

Participation in International Integration Associations as a Factor of Ukraine's Global Competitive Power

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Olena Zayats

Uzhhorod National University, Department of International Economic Relations;
Universitetska St. 14, Uzhhorod 88000, Ukraine; Email: olena.zayats@uzhnu.edu.ua;
ORCID: 0000-0001-9904-8706

Olena Pryiatelchuk

National University of Kyiv, Department of International Business, Institute of International Relations;
Universitetska St. 14, Uzhhorod 88000, Ukraine; Email: pryiatelchuk@gmail.com;
ORCID: 0000-0002-5222-452X

Maryna Korol

Uzhhorod National University, Department of International Economic Relations, Universitetska St. 14,
Uzhhorod 88000, Ukraine; Email: maryna.korol@uzhnu.edu.ua; ORCID: 0000-0003-4031-0858

Mykola Palinchak

Uzhhorod University; Universitetska St. 14, Uzhhorod 88000, Ukraine;
Email: palinchakmm@gmail.com; ORCID: 0000-0002-9990-5314

Ihor Korol

Uzhhorod National University, Department of Algebra and Differential Equations; Universitetska St. 14,
Uzhhorod 88000, Ukraine; The John Paul II Catholic University of Lublin; ul. Konstantynów 1 H, 20-708 Lublin,
Poland; Email: korol.ihor@gmail.com; ORCID: 0000-0001-7826-0249

Abstract

Current globalisation processes require the identification of priority areas for Ukraine's further integration into the international economy. The right choice of direction, tools and forms of implementation allows the government to determine, justify and implement a competitive strategy for the country. The study aimed to determine the relationship between international economic integration and Ukraine's global competitive power. Identifying Ukraine's sectoral comparative advantages in trade with the EU and evaluating the index of the regional orientation of Ukraine for specific groups of goods and services made it possible to define the effects of economic collaboration with the European region. The assessment of the complementarity index of Ukrainian–European trade relations revealed that Ukraine and the European Union are main trading partners. Furthermore, the analysis of the mechanism of the Association Agreement between Ukraine and the European Union proved that the agreement actively contributes to the growth of Ukraine's global competitive power. Comparative analysis in historical retrospect revealed priority areas for improving the integration processes which help to form the main competitive advantages of the country.

Keywords

integration, collaboration, competitive advantages, liberalisation, international trade, association

Introduction

Independent Ukraine has become a member of many integration associations, which have influenced the formation of its global competitive power in various ways. The WTO has enumerated 18 free trade zones in which Ukraine participated in 2020. These international integration associations (IIA) cover 45 countries of the world and concern the trading of goods, services and other aspects of mutual regulation between countries. However, most of these IIAs are anaemic and do not affect Ukraine's global competitive power. Furthermore, almost all agreements including Russia and Belarus are not currently implemented due to the war. Since the European Council granted Ukraine the status of a candidate for the European Union in June 2022 at the summit in Brussels, the course of European integration has become not only a generally recognized direction of the further development of Ukraine but also a strong motivator for Ukrainian people, business and economy.

Since 2014, the strategic course of Ukraine's socioeconomic and political transformations has been very closely linked to the idea of European integration. In particular, the Association Agreement (AA) with the EU has become a key mechanism for determining the pace and direction of Ukrainian reforms and mechanisms for global competitiveness.

European integration is recognised as a priority area of the strategic development of Ukraine. In this aspect, it is essential to assess the attractiveness of European markets and the level of prospects for cooperation between Ukraine and the EU. The leadership of this regional market is mainly based on a high level of commodity diversification of exports and imports, as well as a low concentration of foreign trade flows, which reduces the risks of foreign economic activity associated with change. It should be noted that the dynamic composition of such an analysis will also indicate the high prospects of European markets.

The study of prospects for cooperation with the EU should be carried out by analysing not only the total volume of trade flows but also their structures. An important area of study for Ukraine's cooperation with European companies is the possibility of Ukraine's in-depth integration into complex technological chains of manufacturing both raw materials and products. This fact is indicated by current changes such as the increase in the general objects of production, provisions, and the progressive structure of the economy.

Literature review

When studying the economic and trade effects of Ukraine's participation in the processes of international economic integration and disintegration, it is essential to consider the scientific community's work and separate the transformation of Ukraine's global competitive power from its participation in IIAs. There is no clear consensus in the international academic literature on whether integration leads to an increase or decrease in the global competitive power of a participating country. However, the interdependence of these processes is evident.

The development of international economic integration and disintegration processes significantly affects the distribution of competitive power in the world economy. It should be noted that the unification of countries into interstate integration groups results from the countries' desire to increase their joint global economic and competitive power; thus, a country's global competitive power and international economic integration are interrelated processes. For example, Palinchak, Zayats and Bokoch (2020) have noted that the member states of the same international integration group receive different economic and trade effects from the union. Whether a country will benefit from becoming part of the integration process is studied quite closely.

Most studies focus on the participation of countries in IIAs. However, the literature on the impact of Ukraine's involvement in international integration on its global competitive power is less consistent. Given that the AA with the EU is a crucial mechanism that determines the pace and direction of Ukrainian reforms and the EU is Ukraine's leading trading partner, it is essential to study the impact of Ukraine's membership in international integration on its global competitive power.

Numerous studies have investigated the EU states and their level of global competitiveness. For example, Paola Annoni and Lewis Dijkstra (2019) studied the spatial variations of the regional global competitive power of the EU compared to the average international integration union. Lucia Bolea, Rosa Duarte, Geoffrey J. D. Hewings and Julio Sanchez-Choiz (2021) predicted scenarios for the development of disintegration in the EU. Marcin Szczepański (2019) analysed European competition policy, covering all trade and competition relations forms. Amanda Alves, Eric Brousseau and Timothy Yu-CheongYeung (2021) explored the interaction between the institutions of the EU and the member states. Ivan Arribas, Sami Bensassi and Emili Tortosa-Ausina (2020) quantified the processes of strengthening or hindering global trade through regional trade agreements, and Son Thanh Nguyen and Yanrui Wu (2021) identified network trading models. Eleonora Cutrini (2019) empirically studied the evolution of spatial differences between the member states of the EU and highlighted the growing polarisation in recent years. Cutrini concluded that a strong production base and high-productivity specialisation are key explanatory variables for differentiated paths of economic development and, as a result, increased EU competitiveness. Jan in ,t Veld (2019) examined the macroeconomic benefits of the EU single market by simulating a scenario where tariffs and

non-tariff barriers are reintroduced and determined that such a scenario would significantly reduce intra-regional trade. Less open trade means a reduction in the size of the market and a weakening of competition and, consequently, competitiveness.

Linda Glawe and Helmut Wagner (2021) examined whether a member state of the EU is on the path of high or low institutional growth. Based on the method of synthetic control, Nauro Campos, Fabrizio Coricelli and Luigi Moretti (2019) identified the effects of growth from EU membership and proved that the EU membership significantly and positively impacts global competitiveness, except for the case of Greece. Olena Zayats (2020) identified the competitive power of IIAs and calculated the EU's competitiveness index. Lavinia-Maria Cernescu, Claudia Bitea and Luisa Izabel Dungan (2018) determined the global competitiveness ranking of the EU member state Romania and predicted what the country needs to do and when it will be able to reach the stage of an innovation-oriented economy. Maria C. Latorre, Zoryana Olekseyuk, Hidemichi Yonezawa and Sherman Robinson (2019) assessed Brexit and, based on in-depth macroeconomic analysis, concluded that there will be losses for both the UK and the EU.

Vasilios Plakandaras, Aviral Kumar Tiwari, Rangan Gupta and Qiang Ji (2020) considered the future economic and trade climate throughout the EU. The European Court of Auditors (2018) examined the rules of global competition, which are extremely important for the proper functioning of the EU single market. Kryztof Beck (2021) identified differences in the business cycles of the EU. Bas Karreman, Martijn J. Burger and Fred van Eenennaam (2019) dedicated their work to identifying European regions where competition between cluster organizations has been identified. European regions with such a location pose a more serious threat to each other's global competitiveness. John Gibert and Eva Muchova (2018) analysed the change in the export shares of Central and Eastern Europe since the fifth enlargement of the EU. Martijn Burger, Ronald Wall and Bert van der Knaap (2013) combined information from international economics, business and urban geography to develop a measure of revealed competition between territories for investment. Nebojsa Stojic, Perica Vojinic and Zoran Aralica (2018), using the method of synthetic control, studied the impact of trade liberalisation and changes in exports in the new EU member states. Lucjan T. Orłowski (2020) argued that a more profound integration of EU markets is required to accelerate economic growth.

The analysis of the competition policy of member states or cluster support strategies in the EU has thus been comprehensive. However, to date, no study has compared Ukraine's global competitive power dynamics, based on the World Economic Forum (WEF) criteria, with the overall AA implementation process.

Aim

The study aims to measure the causal relationship between international economic integration and Ukraine's global competitive power to identify areas that lead to the growth of Ukraine's global competitive power. One of the objectives is to assess Ukraine's global competitive power dynamics, based on WEF criteria, in relation to the implementation of the AA with the EU.

Methods

A comprehensive study of Ukraine's global competitive power in the framework of integration with the EU was conducted to empirically prove the relationship between Ukraine's participation in international economic integration and its global competitive power. The study indicated the need to analyse changes in Ukraine's national economic structure due to the reorientation to trade with the EU. Identifying Ukraine's sectoral comparative advantages in trade with the EU can help predict the mechanism for ensuring Ukraine's competitive power in the long run and determine whether a synergistic effect is being realised within the framework of Ukraine and the EU's integration. As a result, the index of the regional orientation of Ukraine for specific groups of goods and services was assessed.

The regional orientation index was calculated according to the formula:

$$RO = \frac{EX_{ktr} / EX_{kr}}{EX_{kt-r} / EX_{k-r}}; \quad (1)$$

where EX_{ktr} is the export of goods t by country k to region r ; EX_k is the total exports by country k to region r ; EX_{kt-r} is the export of goods t by country k to countries outside the region r ; and EX_{k-r} is the total exports by country k to countries outside the region r .

If the value of the index is more than 1, the country's exports tend to be relatively more oriented to this region than to other countries outside the region. Conversely, if the value of the index is less than 1, the country has no advantage in favour of the region in the export of goods. Thus, a country has revealed comparative advantages if the value of the index exceeds 1 and revealed comparative disadvantages if the value of the index is less than 1.

Results

The study of the mechanism of the AA between Ukraine and the EU showed that the provisions of the agreement determine the possibility of realising certain economic effects of the global competitive power of Ukraine, such as the probability of increasing the competitiveness of goods (competition effect) by reducing tariff barriers; increasing market size (economies of scale) due to preferential access to national markets of the developed European countries, the vast majority of which are leading players in world trade; and the likelihood of increasing Ukraine's attractiveness to European investors (due to regulatory approximation to the EU acquis).

Nowadays, the EU is one of Ukraine's main trading partners in goods and services. From 2013 to 2019, Ukraine had a negative balance of trade in goods, but this balance improved after the signing of the AA. At the same time, the export of goods to EU countries was growing. In 2020, there was a general decrease in the trade in goods between Ukraine and the EU (by 14.4% compared to 2019) as well as a general decrease in the trade in services (by 13.2% compared to 2019).

Among EU countries, Ukraine imports most from Poland, Italy and France, and exports to Poland, Italy and Germany. In general, Ukraine had a positive balance of trade in goods with EU countries such as Belgium, Bulgaria, Italy, Spain, Cyprus, Latvia, Malta, the Netherlands, Portugal, Romania, Slovakia and Hungary. It had a negative trade balance with the rest of the EU.

As a result of the choice of the European vector of integration, the commodity structure of trade in Ukraine was reoriented. Thus, since 2015, there has been a decrease in the export of mineral products, chemical products and related industries; pulp of wood or other fibrous cellulosic materials, base metals and articles thereof; and machinery, equipment and electrical equipment. At the same time, export grew in the sector of vegetable products, fats and oils. The largest increase in Ukraine's exports to the EU took place in the sectors of vegetable products and fats and oils of animal and vegetable origin.

These trends confirm the negative static effects of trade reduction resulting from the reorientation from the eastern vector to the European one. In addition, such trends determine the reduction of Ukraine's global competitive power in industry and a new vector of Ukraine's competitive power and the possibility of its implementation in the agricultural sector.

In recent years, the reorientation of trade in services in the European direction was fixed. In 2019, Ukraine's export of goods to EU countries increased by 7.7%. The import of services from the EU increased by 6.2% in 2019. The directions of Ukraine's reorientation to exports of services from 2013 to 2019 are shown in Table 1. Table 2 shows the export structure of Ukraine's trade in services with the EU from 2013 to 2019 and its share in the general structure of Ukraine's export of services. The leading European exporters of services to Ukraine were Germany, Great Britain, Cyprus and Poland.

Table 1. Reorientation of the export of services from Ukraine during 2013–2019 (in USD millions)

	Total	CIS countries	EU countries	Asia	Africa	America
Export						
2013	14,233.2	5,814.9	4,195.7	1,427.0	153.0	1,581.9
2014	11,520.8	4,034.3	3,991.6	1,350.7	131.3	1,242.8
2015	9,736.6	3,544.8	2,927.9	1,120.3	145.1	1,134.7
2016	9,868.0	3,727.9	3,004.9	1,154.5	125.1	1,132.9
2017	10,714.3	3,763.9	3,452.7	1,301.9	149.3	1,184.8
2018	11,637.9	3,701.3	3,979.9	1,480.9	161.4	1,338.2
2019	15,628.9	...	4,469.0	1,951.3	178.6	1,631.9
Import						
2013	7,523.0	1,466.5	4,212.0	1,585.1	35.1	580.4
2014	6,373.1	1,204.0	3,148.8	920.8	44.3	694.8
2015	5,523.0	839.6	2,750.1	850.9	39.4	609.7
2016	5,326.5	672.6	2,421.6	888.8	40.7	773.4
2017	5,476.1	650.4	2,532.5	1,086.3	80.8	724.9
2018	6,308.8	688.5	3,355.8	1,334.7	155.8	535.5
2019	6,942.2	...	3,728.9	1,613.3	207.9	599.9

Source: Combined by authors based on data from SSSU (2021).

The structure of Ukraine's export of services and goods was in a state of turbulence from 2013 to 2019. However, service providers felt fewer shocks from the reorientation and, in 5 years, made up for the change and even increased exports in 2019.

Table 2. Ukraine's service export structure in 2013–2019 (in million USD)

Groups of services	Total trade data				Trade with EU	
	2013	2015	2018	2019	2018	2019
	Export					
Material resources processing services	1,722.1	1,078.3	1,699.3	1,640.1	1,033.0	1,050.9
Repair and maintenance services not included in other categories	349.7	192.2	242.7	270.1	68.8	90.9
Transport services	7,981.8	5,263.2	5,851.4	9,109.9	1254.9	1,325.2
Travel services	358.1	200.9	298.9	335.0	57.9	56.4
Construction services	224.8	291.6	150.3	125.7	37.6	35.1
Insurance services	87.3	46.1	45.0	75.5	30.3	33.5
Financial services	337.8	190.8	107.5	133.6	60.8	81.6
Royalties and other services related to the use of intellectual property	97.4	51.0	42.8	55.4	17.3	32.7
Telecommunications, computer and information services	1,477.2	1,585.6	2,115.0	2,575.9	806.4	992.6
Business services	1,543.8	816.7	1,060.7	1,278.2	515.7	572.3
Services for individuals, cultural and recreational services	36.0	15.8	19.1	21.6	14.7	12.3
Government services	17.2	4.3	5.2	7.7	3.0	4.5
Total	14,233.2	9,736.7	11,638.0	15,628.9	3,900.2	4,288.0

Source: Combined by authors based on data from SSSU (2021).

This positive trend can be observed in the export of services for the processing of material resources, transport services, services in the field of telecommunications and information, and business services. Compared to 2013, all these sectors are characterized by a significant decline in exports in 2015 and a recovery (and sometimes even an increase) in 2019. In addition, exports of services to the EU increased in almost all sectors in 2019 compared to 2018.

The armed conflict of 2022 radically changed the structure of Ukraine's foreign trade. At the same time, almost half of Ukraine's trade turnover (49.9%) currently falls on the EU, which has significantly increased its importance for Ukraine's foreign trade. The export and import of goods showed an almost uniform reduction (by 20%), leading the trade balance to remain negative in the amount of about USD 1 billion. However, with a 19.9% decrease in the value volume of merchandise turnover, physical volume decreased by 32.3%, which indicates an increase in world prices for the leading foreign trade goods of Ukraine.

The reduction in exports is based on a decrease in supplies of metals and their products, mineral products, food and agricultural products, machines, equipment and transport. At the same time, there was a slight increase in the export of fuel and energy products, as well as wood and pulp and paper products (by 2.6%). Such changes caused an increase in the food and agricultural sector's share in the commodity structure of Ukrainian exports (from 37.5% to 44%), while the share of metals and products decreased.

The European orientation of Ukraine's foreign trade defines new requirements for doing business, including forming partnerships with various organisations in the EU. Therefore, it is beneficial to determine whether these countries are "natural trading partners".

The complementarity index of Ukrainian–European trade relations was assessed by Shnyrkov and Pliushch (2020) in their study, in which the authors calculated the complementarity index of trade between Ukraine and the EU for 97 product groups during the period 2011–2018, and then, using a linear regression model, forecast the complementarity of the product structures of Ukraine and the EU for 2019 and 2020.

The calculations indicated that Ukraine and the European Union are real trading partners. In 2018, European exports served the needs of the Ukrainian market by 72.72%, and Ukrainian exports served the needs of the EU market in goods by 79.19%. In 2019, the complementarity of Ukrainian exports was 82.7%, and in 2020, 84.11%. Furthermore, the complementarity of European exports to Ukrainian imports was forecasted at 70.71% in 2019 and 70.35% in 2020 (Shnyrkov & Pliushch 2020). The dynamics of the complementarity index, which have tended to increase gradually since the signing of the AA, indicate that the EU and Ukraine are real trading partners; their mutual trade in a free trade area is beneficial for both parties. The establishment of international partnerships between their enterprises and organisations can thus help strengthen the competitive power of both Ukraine and the EU.

Using formula 1 and the data in Table 2, the indices of the regional orientation of exports of goods and services from Ukraine to the EU in 2018–2019 were calculated. The results of the calculations are shown in Tables 3 and 4.

The analysis of the indices of the commodity orientation of Ukraine's exports to the EU shows that in 2018–2019, 9 of the 20 groups of goods had comparative advantages of regional orientation in the European market. Furthermore, the dynamics of the regional orientation indices show an increase in value in 10 out of the 20 groups, indicating the gradual realisation of the synergistic effect of the trade in goods between Ukraine and the EU.

The highest values of the indices are for raw hides and leather, wood and wood products, textile materials and products, footwear, hats, umbrellas and various industrial goods. Ukraine has the smallest comparative advantages of regional orientation in terms of the mass of wood, pearls and precious stones, land vehicles, aircraft, floating vehicles and optical instruments.

Table 3. Indices of the regional orientation of Ukraine's merchandise exports to the EU in 2018–2019

Groups of goods	2018	2019	Dynamic
I. Live animals, products of animal origin	0.6	0.5	↓
II. Products of plant origin	0.8	0.8	
III. Fats and oils of animal or vegetable origin	0.5	0.2	↓
IV. Completed food products	0.6	0.6	
V. Mineral products	2.2	1.8	↓
VI. Products of the chemical and allied industries	0.6	0.8	↑
VII. Polymeric materials, plastics and articles thereof	0.5	0.6	↑
VIII. Untreated leather, tanned leather	23.0	19.6	↓
IX. Wood and wood products	3.1	3.6	↑
X. Mass of wood or other fibrous cellulosic materials	0.3	0.5	↑
XI. Textile materials and products	6.8	7.1	↑
XII. Shoes, hats, umbrellas	6.7	8.3	↑
XIII. Products from stone, plaster and cement	1.3	1.6	↑
XIV. Natural or cultured pearls, precious or semi-precious stones	0.4	0.4	
XV. Base metals and articles thereof	0.8	0.8	
XVI. Machines, equipment and mechanisms; electrical equipment	2.1	2.4	↑
XVII. Land vehicles, aircraft and floating vehicles	0.4	0.4	
XVIII. Optical and photographic devices and apparatus	0.4	0.7	↑
XIX. Various industrial goods	2.1	6.2	↑
XX. Artworks	10.9	2.8	↓

Source: Combined by authors based on data from SSSU (2021).

Regarding the indices of the regional orientation of Ukraine's exports of services to the EU in 2018–2019, 8 of the 12 groups of services in 2018 and 10 of the 12 groups of services in 2019 had comparative advantages of regional orientation in the European market. In addition, 8 of the 12 groups of services showed an increase in the regional orientation index in 2019 compared to 2018, indicating a synergistic effect of trade between Ukraine and the EU.

Table 4. Indices of the regional orientation of exports of services from Ukraine to the EU in 2018–2019

Groups of services	2018	2019	Dynamic
Material resources processing services	3.0	4.7	↑
Repair and maintenance services not included in other categories	0.8	1.3	↑
Transport services	0.5	0.5	
Travel services	0.5	0.5	
Construction services	0.7	1.0	↑
Insurance services	4.1	2.1	↓
Financial services	2.6	4.2	↑
Royalties and other services related to the use of intellectual property	1.3	3.8	↑
Telecommunications, computer and information services	1.2	1.7	↑
Business services	1.9	2.1	↑
Services for individuals, cultural and recreational services	6.6	3.5	↓
Government services	2.7	3.7	↑

Source: Combined by authors based on data from SSSU (2021).

To continue analysing the impact of integration with the EU on Ukraine's global competitive power, the general state of implementation of the AA conditions and their impact on strengthening Ukraine's competitive power were considered. The status of compliance with the terms of the AA was analysed through an information and analytical system for monitoring the implementation of the AA "Pulse Agreement", which was introduced by the Government of Ukraine in 2017.

In 2019, 40% of the planned tasks of the year for implementing the AA were completed (EIP 2021). The progress of the annual commitments as of 2020 was 29%. The overall progress in the implementation of the AA for 2014–2024 is expected to be 52%. Its implementation by areas is shown in Table 5.

Table 5. Total progress in Ukraine's implementation of the AA by sphere, %

Sphere	2019	2020	Total*	Sphere	2019	2020	Total*
Justice, freedom, security, human rights	14	42	83	Entrepreneurship	79	32	79
Public health	35	36	41	Energy	44	27	37
Agriculture	64	25	36	Financial sector	26	0	30
Science, technology and innovation, space	61	16	38	Transport, transport infrastructure, postal and courier services	25	25	27
Public finance management	0	50	68	Customs issues	33	100	44
Sanitary and phytosanitary measures	43	7	53	Consumer protection	0	0	42
Technical barriers to trade	63	75	82	Political dialogue, national security, and defence	100	0	87
Taxation	62	33	60	Humanitarian policy	69	55	74
Education, training and youth	100	71	67	Government procurement	87	44	80
Statistics and information exchange	0	-	56	Social policy and labour relations	100	0	39
Environment and civil protection	28	19	47	Energy efficiency and housing	69	42	57
Financial cooperation and the fight against fraud	100	0	24	Intellectual property	-	-	22

* Total progress from 1 November 2014 to 31 October 2024.

Source: Combined by authors based on data from EIP (2021).

Ukraine has made some progress in removing technical barriers to trade. This is evidenced by the presentation in 2019 of new draft industry rules on the machine and electromagnetic safety compatibility with the European Commission. Parliament has also registered a bill on market surveillance and consumer protection, another unresolved requirement (Report 2019). In addition, in 2020, Ukraine became a full member of the International Organization of Legal Metrology. It signed the Metric Convention for full participation in the Agreement on Mutual Recognition of National Standards and Certificates of Calibration and Measurement issued by National Metrological Institutes.

These regulations will help eliminate duplicate regulatory regimes, which is a necessary step for further alignment with EU legislation, given the possible start of negotiations on a Conformity Assessment and Acceptance Agreement for Industrial Products. The convergence of Ukrainian

and European legislation in this regard can not only strengthen Ukraine's global competitive power in trade with the EU but also help simplify trade procedures with other countries, thus affecting Ukraine's competitive position on the world stage.

In autumn 2019, the EU approved a Comprehensive Strategy for Ukraine's implementation of the AA chapter on sanitary and phytosanitary measures. In 2020, low progress in meeting this requirement (7%) was shown. The agricultural goods sector is one of the leading sectors in trade between Ukraine and the EU. Accordingly, it is necessary to consider the prospects of increasing Ukraine's global competitive power in this sector, provided that the requirements are met.

Ukraine has also made significant progress in customs. In autumn 2019, new legislation was adopted. If successfully implemented, it paves the way for the mutual recognition of authorised economic operators from the EU and Ukraine's accession to two European customs conventions, thereby simplifying formalities in the trade in goods and creating a standard transit procedure. In addition, in 2020, Ukraine fulfilled 100% of the tasks for the year by developing and concluding a memorandum of cooperation between customs authorities and business entities. The simplification of customs formalities between the countries of the Deep and Comprehensive Free Trade Areas (DCFTA) should affect the mechanism of pricing and the implementation of Ukraine's pricing strategies in EU markets, which in turn can strengthen the competitive position of Ukrainian companies in European markets. Furthermore, this will lead to the implementation of EU companies' pricing strategies in the markets of Ukraine, which may result in the displacement of certain non-competitive Ukrainian enterprises from markets that focus on price-sensitive consumers.

Regarding financial services legislation, Ukraine has made some progress on current payments and capital movements, disclosure requirements for issuers of securities, and capital requirements in the banking sector. The Strategy for the Development of the Financial Sector of Ukraine until 2025 is currently being prepared. Its concept envisages the implementation of the norms of the EU *acquis* to ensure the internal market regime. However, this prospect remains uncertain, given the changes in EU regulation that have taken place since the conclusion of the AA negotiations. The content of the AA in this regard remains irrelevant. In addition, in 2019, the issue of ensuring the sustainability of recent reforms in the banking sector, including the nationalisation of Privatbank, became politically sensitive in the dialogue between the new government and the EU and the International Monetary Fund (EUEA 2020). Unfortunately, as of 2020, there had been no progress on regulatory convergence in this area.

Progress in the field of intellectual property rights has also been limited. Although some acts have already been adopted (for example, the improved protection of design rights for semiconductor integrated circuits), many bills submitted by the government under the reform package of intellectual property rights contain problematic provisions that the government must revise.

The unbundling of Naftogaz was completed by the end of 2019. Based on the decision of the Cabinet of Ministers on 18 September 2019, which defined a new model as an "independent system operator (ISO)", the new transmission system operator was transferred to the Ministry of Finance. Reforming the electricity sector remains challenging in the current oligopolistic market structure. According to EU law, the aim is to move from an over-regulated single-buyer model with cross-subsidies to a competitive market. Since 1 January 2019, the retail market has been open to large consumers.

Regarding renewable energy sources, Parliament adopted a new law on auctions to support renewable energy sources in April 2019, which was enacted in May of the same year. Investments in the sector, including European and foreign companies, continue at a high rate due to preferential tariffs. The share of electricity generated from renewable sources increased from below 2% in 2018 to 5% in mid-2019 (EUEA 2020).

However, Ukraine has not yet lifted the ban on exports of unprocessed timber, which contradicts the DCFTA, despite repeated requests from the EU, accompanied by specific proposals for forest conservation, and despite repeated attempts by the Ukrainian authorities to resolve the issue. Another trade barrier, the lack of a value-added tax (VAT) refund related to soybean and rapeseed exports, has also not been lifted. The EU and Ukraine have signed an amendment to the AA provisions on trade preferences for poultry meat and its preparation to introduce more predictable conditions to the bilateral trade in poultry products.

An important step in strengthening Ukraine's competitive power in EU markets – as well as among countries with which, according to integration agreements, the EU has a preferential trade regime – is Ukraine's participation in the Regional Convention on Pan-Euro-Mediterranean Preferential Rules of Origin. This document is signed by the European Free Trade Association (EFTA) countries (Iceland, Liechtenstein, Norway, Switzerland), as well as Albania, Algeria, Bosnia and Herzegovina, Georgia, Egypt, Israel, Jordan, Lebanon, Kosovo, Northern Macedonia, Morocco, Moldova, Palestine, Serbia, Tunisia, Turkey, Ukraine, the Faroe Islands and Montenegro. It is an instrument that establishes identical rules of origin for goods under free trade agreements concluded between its Contracting Parties. The Convention also fixes the so-called “diagonal cumulation principle”, which allows the application of common rules of origin for more than two countries if they have preferential agreements containing the same rules of origin and cumulation provisions (Rules 2020).

Ukraine's participation in the Convention expands its preferential export opportunities and realises its comparative advantages in the value chains. In practice, this strengthens Ukraine's global competitive power in the EU markets and the markets with which the EU has preferential trade agreements, in the EFTA markets and the markets of countries with which the EFTA has preferential trade agreements, and in the markets of Moldova, Georgia and their trading partners.

Thus, Ukraine adheres to its commitments under the AA. Considering Ukraine's achievements in terms of implementing the provisions of the DCFTA to increase its global competitive power, Ukraine's progress contributes to a coordinated economic policy of the member states.

Moreover, the gradual progress in meeting the conditions under the AA directly affects the overall dynamics of Ukraine's global competitive power, and the steps taken by Ukraine to adopt the EU *acquis* correlate with the increase in Ukraine's global competitive power index according to the WEF (Verhun, Zayats & Pryiatelchuk 2020). The comparison of Ukraine's global competitive power dynamics with the overall process of AA implementation is presented in Table 6.

Table 6. Comparison of the dynamics of Ukraine's global competitive power, based on WEF criteria, with the overall process of the AA implementation

WEF criteria	WEF rating		Dynamics	Sphere of the AA	Progress of implementation, %	Dynamic
	2018	2019				
Institutions	110	104	↑	Justice, freedom, security, human rights	83	↑
				Intellectual property	22	–
Infrastructure	57	57	–	Transport, transport infrastructure, postal and courier services	27	–
				The energy efficiency of housing and communal services	57	↓
Health	94	101	↓	Public health	36	↑
Qualification	46	44	↑	Education, training and youth	67	↑
Goods and services markets	73	57	↑	Taxation	60	↓
				Sanitary and phytosanitary measures	53	↓
				Technical barriers in trade	82	↑
				Entrepreneurship	79	↓
				Customs issues	44	↑
Financial system	117	136	↓	Financial cooperation, fight against fraud	24	↓
				Financial sector	30	↓
Innovative potential	58	60	↓	Science, technology and innovation, space	38	↓

Source: Combined by authors based on Zayats (2020).

Comparing the data on the dynamics of Ukraine's global competitive power, based on WEF criteria, with the overall process of implementing the AA, we can conclude that the progress of the AA implementation directly affects Ukraine's competitive power as measured by the WEF criteria. Interdependence has been established for 6 of the 7 WEF criteria. The other 5 criteria, which are not shown in Table 6, do not pertain to the commitments made by Ukraine in the framework of EU integration.

Conclusions

The study aimed to establish and measure the impact of international economic integration on Ukraine's global competitive power and identify areas that lead to the growth of Ukraine's competitive power. The critical contribution of this work is the analysis of Ukraine's participation IIAs, as it reveals the impact of integration on Ukraine's global competitive power. The paper's findings contribute to economic science in the field regarding the proper integration directions of Ukraine. The results of the literature review and the empirical analysis of data demonstrated that Ukraine's integration with the EU will eventually increase Ukraine's global competitive power.

The results of this study suggest that an important factor influencing the strength of Ukraine's global competitive power in the context of EU integration is its preferential access to the markets of 28 European countries and, using the principle of diagonal cumulation, to the markets of 98 countries with which the EU has preferential trade agreements. The possibility of such preferential exports strengthens the potential for realizing the comparative advantages of Ukraine as an exporter of finished products and a participant in value chains.

Second, the study also showed that a factor that strengthens Ukraine's global competitive power is its progress in fulfilling the terms of the AA and the gradual convergence of Ukraine's regulatory framework with the EU acquis. A comparison of the dynamics of Ukraine's global competitive power, based on WEF criteria, with the overall implementation process of the AA shows the interdependence between these indicators. Accordingly, the acceleration of progress in meeting the conditions of the AA will increase Ukraine's competitive power.

Therefore, the study argues that static integration effects resulting from competition, trade reorientation and the reallocation of production resources cannot be assessed unambiguously. In terms of preferential trade with the EU, Ukrainian producers often lose in competition with European ones, export to the EU consists mainly of goods with a low degree of processing, and, during the years of AA implementation, trade has not yet fully reoriented to EU markets (especially trade in goods). To accelerate the growth of exports, in the face of increasing competition from EU producers, Ukraine should improve the quality and standards of its products, increase the processing of raw materials and semi-finished products, and create added value in Ukrainian production.

Currently, Ukraine has fulfilled its obligations related to the AA with the EU by 70%. By the end of 2022, Parliament must adopt the necessary package of laws to start negotiations on Ukraine's accession to the EU. This will significantly deepen cooperation between Ukraine and the EU and expand and qualitatively increase the implementation of the steps of the AA.

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