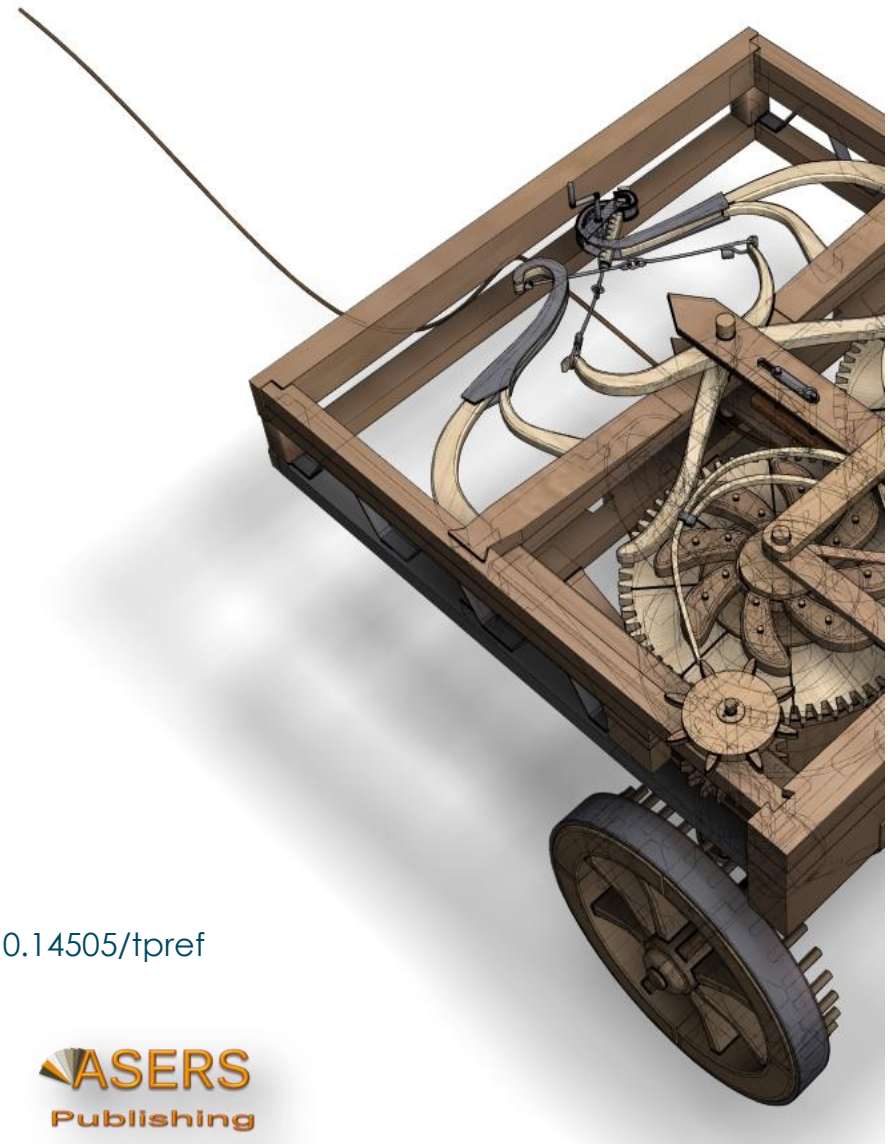
Theoretical and Practical Research in Economic Fields



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Call for Papers
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Theoretical and Practical Research in Economic Fields

Many economists today are concerned by the proliferation of journals and the concomitant labyrinth of research to be conquered in order to reach the specific information they require. To combat this tendency, **Theoretical and Practical Research in Economic Fields** has been conceived and designed outside the realm of the traditional economics journal. It consists of concise communications that provide a means of rapid and efficient dissemination of new results, models, and methods in all fields of economic research.

Theoretical and Practical Research in Economic Fields publishes original articles in all branches of economics – theoretical and practical, abstract, and applied, providing wide-ranging coverage across the subject area.

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Modelling the Risks of the Exporter's Company in Times of Crisis

Hassan Ali AL- ABABNEH
Department of Electronic Marketing and Social Media
Faculty of Economic and Administrative Sciences, Zarqa University, Jordan
ORCID: 0000-0003-1136-8911; Researcher ID: E-8754-2019
hassanalialababnehh@gmail.com

Andrii TSIAPA
Ukrainian State University of Chemical Technology, Ukraine
ORCID: 009-0005-6494-2296
andriitsiapa@gmail.com

Nataliia RUDYK
Department of Finance named after Victor Fedosov
Faculty of Finance, Kyiv National Economic University named after Vadym Hetman, Ukraine
ORCID: 0000-0002-4367-0392
nrudyk@gmail.com

Mykhaylo KAPYRULYA
Department of International Relations
Interregional Academy of Personnel Management, Ukraine
ORCID: 0009-0005-1527-9598
mkapyrulya@gmail.com

Rostyslav YATSUKH
Department of Finance named after S.I. Yuriy, Faculty of Finance and Accounting
West Ukrainian National University, Ternopil, Ukraine
ORCID: 0009-0005-6485-4616
ryatsukh@gmail.com

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Abstract: Exporting companies face numerous risks generated both within the country and by importing countries. Therefore, early detection and analysis of national and international risks is relevant and urgent. The aim of the study is to analyse the relationship between the volume of Ukrainian exports and macroeconomic indicators of Ukraine and importing countries. This will reveal the potential impact of fluctuations in these indicators on changes in the level of major export risks. The study employed economic and statistical analysis, correlation and regression analyses. The study determined the key influencing factors on the activities of Ukrainian exporting companies depending on the importing country. The level of gross domestic product (GDP) per capita is an important factor influencing the volume of exports from Ukraine to Poland, Spain, and Germany. Exports to Poland are also closely correlated with fluctuations in the local currency. Exports to China and Turkey do not significantly depend on changes in local macroeconomic indicators. Macroeconomic indicators of Ukraine - GDP per capita, customs, as well as other import duties and taxes on international trade - significantly affect the total volume of exports. The obtained results and drawn conclusions are of practical importance for Ukrainian exporters in terms of raising awareness of the described risks, and the recommendations provided on the basis of the study will contribute to their mitigation. The prospect of further research is to identify differences in the exporters' risks depending on the field of their activity.

Keywords: export relations; taxes; tax risk; foreign economic activity; fiscal policy; entrepreneurship.

JEL Classification: F13; F42; F62; L26.

Introduction

The foreign economic activity of states is in complex relationships with various economic, geopolitical, and social factors generated both at the level of individual countries and on a global scale (Ratten, 2020; Caldara & Iacoviello, 2022). These factors unevenly affect countries' export opportunities and their competitiveness in the international arena (Haque *et al.* 2020; Catanzaro & Teyssier, 2021). At the same time, export orientation is a key direction of economic growth, stimulates innovation and increases the competitiveness of the national economy (Kulikov *et al.* 2022).

Ukraine is an important exporter of numerous types of products (Ivanov, 2022), in particular, grain, oil, ferrous and non-ferrous metals, some food products, etc. (Júnior *et al.* 2022; Zubko, 2024). However, to date, Ukraine's foreign economic activity, in particular, in export issues, faces significant challenges related to the full-scale war in the country (Lytvynova *et al.* 2022; Chepeliev *et al.* 2023). These challenges, in addition to the obvious problems caused by the destruction of infrastructure, the occupation of territories and the blockade of logistics routes, affect the economic indicators of Ukraine and other countries (Glauber *et al.* 2023; Lin *et al.* 2023).

The worsening economic and geopolitical conditions make exporters of Ukraine face the aggravation of numerous risks: economic, trade, customs, currency, political, tax, etc. (Hoekman *et al.* 2020; Heiland & Yalcin, 2021). However, the specifics of foreign economic activity is that the exporters' activity is influenced not only by local problems, but also by the situation in the countries that import their products (Smiesova *et al.* 2019; Pan *et al.* 2023). Therefore, the study of export risks should cover not only national indicators, but also the main macroeconomic indicators of importing countries (Rasshyvalov *et al.* 2024).

The aim of the research is to analyse the relationship between the volume of Ukrainian exports and macroeconomic indicators of Ukraine and importing countries. This will reveal the potential impact of fluctuations in these indicators on changes in the level of major export risks. The topic of the study is important given the insufficient research on the risks of exporters in wartime. What is new in the work is the construction of quantitative models of the impact of internal factors and macroeconomic conditions in importing countries on the volume of the country's exports under martial law. The aim involves the fulfilment of the following research objectives:

- Study the change in the volume of Ukrainian exports to the main importing countries before and after the start of the war;
- Conduct correlation and regression analyses between the total export volume of Ukraine and its macroeconomic indicators;
- Conduct a correlation-regression analysis between the volume of Ukrainian exports to the main importing countries and their macroeconomic indicators;
- Identify the impact of fluctuations in the main macroeconomic indicators of countries on export risks and provide recommendations for mitigating the main risks for Ukrainian exporters.

1. Literature Review

Exporting companies constantly face numerous risks, the spectrum and impact of which varies depending on the specifics of the industry, the economic situation in partner countries, logistical factors, etc. Wei (2024) used the cross-border e-commerce industry as an example and identified risks related to cross-border settlement, taxation, supervision, logistics, intellectual property protection, and privacy. Zhang *et al.* (2023) noted the lack of effective risk warning services in cross-border trade. The researchers pointed to the low accuracy of the assessment and the weak ability to detect hidden risks, which is associated with the use of outdated analysis models, unreliable resources and incomplete data.

The noted problems can affect companies regardless of the stability of external conditions. In turn, external conditions, especially global crisis, can deepen existing problems, but also create new atypical tests for exporters. The recent spread of the COVID-19 virus was one of the biggest economic shocks of this century, prompting numerous studies on the impact of this phenomenon on exports. According to Azim *et al.* (2024), the main consequences of the pandemic for international economic relations, include unilateralism, protectionism, growing uncertainty, declining economic indicators, reduced demand in importing countries, etc. Heinzova *et al.* (2023) noted that COVID-19 created new risks associated with various national restrictive measures that took precedence over economic measures. The researchers used the example of small companies in the Czech Republic and found a significant drop in exports due to the risks posed by COVID-19, as well as risks related to the partners' payment morale of. Bass *et al.* (2024) examined global exports to the United States of America (US), Japan, and EU countries during pandemic. The researchers found a decline in exports of products

dependent on China but noted an increase in exports from countries that use more automated production processes. Shingal (2024) noted a significant decline in global services exports, particularly in tourism, transport, and financial services. Bond (2024) confirmed a significant impact of the pandemic on both exporters and importers, with the duration and strength of the impact varying markedly across industries.

The full-scale war in Ukraine became another global shock (Sokhanvar & Bouri, 2023). Rose *et al.* (2023) observed that disruptions in grain exports due to an invasion affect not only the countries involved in the conflict but also other regions of the world. At the same time, as in the previous study, Steinbach (2023) established that the consequences for other countries are much weaker than for Ukraine and the Russian Federation. Orhan (2022) found that the impact of war spreads through various global channels: financial and commodity markets, trade, migration links. The main areas of influence are financial sanctions, disruptions in logistics chains, and rising prices for raw materials.

Some studies note a significant impact of other crisis trends on export relations and risks. Song *et al.* (2024) investigated the peculiarities of export relations in the context of a trade war between the United States and China. Jiang *et al.* (2023) found that China's exports to the US declined during the trade war, but this shock was mitigated by the redirection of exports to other countries.

The conducted review gives grounds to note the multifaceted impact of crisis phenomena on companies that export their goods to other countries. In addition to new risks, the crisis creates new opportunities provided effective and timely measures. At the same time, the risks of Ukrainian exporters during a full-scale war are understudied. The existing studies do not cover risks, lack quantitative confirmation of the impact of such risks on the exporters' activities, and the specifics of importing countries are mostly not taken into account. This encourages further research using quantitative methods of analysis and taking into account a wide range of risks.

2. Methodology

2.1. Research Design

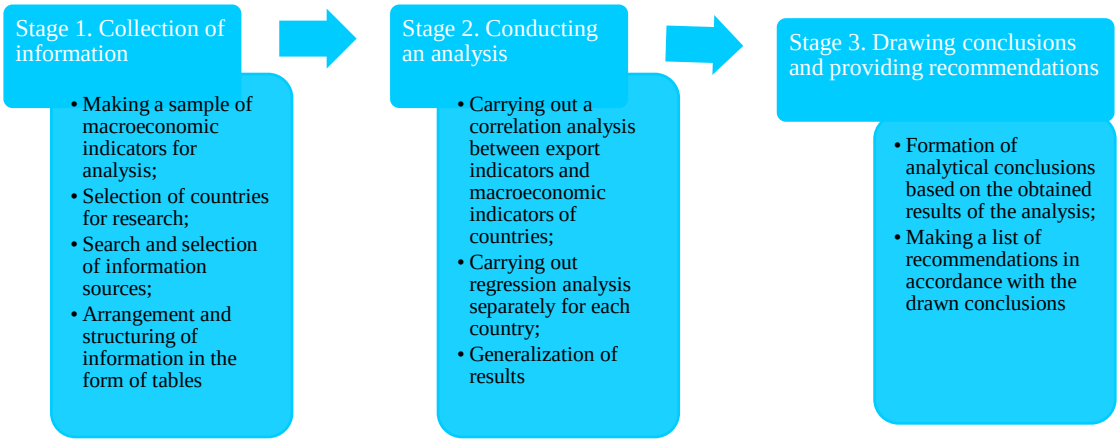
The research design includes three main stages: collecting information, carrying out correlation and regression analysis, drawing conclusions and providing recommendations. Figure 1 illustrates the research design in detail.

2.2. Sample

The sample of countries for the study, except Ukraine, consists of five countries that are the largest importers of Ukrainian products according to the latest data — the results of the first half of 2024. These countries are Poland, Spain, China, Turkey, and Germany.

The volume of Ukrainian exports in monetary terms is defined as the main indicator characterizing Ukraine's exports. This indicator is taken as the volume of exports of Ukraine to the respective country for the analysis by individual countries. When the influence of Ukraine's national indicators on its own exports was analysed, the indicator of the volume of exports is taken as the general volume of exports of Ukraine to all countries of the world.

Figure 1. Research design



Source: created by the authors

The main macroeconomic indicators for 2014-2024 considered in the study are as follows:

- GDP per capita (current US$) – the impact on exports may be a change in the purchasing power of the population in importing countries (economic risks);
- Customs and other import duties (current LCU) and Taxes on international trade (% of revenue) – an increase in customs duties and taxes on international trade for importers can increase the cost of imported goods, which leads to a decrease in demand for them (customs risks, trade risks, fiscal risks);
- Imports of goods and services (annual % growth) — indicates openness to imports, but the growth of the indicator may indicate high competition in the market of imported goods (risks of competitiveness, risks of demand);
- Customs and other import duties (% of tax revenue) – a high share of customs duties in total tax revenues indicates the high significance of such duties for the country. In times of crisis, this may prompt the government to increase customs duties, which has a negative impact on the prices of imported products (fiscal risks);
- Political Stability and Absence of Violence/Terrorism – political instability can lead to significant and unpredictable disruptions leading to economic losses (political risks);
- Official exchange rate (LCU per US$, period average) - fluctuations in the exchange rate are associated with changes in the cost of goods imported into the country (currency risks).

2.3. Methods

The study used economic and statistical analysis to demonstrate changes in the volume of Ukrainian exports to the main importing countries of Ukrainian products. Correlation and regression analyses were used as the main methods in the research. Correlation analysis made it possible to identify links between individual macroeconomic indicators of countries and the volume of Ukrainian exports to these countries. This type of analysis made it possible to reduce the sample of indicators for further calculations by removing indicators with weak correlations (different depending on the country of analysis) from it. Regression analysis made it possible to expand the results of correlation analysis, taking into account the influence of several independent variables on the dependent one (export volume).

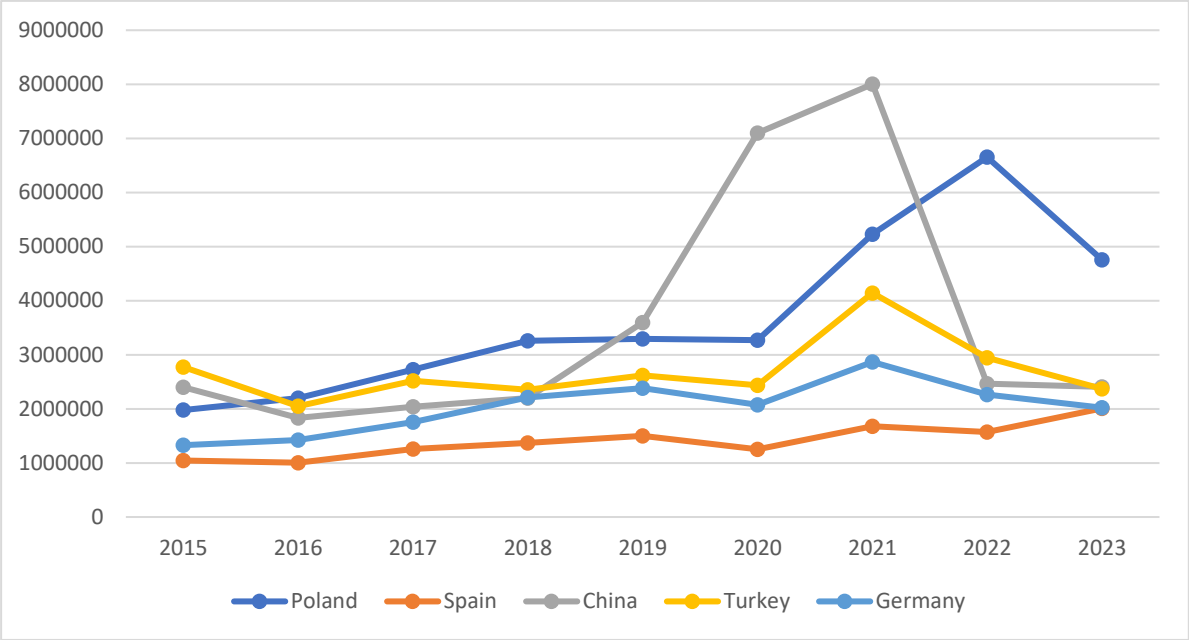
3. Results

Ukraine is an important exporter of grain, sunflower oil, flour and other food products, ferrous and non-ferrous metals, chemicals, etc. Poland, Spain, China, Turkey, and Germany are one of the main importers of Ukrainian products. However, the development of Ukrainian exports is significantly hampered by the full-scale invasion of the Russian Federation into the territory of Ukraine. Figure 2 shows that Ukraine's exports experienced a significant drop in the year the war began - 2022.

Exports to China and Poland have seen a particularly noticeable decline. China is a major importer of agricultural products, but the Russian blockade of Ukrainian ports has seriously disrupted the functioning of logistics chains. The drop in exports to Poland is related to the ban on the import of certain categories of goods from Ukraine to this country and the blockade of the border by Polish carriers. In addition to the noted reasons, the decline in exports was certainly influenced by the occupation of Ukrainian territories, the destruction of infrastructure, the reduction of the workforce, and other consequences of the war.

Despite the noted obvious reasons for the war-related drop in exports, it is also worth studying how the crisis changed the relationship between Ukraine's exports and national macroeconomic indicators. In addition, an important academic task is to assess the relationship between the volume of exports of Ukraine to other countries and the macroeconomic indicators of these countries. This will reveal the main risks of exporters of national products, which are generated both at the internal and external levels. For this purpose, a correlation and regression analysis was conducted in the work, the results of which are presented in Table 1. The table shows the results of the correlation analysis between the volume of Ukrainian exports to the main importing countries and their macroeconomic indicators. The table also contains the results of the analysis between the indicator of total exports from Ukraine and national macroeconomic indicators.

Figure 2. Export volume of Ukraine by the largest importing countries



Source: built by the authors based on data from the State Statistics Service of Ukraine

Table 1. Results of correlation analysis

Indicators	Exports, thousand US$					
	Poland	Spain	China	Turkey	Germany	Ukraine
GDP per capita (current US$)	0.942987	0.898899	0.56975	0.213249	0.971414	0.738007
Customs and other import duties (current LCU)	n/a	n/a	-0.20618	0.241587	n/a	0.164633
Imports of goods and services (annual % growth)	0.288956	0.384923	n/a	-0.02768	0.112097	0.192209
Customs and other import duties (% of tax revenue)	n/a	n/a	-0.58122	0.15656	n/a	-0.39011
Taxes on international trade (% of revenue)	n/a	n/a	-0.49403	0.082591	n/a	-0.33269
Political Stability and Absence of Violence/Terrorism	-0.41935	0.231913	-0.28447	0.614049	-0.0396	0.634897
Official exchange rate (LCU per US$, period average)	0.729352	-0.14401	0.148142	0.239439	-0.37208	-0.09409

Source: calculated by the authors based on (World Bank Group; State Statistics Service of Ukraine)

The volume of Ukrainian exports is closely related to the GDP per capita in such countries as Poland, Spain, and Germany. The total volume of exports from Ukraine is also closely correlated with GDP per capita in Ukraine itself. A high strength of correlation is also observed between indicators of the volume of exports and the indicator of political stability in Turkey and Ukraine. Besides, the official exchange rate in this country is closely correlated with the volume of Ukrainian exports to Poland. A regression analysis for each country can provide a more complete picture, allowing for the influence of several variables at the same time. The models took into account variables that, according to the results of the correlation analysis, correlate with the volume of Ukrainian exports at least at the level of 0.3.

Ukraine

Table 2 presents the results of the regression analysis between the total volume of exports from Ukraine and its domestic macroeconomic indicators. The dependent variable in this case is the total volume of exports from Ukraine. According to the coefficient of determination (0.94), the obtained model has a high explanatory power, which indicates its high quality.

Table 2. Results of the regression analysis according to the indicators of Ukraine

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95%	Upper 95%
Intercept	-1475739	15103653	-0.09771	0.926865	-4.3E+07	40458725	-4.3E+07	40458725
GDP per capita (current US$)	11753.44	2123.304	5.535447	0.005206*	5858.2	17648.67	5858.2	17648.67
Customs and other import duties (% of tax revenue)	-2.5E+07	5412972	-4.58048	0.01018*	-4E+07	-9765183	-4E+07	-9765183
Taxes on international trade (% of revenue)	31711635	6768897	4.684904	0.009413*	12918165	50505106	12918165	50505106
Political Stability and Absence of Violence/ Terrorism: Estimate	-5955624	4900963	-1.21519	0.291112	-2E+07	7651630	-2E+07	7651630

** The variable is significant at 0.05*

Source: calculated by the authors based on (World Bank Group; State Statistics Service of Ukraine)

GDP per capita, Customs and other import duties, and Taxes on international trade turned out to be statistically significant indicators. Moreover, Customs and other import duties have the opposite direction of communication, that is, their increase is associated with a decrease in the volume of exports. This can be explained by the dependence of Ukrainian manufacturers on imported components or raw materials, which ultimately leads to a decrease in national exports. In turn, the growth of GDP per capita and the share of taxes on international trade may indicate an improvement in the economic situation and an increase in foreign economic activity. This has an overall positive effect on national exports.

Poland

The results of the regression analysis between the macroeconomic indicators of Poland and the volume of Ukrainian exports to this country are presented in Table 3. The volume of Ukrainian exports to Poland is the dependent variable, the macroeconomic indicators of Poland are an independent variable. The model can explain up to 96% of the variation in the dependent variable.

The significant independent variables in this case were the GDP per capita in Poland, as well as the official exchange rate of the local currency against the US dollar. GDP per capita, among other things, characterizes the purchasing power of the country's population. Therefore, with its growth, local demand for imported goods, including Ukrainian ones, increases. The strengthening of the local currency is also positively related to the volume of Ukrainian exports, because it makes imported products relatively cheaper and more accessible. In addition to the observed indicators, Intercept is statistically significant in this model. Therefore the volume of Ukrainian exports may be affected by other variables not included in the model.

Table 3. Results of the regression analysis for Poland

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95%	Upper 95%
Intercept	-1.3E+07	2618308	-4.85354	0.008318*	-2E+07	-5438471	-2E+07	-5438471
GDP per capita (current US$)	534.1746	85.04142	6.281346	0.00328*	298.0617	770.2874	298.0617	770.2874
Political Stability and Absence of Violence/ Terrorism: Estimate	261246.4	1333704	0.19588	0.854252	-3441710	3964203	-3441710	3964203
Official exchange rate (LCU per US$, period average)	2042864	712604	2.86676	0.045617*	64358.41	4021370	64358.41	4021370

** The variable is significant at 0.05*

Source: calculated by the authors based on (World Bank Group; State Statistics Service of Ukraine)

Spain

Table 4 contains the results of the regression analysis for Spain. In this case, the dependent variable is the volume of Ukrainian exports to Spain. The model explains well the changes in the volume of Ukrainian exports to this country, because the coefficient of determination reaches 0.81.

Table 4. Results of the regression analysis for Spain

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95%	Upper 95%
Intercept	-2059815	809948.7	-2.54314	0.051696**	-4141854	22224.59	-4141854	22224.59
GDP per capita (current US$)	119.416	28.7511	4.153442	0.00888*	45.50898	193.3231	45.50898	193.3231
Imports of goods and services (annual % growth)	-760.016	6247.564	-0.12165	0.907914	-16819.9	15299.86	-16819.9	15299.86

** the variable is significant at 0.05*

*** the variable is significant at 0.1*

Source: calculated by the authors based on (World Bank Group; State Statistics Service of Ukraine)

The only significant variable at 0.05 in this case is GDP per capita. As in Poland, the positive correlation of this indicator with Ukrainian exports to Spain is explained by the growth of the purchasing power of the local population. At 0.1, Intercept is also significant, so the possibility of influence of other factors on the level of Ukrainian exports to Spain should not be excluded.

China

The explanatory power of the model obtained for China is significantly lower than previous models. The coefficient of determination is only 0.48, and the refined coefficient of determination is 0.18. The regression results are presented in Table 5.

Table 5. Results of the regression analysis for China

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95%	Upper 95%
Intercept	15640710	22608765	0.691799	0.519867	-4.2E+07	73758390	-4.2E+07	73758390
GDP per capita (current US$)	-240.378	1021.489	-0.23532	0.823294	-2866.2	2385.442	-2866.2	2385.442
Customs and other import duties (% of tax revenue)	-1.3E+07	10687394	-1.2596	0.26341	-4.1E+07	14010982	-4.1E+07	14010982
Taxes on international trade (% of revenue)	11934705	10253511	1.163963	0.296956	-1.4E+07	38292195	-1.4E+07	38292195

Source: calculated by the authors based on (World Bank Group; State Statistics Service of Ukraine)

None of the independent variables has a significant impact on the volume of exports from Ukraine. Accordingly, variations in the volume of Ukrainian exports to China are related to other factors not considered in the model. Such factors may include logistical, political factors, etc.

Turkey

The model built for Turkey is characterized by a low explanatory power (the coefficient of determination is 0.37). The correlation analysis made it possible to judge that Turkey's macroeconomic indicators do not correlate with the volume of Ukrainian exports - except for the indicator of political stability. Table 6 contains the results of the regression considering this indicator.

Table 6. Results of the regression analysis for Turkey

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95%	Upper 95%
Intercept	4472600	822869,6	5,435369	0,000971*	2526823	6418377	2526823	6418377
Political Stability and Absence of Violence/Terrorism: Estimate	1199477	582725,5	2,058392	0,078551**	-178449	2577404	-178449	2577404

** The variable is significant at 0.05*

*** The variable is significant at 0.1*

Source: calculated by the authors based on (World Bank Group, 2024; State Statistics Service of Ukraine, 2024)

At 0.05, only Intercept is a significant indicator in this model, so the volume of Ukrainian exports to Turkey may be affected by variables not included in the model. At 0.1, the index of political stability in Turkey is also significant. In other words, the stabilization of the political situation in Turkey and the corresponding development of international activities can be correlated with the increase in the volume of Ukrainian exports to this country.

Germany

Table 7 contains the results of the regression analysis for Germany. The model has a high explanatory power of 0.94. The dependent variable is the volume of Ukrainian exports to Germany.

Table 7. Results of the regression analysis for Germany

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95%	Upper 95%
Intercept	-3820007	1886762	-2.02464	0.098784**	-8670084	1030070	-8670084	1030070
GDP per capita (current US$)	142.8799	16.47317	8.673491	0.000337*	100.5343	185.2255	100.5343	185.2255
Official exchange rate (LCU per US$, period average)	-836226	1679801	-0.49781	0.639734	-5154290	3481839	-5154290	3481839

** The variable is significant at 0.05*
*** The variable is significant at 0.1*
Source: calculated by the authors based on (World Bank Group; State Statistics Service of Ukraine)

The most influential indicator in this case, as well as for Poland and Spain, is GDP per capita. The influence of other factors not considered in the model is not excluded. The results obtained emphasize the importance of careful monitoring of risks, the implementation of proper anti-crisis management at the micro and macro levels, and the development of foreign economic relations.

4. Discussions

The results of the author's work emphasize the importance of such areas as careful monitoring of export risks, balanced management and diversification of exports, and international cooperation. These findings are consistent with the recommendations of other authors. Wei (2024) also emphasizes the need to develop cooperation with the government, industry associations and international organizations. Zhang *et al.* (2023) explain the need for the formation of a highly accurate warning service about the risks of international trade. Yatsenko *et al.* (2021) noted the importance of geographical diversification of Ukrainian exports. Jiao *et al.* (2022) and Jiang *et al.* (2023) examined the export response to a trade war between China and the US. Judging by the researchers' conclusions, one can also note the effectiveness of export and product diversification.

At the same time, Khomych & Manaienko (2020) focus more on issues of standardization and assessment of responsibility and supervision. The need for standardization was also noted in the work of Heinzova *et al.* (2023). Dealing with the issue of risk management effectiveness, the researchers noted that less than half of small Czech exporters do not have the ISO 31000 certificate. At the same time, this standard helps companies to define risk management principles, strategy, and risk management process.

In the study of the impact of COVID-19 on the export of countries, a number of authors identified industries that were not significantly affected by the crisis or even brought certain benefits. Bas *et al.* (2024) noted that countries with more automated production processes were less vulnerable to the shock caused by the COVID-19 pandemic. In addition, the vulnerability of exports of unskilled intensive production decreased rapidly. Veeramani & Anam (2021) determined that digital services proved to be the most resilient to the crisis conditions of the pandemic, especially in view of adequate government support and relevant initiatives. Hayakawa & Mukunoki (2021) also noted the unevenness of the impact of the pandemic on different industries, in particular, the production of medical products was marked by an increase because of COVID-19. The results obtained in the author's research do not cover the distribution of exports by industry but consider the peculiarities of exports to different countries. At the same time, identifying differences in the exporters' risks depending on the industry can be a promising direction of research. The practical significance of the work consists in revealing the main risks of exporters depending on the export countries and the internal situation in Ukraine. The results of the study can be useful for exporters from the perspective of taking into account the identified risks and applying recommendations for their mitigation.

4.1. Limitations

The conducted research has its limitations. In particular, it to the analysis of only the largest importing countries of Ukrainian products and also does not take into account the sectoral peculiarities of exports. In addition, data on individual indicators (Customs and other import duties (current LCU), Customs and other import duties (% of tax

revenue) and Taxes on international trade) for Germany, Poland, and Spain are missing. At the same time, these limitations do not significantly affect the main results, and the aim of the study was achieved.

4.2. Recommendations

The results obtained during the research give grounds to provide the following recommendations regarding mitigating the risks of Ukrainian exporters:

- In order to reduce foreign exchange risk, it is worth using hedging tools (in particular, forward and futures contracts), diversifying foreign exchange income, and creating foreign exchange reserves. This can have a positive effect on Ukrainian exports.
- Active state support for export relations (conclusion of free trade agreements, application of customs privileges) and optimization of fiscal policy to improve terms of trade.
- Develop alternative logistics routes, export risk insurance, state support for producers and investments in infrastructure, increasing the flexibility of production and goods.

Conclusions

The research identified the main factors influencing the activity of Ukrainian exporters, depending on the partner country. In particular, the level of GDP per capita is a significant factor influencing the volume of exports from Ukraine to such EU countries as Germany, Poland, and Spain. This indicates that the increase in the purchasing power of the population of these countries contributes to the growth of demand for imported, including Ukrainian, goods. Besides, exports to Poland are closely related to fluctuations in the exchange rate of the local currency. The strengthening of the currency in this case indicates an increase in the availability of Ukrainian goods for importers. Exports to China and Turkey are less dependent on changes in local macroeconomic indicators. It is worth assuming that other (logistical, political) factors play a more significant role in this case. Internal indicators of Ukraine have a significant impact on the total volume of exports, in particular, GDP per capita, Customs and other import duties, and Taxes on international trade. The growth of GDP per capita and the share of taxes on international trade indicates an improvement in the economic situation and an increase in foreign economic activity, which contributes to the development of exports. The feedback of the volume of exports with customs and other import duties may indicate a high dependence of the national producer on imported components and raw materials. Further research may relate to the identification of differences in the exporters' risks depending on the field of their activity. In particular, it is worth investigating the risks of exporters of Ukrainian grain as a product of strategic importance for Ukraine in view of the specifics of importing countries.

Credit Authorship Contribution Statement

Hassan Ali Al-Ababneh: Conceptualization, Investigation, Methodology, Project administration, Software, Formal analysis, Writing – original draft, Supervision, Data curation, Validation, Writing – review and editing, Visualization, Funding acquisition;

Andrii Tsiapa: Conceptualization, Investigation, Methodology, Project administration, Software, Formal analysis, Writing – original draft, Supervision, Data curation, Validation, Writing – review and editing, Visualization, Funding acquisition;

Nataliia Rudyk: Conceptualization, Investigation, Methodology, Project administration, Software, Formal analysis, Writing – original draft, Supervision, Data curation, Validation, Writing – review and editing, Visualization, Funding acquisition;

Mykhaylo Kapyrulya: Conceptualization, Investigation, Methodology, Project administration, Software, Formal analysis, Writing – original draft, Supervision, Data curation, Validation, Writing – review and editing, Visualization, Funding acquisition;

Rostyslav Yatsukh: Conceptualization, Investigation, Methodology, Project administration, Software, Formal analysis, Writing – original draft, Supervision, Data curation, Validation, Writing – review and editing, Visualization, Funding acquisition.

Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Declaration of Use of Generative AI and AI-Assisted Technologies

The authors declare that they have not used generative AI.

References

[1] Azim, K. S., *et al.* (2024). The impact of economic policy changes on international trade and relations. *AIJMR-Advanced International Journal of Multidisciplinary Research*, *2*(5): 1-18. DOI:https://doi.org/10.62127/aijmr.2024.v02i05.1098

[2] Bas, M., Fernandes, A., and Paunov, C. (2024). How resilient was trade to COVID-19? *Economics Letters*, 240: 111080. DOI: https://doi.org/10.1016/j.econlet.2023.111080

[3] Bond, E.W. (2024). Pandemics and trade policy. In: *International Trade, Resource Mobility and Adjustments in a Changing World: Essays in Memory of Ronald W. Jones,* pp. 3-20. Singapore: Springer Nature Singapore. DOI: https://doi.org/10.1007/978-981-97-5652-0_1

[4] Caldara, D., and Iacoviello, M. (2022). Measuring geopolitical risk. *American Economic Review*, 112(4): 1194-1225. DOI: https://doi.org/10.1257/aer.20191823

[5] Catanzaro, A., and Teyssier, C. (2021). Export promotion programs, export capabilities, and risk management practices of internationalized SMEs. *Small Business Economics*, 57(3): 1479-1503. DOI:https://doi.org/10.1007/s11187-020-00358-4

[6] Chepeliev, M., Maliszewska, M., and Pereira, M. F. S. E. (2023). The war in Ukraine, food security and the role for Europe. *EuroChoices*, 22(1): 4-13. DOI: https://doi.org/10.1111/1746-692X.12389

[7] Glauber, J.W., Laborde, D. and Mamun, A. (2023). From bad to worse: How Russia-Ukraine war-related export restrictions exacerbate global food insecurity. In Joseph Glauber and David Laborde (eds.). *The Russia-Ukraine Conflict and Global Food Security*, pp. 92-96. Washington: International Food Policy Research Institute. DOI: https://doi.org/10.2499/9780896294394_18

[8] Haque, H. E., Dhakal, S. and Mostafa, S. M. G. (2020). An assessment of opportunities and challenges for cross-border electricity trade for Bangladesh using SWOT-AHP approach. *Energy Policy*, 137: 111118. DOI:https://doi.org/10.1016/j.enpol.2019.111118

[9] Hayakawa, K. and Mukunoki, H. (2021). The impact of COVID-19 on international trade: Evidence from the first shock. *Journal of the Japanese and International Economies*, 60: 101135. DOI:https://doi.org/10.1016/j.jjie.2021.101135

[10] Heiland, I. and Yalcin, E. (2021). Export market risk and the role of state credit guarantees. *International Economics and Economic Policy*, 18(1): 25-72. DOI: https://doi.org/10.1007/s10368-020-00466-2

[11] Heinzova, R., Hoke, E., Urbánek, T. and Taraba, P. (2023). Export and exports risks of small and medium enterprises during the COVID-19 pandemic. *Problems and Perspectives in Management,* 21(1):24-34. DOI:https://doi.org/10.21511/ppm.21(1).2023.03

[12] Hoekman, B., Fiorini, M. and Yildirim, A. (2020). Export restrictions: a negative-sum policy response to the COVID-19 crisis. *Robert Schuman Centre for Advanced Studies Research Paper No. RSCAS 23*. DOI:https://dx.doi.org/10.2139/ssrn.3634552

[13] Ivanov, Y. (2022). Evaluation of export diversification in Ukraine. *Economy and Society,* 41: 1-13. DOI:https://doi.org/10.32782/2524-0072/2022-41-41

[14] Jiang, L., Lu, Y., Song, H. and Zhang, G. (2023). Responses of exporters to trade protectionism: Inferences from the US-China trade war. *Journal of International Economics*, 140: 103687. DOI:https://doi.org/10.1016/j.jinteco.2022.103687

[15] Jiao, Y., Liu, Z., Tian, Z. and Wang, X. (2022). The impacts of the US trade war on Chinese exporters. *Review of Economics and Statistics,* 106 (6): 1576–1587. DOI: https://doi.org/10.1162/rest_a_01229

[16] Júnior, R. De S. Nóia, *et al.* (2022). Needed global wheat stock and crop management in response to the war in Ukraine. *Global Food Security*, 35: 100662. DOI: https://doi.org/10.1016/j.gfs.2022.100662

[17] Khomych, O. V. and Manaenko, I. M. (2020). Development of the export potential of an enterprise in the European FMCG market under risk conditions. *Problems of Economy, 3*(45): 133-138. DOI:https://doi.org/10.32983/2222-0712-2020-3-133-138

[18] Kulikov, P. *et al.* (2022). Post-war economy of Ukraine: Innovation and investment development project. *Economic Affairs,* 67(5): 943-959. DOI: https://doi.org/10.46852/0424-2513.5.2022.30

[19] Lin, F., *et al.* (2023). The impact of Russia-Ukraine conflict on global food security. *Global Food Security*, 36: 100661. DOI: https://doi.org/10.1016/j.gfs.2022.100661

[20] Lytvynova, I. *et al.* (2022). The impact of the war with Russia on the export/import of Ukraine and possible tools to restore the Ukrainian economy. *Amazonia Investiga,* 11(53): 16-25. DOI:https://doi.org/10.34069/AI/2022.53.05.2

[21] Orhan, E. (2022). The effects of the Russia-Ukraine war on global trade. *Journal of International Trade, Logistics and Law*, 8(1): 141-146. Available at: https://www.jital.org/index.php/jital/article/view/277/pdf_150

[22] Pan, Z., Huang, X., Liu, L. and Huang, J. (2023). Geopolitical uncertainty and crude oil volatility: Evidence from oil-importing and oil-exporting countries. *Finance Research Letters,* 52: 103565. DOI:https://doi.org/10.1016/j.frl.2022.103565

[23] Rasshyvalov, D., *et al.* 2024. Navigating geopolitical risks: Implications for global supply chain management. *Multidisciplinary Reviews*, 7: 17. DOI: https://doi.org/10.31893/multirev.2024spe017

[24] Ratten, V. (2020). Coronavirus and international business: An entrepreneurial ecosystem perspective. *Thunderbird International Business Review,* 62(5): 629-634. DOI: https://doi.org/10.1002/tie.22161

[25] Rose, A., Chen, Z. and Wei, D. (2023). The economic impacts of Russia–Ukraine War export disruptions of grain commodities. *Applied Economic Perspectives and Policy*, 45(2): 645-665. DOI:https://doi.org/10.1002/aepp.13351

[26] Shingal, A. (2024). The COVID-19 shock and services trade decline: potential for digitalization matters. *Applied Economics*, *56*(28): 3349-3370. DOI: https://doi.org/10.1080/00036846.2023.2206616

[27] Smiesova, V., Pylypenko, A., Ivanova, M., and Karpenko, R. (2019). Economic and institutional conditions for the implementation of economic interests in the countries of the world. *Montenegrin Journal of Economics*, *15*(4), 75. DOI: https://doi.org/10.14254/1800-5845/2019.15-4.6

[28] Sokhanvar, A. and Bouri, E. (2023). Commodity price shocks related to the war in Ukraine and exchange rates of commodity exporters and importers. *Borsa Istanbul Review*, 23(1): 44-54. DOI:https://doi.org/10.1016/j.bir.2022.09.001

[29] Song, Yu, Chen, Bo, and Hou, Na. (2024). Trade dependence, uncertainty expectations, and Sino–US political relations. *Journal of Chinese Political Science*, *29*(1): 109-131. DOI: 10.1007/s11366-022-09829-9

[30] Steinbach, S. (2023). The Russia–Ukraine war and global trade reallocations. *Economics Letters*, 226: 111075. DOI: https://doi.org/10.1016/j.econlet.2023.111075

[31] Veeramani, S., and Anam. (2021). COVID-19 impact on exports of services: Opportunities, challenges and suggestions for India. *FIIB Business Review*, 10(4): 315-326. DOI:https://doi.org/10.1177/2319714520984676

[32] Wei, S. (2024). Cross-border electronic commerce's development trend and challenges in international trade. In *8th International Conference on Education Technology, Management and Humanities Science.* pp. 403-410. Jinan, China. Available at: https://www.webofproceedings.org/proceedings_series/ESSP/ETMHS%202024/E72.pdf

[33] Yatsenko, O., *et al.* (2021). Trade-economic cooperation of Ukraine and China within COVID-19 Pandemic and in post-pandemic time. *E3S Web of Conferences*, 255: 01031. DOI:https://doi.org/10.1051/e3sconf/202125501031

[34] Zhang, A., Wu, B. and Li, Y. (2023). A correlation analysis-based risk warning service for cross-border trading. *International Journal of Crowd Science*, 7(1): 24-31. DOI:https://doi.org/10.26599/IJCS.2022.9100032

[35] Zubko, T. (2024). Strategies for the development of international trade in Ukraine. *Agora International Journal of Economical Sciences (AIJES)*, 18(1): 250-261. DOI: https://doi.org/10.15837/aijes.v18i1.6727

[36] State Statistics Service of Ukraine. Statistical information. State Statistics Service of Ukraine. https://www.ukrstat.gov.ua/

[37] World Bank Group. World Bank Open Data. World Bank Group. https://data.worldbank.org/

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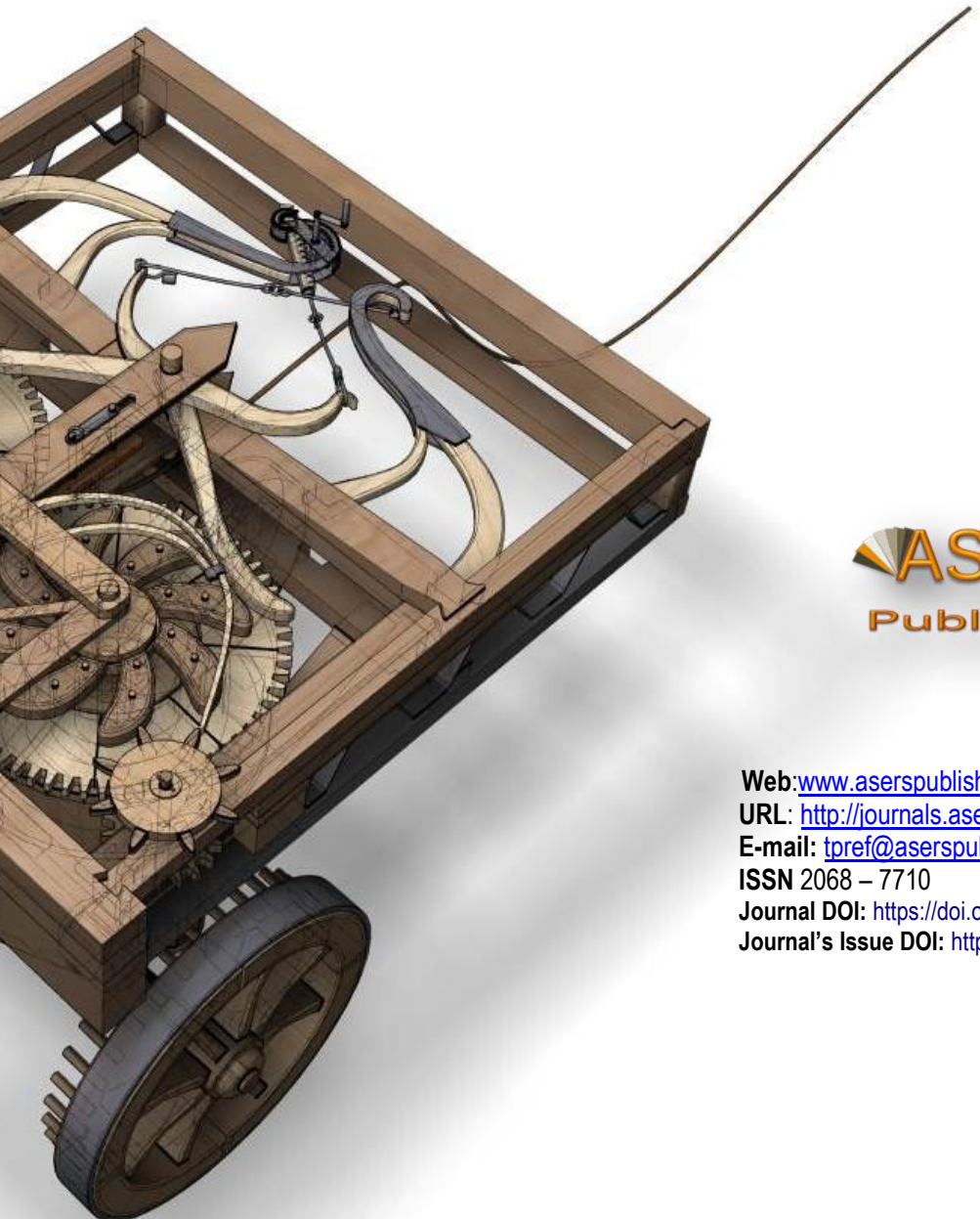

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