

COMPLEMENTARITY OF BILATERAL TRADE RELATIONS BETWEEN POLAND AND UKRAINE

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ABSTRACT

The purpose of this article is to carry out a comprehensive analysis of the bilateral trade relations between Poland and Ukraine, and on its basis to substantiate the priority areas of further mutually beneficial cooperation built on the principles of a complementarity and strategic partnership. The authors of the article applied a comprehensive approach to the analysis of bilateral trade relations between Poland and Ukraine, in particular, the Trade Complementarity Index (CI) and the Revealed Comparative Advantage Index (RCA) were used in the analysis. The statistical data of the State Statistics Service of Ukraine (Derzhavna sluzhba statystyky Ukrainy, Ukraine), World Trade Organization, Ministry of Development and Technology of Poland (Ministerstwo Rozwoju i Technologii, Poland) and Central Statistical Office of Poland (Główny Urząd Statystyczny, Poland) were the sources for the calculations. The trends in the development of bilateral trade relations between Poland and Ukraine were analyzed on the basis of statistical information. The main prerequisites that form the basis of mutually beneficial Polish-Ukrainian economic cooperation have been identified. It is proposed to use a complex methodical approach in the process of analyzing the complementarity of bilateral relations, in particular through the use of the complementarity index and the index of revealed comparative advantages. The dynamics and product structure of the export-import trade between Poland and Ukraine are analyzed. The main differences between the structure of Polish imports to Ukraine and Ukrainian exports to Poland have been revealed. A conclusion was drawn on the high level of optimality and balance of the bilateral relations, and the existence of mutual dependence both in terms of imports and exports. The conducted analysis proved the fact that trade between Poland and Ukraine is symmetrical and equal, which makes trade relations mutually attractive. Indicators of revealed comparative advantages within the framework of bilateral cooperation between Poland and Ukraine were calculated. These calculations showed that Ukraine has the highest comparative advantages in foreign trade in such goods as ferrous metals, ores, slag and ashes, fats and oils of vegetable or animal origin, furniture, wood and wood products, and edible fruits and nuts. On the other hand, Poland achieves the highest level of comparative advantages in the supply to the Ukrainian market of ground transport means (except railways), plastics and polymer materials, nuclear reactors, boilers and machines, fertilizers, mineral fuels, products of oil distillation, printing products, rubber and rubber products, and electric machines and equipment. The economic, organizational, and institutional components of the perspective model and priorities for the development of bilateral Polish-Ukrainian trade relations in the conditions of the current global challenges are substantiated. The most important strategic priorities for the development of foreign trade relations between Poland and Ukraine in the near future are proposed, namely: creation of a system for monitoring the complementarity of bilateral foreign trade relations between Poland and Ukraine; implementation and comprehensive support of interstate agreements on the development of mutually beneficial trade in complementary goods, including on a barter basis; supporting the development of complementary exports and imports in the sectors of small and medium-sized business, small-scale production, in particular on the basis of production cooperation; support of complementary foreign trade

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relations not only at the level of industries but also of individual regions of Poland and Ukraine, in particular within the framework of cross-border cooperation; and further improvement of the system of consulting support for exporters in Poland and Ukraine, assistance in entering foreign markets and in the process of searching for foreign partners. It was concluded that the development of complementary trade relations should be transformed into joint projects of Polish-Ukrainian production cooperation with the aim of the joint production and supply of competitive products and services to the domestic and global markets.

Key words: complementarity, bilateral trade relations, Polish-Ukrainian trade cooperation, strategic partnership, comparative advantages, competitiveness

JEL codes:

INTRODUCTION

Foreign trade activity in Poland and Ukraine has an essential impact on the socio-economic development of the countries and is a significant component of GDP formation. In this context, the choice and substantiation of the priority directions for the development of bilateral foreign trade relations, the elaboration of models and mechanisms of strategic partnership aimed at the effective achievement of national interests and strengthening of economic security, and the fulfillment of priority socio-economic goals and objectives become important.

Both Poland and Ukraine are interested in the stable development of bilateral trade and economic cooperation, as they are large sales markets. Poland is the ninth largest country in terms of territory and eighth in terms of population on the European continent, while Ukraine is the first in terms of territory and fifth in terms of population. Ukraine has a common 535 km long border with Poland, which is also the external eastern border of the EU.

Ukraine is an important strategic partner of Poland in the economic sphere, as Polish companies are interested in the cheap skilled workforce from Ukraine. As of 2021, about 1.5 million Ukrainians worked in Poland, but by the first half of 2022, as a result of the aggressive war unleashed by the Russian Federation, the number of labor migrants from Ukraine almost doubled and continues to grow.

In the last decade, for both Poland and Ukraine, bilateral trade cooperation has essentially become an important tool for the expansion of national companies into foreign markets. The most important elements of the Polish foreign economic model are pari-

ty bilaterality in the development and implementation of economic interests with partners, which is built on a high level of complementarity of foreign trade flows of goods and services. Until 2014, the largest trade partner for Ukraine was the Russian Federation but after the beginning of Russian armed aggression, Ukrainian foreign trade companies began a massive reorientation toward the EU markets. In general, according to the results of 2020, Poland ranks 22nd in the world export of goods (Ukraine, respectively, is 48th), and 20th in terms of imports (Ukraine is 48th) [WTO, 2021].

Thus, the purpose of this article is to carry out a comprehensive analysis of bilateral trade relations between Poland and Ukraine and to substantiate on its basis the priority areas of further mutually beneficial cooperation built on the principles of complementarity and strategic partnership. The hypothesis of the research is the assumption that bilateral trade relations between Poland and Ukraine are balanced, mutually beneficial and complementary, have significant development potential and are important for ensuring the national interests and economic security of both countries.

LITERATURE REVIEW

The term “complementarity” comes from the Latin noun “complementum”, which translates as “complement”, “completion” (something that complements or completes). According to the research of Karpińska [2020], the problem of complementarity was considered in economic theory as early as the beginning of the 20th century, in particular in the work of the Aus-

trian economist Friedrich von Wieser “Theory of the Social Economy” (1914), in which it was argued that the very basis of economic life, and the main productive means (land, labor and capital) have a complementary nature. Thus, in the context of our research, by the complementarity of bilateral trade relations, we will understand the level of balancing of the economic systems of the two countries based on the complementarity of the product structure of exports and imports. In this meaning of complementarity we assume the absence of significant contradictions in trade relations and effective interaction.

Among the Ukrainian scientific works, it is worth noting the studies [Atamanchuk, 2020; Vlasenko, 2021] devoted to the complementarity of the foreign trade relations of Ukraine and the EU. However, in these studies, the analysis was conducted at the macro level without a detailed assessment of complementarities at the level of particular industries or regions.

The problems of bilateral Ukrainian-Polish economic cooperation were studied by such Ukrainian and Polish scientists as Jakubowski and Miszczuk [2017], Kornienko and Vasylevsky [2019], Kovach [2017], Okun’ovs’ka [2019], Osikowicz [2017], Studinska and Studinsky [2019], Sostin [2000] and others. In general, in the works of Polish and Ukrainian researchers, special emphasis is placed on the analysis of certain aspects of the development of bilateral Ukrainian-Polish relations, namely: the sectoral structure, evolution and individual stages of development, aspects of cross-border cooperation and strategic partnership. Comprehensive studies of the complementarity of Polish-Ukrainian trade relations are virtually absent.

In this context, the works of authors who use a comprehensive approach based on a system of various indicators are particularly valuable among studies of the complementarity of bilateral relations. In particular, this approach is demonstrated in the work of a Chinese scientist [Xu, 2017] in the study of the complementarity of trade relations between China and the countries of South Asia. It is appropriate to use this approach when analyzing Polish-Ukrainian bilateral relations. It is also important to study bilateral Polish-Ukrainian relations in the context of the development of European integration processes [Makar, 2016].

MATERIALS AND METHODS

The methods available in the modern economic literature allow for a quantitative assessment of the complementarity of foreign trade relations at the level of a country or an industry. At the country level (macrolevel), the Trade Complementarity Index (*TCI_j*) is used, which was proposed back in 1969 in the work of Australian University professor P. Drysdale [1969]. In its current form, this index is somewhat transformed and presented in the work [Pearlman, 1999], as well as in the World Bank recommendations on the analysis of foreign trade [WITS, 2022]. This index shows the extent to which the structure of the imports of a trading partner corresponds to the structure of the exports of the corresponding country, which provides information on the country’s trade prospects. This index is calculated according to formula (1):

$$TCI_j = 100 - \sum \frac{M_{ik} - X_{ij}}{2}, \quad (1)$$

where:

M_{ik} – the share of i product in the total imports of k country;

X_{ij} – the share of the exports of i product of j country.

If the value of the *TCI* index is zero, the country does not export any goods, or the trading partner does not import any goods. If the value of *TCI* approaches 100, it means that the respective shares of exports and imports coincide. If a country shows a high index of complementarity for exports, this indicates that this country participates in the division of labor as an exporter of various types of products.

A separate part of formula (1) is used to carry out the analysis of complementarity at the industry level, namely the module $[100 - (M_{ik} - X_{ij})/2]$, in particular in the studies [Andreosso-O’Callaghan and Nicolas, 2007; Vlasenko, 2021]. Along with this, a special formula of the complementarity index for goods (Trade Complementarity Index for k products/services) is proposed in the study [Calfat and Flores, 2004] for the sectoral analysis of foreign trade complementarity:

$$TCI_{ij}^k = \frac{X_i^k / X_i}{M_w^k / M_w} \times \frac{M_j^k / M_j}{M_w^k / M_w}, \quad (2)$$

where:

- X_i^k – export of k product by i country;
- X_i – total volume of i country's exports;
- M_j^k – import of k product by j country;
- M_j – total volume of j country's imports;
- M_w^k – world import of k product;
- M_w – total global volumes of imports.

We agree with the methodical approach of individual authors who use a comprehensive approach in the process of assessing the complementarity of foreign trade relations. Thus, a Chinese scientist [Xu, 2017], in his work analyzes the complementarity of China and the countries of South Asia, using the following system of indicators:

- 1) Revealed Comparative Advantage Index, *RCA*;
- 2) Trade Integration Index, *TII*;
- 3) Trade Complementarity Index, *TCI*.

In this context, the use of the *RCA* index is noteworthy. In fact, if formula (2) is decomposed, one can see that its left part is formed based on the *RCA* index. This index is used in the analytical activities of the UNCTAD/WTO International Trade Center and is calculated according to the following formula [UNCTAD, 2022]:

$$RCA^t = \frac{1000}{(X_j^t + M_j^t)} \times \left[(X_{ij}^t - M_{ij}^t) - (X_j^t - M_j^t) \times \frac{(X_{ij}^t + M_{ij}^t)}{(X_j^t + M_j^t)} \right], \quad (3)$$

where:

- X_{ij}^t – export of products of j sector from of i country to the group of other countries taken for analysis;
- M_{ij}^t – import of products of j sector of i country from the group of other countries taken for analysis;
- X_j^t – total exports of i country from the group of other countries taken for analysis;
- M_j^t – total imports of i country from the group of other countries taken for analysis.

The utility of using this index is in fact that it makes it possible not only to assess the level of complementarity of foreign trade in terms of individual products, but also to identify product groups or countries for which the particular country managed to achieve a certain level of competitive advantage. That is, this index demonstrates not only potential opportunities but also the actual achievements of the country in the foreign trade of the analyzed product groups.

Statistical data from the World Trade Organization [WTO, 2021], Ministry of Development and Technology of Poland [Ministerstwo Rozwoju i Technologii, 2022] and the State Statistics Service of Ukraine [State Statistics Service of Ukraine, 2022] were used in the analysis of the complementarity of bilateral trade relations between Poland and Ukraine.

RESULTS AND DISCUSSION

In recent years, Poland has taken the leading place among Ukraine's main partners in terms of foreign trade turnover. According to 2021 data, Poland's share in Ukrainian exports of goods was 7.7% (second place after China), and 6.8% in Ukrainian imports (fourth place after China, Germany and the Russian Federation). The specific weight of Poland in Ukraine's foreign trade turnover in goods is 7.2% (second place after China). In general, the total volume of bilateral trade of Poland and Ukraine in goods and services in 2021 amounted to USD 10.93 billion, which is almost USD 3 billion more than the 2020 indicator (in 2020, the volume of bilateral trade was approximately USD 8 billion) [State Statistics Service of Ukraine, 2022]. It is important to note that if China, the Russian Federation, Belarus and Turkey took the leading places among Ukraine's foreign trade partners mostly due to the supply of raw materials and energy resources, then the priority of Ukraine's cooperation with the European Union, in particular with Poland, is related to the fact that this integration entity determines priorities of accelerated regional economic development based on technological progress, as well as in the long run – political stability in the region.

However, we should pay attention to the fact that Ukraine occupies somewhat more modest positions in Poland's foreign trade turnover. Ukraine is not

included in the list of Poland’s main trade partners. In 2021, the share of Ukraine in Polish exports was 2.18% (13th place), and in imports – 1.47% (16th place) [Ministerstwo Rozwoju i Technologii, 2022]. On the other hand, as was shown above, Poland occupies one of the main places in Ukrainian foreign trade (second and fourth places, respectively). Such a discrepancy in partnership parity is, on the one hand, a consequence of the different levels of socio-economic, industrial-technical and institutional development of the countries, and on the other, a consequence of the insufficient use of the available potential regarding the possibilities of complementary cooperation on the part of Ukraine. In general, for 2001–2021, the dynamics of the development of Ukrainian exports to Poland and imports from Poland were positive (Fig. 1).

The biggest decreases in Ukrainian exports and imports were recorded during periods of economic and financial crises, in particular in 2009 (during the global financial crisis) 2012, 2015 (during the economic recession in the EU) and in 2020 (due to the global COVID-19 pandemic). In 2021, the volume of foreign trade between Poland and Ukraine showed rapid growth – compared to the previous year, Ukrainian exports increased by 57.9% to USD 5.227 billion, and imports increased by 19.8% to USD 4.962 billion

. During the entire considered period until 2020, the balance of Ukraine’s foreign trade with Poland was negative. In 2021, for the first time in recent years, a positive balance of bilateral trade in goods was observed for Ukraine, which amounted to USD +268.8 million.

In order to substantiate the possible methods and forms of influence on the balancing of foreign trade cooperation between Poland and Ukraine, it is necessary to analyze the export-import operations in terms of product groups. In the structure of exports of Ukrainian products to Poland in 2021, the following prevailed: ferrous metals (product groups 72–83 of the Customs Tariff of Ukraine) – 31.4% of the total volume of products exports; agricultural products (groups 01–24) – 18.9%; mineral products (groups 25–27) – 13.2%; electric machines (groups 84–85) – 9.7%; wood, pulp and paper products (groups 44–49) – 7.5%; furniture (group 94) – 6.9% (36.5% increase); and plastics and polymer materials (group 39) – 2.1% (+134.7%) [State Statistics Service of Ukraine, 2022]. The share of the remaining product groups was less than 1% of the total volume of Ukrainian exports to Poland.

According to the results of 2021, the structure of Polish imports was as follows: agricultural prod-

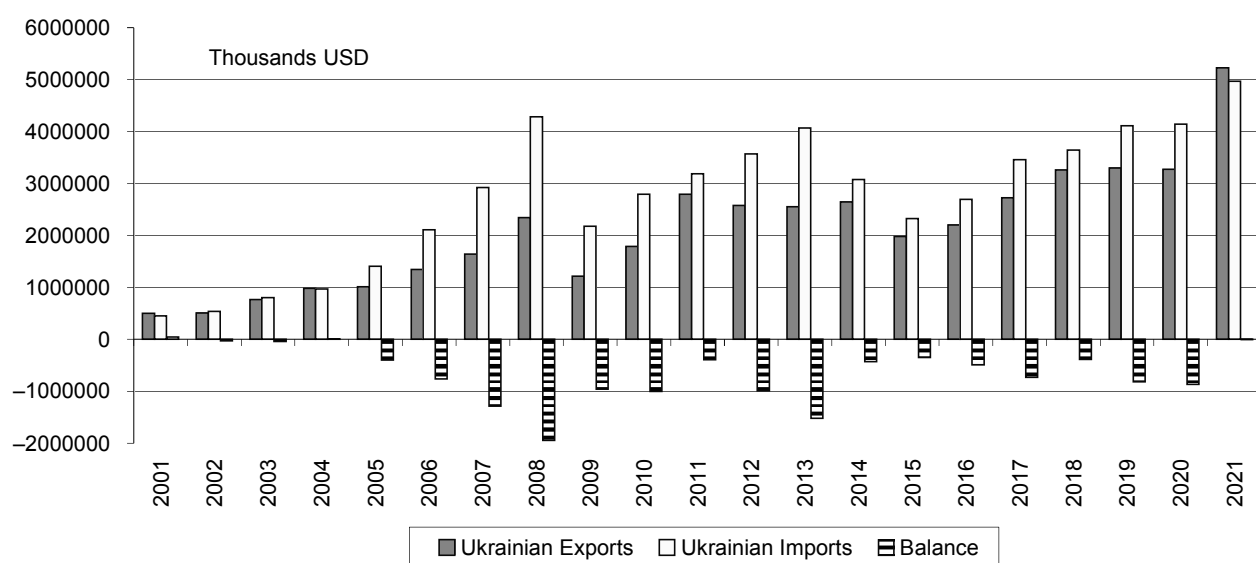


Fig. 1. Dynamics of bilateral foreign trade of Ukraine and Poland in 2001–2021, thousands USD

Source: [State Statistics Service of Ukraine, 2022]

ucts (product groups 01–24 of the Customs Tariff of Ukraine) accounted for 16.2% of the total volume of imports; electric machines (groups 84–85) – 15.4%; chemical products (groups 28–38) – 15.1%; polymers, plastic and rubber (groups 39–40) – 11.2%; vehicles (groups 86–89) – 10.9%; non-precious metals and products from them (groups 72–83) – 10% [State Statistics Service of Ukraine, 2022].

In general, the main differences between the structure of Polish product imports to Ukraine and Ukrainian exports to Poland are:

- in the Polish imports, there is a much higher share of products with a higher level of added value (for example, the share of electric cars in Ukrainian exports to Poland is 9.7%, and in Polish imports to Ukraine – 15.4%);
- in recent years, Ukrainian exports have been growing at a significantly higher rate than Polish imports (for example, in 2021, Polish imports increased by 19.8% compared to the previous year, and Ukrainian exports by 59.7%);
- the product structure of Polish imports is more diversified than that of Ukrainian exports to Poland (for example, the largest product group in Ukrainian exports to Poland (ferrous metals) has a share of 31.4%, while the share of the most numerous product group of Polish imports (agricultural products) is half as much – 16.2%).

According to the results of 2021, the volume of bilateral trade in services between Poland and Ukraine amounted to USD 736 million with a positive balance of USD +189.5 million (exports of Ukrainian services to Poland increased by 4.9% and amounted to USD 462.7 million, and Polish imports of services increased by 35.9% and amounted to USD 273 million). Poland ranked 6th among the largest countries-recipients of Ukrainian services in the world and 2nd in the EU, surpassed only by Germany. The largest groups of Ukrainian services exported to Poland are: services for the processing of material resources (the share in the total volume of services exports is 42.5%); transport services (29.6%); business services (10.5%); services in the field of telecommunications, computer and information services (8.4%); and services to private individuals, cultural and recreational services (+35.1%; 5%). A simple calculation therefore shows

that processing and transportation services provide $\frac{3}{4}$ of all services provided by Ukraine to Polish counterparties. More than 90% of all Ukrainian imports of services from Poland are provided by 5 groups of services: transport services (the share of imports is 53.8%); business services (16%); travel-related services (9.6%); services in the field of telecommunications, computer and information technologies (7.3%); and royalties and other services related to the use of intellectual property (3.8%) [State Statistics Service of Ukraine, 2022]. In recent years, changes in the structure of bilateral trade in services were influenced by quarantine restrictions during the COVID-19 pandemic.

Let us dwell in more detail on the empirical assessment of the complementarity of Poland and Ukraine foreign trade. To calculate the complementarity index for goods (Trade Complementarity Index for k products/services) according to formula (2), we collected statistical information from the publication of the WTO [WTO, 2021] regarding foreign trade of certain types of products and services by the EU-27 countries for 2020. The results of the calculations are presented in Table 1.

The calculations show that, in general, Ukrainian foreign trade has an average level of complementarity with respect to Poland. The level of complementarity of Polish-Ukrainian trade is higher than the EU average for such aggregated product groups as agricultural products, industrial products and transport services. At the same time, according to the level of complementarity of trade in industrial products, Polish-Ukrainian trade relations are in 7th place among the 27 EU countries.

For the purpose of a more detailed analysis of complementarity in accordance with formula (3), we analyzed the comparative advantages of Poland and Ukraine in mutual bilateral trade for 2021 according to 97 groups of the Ukrainian classification of foreign trade product nomenclature (Table 2). As the calculations show, Ukraine has the highest level of comparative advantages on the Polish market in such product groups as: ferrous metals (RCA index = 121.28), ores, slag and ashes (53.12), fats and oils of vegetable or animal origin (36.7), furniture (29.08), wood and wood products (25.6), and edible fruits and nuts (9.15). This

Table 1. Complementarity indices for certain groups of products and services in trade relations between Ukraine and the EU-27 countries for 2020

EU-27 countries	Value of Trade Complementarity Index (TCI) for Products/Services				
	agricultural products	fuels and mining products	industrial products	transport services	product-related services
Austria	4.09	0.24	0.68	2.00	7.20
Belgium	4.30	0.31	0.65	1.47	3.87
Bulgaria	5.20	0.42	0.57	1.89	2.47
Greece	5.92	0.61	0.48	4.55	2.36
Denmark	7.32	0.16	0.64	3.29	3.76
Estonia	5.54	0.29	0.62	1.72	3.01
Ireland	4.60	0.14	0.70	0.08	3.22
Spain	5.32	0.33	0.62	1.19	0.00
Italy	5.15	0.34	0.61	1.36	4.83
Cyprus	6.52	0.39	0.56	1.33	0.21
Latvia	8.77	0.19	0.61	1.98	1.83
Lithuania	6.39	0.40	0.57	3.89	3.22
Luxembourg	5.62	0.29	0.63	0.48	5.16
Malta	4.73	0.39	0.60	0.29	0.32
Netherlands	5.11	0.38	0.60	1.16	4.08
Germany	4.00	0.25	0.67	1.41	6.12
Poland	4.26	0.22	0.68	1.55	3.87
Portugal	6.52	0.27	0.62	1.48	3.65
Romania	4.64	0.20	0.69	1.31	3.12
Slovak Republic	2.94	0.18	0.73	2.13	4.19
Slovenia	4.00	0.28	0.67	1.64	2.47
Hungary	2.94	0.22	0.72	1.76	4.30
Finland	4.17	0.41	0.59	1.17	8.16
France	4.47	0.25	0.67	1.39	8.38
Croatia	6.18	0.30	0.62	1.15	3.22
Czech Republic	2.90	0.16	0.74	1.80	4.30
Sweden	5.32	0.26	0.65	0.91	3.01
European Union	3.53	0.45	0.59	1.03	4.19

Source: calculated by the authors based on data from [State Statistics Service, 2020; WTO, 2022].

Table 2. Product positions of Ukrainian exports that have the highest comparative advantages in trade relations with Poland in 2021 (TOP-10)

Product code and name according to the Ukrainian classification	Product cost, thsd. USD		RCA (Revealed Comparative Advantage index)
	exports (in terms of FOB)	imports (in terms of CIF)	
Total	5,227,413.1	4,962,500.1	
72 – ferrous metals	1,391,325.0	116,283.4	121.28
26 – ores, slags, ashes	555,902.7	115.6	53.12
5 – animal or plant fats and oils	394,954.8	10,452.6	36.70
94 – furniture	359,744.5	52,722.2	29.08
44 – wood and wood products	341,328.3	69,765.2	25.60
08 – eatable fruits and nuts	109,647.8	13,183.5	9.15
23 – remains and wastes of food industry	193,710.4	100,744.0	8.37
12 – oil seeds and fruits	66,908.0	2,643.9	6.13
64 – footwear	44,927.8	7,161.8	3.57

Source: calculated by the authors based on data from [State Statistics Service, 2021].

allows us to assert a high level of specialization in these product groups of Ukrainian enterprises on the Polish market and, accordingly, a high level of competitiveness in these market segments. Let us emphasize the fact that among Ukrainian products with a high level of comparative advantages there are products with a high level of added value (furniture, footwear), which denies from false statement that Ukrainian exports are only raw materials.

In contrast to Ukrainian ones, Polish enterprises have the strongest comparative advantages on the Ukrainian market, primarily in such product groups as: means of ground transport (except railways) (RCA index = -50.86), plastics and polymeric materials (-34.77), nuclear reactors, boilers and machines (-31.95), fertilizers (-22.47), mineral fuels, oil and its distillation products (-15.48) printing products, rubber and rubber products, electric machines, and machines and equipment (Table 3). A detailed analysis of the obtained indicators shows that in the list of Polish goods with the highest level of comparative advantages, there are primarily high-tech products with a high degree of added value.

The conducted calculations show that the bilateral trade relations of Poland and Ukraine have significant untapped potential for development on the basis of complementarity. For the further development and support of Polish-Ukrainian trade cooperation on the basis of complementarity and strategic partnership, it is advisable to implement the following measures:

- development of a system for monitoring the complementarity of bilateral foreign trade relations between Poland and Ukraine;
- implementation and comprehensive support of interstate agreements on the development of mutually beneficial trade in complementary goods, including on a barter basis;
- support for the development of complementary exports and imports in the sectors of small- and medium-sized business, small-scale production, in particular on the basis of production cooperation;
- support for complementary foreign trade relations not only at the level of industries but also for individual regions of Poland and Ukraine, in particular within the framework of cross-border cooperation;

Table 3. Product positions of Polish imports to Ukraine, with the highest comparative advantages in 2021 (TOP-10)

Product code and name according to the Ukrainian classification	Product cost, thsd. USD		RCA (Revealed Comparative Advantage index)
	exports (in terms of FOB)	imports (in terms of CIF)	
Total	5,227,413.1	4,962,500.1	
87 – ground transport facilities except railways	12,145.9	516,686.0	-50.86
39 – plastics and polymeric materials	109,173.3	449,012.7	-34.77
84 – nuclear reactors, boilers, machines	108,352.0	420,193.9	-31.95
31 – fertilizers	11,695.9	234,255.9	-22.47
27 – mineral fuel, petroleum and petroleum distillation products	86,675.6	236,003.1	-15.48
34 – soap and surface active agents	3,466.9	112,871.3	-11.03
04 – milk and milk products; eggs; honey	44,137.9	132,227.8	-9.09
32 – tanning extracts	8,458.1	97,809.8	-9.04
40 – rubber and articles of rubber	16,038.8	103,904.3	-8.93

Source: calculated by the authors based on data [State Statistics Service, 2021].

– further improvement of the system of consulting support for exporters in Poland and Ukraine, assistance in entering foreign markets and in the process of searching for foreign partners.

In our opinion, the development of complementary trade relations should be transformed in the near future into joint projects of Polish-Ukrainian industrial cooperation. The goal of such cooperation should be the implementation of joint projects based on mutual investments and the development of the activities of competitive enterprises not only on the markets of Poland and Ukraine but also at the level of the whole EU and global markets. Even today, individual positive examples of the implementation of such projects can be observed. In particular, such well-known enterprises with Polish capital operate on the territory of Ukraine as the “Cersanit” building ceramics factory, the “Barlinek” woodworking factory, the “Novy Styl” furniture factory, the “Canpack” packaging factory, the “Inter-Groclin” auto parts factory, the “Polimex-Mostostal” metalworking plant, “Snezhka-Ukraine” paint products company, etc. The largest Ukrainian investment projects in Poland,

which were primarily projects for the export of goods and services to the Polish market, are: the “Helios” lighting equipment factory (investor – PJSC “Iskra”), the “Ostrowia” Masovian cheese factory (“Milkiland N.V.” Group), LLC “Zavod Kobzarenko” (production and export of agricultural machinery), the “Pan Kurchak” agro-industrial group, the “Miratech,” “Global Logic” and “SoftServe” IT companies, “Elfa” (production of cosmetics), etc.

The outlined tasks for the development of industrial cooperation have exceptional priority for strategically important branches of the economy, in particular the fuel and energy sector. Poland has become the largest exporter of automotive fuel to the Ukrainian market, as the Russian aggressors physically destroyed the largest Ukrainian oil refineries and Ukraine stopped importing fuel from Russia and Belarus. In our opinion, it will be expedient to involve primarily Polish companies (in particular, PKN Orlen S.A.) in the reconstruction and technological modernization of Ukrainian oil refining enterprises after the end of military actions, which have significant experience in international production, investment, innovation and

distribution activities based on complementarity and strategic partnership. Such projects require the development of detailed technical and economic calculations, substantiation of the methods to supply oil for processing (in particular, from countries such as Azerbaijan, Kazakhstan, and the Persian Gulf states) and will result in increased economic security and political stability in the region.

CONCLUSION

Bilateral trade relations between Poland and Ukraine today are characterized by a high level of optimality and balance. Both sides of the trade relations are interested in bilateral relations, since today there is a mutual dependence on both imports and exports. In addition, trade between Poland and Ukraine is symmetrical and equal, which makes the trade relations mutually attractive and complementary. Such “traditional” Ukrainian export goods as ferrous metals and products from them, ores, slag and ashes, fats and oils of vegetable or animal origin, and wood and products from it have a high level of comparative advantage on the Polish market. In the list of Polish products with the highest level of comparative advantage, there are primarily high-tech products with a high degree of added value (means of ground transport, plastics and polymer materials, machines and equipment, fertilizers, petroleum products, etc.). It is these product groups that today form a high level of complementarity in bilateral trade relations between Poland and Ukraine. The priority task of the further development of complementary trade relations between Poland and Ukraine is their transformation into joint projects of Polish-Ukrainian industrial cooperation, especially in strategically important sectors of the economy. The development of joint investment, production and export activities will result in the strengthening of economic security and political stability in the region, the growth of employment and will allow the principles of complementarity, harmony, parity, partnership and mutually beneficial cooperation in foreign trade relations to be put into practice.

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KOMPLEMENTARNOŚĆ DWUSTRONNYCH STOSUNKÓW HANDLOWYCH MIĘDZY POLSKĄ I UKRAINĄ

STRESZCZENIE

Celem niniejszego artykułu było przeprowadzenie kompleksowej analizy dwustronnych stosunków handlowych między Polską a Ukrainą i uzasadnienie na jej podstawie priorytetowych obszarów dalszej korzystnej współpracy budowanej na zasadach komplementarności oraz partnerstwa strategicznego. Autorzy artykułu zastosowali kompleksowe podejście do analizy bilateralnych relacji handlowych między Polską a Ukrainą, w szczególności w analizie wykorzystano Trade Complementarity Index (CI) oraz Revealed Comparative Advantage Index (RCA). Źródłem obliczeń były dane statystyczne Państwowej Służby Statystycznej (Ukraina), WTO, Ministerstwa Rozwoju i Technologii (Polska) oraz Głównego Urzędu Statystycznego (Polska). Na podstawie informacji statystycznych przeanalizowano tendencje w rozwoju dwustronnych stosunków handlowych między Polską a Ukrainą. Zidentyfikowano główne przesłanki, które stanowią podstawę obojbie korzystnej polsko-ukraińskiej współpracy gospodarczej. Proponuje się zastosowanie kompleksowego podejścia metodycznego w procesie analizy komplementarności stosunków dwustronnych, w szczególności poprzez wykorzystanie wskaźnika komplementarności oraz wskaźnika ujawnionych przewag komparatywnych. Przeanalizowana została dynamika i struktura produktowa handlu eksportowo-importowego pomiędzy Polską a Ukrainą. Ujawniły się główne różnice między strukturą polskiego importu na Ukrainę a ukraińskiego eksportu do Polski. Stwierdzono wysoki poziom optymalności i równowagi stosunków dwustronnych, istnienie wzajemnej zależności zarówno w zakresie importu, jak i eksportu. Przeprowadzona analiza wykazała, że handel między Polską a Ukrainą jest symetryczny i równy, co czyni stosunki handlowe wzajemnie atrakcyjnymi. Obliczono wskaźniki ujawnionych przewag komparatywnych w ramach współpracy bilateralnej między Polską a Ukrainą. Obliczenia wykazały, że Ukraina ma największe przewagi komparatywne w handlu zagranicznym takimi towarami, jak metale żelazne, rudy, żużel i popioły, tłuszcze i oleje pochodzenia roślinnego lub zwierzęcego, meble, drewno i wyroby z drewna, jadalne owoce i orzechy. Polska osiąga najwyższy poziom przewag komparatywnych w dostawach na ukraiński rynek środków transportu naziemnego (z wyjątkiem kolei), tworzyw sztucznych i materiałów polimerowych, reaktorów jądrowych, kotłów i maszyn, nawozów, paliw mineralnych, produktów destylacji ropy naftowej, wyrobów poligraficznych, wyrobów gumowych, maszyn i urządzeń elektrycznych. Uzasadnione są ekonomiczne, organizacyjne i instytucjonalne elementy modelu perspektywicznego oraz priorytety rozwoju dwustronnych polsko-ukraińskich stosunków handlowych w warunkach aktualnych wyzwań globalnych. Badania pozwoliły na zaproponowanie najważniejszych stra-

teżniczych priorytetów rozwoju stosunków handlowych między Polską a Ukrainą w najbliższej przyszłości, a mianowicie: stworzenie systemu monitorowania komplementarności dwustronnych stosunków handlowych z zagranicą między Polską a Ukrainą; wdrażanie i kompleksowe wspieranie umów międzypaństwowych w sprawie rozwoju wzajemnie korzystnego handlu towarami komplementarnymi, w tym na zasadach barterowych; wspieranie rozwoju komplementarnego eksportu i importu w sektorach małej i średniej przedsiębiorczości, produkcji małoseryjnej, w szczególności na podstawie współpracy produkcyjnej; wspieranie komplementarnych stosunków handlowych z zagranicą nie tylko na poziomie branż, ale również poszczególnych regionów Polski i Ukrainy, w szczególności w ramach współpracy transgranicznej; dalsze doskonalenie systemu wsparcia doradczego dla eksporterów w Polsce i na Ukrainie, pomoc w wejściu na rynki zagraniczne oraz w procesie poszukiwania partnerów zagranicznych. Stwierdzono, że rozwój komplementarnych stosunków handlowych powinien zostać przekształcony we wspólne projekty polsko-ukraińskiej współpracy produkcyjnej, mające na celu wspólną produkcję i dostawę konkurencyjnych produktów i usług na rynek krajowy i światowy.

Słowa kluczowe: komplementarność, dwustronne stosunki handlowe, polsko-ukraińska współpraca handlowa, partnerstwo strategiczne, przewagi komparatywne, konkurencyjność