions in services,%
1	2	3	4	5	6
A - negative profitability of turnover and share in total turnover is below average (3.70%)	Austria	11,77	3,63	-1,04	-8,84
	Bulgaria	1,77	0,55	-0,27	-15,25
	Cyprus	3,73	1,15	-1,26	-33,78
	Spain	6,89	2,12	-1,29	-18,72
	Greece	1,80	0,55	-0,95	-52,78
	Croatia	1,86	0,57	-1,37	-73,66
	Malta	0,88	0,27	-0,04	-4,55
	Portugal	1,13	0,35	-0,06	-5,31
Total for category A	8	29,83	9,19	-6,28	-21,05
B - positive profitability of turnover and share in total turnover below the average value	Belgium	11,95	3,68	1,19	9,96
	Denmark	9,39	2,89	0,80	8,52
	Estonia	0,88	0,27	0,16	18,18
	Finland	4,86	1,50	1,49	30,66
	Hungary	4,50	1,39	0,43	9,56
	Ireland	10,26	3,16	0,58	5,65
	Lithuania	5,21	1,60	0,88	16,89
	Luxembourg	4,96	1,53	0,38	7,66
	Latvia	1,58	0,49	0,29	18,35
	Romania	2,08	0,64	0,22	10,58
	Sweden	10,82	3,33	2,22	20,52
	Slovenia	0,82	0,25	0,14	17,07
	Slovakia	11,00	3,39	0,01	0,09
Total for category B	13	78,31	24,12	8,79	11,22
C - negative profitability of turnover and share in total turnover above average	Czech Republic	20,27	6,24	-0,46	-2,27
	France	22,88	7,05	-0,40	-1,75
	Great Britain	31,09	9,58	-0,06	-0,19
	Italy	13,65	4,20	-3,28	-24,03
Total for category C	4	87,89	27,07	-4,20	-4,78
D - positive profitability and a share in total turnover above the average	Germany	103,57	31,90	16,43	15,86
	Netherlands	25,07	7,72	3,94	15,72
Total for category D	2	128,64	39,62	20,37	15,83
For all categories	27	324,67	100	18,68	5,75

Source: calculated and compiled by the authors based on data provided by Central Statistical Office of Poland (Poland Macroeconomic Indicators and Knowledge Database Foreign Trade)

Table 9

Analysis of Poland's export-import transactions with EU member countries (data on goods for 2010-2015 as a cumulative result)

Category	Country	Turnover in export-import operations in the goods, billion US dollars	Share in total turnover of export-import transactions in goods,%	The balance of export-import transactions in the goods, billion US dollars	Profitability of turnover on export-import transactions in goods,%
1	2	3	4	5	6
A - negative profitability of turnover and share in total turnover is below average (3.70%)	Austria	48,6	2,8	-6,30	-12,90
	Bulgaria	7,4	0,4	-3,00	-40,80
	Cyprus	3,6	0,2	-2,90	-81,40
	Denmark	36,7	2,1	-0,60	-1,50
	Estonia	8,0	0,5	-0,50	-6,30
	Spain	53,5	3,1	-0,40	-0,70
	Finland	19,5	1,1	-0,20	-1,20
Total for category A	7	177,3	10,2	-13,90	-7,84
B - positive profitability of turnover and share in total turnover below the average value	Greece	7,2	0,4	0,50	6,80
	Croatia	3,6	0,2	0,70	20,80
	Hungary	52,0	3,0	0,80	1,60
	Ireland	11,1	0,6	0,90	8,50
	Lithuania	24,9	1,4	1,50	6,00
	Luxembourg	4,7	0,3	1,60	34,10
	Latvia	11,4	0,7	2,10	18,60
	Malta	0,6	0,0	2,80	463,90
	Portugal	6,9	0,4	3,80	55,80
	Romania	25,5	1,5	4,00	15,80
	Sweden	61,5	3,5	6,20	10,10
	Slovenia	9,5	0,5	10,80	113,50
	Slovakia	62,9	3,6	15,80	25,10
Total for category B	13	281,8	16,1	51,50	18,28
C - negative profitability of turnover and share in total turnover above average	Belgium	65,7	3,7	-4,70	-7,20
	Czech Republic	123,4	7,0	-2,30	-1,90
	Germany	634,4	36,2	-1,50	-0,20
Total for category C	3	823,5	46,9	-8,50	-1,03
D - positive profitability and a share in total turnover above the average	France	119,1	6,8	0,02	0,02
	Great Britain	110,0	6,3	0,04	0,04
	Italy	122,3	7,0	1,20	1,00
	Netherlands	120,1	6,8	3,10	2,60
Total for category D	4	471,5	26,9	4,4	0,92
For all categories	27	1754,1	100	33,46	1,91

Source: calculated and compiled by the authors based on data provided by Central Statistical Office of Poland (Poland Macroeconomic Indicators and Knowledge Database Foreign Trade)

The carried out grouping allows the construction of the matrix of choice for selecting countries-foreign trade partners in the EU market in the services and goods trade sector for the Polish entrepreneurs (Figure 8).

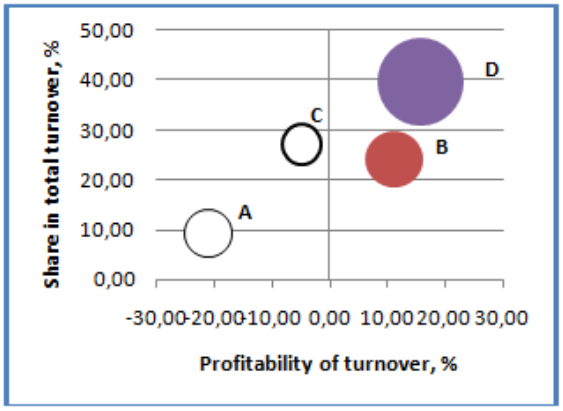


Figure 8a

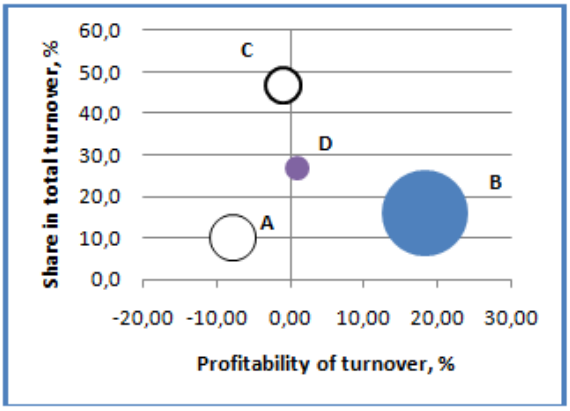


Figure 8b

Figure 8. Matrix of choice of the foreign trade partner state within the EU market (Figure 8a - for services, Figure 8b - for goods)

Source: developed by the authors

Thus, in the developed matrix there are four sectors: A, B, C, D. Sectors A and C form the so-called "import zone" (including the EU member states, with which Poland has a negative balance of export-import transactions). Sectors B and D are the "export zone" (in these sectors the country with which Poland has a positive balance of export-import operations are presented). Sectors A and B form countries with a small amount of foreign trade turnover with Poland, and in sectors C and D there are countries which foreign trade turnover is above the average. So, the largest partners for export operations are the countries belonging to sector D, and the country's import operations from sector C. Partnerships with countries from sectors A and B are subject to greater risks than from C and D, but it is more promising in terms of simplicity of entering the markets and the possibility of taking the leading positions in these markets.

4. CONCLUSIONS

The conducted research allows drawing the following conclusions.

1. Analysis of openness at the global level showed that the Polish economy is an open system of management. The openness level is more than 50% for the export quota and 45% for the import quota. It means that the main source of the Polish national social and economic system development is the revenues from export operations and new technologies coming to the country with imported goods and services. At the same time, the analysis of statistical data showed that in the period under review a negative balance was observed in Poland's export-import operations. Such a situation indicates a lack of the Polish commodity producer competitiveness in the world market and, as a consequence, a lack of own resources to support the national economy sustainable development processes.

2. The regional aspect of the Polish economy openness analysis made it possible to determine the qualitative trends in the Polish economy development. Thus, the overall balance of export-import transactions within the EU, both for services and for goods, has a positive significance in dynamics and an increasing trend. At the same time, the number of EU member states with which Poland has a surplus in export and import of goods and services prevails over countries with which the balance is negative. The number of countries with which Poland has a surplus in services exceeds the number of countries with a surplus in goods. However, the amount of the surplus on goods is greater than the amount of the services balance.

On the whole, the results of the analysis depict that Poland is following the so-called information path of development. Given that the information economy is more profitable and more efficient, this trend is

positive and contributes to the Polish business entities international business activities development intensification. As a result, the economic growth multiplier is included, which increases the entire national socio-economic system effectiveness.

3. The results of current research maybe practically applied by those of Polish companies that operate on the EU market.

3.1. The dynamics of the change in Poland's export-import transactions balance with the EU member states separately for services and goods, as well as the countries' ranking according to the foreign economic partnership development degree, made it possible to identify the countries that are Poland's most important trade partners in services and goods sectors at the European market.

3.2. As an extension and supplementation of the analysis, the study proposes a methodology for grouping countries according to the size and profitability of foreign trade turnover, which allows building a matrix for selecting the foreign trade partner country for Polish entrepreneurs separately for goods and services.

4. The openness of national economy provides opportunities for improving the pace of economic growth via increasing the production volumes and products sales as well adopting new technologies and investment resources. The other side of this process, however, is about the threat of populating the foreign economic in stabilities on the domestic markets. With respect to this factor, the further researches should be aimed at deeper analysis of negative consequences of abovementioned economy openness.

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