“Estimation of Ukraine’s foreign trade structure in order to determine the areas of export potential”

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Nadiya Dekhtyar (Ukraine), **Oksana Mazorenko** (Ukraine), **Maksym Serpukhov** (Ukraine)

ESTIMATION OF UKRAINE'S FOREIGN TRADE STRUCTURE IN ORDER TO DETERMINE THE AREAS OF EXPORT POTENTIAL

Abstract

Now there is no single approach to the planning of normative indicators of the foreign trade structure and the optimization of foreign economic operations, including marketing mix, which consider the priorities of socio-economic development of the territories acting as the global market agents. The work proposes an expanded method for using the Grubel-Lloyd and Horvath indices when assessing the level of inter-industry trade, which will determine the priority fields of international cooperation in the process of developing a foreign economic strategy both at the state level and for an individual company interested in expanding the geography of trade in the global market via finding new partners and using non-discriminating marketing methods.

The article reveals the existing trends in foreign trade of Ukraine that predispose current economic policy and foster the initiation of a new exporting strategy. Namely, the volume of total external debt exceeded GDP in 2014–2016; although a significant reduction of this ratio has been observed since 2017 due to the GDP shortening. Unfavorable trends were supplemented by the negative total balance of trade in goods and services in 2014–2018, with redistributing geographical structure in favor of the EU instead of the CIS countries (however, the exports in services, measured by absolute income, exceeded imports). The Grubel-Lloyd and Horvath indices, calculated for the recent trade data, proved a high level of diversification of Ukraine's foreign economic activity, with significant intra-industry trade, but the scores of the Grubel-Lloyd index did not coincide by the geographical and commodity structure for the prevailing majority of countries. Nevertheless, new potential exporting destinations may be found, precisely because of the detected imbalances.

Keywords trade wars, inter-industry trade, Grubel-Lloyd index, Horvath index, searching new consumers

JEL Classification M31, F47, L50

INTRODUCTION

The global market is characterized by an extremely high level of competition between the parties – both small national economies (measured in absolute volumes of exchange operations) and leaders – notably, the developed countries of the world. On the other hand, the potential of many consumer markets is untapped – these are so-called non-traded markets. Ukraine should identify the priorities in the commodity and geographic structure of trade in goods and services, considering this consumer potential, since there were negative tendencies over the past 3-4 years, such as an increase in the negative absolute values of the foreign trade balance and the GDP fall, simultaneously with the growth of the public sector external debt.

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1. LITERATURE REVIEW

Competition for consumer and resource markets at the global economy level is much tougher than within national markets. Despite the formal acceptance of free trade principles and non-discriminatory policies towards any potential exporter developed by the WTO, most states adhere to a policy of hidden protectionism and improve the ways to create artificial barriers to enter the national market for foreign companies, and to maintain their own exports. The latter is often implemented in the form of bilateral or multilateral agreements between countries that closely cooperate in foreign trade and distribute the part of their privileges to each other in order to protect the market of common sales. This process is called 'regionalization' – as opposed to globalization, the main characteristic of which is the elimination of all possible barriers to the movement of goods, services, resources and capital.

Therefore, the issues of developing an export strategy, strengthening export potential, international marketing should not be considered separately from assessing the ways of regulation of the cooperation between trading partners in the framework of geopolitical trends, the country's commitment to protectionism or free trade. International marketing tools that were previously called to provide foreign consumers with information about a new product are now used as an informational tool of trade wars. The imbalance in foreign trade activity of one country is not always caused exclusively by its short-sighted policy – on the contrary, it is now possible to observe well-planned actions, initiated by large global market actors who have divided spheres of influence and the most profitable consumers (at the level of individual national economies or large corporations). Those countries that failed to occupy a leading position have to exploit softer competitive methods and unoccupied niches. Thus, the theoretical basis of modern international trade has several fields of research. For the purposes of this article, some of them should be discussed in more detail.

1.1. Instruments of trade wars and hidden protectionism

Didier Brandao and Pinat (2017) investigate the nature of the correlation between trade, economic growth and welfare of the country's residents, the influence of the trade communications structure on economic growth. Their work adds to the postulate that the domestic market protection is aimed not only to preserve the income of individual actors, but also to ensure the internal stability of a socio-economic system. Evenett (2013) examines the nature of hidden protectionism and its impact on international trade and economic processes, Baccini (2012) analyzes the status and powers of international institutions for the liberalization of international trade and counter-protectionism. The inefficient work of existing international institutions in the process of regulating foreign economic operations is, however, noted in the study (Baccini, 2012). Mansfield and Pevehouse (2013) investigate institutional barriers through the signing of preferential trade agreements between individual countries. This, on the one hand, facilitates trade between the parties of the agreement, on the other hand, creates barriers to trade with other countries (Mansfield & Pevehouse, 2013). Marano, Cuervo-Cazurra, and Kwok (2013) discuss the effect of the influence of internal and external economic conflicts on trade between countries, and highlight the critical role of internal economic conflicts for foreign trade. Deardorff, Quy-Toan, and Levchenko (2017) also observe trade policy issues, discover the sectors of national economy, sensitive to trade agreements.

1.2. Marketing in foreign economic activity and strategies for entering foreign markets, ways to increase export potential

Considering export strategies, in particular the marketing mix elements and the ways to enter a new market, researchers pay attention mostly to small and medium-sized enterprises. The vision of many practitioners has already been established that large companies operate according to completely different rules, mainly preliminary negotiations between business owners and direct sales, but is it true? Cortez and Johnston (2018) give an example of the organization of international cooperation in Latin America (namely Chile, Mexico and Peru – differing each from the other both in terms of economic development and social models that form a lifestyle and, accordingly, entrepreneurial environment and consumer demands).

The authors of the article argue that it is preferable to work according to the business to business (B2B) model than to establish contacts individually with each consumer in this macro-region. This contradicts somewhat to the modern practice in sales, namely the establishment of customer loyalty using social networks and other tools of face-to-face marketing. But individualized strategies could sometimes hardly work in international markets, where the first obvious difficulty, faced by employees of the marketing department, is the lack of knowledge of local languages. The difference in mentality, way of life, etc. go after. Therefore, the problems that enterprises face when organizing sales abroad can be almost identical and not depend on the company size – it is another matter that large market players have enough resources to overcome organizational and technological procedures. But still, small and medium-sized businesses operate at niche segments more often than large companies.

Each country has its own practices of encouraging local enterprises to export and stimulating business environment. In addition, it is important to assess the current potential of enterprises. Love, Roper, and Zhou (2016), on the basis of a statistical analysis of the activity of the UK enterprises, reveal a number of trends that are typical to most of them: the older the enterprise is (the longer it has been functioning), the more diversified is its foreign trade – although some mature companies prefer to stop at a certain stage and not develop further operations; the availability of the personnel who can accompany foreign trade transactions and monitor foreign markets is extremely important; some UK enterprises prefer to limit themselves to the nearest microregion, if it is profitable, and not to enter the global market; innovative enterprises are more successful in international operations. The work of Neves, Teixeira, and Silva (2016) is devoted to assessing the influence of R&D on export potential. At the same time, the authors clarify that the case of Portugal is the example of a peripheral country, somewhat isolated from the common EU market, although the economy of Portugal is open. The general trend is that exporting enterprises prefer (or are forced) to invest in intangible assets, while such an initiative is not so important for importers and domestic market operators. Researchers point out that namely foreign consumers are forcing companies to innovate, because they have competing products for comparison. After facing new tasks, exporters are looking for non-standard ways to solve them, because they cannot use the nonexistent experience of the domestic market. This phenomenon is known as the "learning-by-exporting effect". Onişor (2015) clarifies that innovation must be open.

But any innovation requires additional funds that are not always available to companies, especially in low- and middle-income countries. SMEs in Vietnam prefer to work on a subcontract, transferring a number of processes to support the foreign trade transaction, for outsourcing. At the same time, the government encourages the initiative of exporters, believing that access to foreign markets will stimulate companies to improve production and introduce high quality standards, calling it "learning by doing" – a synonym for the example above. Zehir, Köle, and Yıldız (2015) also talk about the importance of innovation for export promotion. In addition, the export potential reflects the company's ability to survive during the recession of the national economy. In this regard, Krammer, Strange, and Lashitew (2018) advance an interesting idea, arguing – on the example of emerging economies (the BRIC countries) – that unfavorable conditions in the domestic market can become an incentive for export. This is somewhat contrary to the well-established tradition of developed countries, where mature, well-established players usually enter the foreign market because of overcrowding inside the country.

Kaleka and Morgan (2017) consider the evolution of practical methods of marketing theory in the domestic and foreign markets. For the latter, a positioning strategy is added to the cost efficiency and differentiation parameters. Using the cases of various enterprises, the authors show that the effectiveness of building a strategy, based on these parameters, can be assessed using mathematical models.

Further, the issues of creating a business environment, which is favorable or, on the contrary, inauspicious for exporters in Ukraine, will be considered. A certain paradox should be not-

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ed – although enterprises have internal reserves for innovation, thanks to many years of cooperation with foreign partners, the lack of targeted state regulation in many industries has led to the formation of unfavorable business environment. Expansion of export activities, especially in recent years, is encouraged, but at the same time, company management should follow the latest trends and areas of foreign trade at the macro level. The tasks of a marketing department are not limited solely to finding consumers and assessing the stability of business partners abroad, as for most companies in developed countries, where the domestic policy is stable and the terms of trade change gradually.

Many works of Ukrainian scientists in the last two or three years are devoted to the research of Ukraine's foreign trade structure, which is characterized by ultimate changes. The works should be noted that suggest the ways to overcome imbalances in foreign exchange earnings and to increase the efficiency of foreign economic operations. Thus, Krupiak (2017) names the disparities in the commodity structure of exports as one of the main reasons for the instability of Ukraine's position in the world market; Dalyk and Duliaba (2016) indicate that even under favorable global market conditions, exporting industries have reached production capacity and require technical renovation; a negative trend is also the lack of government support for domestic producers, the consumer policy in foreign trade, which led to "easy imports", instead of stimulating the production by Ukrainian enterprises; Zadoia (2016) says that it is inappropriate to assess foreign economic activity only on the basis of analysis of export-import flows, it is necessary to compare the investigated indicators with the GDP dynamics. Also, the scientist explains the reasons of economic crises in Ukraine over the past ten years, arguing that the economic downturn in 2009 was triggered by the global marketplace deterioration (i.e., the state could actually affect these processes), while the crisis of 2014–2016 was caused by a decline in domestic production. In this sense, the research conducted by Pyankov and Ralko (2016) distinguishes from the descriptive assessment of Ukraine's foreign trade, adopted in many publications. The authors calculated additional indicators based on the ratio between trade volumes and GDP (so-called trade quotas), explained the reasons for the decrease of export and import absolute volumes in Ukraine. Pelekh (2018) states that the current trends of the world market should not be measured in isolation from the recent paradigmatic change in concepts that describe the global economy content, such as the new economic geography (introduced by P. Krugman), or provisions of the evolutionary economy. Despite of the detailed analysis of Ukraine's foreign trade, presented in the works mentioned above, scarce attention is still paid to the problem of developing a method for the complementary assessment of international economic cooperation and the integration of results, obtained by using the most common approaches and indicators.

The article aims to identify the main tendencies characterizing the structure of Ukraine's foreign trade, to ground the state's ability to implement the strategy of expansion in order to stimulate external economic activity in the non-traded markets.

2. METHODOLOGY

The practical tasks, which formed the basis of the research and constituted its main stages are the following:

- the level of inter-industry trade has been estimated using the Grubel-Lloyd and the Horvath (comprehensive concentration, CCI) indices;
- on the basis of this, a methodical approach to the development of a foreign trade strategy in the selected geographic and commodity areas, using the potential of non-traded markets, has been developed.

3. RESULTS

The global market, as well as the list of trade leaders, is relatively stable in the mid-term. By total volumes of operations, the rank of states changes gradually, with a few exceptional cases – for example, launching some breakthrough technology into the market. G20 countries are unlikely to give

up their positions soon: this means that the most attractive and profitable markets are overcrowded, and a new participant can hardly enter them. But how far is this established opinion true? Any state, choosing a strategy of foreign economic activity, first of all should assess its real competitive advantages and determine potential buyers. Then, it becomes immediately clear whether it is necessary to start with niche segments or try to compete with global leaders.

Signing the EU-Ukraine Association Agreement and the Free Trade Agreement with Canada has been a significant advantage for Ukraine. However, despite the governments' initiative, entrepreneurs and consumers find it difficult to reorient themselves to new conditions, and old suppliers of products to the EU regard Ukraine as a competitor, which, however, has not already obtained sufficient experience in unfamiliar markets. Therefore, it would be wrong for Ukraine to use aggressive strategies in order to enter European and North American markets, but it is necessary to combine a niche approach with the search for untraded markets – those suffering from the deficit of a certain product and therefore not creating artificial barriers. On the contrary, they are working sometimes themselves on attracting foreign exporters.

Now, researchers pay less attention to commodity trade than to the non-financial sector. It is believed that creating and selling services is more cost-effective and prestigious, especially if the status of a leader in the world market can be achieved. However, the infrastructure for providing materialized services is based on real production; the life-support sphere in each country requires, without exception, the minimum necessary volume of production in a "physical" state. It is consumed by residents who can work further on the creation of services. In addition, high-tech markets are often closed to new entrants, while the real industries support entry to markets for exporters from other countries or regional entities. With the intensification of diplomatic relations between Ukraine and the EU since 2014, a number of barriers to enter the national markets of European countries were eliminated, but the objective list of industries has been eliminated, where Ukraine cannot still compete on an equal basis with foreign producers. Unfortunately, this includes a large part of the high-tech sector nomenclature. Nevertheless, there are a number of commodities, for the production of which Ukraine possesses competitive advantages and which are in a shortage in the markets of developed countries. This is not always raw materials at the stage of minimal processing; in addition, export expansion was more often hampered by the lack of information about potential trading partners and the capacity of the consumer market, rather than by real tariff and non-tariff barriers. Today, the priority task is to identify such potentially favorable markets for Ukrainian exporters – producers of the real sectors, although at the same time it is necessary to explore the aspects of the services provision.

The large external debt and deficit of the state budget are generally negative factors that reduce the reputation of the country as a reliable foreign partner. There are countries that place abroad more foreign exchange reserves than are circulated within the national economy (for example, the United States), or use loans and transfers for the development of local industries (such as Israel), but these are isolated cases that cannot serve as an example for others, because the conditions, favorable to the contradictory (in terms of traditional postulates of the theory of international economic relations) method of management, evolved historically and on the basis of a complex of unrepeatable factors. Therefore, the growth of both the aggregate debt and state debt of Ukraine in recent years is clearly a negative trend that somewhat reduces the level of creditworthiness of the country, and accordingly – the image of individual enterprises that try independently to expand the range of contacts with businesses in other countries.

The apparent increase in the absolute volume of external debt of the general government sector began in 2010–2011 (Figure 1).

One of the reasons could be a sharp fall of GDP in 2009 (as a consequence of the recurrent global crisis of 2008). The underdevelopment (in comparison with international standards) of the domestic stock market and the virtual absence of mutual international integration of portfolio assets of leading Ukrainian exporters resulted in a delay of the crisis; it occurred a bit later, in accordance with

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Sources: State Statistics Service of Ukraine (2017), World Bank (2018).

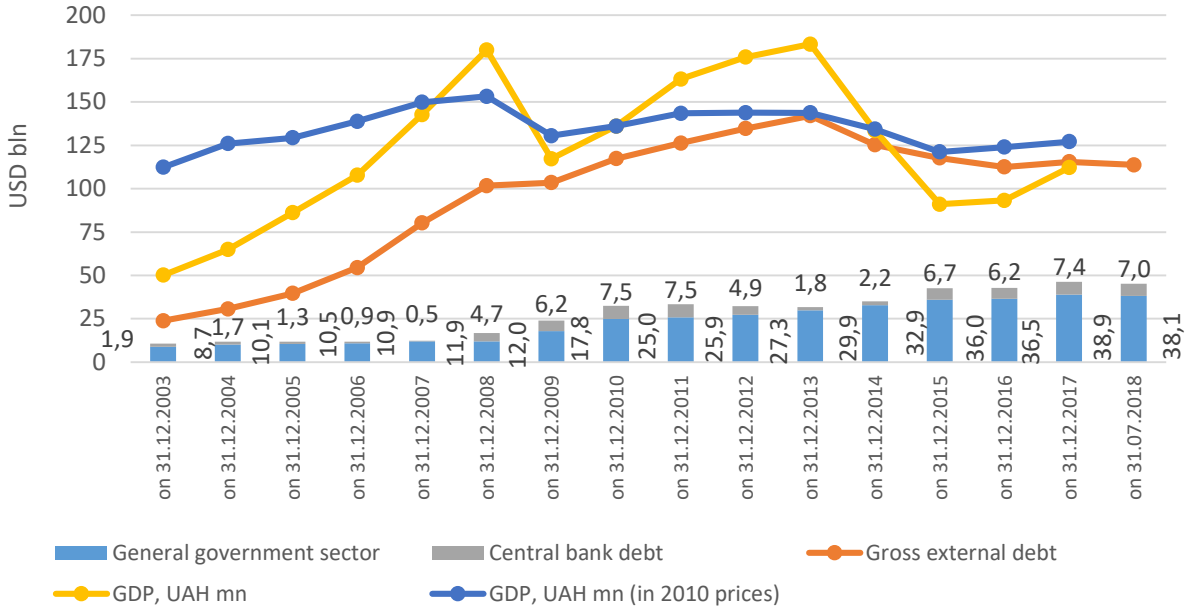

Figure 1. Dynamics of external debt and GDP of Ukraine

the "domino effect", foreign trade partners that suffered the most become unable to conduct commercial operations on the former ordinary scale. It reduced currency revenues to Ukrainian economy. However, immediately after 2010 in Ukraine, GDP growth was observed at the same pace as in 2003–2008.

The next period of decline happened in 2014–2015. With the fall of the GDP, public debt began to rise. But the gross external debt, which includes the sector of public administration and the commercial sector, which reflects the business activity in foreign trade, began to decrease gradually.

In 2017, the GDP nearly reached the level of 2006 (according to current prices, excluding the deflator – that is, the indicator of nominal volumes of funds circulated in the national economy). The dynamics of the adjusted GDP (in 2010 prices) is not liable to significant fluctuations, but given the fall of the national currency, it is too optimistic.

Total public debt of the public sector (external and internal debt, the general government sector covers central government units, regional governments, local governments and social security funds) is highly diversified across the EU and Europe. Thus, in 2017, public debt exceeded the absolute GDP in Greece (176.1%), Italy (131.2%), Portugal (124.8%), Belgium (103.4%), the share of public debt in GDP exceeded 75% in Croatia, Cyprus, Austria and the United Kingdom (the average for the EU is 82%). In absolute volumes, Italy, France, the UK and Germany leaded – over 2 trillion euro (Eurostat, 2017).

External public debt (excluding foreign direct investment) at the end of the 2nd quarter of 2018, in the countries with the largest share of total public debt, has accounted for (in million euro) (European Central Bank, November 2018): Austria (14,178), Belgium (10,707), Greece (6 – reduction from 2014, when public sector debt was over 12 billion euro), Italy (85,630), Cyprus (339), Portugal (4,978). But there are some countries that do not provide statistics on the major balance of payments articles for open access. So, if we evaluate the stability of the EU economies in terms of public debt, then, Italy, for example, occurs to be an unreliable partner in the long-term cooperation period: the negative growth trends both in absolute terms and in the ratio of public debt to GDP predict a future reduction in working capital on the consumer market, if the government does not take preventive measures immediately.

When analyzing the structure of foreign trade, it is necessary to combine indicators of commodity and geographic breakdown. If certain products in

terms of deliveries differ from the others significantly, the degree of geographical diversification needs to be determined. The extreme monopoly case is net export or import of one product from one country. The methods of evaluation of the market monopolization level are recommended, such as the Horvath index. Its parameters will be the share of countries in the trade of selected products. The more countries participate in the exchange and the more equal their shares are, the lower is the index score. If there is a monopoly country, the index is close to one. The ratio of total trade in goods and services in Ukraine has gradually changed, but several general trends can be distinguished.

If to calculate goods and services together, then the aggregate share of exports is almost equal to the share of imports, that is, the structure of foreign trade can be balanced (in 2017, the share of imports made 51.2%, exports – 48.8%). Provided the relative equality of absolute indicators, the trade balance would be zero. In 2010–2013, the balance of trade in goods and services was negative (mainly due to a significant excess of imports in goods over its exports), in 2014–2016 – positive, and again negative in 2017. Such fluctuations were caused by changes in volumes of commodity operations, while trade in the service sector is more or less stable. In the first half of 2018, exports of goods and services amounted to 27.8 billion US dollars, imports – 28.5 billion. Thus, the balance was negative –653.1 million US dollars (State Statistics Service of Ukraine, 2018). As in previous periods, the balance of trade in goods was also negative, and the balance of trade in services was positive.

The export and import quota for goods and services is kept at a level of 45-50%, which indicates the openness of the national economy and sufficient capacity of the domestic market. This situation is perfect from the theoretical point of view: exactly the half of manufactured goods are consumed in the country, therefore, due to changes in market conditions, external or internal buyers have a sufficient supply of stability. However, if to look closely, there is a sharp discrepancy in the structural indicators: the import quota for trade in services does not exceed 6%, export quota –11%. That is, the production and exchange of material products is much more intense than of the intangible (non-material) ones.

The Grubel-Lloyd index estimates the intensity of intra-industry trade – the bilateral exchange of goods (services) between countries (Measuring Globalisation: OECD Handbook on Economic Globalisation Indicators, 2005).

The methodology for estimating intra-industry trade can also be used in geographical dimension, to calculate the ratio between export and import in all positions, for each country separately. This will help to identify the countries with equivalent exchanges and those with one-way currency flows. Characteristics of Ukraine's foreign trade in quantitative indicators are given in Table 1.

During 2014–2018, Ukraine exported goods to 17 countries (without importing products from them on an economically significant scale): Aruba; Bahamas; the Gambia; Guinea-Bissau; Djibouti; Equatorial Guinea; Eritrea; Iraq; Liberia; Libya; the Maldives; the Marshall Islands; New Caledonia; Palestine; Togo; the Central African Republic; Chad. Only importing operations were carried out with 6 countries: the Virgin Islands (USA); Guyana; Greenland; Laos; the Faroe Islands; the Falkland (Malvinas) Islands. But such cases are rare and usually apply to single contracts.

Table 1. Quantitative characteristics of foreign trade

Source: Calculated by the authors on the basis of international trade data of Ukraine.

Indicators	The 1st half of 2018	2017	2016	2015	2014
Trade surplus, the number of countries	98	101	96	94	108
Total partner countries	158	166	161	156	175
The Grubel-Lloyd index (trade in goods and services)	0,946	0.932	0.962	0.992	0.995
Only exports, the number of countries	6	3	5	2	7
Only import, the number of countries	3	2	2	4	0

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Source: Calculated by the authors on the basis of international trade data of Ukraine.

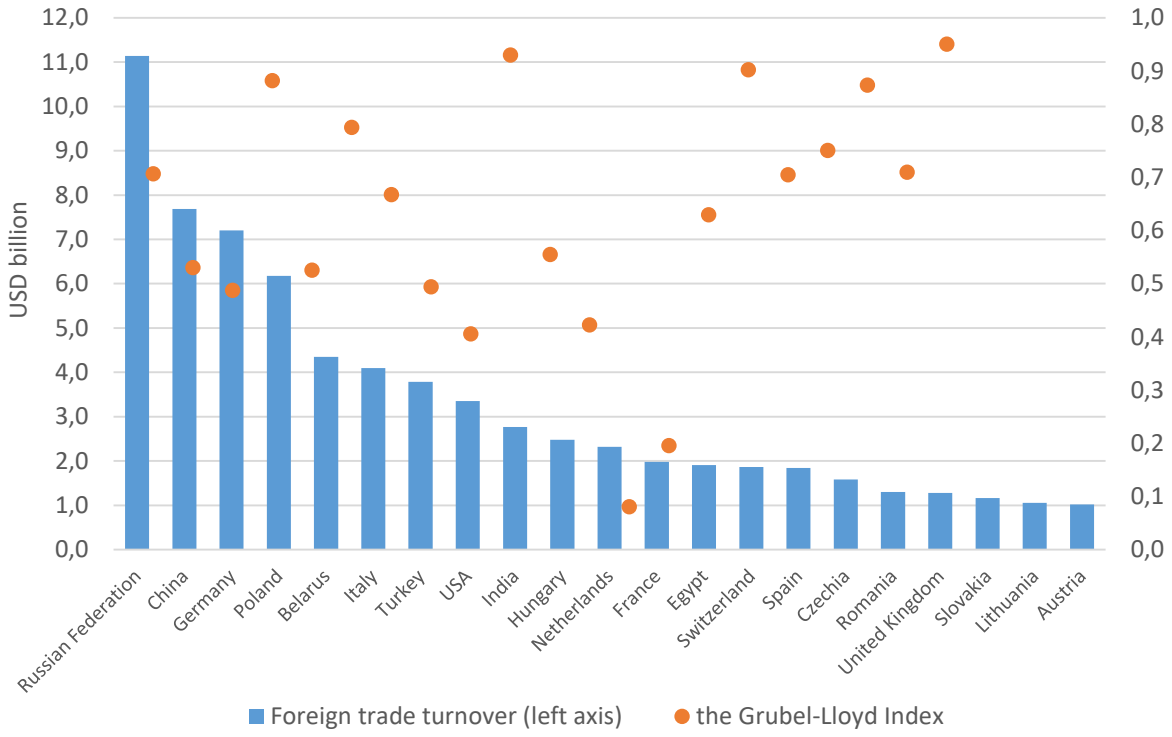

Figure 2. The Grubel-Lloyd index for the countries with the largest foreign trade turnover (in relation to Ukraine), 2017–2018

Ukraine had the most balanced foreign trade (the Grubel-Lloyd index in geographical dimension exceeds 0.9) in 2017 – the first half of 2018 with the following countries: Austria; Azerbaijan; Belgium; Bosnia and Herzegovina; Denmark; Indonesia; Kazakhstan; Colombia; South Korea; Côte d'Ivoire; Mexico; South Sudan; Poland; Uganda; Hungary; Croatian; Czechia; Sri Lanka. However, final conclusions might not be made only on the basis of this indicator, because it refutes the absolute values, that is, the same index scores can be obtained in countries with different volumes of foreign trade turnover. But if to combine the analysis of intra-industry trade with methods for assessing the market concentration degree, it is possible to identify exactly those areas that require the most attention from the government – these are either potential prospective areas for expanding cooperation or uncontrolled sources of national currency outflows.

A comparative analysis of the foreign trade indicators is shown in Figure 2.

According to the indicators of the geographical structure of foreign trade of Ukraine, the Grubel-Lloyd index was an average of 0.932, which proves an intensive bilateral exchange (Table 2). In the first half of 2018, it grew to 0.946. Table 2 represents the index scores for individual countries in 2017.

Table 2 data can be used for the preliminary analysis of the foreign trade equilibrium, but the Grubel-Lloyd index does not indicate the prevalence of export or import operations, it only reveals the exchange intensity. Therefore, after identifying problem countries, it is necessary to return to their absolute indicators and to determine the sources of imbalance.

There is a reciprocal relationship between the size of foreign trade turnover and the score of the Grubel-Lloyd index: the lower the volume of trade in a particular product group, the higher the probability that the index value will reach unity. In 2017, totally 37,894 different geographical directions of deliveries (i.e., the number of net export, net import and export-import operations by all countries according to the commodity groups, with the specification in for digits by "УКТЗЕД

Table 2. Country groupings by the Grubel-Lloyd index (geographical dimension)

Scores	Countries
0.9-1.0	Bosnia and Herzegovina, Colombia, Denmark, South Korea, South Sudan, Mexico, Austria, Uganda, Belgium, Hungary, Kazakhstan, Azerbaijan, Czech Repablic
0.8-0.9	Greece, Poland, Thailand, Croatia, Slovakia, Serbia, Uzbekistan, Cфte d'Ivoire, Turkmenistan, Malaysia, Latvia
0.7-0.8	Italy, Indonesia, Estonia, Costa Rica, United Kingdom, Sri Lanka, Lithuania, Russian Federation, Romania
0.6-0.7	Hong Kong, Turkey, Madagascar, Ireland, Trinidad and Tobago, Ghana, Spain, South Africa, Bulgaria, Singapore
0.5-0.6	Montenegro, Macedonia, Mauritius, Zambia, the Netherlands, Puerto Rico, Nicaragua, San Marino, China, Belarus, Saudi Arabia, Democratic People's Republic of Korea, Pakistan, Sierra Leone
0.4-0.5	USA, Germany, Finland, Japan, Albania, Dominican Republic, Israel, Peru, Philippines, France, Qatar, Cyprus, India
0.3-0.4	Vietnam, Portugal, Taiwan, Laos, Georgia, Bangladesh, Sweden, Mozambique
0.2-0.3	Morocco, Tanzania, Canada, Slovenia, Democratic Republic of the Congo, Gabon, New Zealand, UAE, Oman, Moldova, Argentina, Seychelles, Bolivia, St. Kitts and Nevis, Malta, Iran, Botswana, Luxembourg
0.1-0.2	Australia, Switzerland, Armenia, Monaco, Kenya, Chile, Cuba, Syria, Norway, Kyrgyzstan, Kuwait, Guinea, Belize, Liberia, Jordan, Myanmar, Mongolia, Mauritania
< 0.1	Other countries

[UKTZED]" – the national system of classification of commodities for the purpose of foreign trade activities) with the annual trade contract, exceeding USD 1 thousand, were fixed. Of these, 27,345 that is 72%, were mono-operations – only one country was either exporting or importing, and the Grubel-Lloyd index equalled to zero.

In Ukraine, there is no single definite area of trade in goods either in geographical or commodity structure (although the latter is more concentrated). In 2017, the largest share of exports did not exceed 5-10% (32% of total exports in aggregate for the Russian Federation, Poland, Turkey, Italy and India), the share of imports (totally almost 37%) was allocated to three countries – the Russian Federation (14.5%), China (11.4%) and Germany (11% of total imports by countries of the world). Commodity structure of foreign trade within countries is also highly diversified, with some exceptions.

The largest export revenues in Ukraine over the last 3-4 years belong to 2 commodity groups, which account for an average of 45% (or 19.3 billion US dollars). These are vegetable products (21.3% of the total exports in 2017) and non-precious metals and wares from them (23.4%), respectively). Another 30% is practically equally formed by fats and oils of animal or vegetable origin, mineral products and machines, equipment and mechanisms, and electrical equipment.

Mineral products (25.2%); machinery, equipment and mechanisms, electrical equipment (20%); products of the chemical and related industries (13.2%) are leading in imports –58.4% (or 28.9 billion US dollars) in aggregate, the shares of other commodity groups are insignificant (State Statistics Service of Ukraine, 2017).

Tables 3-4 represent commodity positions that make at least 1% of total exports and imports. In the structure of imports, these positions count for almost 40%, while in exports – only for 20%, which highlights a greater diversification of supplies from abroad. This is confirmed by the Horvath index – 0.113 for imports and 0.144 for exports (the closer its value to 1, the higher is the degree of market monopolisation).

The largest commodity export and import positions do not coincide, which indicates a low degree of intra-industry trade, at the level of diversification by small groups. In imports, fuel materials (oil, petroleum products and coal), chemical industry (medicines and mainly crop products), cars, equipment and machinery prevail, while in exports – agricultural products (sunflower, safflower or cotton oil, corn, wheat, barley, soya beans, fennel or rape seeds, and various waste from the removal of vegetable fats and oils) and semi-finished products from metal rolling. The high proportion of timber in exports indicates a deterioration of the ecological state. The exception is the last position – turbojet and turboprop engines, other gas turbines.

Ukraine was the net importer of crude oil and petroleum products from 6 countries in 2017. The share of Azerbaijan was 85.2%, Iran – 8.5%, Kazakhstan – 4.0%, the Russian Federation – 1.5%,

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Table 3. Commodity groups with the largest share of imports into Ukraine in 2017

No	Commodity groups, УКТЗЕД [UKTZED]	USD bln	%
1	Oil and petroleum products	4159,2	8.4
2	Gas family (oil gases)	3807,5	7.7
3	Black coal, anthracite	2744,1	5.5
4	Passenger cars and other motor vehicles designed primarily for the transportation of people	2078,6	4.2
5	Medicinal products, whether or not packaged for retail sale	1428,5	2.9
6	Electric telephone or telegraph devices; video phones	962,4	1.9
7	Insecticides, rodenticides. fungicides, herbicides, disinfectants	935,0	1.9
8	Fertilizers with 2 to 3 nutrients of N, P, K; goods of group 31 in packages of gross mass not more than 10 kg	759,8	1.5
9	Tractors, with the exception of tractors of group 8709	693,2	1.4
10	Nuclear reactors; fuel cells for nuclear reactors; equipment and devices for the separation of isotopes	537,3	1.1
11	Isolated cables, cables and other insulated electric conductors; fibre optic cables	530,2	1.1
12	Machines for automatic processing of information and their blocks; magnetic or optical readers	525,0	1.1
Together by groups		19160,7	38.6
Total imports, all commodities		49607,2	100

Romania – 0.8%, Hungary – 0.01%. Total volume of supplies amounted to 442.22 million dollars. Net imports amounted to 28.934 million dollars, of which 28.92 million came from Italy and only 14 thousand – from Moldova.

Recycled petroleum products are bought by Ukraine from over 50 countries for a total of 4.2 billion US dollars. The leader in supplying is Belarus (1.8 billion US dollars, or 44% of total imports by group 2710), the Russian Federation (6%) and Lithuania (11.3%). Top ten countries with import volumes over 30 million dollars also include Greece, Turkmenistan, Italy, Poland, India, Saudi Arabia and Germany (but their share equals only to 10%). 63.4% of exports come from 4 countries: Malta (22.4%), Latvia (17.6%), Lithuania (14.5%) and Hungary (8.9%). Totally in 2017, Ukraine ex-

Table 4. Products with the largest share of exports from Ukraine in 2017

No	Commodity groups, УКТЗЕД [UKTZED]	USD bn	%
1	Sunflower, safflower or cotton oil	4302,4	9.9
2	Maize	2988,9	6.9
3	Wheat	2759,1	6.4
4	Iron ores and concentrates	2588,2	6.0
5	Semi-finished products made of carbon steel	2541,6	5.9
6	Flat rolled carbon steel, of a width of 600 mm or more, hot rolled, not plated, without electroplating or other coating	1760,5	4.1
7	Isolated cables, cables and other insulated electric conductors; fibre optic cables	1318,1	3.0
8	Ferroalloys	1115,6	2.6
9	Soybeans	1059,6	2.4
10	Seeds of fennel or rape	881,5	2.0
11	Crushed stone, solid residues from the extraction of vegetable fats and oils, except 2304, 2305	804,3	1.9
12	Processing cast iron and specular cast iron in pigs, ingots or other primary forms	738,1	1.7
13	Other rods and bars of carbon steel, without further processing, twisted	728,5	1.7
14	Barley	710,6	1.6
15	Artificial corundum; aluminium oxide; aluminium hydroxide	492,3	1.1
16	Processed timber products, of thickness more than 6 mm	460,1	1.1
17	Pipes, tubes and profiles – hollow, seamless from ferrous metals	448,7	1.0
18	Flat rolled carbon steel, of a width of 600 mm or more, cold rolled, not clad, without electrodeposited or other coating	440,9	1.0
19	Turbojet and turboprop engines, other gas turbines	434,5	1.0
Together by groups		8314,7	19.2
Total exports, all commodities		43264,7	100.0

ported oil and petroleum products to 108 countries of the world with a total volume of more than 180.8 million US dollars.

Unlike crude oil and petroleum products, foreign trade in processed products (position 2710 of UKTZED) is for the most part of bilateral character, that is, with the same country, both export and import operations have been carried out. There are also countries for which the Grubel-Lloyd index has been quite high, indicating the parity of exchange.

The geographical distribution of partner countries is extremely heterogeneous and unpredictable. Importers of Ukrainian refined petroleum products are located in different parts of the world, and the volumes of supplies are significantly different. Compared to the scale of trade in these products in the world market, Ukraine's share is insignificant, besides the country has a negative balance – about 4 billion dollars, therefore the recommended strategy is further development of niche markets.

Grain crops are one of the most important articles of Ukrainian exports. For example, the volumes of wheat sales abroad in 2017 amounted to about 2.8 billion US dollars, while only crops for 3 million US dollars were imported (out of 17 partner countries, Germany (45.6%), Czechia (17.7%), France (15.1%), Poland (7.1%) and Belarus (5.1%) – together 5 economies – accounted for 90.5% of purchases). On a small scale, Ukraine is a net importer of wheat from Serbia, Slovakia, the Russian Federation, Belgium, the USA and Finland (the total volume of procurement from these countries did not exceed 4.4%). But in the case of such small deliveries, more varied crops are bought abroad, intended for landing, not for processing and consumption.

Ukraine exported wheat to 66 countries in 2017, and in 55 cases it was net export operations. The most important markets for sales were Egypt, Indonesia, Bangladesh and India (about 48.3% of total exports). The next 30% came to Philippines, Tunisia, Thailand, Spain, South Korea, Morocco and Turkey, while the share of other countries did not exceed 3%. Intra-industry trade on a significant scale was carried out, as was noted above, with only 11 countries, and for almost half of them the Grubel-Lloyd index was higher than 0.1.

Five most important importers of wheat to Ukraine can be named (in the absolute values) – they are Germany, Czech Republic, France, Poland and Belarus), but there is no priority export partner.

Ukraine had a positive balance of foreign trade in 2017 by UKTZED heading 8411 "Turbojet and turboprop engines, other gas turbines": exports amounted to 434.5 million US dollars into 51 countries, and imports made 29.4 million dollars out of 34 countries of the world. Trade cooperation was carried out with 60 countries in general. The largest volumes were imported from the Russian Federation (44.7%), India (22.6%), UAE (10.5%), the Netherlands (5.8%) and Southern Sudan (3.6%) – the total share made 87.2% of total imports. 88% of total exports were shipped to 5 countries: the Russian Federation (36.4%), China (26.2%), India (12.4%), UAE (8.2%) and Latvia (4.8%). The Grubel-Lloyd index was quite high for this product: in 16 countries – more than 0.1 and in 8 – more than 0.5. In absolute volumes, as well as in the balance of foreign trade, a clear trend was not observed.

Thus, it is unclear whether intra-industry trade is a prerequisite for the promotion of export operations. Most likely, it also depends on the individual characteristics of the commodity, but in intra-industry operations, trade is not as important as the export-import of high-tech products.

Poland is the second country to export goods from Ukraine (the total value of supplies made USD 2.7 billion, but due to high imports (over 3.4 bln) in 2017, a negative foreign trade balance was recorded (681 million US dollars). Export is carried out for 716 (67 of them net exports) commodity items (with the 4 digits specification according to UKTZED), imports – for 907 (of which 258 – net imports). Positive balance was observed for 269 items, negative – for 703 ones.

Imports from Poland to Ukraine are low concentrated, the largest share, were indicated for oil gases (9.1%); coke and semi-coke, retrieved coal (4.9%); isolated insulated cables and oth-

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er insulated electric conductors; fibre optic cables (4.6%) – the aggregate amount were less than 20%. The share of other commodity items does not exceed 3% of the total import of goods. There are also no priority groups in exports, 35% of the total flow was spent on insulated wires, cables and other insulated electric conductors; fibre optic cables (11.1%), iron ores and concentrates (10.5%), rolled flat carbon steel of a width of 600 mm or more, hot-rolled, not clad, electroplated or other (8.1%), furniture for sitting, and their parts (5.6%). All other items provided less than 3% of exports.

For 143 items out of 649 ones, the Grubel-Lloyd index exceeded 0.5; but output data were different. Therefore, the authors can conclude that Polish market may be favorable for Ukrainian exporters, because the range of goods, familiar to local consumers, is wide enough and there are no significant barriers to entry.

The abovementioned examples show that more intensive inter-industry trade is observed, when the exchange between two countries is carried out on a wide range of goods. Rarely, the high values of the Grubel-Lloyd index are observed in monopolised markets. Given the diversity of conditions of the domestic market and the geopolitical position of a country in the world, it is difficult to calculate certain normative indicators of the structure and volume of foreign trade (including the correlation between the branches of material and non-material production), it can be done only for a group of countries similar in business environment and global position.

CONCLUSION

The results of the study can be interpreted in two ways. The negative trends in the foreign trade of Ukraine have been confirmed, which are further aggravated by the imbalance of export-import flows. They, in turn, are provoked by a decrease in the production potential of national companies and aggregate GDP. A weak presence in the global market in many commodity positions is due to both strong competition and the use of hidden protectionism methods, as well as insufficient marketing policy aimed at informing potential consumers about Ukrainian products. In addition to standard descriptive methods, the use of structural indicators of foreign trade has made it possible to detect the most significant problems – for example, mono-import countries or partners with non-equivalent volume of exchange operations.

But the imbalance in the geographical and commodity structure of foreign trade has made it possible to identify promising destinations for the export of products of national manufacturers. Mono-import countries are at least familiar with the basic procedures in the organization of trade and the business environment in Ukraine, so new areas of expanding the existing cooperation should be consider, and agreements on exports should be negotiated. In this case, marketing activities must aim at raising the awareness of Ukrainian brands, stimulating interest in the country. States with a high value of the Grubel-Lloyd index in the geographical dimension, but with the incompatible supply nomenclature, especially towards products of the low degree of processing, are also potential sales markets, but the task of the marketing mix will be to reorient consumers and intermediaries to better quality (and, accordingly, higher price) of goods produced in Ukraine. The country should no longer be perceived as a source of cheap raw materials and semi-finished products – or, at least, it has to start working under the terms of compensation transactions.

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