

# The Socio-Economic Consequences of the War in Ukraine: the National, Regional, and Global Dimensions

**Oleksandr Shubalyi [Олександр Шубалий]**

Lutsk National Technical University, Ukraine

**Antonina Gordiichuk [Антоніна Гордійчук]**

Lutsk National Technical University, Ukraine

---

## Abstract

*The main purpose of the article is to present the main socio-economic consequences of the war in Ukraine from the standpoint of its negative impact on the economy and society on the national (Ukraine), regional (Europe) and global (the world) scale. In this context, the paper presents and compares forecasts of socio-economic development of Ukraine, which were formulated before the war with forecasts taking into account the war, as well as analyzes of disturbances in the socio-economic development of the world, region and state resulting from the war in Ukraine. The conclusions formulated by the authors were developed on the basis of the consequences of the first three months of the war. When a full-scale war was started by Russia on February 24, 2022, the most pessimistic scenarios not only for the economy of Ukraine, Europe and Central Asia but also the world economy in general for the next 3–5 years unfolded. According to various estimates of Ukrainian and international financial institutions, the decline in Ukraine's real GDP in 2022 could reach 30%–45%, provided that the hostilities do not spread to other regions of Ukraine, and that the country receives continued support from its allies. Any significant changes leading to an improvement or deterioration in the situation will require a verification of the information provided. Nonetheless, regardless of the all the possible scenarios, the war in Ukraine will have the greatest catastrophic socio-economic consequences for Ukraine, Europe, and the world compared to the consequences of all the previous world crises. Therefore, the response of the world community to all the challenges caused by the war in Ukraine must also be adequate, timely and systematic, laying the foundations for the formation of the future world system of financial, food, energy and military security of mankind.*

**Keywords:** war in Ukraine, socio-economic consequences, GDP, refugees, financial crisis, energy crisis, food crisis

**DOI:** 10.56583/br.721

## Introduction

The recent history of Ukraine began on August 24, 1991, when the Verkhovna Rada of Ukraine (the highest legislative body of the country) adopted the Act of Independence of Ukraine.<sup>1</sup> This legal act proclaimed the creation of an independent Ukrainian state, UKRAINE, and declared that

---

1. See: Postanova Verkhovnoyi Rady Ukrayins'koyi RSR pro proholoshennya nezalezhnosti Ukrayiny [Постанова Верховної Ради Української РСР про проголошення незалежності України] (Act of Independence of Ukraine. 1991. Resolution of the Supreme Soviet of the Ukrainian SSR of August 24, 1991. № 1427-XII). <https://zakon.rada.gov.ua/laws/show/1427-12#Text>.

---

**E-mail addresses and ORCID digital identifiers of the authors**

Oleksandr Shubalyi • e-mail: shubalyi@ukr.net • ORCID: 0000-0002-9131-1896

Antonina Gordiichuk • e-mail: allure77@ukr.net • ORCID: 0000-0003-3274-8219

the territory of Ukraine is indivisible and inviolable, and the country's political system is based on its constitution and laws only. However, the legal foundation of Ukraine's independence had yet to be followed by the country gaining economic independence, the formation of a single Ukrainian nation, and the formation of institutions of state power, national security and defense. This required systemic transformations in almost all spheres of life in Ukraine. The market transformation processes in the economy, which had previously been integrated into the planned economy of the Soviet Union, were very painful, and the severance of most economic ties led to the loss of markets and sources of raw materials. This, in turn, led to a decline in industrial production, deficits, hyperinflation, unemployment, crime, and other negative consequences.

On the other hand, a certain guarantor of Ukraine's security was the presence of nuclear weapons and other types of weapons that remained on its territory after the collapse of the Soviet Union. Yet, maintaining the world's third largest nuclear arsenal was too expensive and dangerous for a country with an unstable economy. Today, the question remains whether Ukraine had to ratify the Treaty on the Non-Proliferation of Nuclear Weapons,<sup>2</sup> even in difficult economic conditions, and then sign the Memorandum on Security Assurances in connection with Ukraine's accession to the Treaty on the Non-Proliferation of Nuclear Weapons.<sup>3</sup> According to the Memorandum, the Russian Federation, the United Kingdom of Great Britain and Northern Ireland, and the United States reaffirmed their "commitment to refrain from the threat or use of force against the territorial integrity or political independence of Ukraine" and agreed "that none of their weapons will ever be used against Ukraine except in self-defense or otherwise in accordance with the Charter of the United Nations." As a diplomatic document, the memorandum sets out the views of the participants on a particular issue. The 1994 memorandum was not ratified or endorsed by the parliaments of Ukraine's guarantors, which became Russia's main argument after its annexation of Crimea in 2014, as well as its use of the army and weapons to occupy parts of the Donetsk and Luhansk regions. This was the first serious violation of Ukraine's security guarantees by the Russian Federation, which was not stopped by any of the guarantor countries. Ukraine did not receive adequate assistance from the United Nations to restore its territorial integrity, either.

Therefore, the full-scale Russian invasion of Ukraine, which took place on 24 February, 2022, can be seen as a continuation of the war that began in 2014 and the transition to its active phase. Any war is a big shock for all the spheres of the life of the country attacked: the economy as a whole and individual businesses, society as a whole and individual citizens and families, the environment and every species of flora and fauna. In the global world, the greater a war is, the more negative consequences it has on the local and international scale.

The main purpose of this study is to present the main socio-economic consequences of the war in Ukraine from the standpoint of its negative impact on the economy and society on the national (Ukraine), regional (Europe) and global (the world) scale.

In this context, the study focuses on the following aspects:

- comparison of forecasts of socio-economic development of Ukraine, which were formulated before the war with forecasts taking into account the war
- identification, systematization, and assessment of the global, regional and national socio-economic consequences of the war in Ukraine
- the main ways to localize and compensate for the negative consequences of the war in Ukraine

The main aim of the research is to analyze and assess the socio-economic consequences of the war in Ukraine on the basis of retrospective analytical documents prepared before the war and reports,

---

2. See: Pro pryednannya Ukrayiny do Dohovoru pro nerozpovsyudzhennya yadernoyi zbroyi vid 1 lyunya 1968 roku [Про приєднання України до Договору про нерозповсюдження ядерної зброї від 1 липня 1968 року] (On Ukraine's accession to the Treaty on the Non-Proliferation of Nuclear Weapons of July 1, 1968. Law of Ukraine of November 16, 1994, № 248/94-BP. [http://search.ligazakon.ua/l\\_doc2.nsf/link1/Z024800.html](http://search.ligazakon.ua/l_doc2.nsf/link1/Z024800.html)).

3. See: Memorandum pro harantiyi bezpeky u zv'yazku z pryednannyam Ukrayiny do Dohovoru pro nerozpovsyudzhennya yadernoyi zbroyi [Меморандум про гарантії безпеки у зв'язку з приєднанням України до Договору про нерозповсюдження ядерної зброї] (Memorandum on security guarantees in connection with Ukraine's accession to the Treaty on the Non-Proliferation of Nuclear Weapons. Ukraine, the Russian Federation, the United Kingdom of Great Britain and Northern Ireland and the United States of America. Budapest, December 5, 1994). [https://zakon.rada.gov.ua/laws/show/998\\_158#Text](https://zakon.rada.gov.ua/laws/show/998_158#Text).

forecasts, and operational data which were officially published during the first three months of the war. Accordingly, the potential scientific results of the study may be the following:

- identifying the difference between the forecasts for the main socio-economic indicators of Ukraine's development before and after the war and assessing the scale of the losses
- grouping the socio-economic consequences of the war in Ukraine into their national, regional, and global aspects
- identifying the key issues that need to be addressed urgently and the threats that need to be immediately eliminated or localized in the coming months to reduce the negative effects of the war for Ukraine, Europe and the world as a scenario of the destruction of human civilization

## 1 Materials and methods

Because the consequences of any war largely depend on its duration, the intensity of hostilities, the power of the weapons used by the parties, and many other factors, it is usually very difficult to make any estimates of the socio-economic losses or damages of war. Also, since the war broke out only a few months ago, there are still very few scientific publications that would provide sound answers to the question about its causes and consequences. After all, there is a certain time lag between writing and publishing scientific articles. The consequences of the war in Ukraine are also discussed at many international forums and scientific conferences, such as the World Economic Forum in Davos, which took place on May 22–26, 2022.<sup>4</sup> Due to the active phase of the war in Ukraine, the conditions for the formation of socio-economic policies at the national, regional and global levels are also changing with great intensity. It is obvious that a more thorough scientific assessment of the hostilities and socio-economic consequences for all the spheres of human life will be made over a longer period of time. Therefore, the operational analytical data of official Ukrainian, foreign, and well-known international financial and credit institutions, as well as organizations operating under the auspices of the UN, which are freely available, are used as the information base in the study.

Given this, this research is based on a dialectical methodology, as it provides a study of the socio-economic consequences of the war in Ukraine, taking into account retrospective data, operational assessment of changes in the current situation, and forecasts for the future. The methodological basis of the study is a systematic approach, as it is proposed to consider the socio-economic consequences of the war in Ukraine at the national, regional and global levels.

The authors used the following methods:

- the time series analysis—to compare forecasts for the socio-economic development of Ukraine, obtained from various national and international institutions before and after the war in Ukraine
- the correlation-regression analysis—to identify the patterns of change in Ukraine's GDP in terms of international dollars over the past 20 years and build trend models to identify trends in the economic development of Ukraine in the prewar period
- interregional comparisons—to compare the GDP of the regions of Ukraine and assess the possible losses in 2022
- grouping—to group the socio-economic consequences of the war in Ukraine into their national, regional, and global aspects
- the graphical method—to visually represent data on the influx of refugees from Ukraine to neighboring countries in the form of diagrams
- the tabular method—to present data on the socio-economic consequences of the war in the form of analytical tables
- methods of logical generalization and economic synthesis—to formulate key conclusions about the consequences of the war in Ukraine based on the results of the research

It should also be understood that the use of different research methods does not provide a full guarantee of the correctness of the conclusions and high accuracy of predictive estimates. After all,

4. See: World Economic Forum Annual Meeting. Davos, Switzerland, 22-26 May 2022. <https://www.weforum.org/events/world-economic-forum-annual-meeting-2022> (accessed 2022-06-27).

over time, the influence of other factors (perhaps even accidental) may appear and increase, which will lead to a significant change in the previously made estimates.

## 2 Forecasts for the socio-economic development of Ukraine before the start of the full-scale war

The processes of market transformation in Ukraine after gaining independence were very slow. This was due to a number of objective and subjective factors.

The main objective factors include the following:

- the need to establish new economic ties after the collapse of the Soviet Union, the creation of new competitive products, and the development of new competitive markets
- the difficulty the older generation of Ukrainian citizens had in abandoning communist ideas, as well as in adapting to and accepting the negative consequences of market reforms (inflation, unemployment, business closures, income inequality, etc.) after many years of planned economy
- the ineffectiveness of public authorities and entrepreneurs working in market conditions, which hindered the process of forming the necessary institutional market environment
- the presence of energy-consuming, and morally and physically obsolete industrial facilities, housing and communal infrastructure, whose modernization and renovation required significant investments

The main subjective factors include the following:

- the intense activity of pro-Russian political forces and special services, which directly or indirectly promoted the strengthening of the integration of the countries of the former Soviet Union, especially in the regions of the eastern part of Ukraine, which bordered the Russian Federation
- the non-transparent privatization of state property, as a result of which state facilities became mostly the property of a small number of people
- the formation of the class of oligarchs and the monopolization of many leading sectors of the national economy (mining, metallurgy, electricity, oil and gas) and the infrastructure of domestic markets for their products
- the lack of effective fight against public authorities' corruption at all levels, which contributed to the development of the "shadow" economy, increasing income inequality and the society's distrust of public institutions in general

Under the influence of these factors, Ukraine was in the process of forming a civil society and gradually undergoing market reforms. Certain factors favorable to accelerating these processes were the possibility to travel freely to developed countries in Europe and the world for tourism and employment, the entry of well-known foreign companies and joint ventures into the Ukrainian market, and international grant support for education, science, culture, and art.

To a certain extent, this contributed to a large number of Ukrainians, mainly from the western part of the country, forming a pro-European worldview, which was future-oriented and based on democratic values, such as freedom of speech.

The first manifestation of civil society in Ukraine was the Orange Revolution, which broke out in response to the rigging of Ukraine's 2004 presidential election and which enabled the democratic forces led by Viktor Yushchenko to come to power. However, internal differences in the democratic team and the unwillingness of a large part of the society to carry out real reforms led to a return of pro-Russian forces in 2010 after the election of Viktor Yanukovich as President of Ukraine.

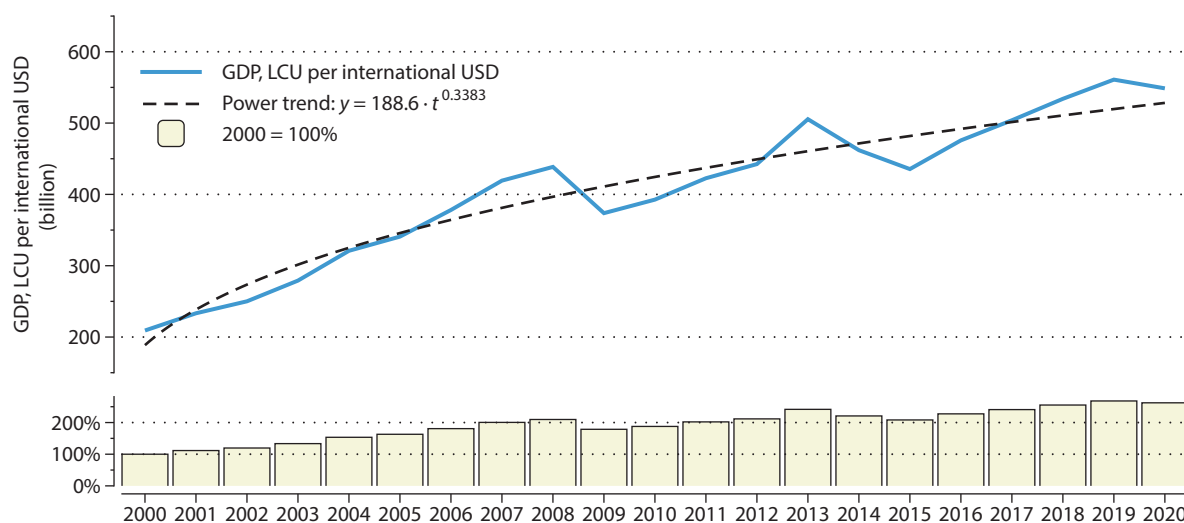
The second manifestation of civil society was the "Revolution of Dignity" or "Euromaidan," which was a response to the government's rejection of the pro-European course of development. Its consequences were more bloody, as there were mass shootings of the protesters on the Maidan in Kiev, followed by the annexation of Crimea and Russia's occupation of the Donetsk and Luhansk regions. However, despite a temporary loss of about 20% of its territory, Ukraine resumed its economic growth and in 2017 reached GDP in terms of the international dollar at the prewar purchasing power parity (fig. 1).

The third consequence of the manifestation of civil society was the consolidation of all Ukrainians, the government, and business in the fight against the enemy after the beginning, of Russia's

full-scale war against Ukraine on February 24, 2022. The number of volunteers for the armed forces of Ukraine and its territorial defense increased sharply, volunteer movements to help the army and internally displaced persons from the war-torn regions became widespread, and Ukrainians abroad held fundraising campaigns, offering all kinds of humanitarian and military assistance.

The war confirmed all the previous plans of Russia to completely seize the territory of Ukraine and cancel its European choice. After all, the analysis of Ukraine's economic development trends over the past 20 years based on the key macroeconomic indicator of Gross Domestic Product in terms of the international dollar at the purchasing power parity of the national currency shows that the country's economy tended to grow.

The positive trend in GDP was negatively affected only by the economic crisis of 2008–2009, when it decreased by 14.8% in 2009 compared to the previous year, and the pre-crisis level was restored only after 3 years, in 2012. An even more significant decline in GDP occurred after the beginning of Russia's aggression in 2014 (it decreased by 8.6% in 2014 and another 5.7% in 2015). These GDP losses were restored two years later in 2017. A further decline in GDP against the international dollar by 2.2% was due to the COVID-19 pandemic. As can be seen in figure 1, almost every 5 years since 2008 there has been a decline in GDP, which has prevented Ukraine's economy from rising to a higher level of development in order to accelerate the process of gaining membership in the European Union.



**Figure 1.** The trend in Gross Domestic Product, LCU per international USD billion (as in American usage, a thousand million), for 2000–2020

*Note:* Data exclude the temporarily occupied territory of the Autonomous Republic of Crimea, the city of Sevastopol and 2014—a part of temporarily occupied territories in the Donetsk and Luhansk regions

*Source:* Author's elaboration based on the data published in 2022 by the State Statistics Service of Ukraine, see: Derzhstat Ukrainy [Держстат України], official website available at <https://ukrstat.gov.ua/> (accessed 2022-05-30).

After the recession in 2020, according to the forecasts of various domestic state institutions (National Bank of Ukraine, Ministry of Economy of Ukraine, Cabinet of Ministers of Ukraine), in the absence of serious shocks, Ukraine's economy had every opportunity to ensure further economic growth until 2024 (tab. 1).

The consensus forecast for 2022–2024, developed by the Ministry of Economy of Ukraine with the participation of interested central executive bodies in the baseline scenario allowed for further gradual acceleration of economic growth, which was expected in 2021 after significant losses in 2020 due to the COVID-19 pandemic in the world.<sup>5</sup> The main support for the resumption of eco-

5. See: "Ukrayina: perspektyvy rozvytku vyklyky i zahrozy postpandemichnoho rozvytku. Konsensus-prohnoz" [Україна: перспективи розвитку виклики і загрози постпандемічного розвитку. Консенсус-прогноз. № 54. Міністерство Економіки України. Жовтень 2021] (Forecast of the Ministry of Economy. Ukraine: challenges and threats of post-pandemic development, October 2021). <https://www.me.gov.ua/Files/GetFile?lang=uk-UA&fileId=f4028def-8146-4017-8da9-f52762b0ded3>.



economic activity was domestic demand. In general, in 2022–2024 the economy is expected to develop along the trajectory of accelerating economic growth. According to the baseline scenario presented in the Forecast, GDP growth is projected at 3.8% in 2022, 4.7% in 2023, and 5.0% in 2024.

Although in its inflation report of January 2022,<sup>6</sup> The National Bank of Ukraine revised its own forecast of economic growth in 2022 from 3.8% to 3.4%, it also predicted its acceleration to 4.0% in 2024, assuming that the further recovery of the economy would be facilitated by both the consumer demand within the country and the significant demand for products of Ukrainian producers in the world.

The most optimistic was the initial forecast of the Cabinet of Ministers of Ukraine,<sup>7</sup> compiled in May 2021, which projected real GDP growth at 3.8% in 2021 and 5.0% in 2024. In addition to the positive growth in real GDP, a gradual decline in inflation to 5.0%–6.0%, a decline in unemployment to 7.8%–8.5%, and an increase in real wages by 3.7%–5.6% in 2024 were also projected. This means that there were solid grounds for further economic growth on the path to Ukraine's European integration. Positive trends in the socio-economic development of Ukraine in 2022 were also confirmed by the forecasts of well-known foreign financial institutions (tab. 2).

The International Monetary Fund projected real GDP growth in Ukraine in 2022 at 3.6%, and the World Bank and the European Bank for Reconstruction and Development at 3.5%. Consumer

**Table 1.** Forecasts of the main macroeconomic indicators of Ukraine's socio-economic development until 2024 according to various Ukrainian institutions before the war in Ukraine (%)

Indicator	2021	2022	2023	2024
<b>National Bank of Ukraine (inflation report — January 2022)</b>				
Annual real GDP growth rate	3.0	3.4	3.7	4.0
Annual rate of increase in the prices of consumer goods and services	10.0	7.7	5.0	5.0
Unemployment rate of the population aged 15–70				
according to the methodology of the International Labor Organization	9.8	9.1	8.9	8.7
Average annual growth rate of real wages	9.8	6.1	4.1	3.7
<b>Ministry of Economy of Ukraine (consensus forecast — October 2021)</b>				
Annual real GDP growth rate	3.4	3.6	3.4	4.0
Annual rate of increase in the prices of consumer goods and services	9.4	8.0	6.7	6.0
Unemployment rate of the population aged 15–70				
according to the methodology of the International Labor Organization	9.4	9.0	8.4	8.5
Average annual growth rate of real wages	10.1	4.5	4.4	4.6
<b>Cabinet of Ministers of Ukraine (Forecast for Economic and Social Development of Ukraine — May 2021)</b>				
Annual real GDP growth rate		3.8	4.7	5.0
Annual rate of increase in the prices of consumer goods and services		6.2	5.3	5.0
Unemployment rate of the population aged 15–70				
according to the methodology of the International Labor Organization		8.5	8.0	7.8
Average annual growth rate of real wages		4.4	6.1	5.6

*Source:* Author's elaboration based on the data published in: "Ukrayina: perspektyvy rozvytku vykyky i zahrozy postpandemichnoho rozvytku. Konsensus-prohnoz," op. cit.; "Inflation Report of the National Bank of Ukraine, January 2022," op. cit.; and "Forecast of economic and social development of Ukraine for 2022–2024..." op. cit.

6. See: "Inflyatsiynnyy zvit, sichen' 2022 roku" [Інфляційний звіт, січень 2022 року] (Inflation Report of the National Bank of Ukraine, January 2022). <https://bank.gov.ua/ua/news/all/inflyatsiynnyy-zvit-sichen-2022-roku> (accessed 2022-05-30).

7. See: "Prohnoz ekonomichnoho i sotsial'nogo rozvytku Ukrayiny na 2022–2024 roky" [Прогноз економічного і соціального розвитку України на 2022–2024 роки] (Forecast of economic and social development of Ukraine for 2022–2024. Resolution of the Cabinet of Ministers of Ukraine of 31.05.2021 №586 "On approval of the Forecast of economic and social development of Ukraine for 2022–2024"). <https://www.me.gov.ua/Documents/Detail?lang=uk-UA&id=77059300-efc0-46c1-8a67-3974e0cd27a5&title=ProhnozEkonomichnogoISotsialnogoRozvitkuUkraini> (accessed 2022-05-30).

**Table 2.** Forecasts of indicators of the socio-economic development of Ukraine until 2022 from authoritative international institutions before the war in Ukraine (%)

Indicator	2021	2022
<b>International Monetary Fund (IMF)</b>		
Annual real GDP growth rate	3.5	3.6
Annual rate of increase in the prices of consumer goods and services	10.2	6.0
Unemployment rate of the population aged 15–70 according to the methodology of the International Labor Organization	9.7	8.7
<b>World Bank</b>		
Annual real GDP growth rate	3.8	3.5
Annual rate of increase in the prices of consumer goods and services	5.0	5.0
<b>European Bank for Reconstruction and Development (EBRD)</b>		
Annual real GDP growth rate	3.5	3.5

*Source:* Author's elaboration based on the data published in: "Europe and Central Asia Economic Update, Spring 2022. War in the Region." Europe and Central Asia Economic Update; 13. Washington, DC: World Bank. <https://openknowledge.worldbank.org/handle/10986/37268>; "War Sets Back the Global Recovery." World Economic Outlook, April 2022. <https://www.imf.org/en/Publications/WEO/Issues/2022/04/19/world-economic-outlook-april-2022> (accessed 2022-05-30); "Rising Caseloads, a Disrupted Recovery, and Higher Inflation." World Economic Outlook Update, January 2022. <https://www.imf.org/en/Publications/WEO/Issues/2022/01/25/world-economic-outlook-update-january-2022> (accessed 2022-05-30); "In the Shadow of the War. The Economic Fallout from the War on Ukraine." Regional Economic Update for the EBRD Regions, March 2022. <https://www.ebrd.com/rep-ukraine-war-310322.pdf> (accessed 2022-06-27); and "The Return of Runaway Prices. Dealing with ex-pensive food and energy." Regional Economic Prospects in the EBRD Regions, May 2022. <https://www.ebrd.com/rep-0522.pdf> (accessed 2022-06-27).

prices for goods and services (the inflation index) were also projected to decline to 5.0%–6.0% in 2022, compared to 10.0% in 2021. In addition, the International Monetary Fund projected a reduction in unemployment from 9.7% in 2021 to 8.7% in 2022, to a level acceptable to European countries. Ukraine also planned to timely fulfill its commitments to repay domestic and foreign debt. Among the projected factors favorable to economic growth were a large harvest of grain crops, further development of the mining industry and metallurgy, increasing exports to European countries, and others.

In general, the forecasts for trends in the main macroeconomic indicators of the socio-economic development of Ukraine for 2022 and until 2024 were positive. This meant that the economy had to fully recover from the recession in 2020 due to the active phase of the COVID-19 pandemic and ensure further development towards future European integration.

### 3 Changing forecasts of the socio-economic development in Ukraine and the world after the war

The invasion of Ukraine by the Russian Federation on February 24, 2022, and the beginning of a full-scale war led to the realization of the worst case scenario of confrontation between the two countries, which had been tentatively considered by analysts but regarded as unlikely. The hostilities in the first months of the war in the north, east and south of Ukraine led to heavy civilian casualties, the destruction of housing, industrial, service and transport infrastructure, and caused irreversible damage to natural ecosystems.

During the first month of the war, Ukraine's economy experienced a real shock, because after the imposition of martial law, most enterprises and educational, cultural, art and sports institutions stopped working. The flow of refugees intensified in the central part of the country, in safer areas, and abroad. On the other hand, the mobilization and voluntary military service increased the size of the army, which needed proper equipment, weapons, and food. The Government of Ukraine immediately took priority measures to reorient the country's budget for military purposes, and the implementation of the most necessary social expenditures aimed at supporting the livelihoods of the population.<sup>8</sup> Other expenditures, including capital expenditures, were temporarily suspended.

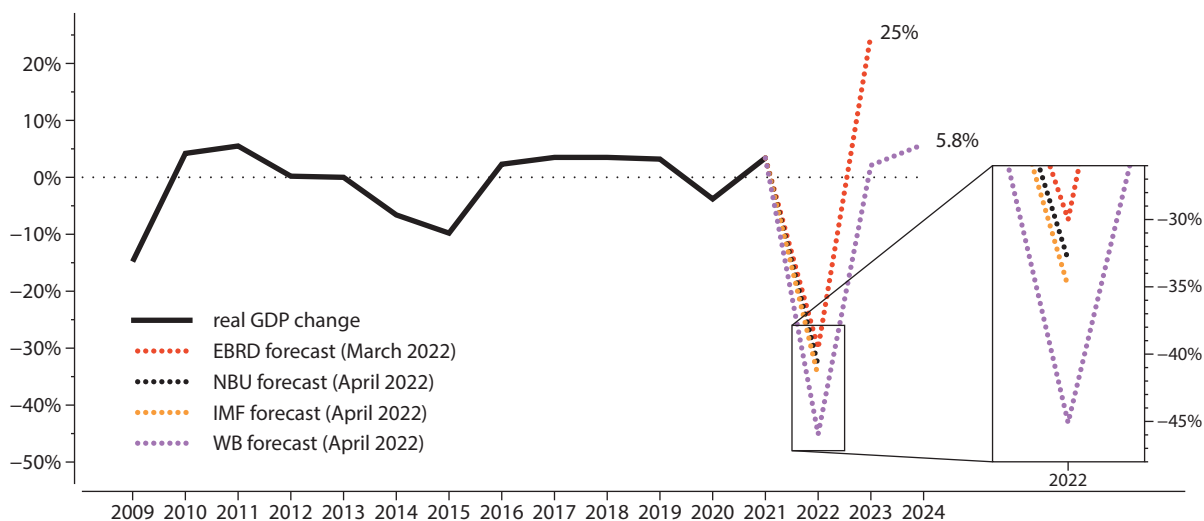
8. See: "Minfin: V umovakh voyennoho stanu misyachnyy rozpyt derzhavnoho byudzhetu Ukrayiny vykonano

In the first quarter of 2022, the state budget was executed by 110%. This was facilitated by the results of the first two months of this year and advance tax revenues. However, according to the Ministry of Finance of Ukraine, whereas in January and February 2022 the monthly income plan of the general fund was overfilled by 13.1% and 29.3%, respectively, in March the monthly plan was underfilled by 7.1%. At the same time, for objective reasons, in March 2022 there was a decrease in the level of tax and customs payments, which was partially offset by the advance payment of dividends by state-owned banks and state-owned companies.

During the first months of the war in Ukraine, the leading financial and credit institutions, which had previously given positive forecasts, dramatically changed their assessments of the development trends of Ukraine's economy towards a significant deterioration. Changes in real GDP during 2009–2021 and changed forecasts of leading foreign financial institutions until 2024 after the start of the full-scale war are presented in figure 2.

According to the updated forecast of the World Bank,<sup>9</sup> even in the absence of the destruction of physical infrastructure, Ukraine's GDP will decline by 45.1% in 2022. However, the scale of the reduction is subject to a high degree of uncertainty due to the duration and intensity of the war. The effects of the war are expected to lead to a collapse in domestic demand and exports, as production has suffered from the destruction of production facilities, damage to arable land and reduced labor supply, especially if refugees return slowly or choose to stay outside Ukraine.

According to analysts at the International Monetary Fund, although accurate measurements of the damage to the Ukrainian economy cannot be obtained, the war will lead to a very sharp decline.<sup>10</sup> According to the updated forecast, in 2022 the Ukrainian economy is expected to shrink by 35%, and even if the war ends soon, the loss of life, the destruction of physical capital and the flight of citizens will seriously hamper economic activity for many years to come.<sup>11</sup>



**Figure 2.** Changes in Ukraine's real GDP in 2009–2021 and forecasts until 2024 (after the war)

*Source:* Author's elaboration based on the data published in: "Europe and Central Asia Economic Update, Spring 2022. War in the Region." op. cit.; "The Return of Runaway Prices. Dealing with expensive food and energy." op. cit.; *Komentar Natsional'noho banku pro potochnyy stan ta perspektvy ekonomiky Ukrainy* [Коментар Національного банку про поточний стан та перспективи економіки України] (Comment of the National Bank on the current state and prospects of Ukraine's economy. April 14 2022). <https://bank.gov.ua/ua/news/all/komentar-natsionalnogo-banku-pro-potochniy-stan-ta-perspektivi-ekonomiki-ukrayini> (accessed 2022-06-27); "War Sets Back the Global Recovery." op. cit.; "Rising Caseloads, a Disrupted Recovery, and Higher Inflation." op. cit.; and data published by State Statistics Service of Ukraine, see: *Derzhstat Ukrainy* [Держстат України], official website available at <https://ukrstat.gov.ua/> (accessed 2022-05-30).

на 92,9%" [Мінфін: В умовах воєнного стану місячний розпис державного бюджету України виконано на 92,9%] (Cabinet of Ministers of Ukraine. 2022. Ministry of Finance: Under martial law, the monthly schedule of the state budget of Ukraine was fulfilled by 92.9%). <https://www.kmu.gov.ua/news/minfin-v-umovah-voyennogo-stanu-misyachnij-rozpis-derzhavnogo-byudzhetu-ukrayini-vikonano-na-929> (accessed 2022-06-27).

9. See: "Europe and Central Asia Economic Update, Spring 2022. War in the Region." op. cit.

10. See: "War Sets Back the Global Recovery." op. cit.

11. See: "Rising Caseloads, a Disrupted Recovery, and Higher Inflation." op. cit.



According to the preliminary forecast of the European Bank for Reconstruction and Development (EBRD) in March 2022, Ukraine's real GDP was projected to decline by 20% in 2022, and then, given the optimistic scenario of a quick end of the war, in 2023 it is projected to increase by 23%.<sup>12</sup> However, according to the updated EBRD forecast presented in May 2022, the results of 2022 are expected to decline to 30% in Ukraine's real GDP.<sup>13</sup> Real GDP growth in Ukraine is projected at a 25% increase next year, but this suggests that active work on the reconstruction of damaged facilities will begin earlier. The speed of the recovery will also be affected by the duration of the hostilities, the shape of any postwar settlement, the extent of the reconstruction, and the number of refugees returning home.

According to the National Bank of Ukraine, the economy will gradually recover, but real GDP may decline by at least a third in 2022.<sup>14</sup> Ukraine's GDP is expected to shrink in all aspects. In particular, private consumption will decline due to the forced departure of many citizens from the country, rising unemployment, and declining incomes and savings on secondary expenditures. Due to considerable uncertainty and high risks, investment activity will be significantly reduced. Declining consumption and investment, in turn, could lead to lower imports compared to the prewar period. However, exports of goods also suffered significant losses due to the shutdown of enterprises, reduction of sown areas and the inability to carry out efficient agricultural work as a result of the hostilities, the blockade of seaports, and problems with the supply of fuel and fertilizers. At the same time, it is expected that the number of products that companies will try to export later will increase.

According to the results of 2022, inflation in Ukraine may exceed 20% but will remain controlled. The rising prices of goods and services will, in particular, cause the following problems: disruption to production processes; logistical problems due to the temporary occupation of some of the territories; the destruction of transport infrastructure, resulting in unevenly distributed supply in certain regions; the devaluation of the hryvnia exchange rate; the high cost of energy in the world, which will put pressure on the cost of fuel and goods and services with a significant share of energy in the cost. Therefore, all the analyzed forecasts have certain conditions under which they may come true. The main conditions are the duration of the war in Ukraine, the scale of its consequences, the scale of military, financial and humanitarian support of friendly foreign countries, and the timing of adaptation and economic recovery.

If we take into account the regional aspect of Ukraine's GDP to assess economic losses and identify the regions most affected in the first months of the war (Donetsk, Zaporizhia, Kyiv, Luhansk, Sumy, Kharkiv, Kherson, Mykolaiv and Chernihiv), in 2020, for which the latest statistics are available, their share in total GDP was 29.5% (tab. 3 on next page). Thus, according to our estimates, the minimum loss of Ukraine's GDP in 2022 may be about 30%, because 9 regions may lose most of it, and for the rest of the country this figure will be smaller. If the war lasts until the end of 2022 and the active phase extends to the Dnieper and Odessa regions (their shares in GDP are, respectively, 9.4% and 5.2%), the loss of Ukraine's GDP in 2022 could be about 45%.

Such predictions fully confirm the negative forecasts for Ukraine's GDP decline in 2022 by 30%–45% obtained from other sources. According to the Chairman of the NBU, Kyrylo Shevchenko (2022), the war in Ukraine will result in an increase in the imbalances in the economy and a greater risk of the devaluation and inflationary spiral. Since the beginning of the war, Ukrainian economy has been faced with five problems that need to be addressed immediately: low interest rates, which are lower than inflation; non-competitiveness of Ukrainian producers due to lower import taxes; shadowing of the economy due to currency restrictions; issuance of hryvnia to finance the budget; the vicious circle in the budget: reduction of the tax base—loss of confidence in the hryvnia—the impossibility of debt financing of the budget in hryvnia.

12. See: "In the Shadow of the War. The Economic Fallout from the War on Ukraine." op. cit.

13. See: "The Return of Runaway Prices. Dealing with expensive food and energy." op. cit.

14. See: "Komentar Natsional'noho banku pro potochnyy stan ta perspektyvy ekonomiky Ukrainy" [Коментар Національного банку про поточний стан та перспективи економіки України] (Comment of the National Bank on the current state and prospects of Ukraine's economy. April 14 2022). <https://bank.gov.ua/ua/news/all/komentar-natsionalnogo-banku-pro-potochniy-stan-ta-perspektivi-ekonomiki-ukrayini> (accessed 2022-06-27).

**Table 3.** Estimation of Ukraine's GDP losses in 2022 due to the war based on data on Gross Regional Product for 2020

Region	GRP (UAH million)	GRP per capita (UAH)	Share of GRP in general total (%)
Ukraine	4,222,026	101,138	100.0
Regions that have not been accounted for since 2014			
Autonomous Republic of Crimea			
The City of Sevastopol			
<b>Regions that may lose most of their GDP in 2022</b>	<b>1,246,599</b>		<b>29.5</b>
Donetsk	206,309	50,124	4.9
Zaporizhzhya	167,260	99,738	4.0
Kyiv (oblast)	242,406	135,817	5.7
Luhansk	43,204	20,297	1.0
Sumy	80,432	75,815	1.9
Kharkiv	257,805	97,428	6.1
Kherson	68,467	66,973	1.6
Mykolayiv	96,648	86,750	2.3
Chernihiv	84,068	85,435	2.0
<b>Regions that may lose less of their GDP in 2022</b>	<b>2,975,427</b>		<b>70.5</b>
Vinnytsya	135,867	88,380	3.2
Volyn	77,404	75,193	1.8
<b>Dnipropetrovsk</b>	<b>398,732</b>	<b>126,209</b>	<b>9.4</b>
Zhytomyr	91,365	76,017	2.2
Zakarpattia	62,022	49,538	1.5
Ivano-Frankivsk	90,398	66,245	2.1
Kirovohrad	75,208	81,166	1.8
Lviv	236,254	94,317	5.6
<b>Odesa</b>	<b>220,242</b>	<b>92,823</b>	<b>5.2</b>
Poltava	188,424	136,608	4.5
Rivne	71,901	62,485	1.7
Ternopol	62,661	60,565	1.5
Khmelnyskiy	96,380	77,153	2.3
Cherkasy	108,822	91,817	2.6
Chernivtsi	45,054	50,110	1.1
Kyiv city	1,014,693	342,247	24.0

Source: Author's elaboration based on the data published in 2022 by the State Statistics Service of Ukraine, see: Derzhstat Ukrainy [Держстат України], official website available at <https://ukrstat.gov.ua/> (accessed 2022-05-30).

The first step is to restore import taxes and introduce an additional import duty on non-critical categories of imports. The next step is to raise interest rates on hryvnia domestic bonds to the level of inflation—i.e., to 17%–20%. Next, large buyers of the public sector need to be removed from the foreign exchange market, and a gradual transition to a floating exchange rate, which should fluctuate in both directions, should be made. This should be followed by the gradual abolition of currency restrictions. It is worth starting negotiations on a new IMF program. Ukraine's economic policy is now at a crossroads, the only way out of which is to return to the market principles of financial and economic management. If you try to keep the current format, the problems will not go away. The inflation-devaluation spiral will still have to be slowed down, but changes will have to be made in worse conditions, and therefore they will be more painful.

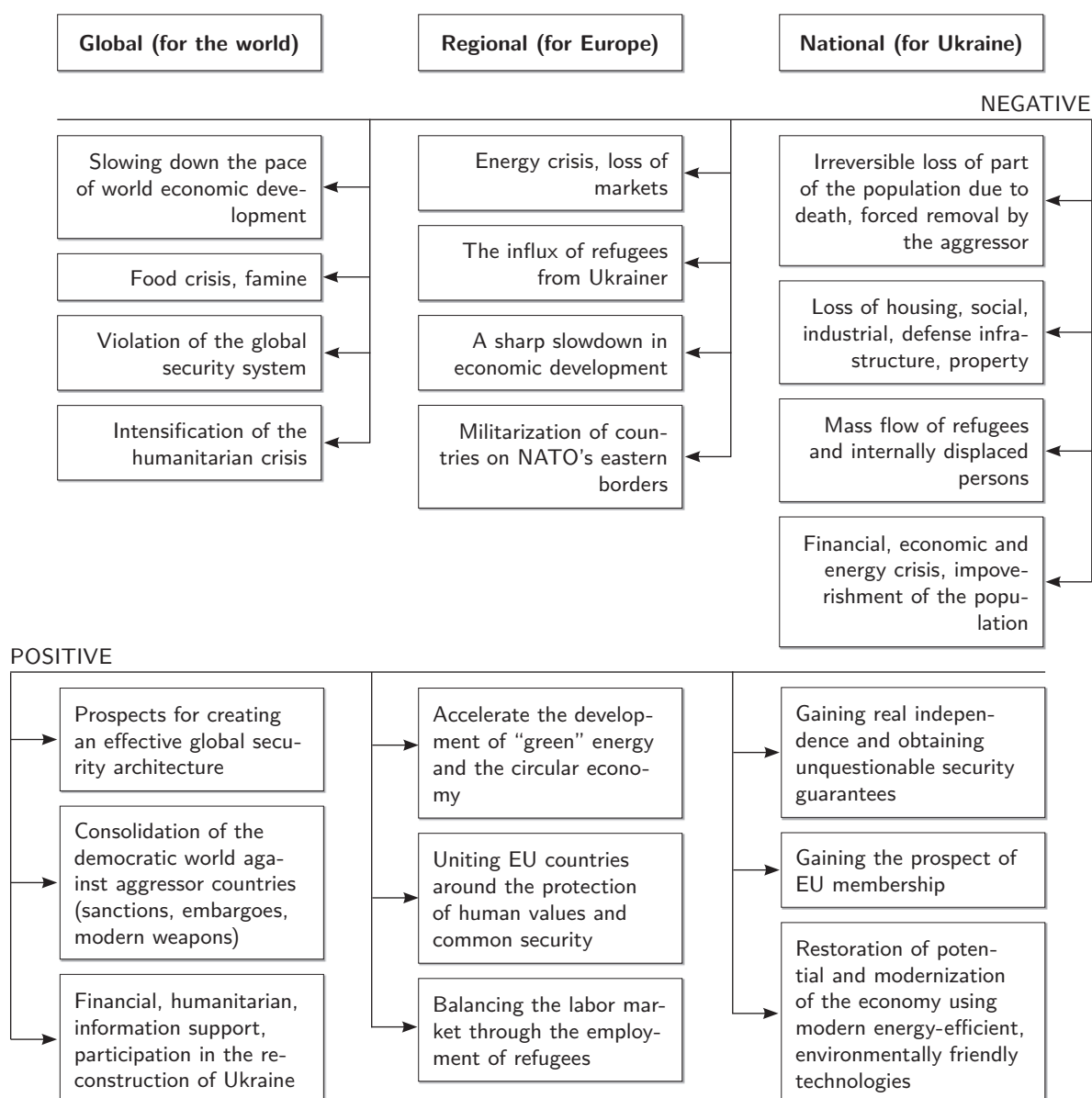
Thus, the change in the economic situation in Ukraine in 2022 will largely depend on the results and consequences of the hostilities (war-torn areas, the scale of infrastructure destruction, the

intensity of refugee return, etc.) and the effectiveness of public authorities in adapting to, stimulating and reconstructing the economy in military conditions, as well as the timeliness of military, humanitarian and financial support from Ukraine's foreign allies.

#### 4 The global, regional and national socio-economic consequences of the war

Every war brings irreparable losses in all the spheres of the life of a country, and it especially affects those regions of it in which hostilities take place. In the global world, the negative effects of war extend not only to neighboring countries but can also lead to deteriorating indicators of global socio-economic development in general. It all depends on the role of warring countries in world exports and imports, the importance and degree of the substitutability of their products, and the position of other developed countries, in particular with regard to sanctions against the aggressor country.

The main socio-economic consequences of the war in Ukraine can be grouped into global (for the world), regional (for Europe) and national (for Ukraine) ones (fig. 3). These consequences are both positive and negative.



**Figure 3.** Socio-economic consequences of the war in Ukraine in the global, regional, and national dimensions

According to the International Monetary Fund forecast for April 2022, global growth is expected to slow from about 6.1% in 2021 to 3.6% in 2022 and 2023. This is 0.8 and 0.2 percentage points lower for 2022 and 2023 than in the previous forecast for January. According to IMF forecasts, after 2023, global growth will fall to about 3.3% in the medium term. In developing European countries, including Russia and Ukraine, GDP will shrink by about 2.9% in 2022 and then increase by 1.3% in 2023. The main reasons for the decline are the impact of higher energy prices on domestic demand and trade disruptions, especially for the Baltic countries, whose external demand will decline as Russia's economy shrinks. The influx of refugees is expected to put significant immediate pressure on social services, but ultimately increasing the workforce may contribute to medium-term growth and tax revenue.

War-related increases in commodity prices and rising price pressures have led to inflation projections of 5.7% in developed economies and 8.7% in emerging markets in 2022, which were 1.8 and 2.8 percentage points higher than those made in January last year. Multilateral efforts to respond to the humanitarian crisis, prevent further economic fragmentation, maintain global liquidity, tackle debt problems, combat climate change, and end the pandemic are crucial.

According to the UN, the war in Ukraine will lead to global food, energy and financial crises.<sup>15</sup> The dire consequences of the war for global food, energy and financial markets could significantly worsen the lives of millions. The war is causing alarming cascading consequences for the global economy, which has already suffered from COVID-19 and climate change. According to forecasts, in 2022 the world economy will shrink by 1%. A preliminary analysis shows that 1.7 billion people in 107 countries will be exposed to at least one of three risks (financial, food, energy), mainly in Africa, Asia and the Pacific, as well as Latin America and the Caribbean.

According to World Bank 2022 forecasts, Russia's invasion of Ukraine will cause more economic damage in Eastern Europe and parts of Asia than the coronavirus pandemic, and in 2022 Belarus, Kyrgyzstan, Moldova and Tajikistan will also face a recession. Natural gas prices have risen by nearly a third since the start of the war, partly reflecting increased demand for U.S. liquefied natural gas exports. Coal prices also reached a record high in March 2022 due to the increasing demand for this commodity as a substitute for natural gas in electricity generation. The price of Brent crude oil in 2022 will average USD 100 per barrel, which is 42% more than in 2021, and will be at the highest level since 2013. Non-energy commodity prices are expected to rise by about 20% in 2022, with the largest increase in commodity prices, Russia and Ukraine being key exporters. Prices for most goods in 2022 are expected to be significantly higher than in 2021 and will remain high in the medium term.

According to the EBRD, production in the EBRD regions increased by 6.7% in 2021 after a decrease of 2.5% in 2020.<sup>16</sup> However, the war against Ukraine had a profound effect on the economies of the EBRD regions. Production in the EBRD regions is expected to grow by 1.1% in 2022. This is a revision of 0.6 percentage points down from the forecast made in March 2022 (and 3.1 percentage points down from the forecast made in November 2021). The March revision is largely due to a larger-than-expected reduction in Ukraine as the war drags on. EBRD growth is projected to recover to 4.7% in 2023. The downward revision of 0.3 percentage points since March reflects growing inflationary pressures on the global economy and the EBRD regions. The forecasts are subject to serious negative risks if the hostilities escalate or if exports of gas or other goods from Russia become more limited. For example, in a scenario in which gas supplies will be further disrupted, per capita production in the EBRD regions may be 2.3% lower in 2022 and 2.0% lower in 2023 than in the baseline scenario.

Analysts at S&P Global Market Intelligence are also talking about growing macroeconomic uncertainty.<sup>17</sup> As the economies of most developing countries continue to recover from the COVID-19

15. See: "Global Impact of war in Ukraine on food, energy and finance systems." 13 April 2022. Brief No. 1. United Nations. <https://reliefweb.int/report/world/global-impact-war-ukraine-food-energy-and-finance-systems> (accessed 2022-06-27).

16. See: "The Return of Runaway Prices. Dealing with expensive food and energy." op. cit.

17. See: "Economic Outlook Emerging Markets Q2 2022: Growth Slows Amid Higher Commodity Price Inflation." March 28, 2022. S&P Global Market Intelligence. <https://pages.marketintelligence.spglobal.com/rs/565>

pandemic, the Russian-Ukrainian conflict and inflationary risks now dominate the forecast. The circumstances surrounding geopolitical tensions continue to develop rapidly, and the implications for the global economy are very uncertain. In the near future, the conflict is likely to affect economic activity in most developing countries and generally increase inflationary pressures.

The greatest catastrophe of any war is the loss of the civilian population. During the first three months of the war in Ukraine (as of May 25, 2022), the Office of the United Nations High Commissioner for Human Rights recorded 8,628 civilian casualties.<sup>18</sup> Among them were 3,974 dead (1,497 men, 985 women, 91 girls and 99 boys, as well as 69 children and 1,233 adults whose gender is still unknown) and 4,654 wounded (938 men, 619 women, 108 girls and 130 boys, as well as 164 children and 2,695 adults whose gender is still unknown). The largest loss of civilians was recorded in the Donetsk and Luhansk regions—4,872 people (2,234 dead and 2,638 wounded). Most of the civilian casualties were caused by the use of explosive weapons with a wide range of destruction, including heavy artillery and multiple rocket launches, as well as missile and air strikes. The Office believes that the actual figures are much higher as information from some places of intense fighting is delayed and many reports are still awaiting confirmation. This applies, for example, to Mariupol (the Donetsk region), Izyum (the Kharkiv region), and Popasna (the Luhansk region), where there are accusations of numerous crimes against the civilian population.

Since the start of the war, Ukraine has witnessed dramatic deaths and suffering, leaving at least 24 million people in urgent need of humanitarian assistance and protection, according to the United Nations High Commissioner for Refugees.<sup>19</sup> The war in Ukraine has led to the world's fastest displacement crisis since World War II. In just six weeks, more than a quarter of Ukraine's population fled their homes: more than 8 million people are now internally displaced. By December 2022, the number of refugees could increase to 8.3 million and the number of internally displaced persons to 8.7 million. The war in Ukraine has provoked the fastest growing refugee crisis since World War II. During the three months of the war, more than 5 million refugees fled to countries neighboring Ukraine and other countries. After the start of the war, humanitarian partners rapidly increased the scale of their operations both in Ukraine and in neighboring countries. The national government was supported by local partners, including civil society and volunteer groups, who demonstrated an incredible level of solidarity with the people of Ukraine and an extraordinary commitment to supporting the national cause.

The Regional Refugee Response Plan brings together the UN, NGOs and other relevant partners, focusing on supporting host governments in order to ensure safe access to their territory for refugees and third-country nationals fleeing Ukraine in accordance with international standards. It also prioritizes the provision of critical protection and humanitarian assistance services, as relocations and needs continue to grow exponentially.

The overall influx of refugees from Ukraine to neighboring countries is monitored by the Office of the United Nations High Commissioner for Refugees, and a relevant operational data portal has been established.<sup>20</sup> The Office has declared a third-level state of emergency for Ukraine, which is the highest possible level.

During the three months of the war in Ukraine (as of May 24, 2022), the total number of refugees from Ukraine was 6,642.7 thousand, and the number of returnees was 1,887.5 thousand.

---

-BDO-100/images/RatingsDirect\_EconomicOutlookEmergingMarketsQ22022GrowthSlowsAmidHigherCommodityPriceInflation\_51097352\_Apr-13-2022.PDF (accessed 2022-06-27).

18. See: "Ukraine: Civilian Casualty Update 25 May 2022." United Nations, Office of the High Commissioner for Human Rights. <https://www.ohchr.org/en/news/2022/05/ukraine-civilian-casualty-update-25-may-2022> (accessed 2022-05-30).

19. See: "Ukraine Situation: Regional Refugee Response Plan - March-December 2022". United Nations High Commissioner for Refugees. <https://data.unhcr.org/en/documents/details/92257> (accessed 2022-06-30); and Ukraine Refugee Situation. [https://data.unhcr.org/en/situations/ukraine#\\_\\_ga=2.172183840.2057759738.1650750501-723871507.1650750501](https://data.unhcr.org/en/situations/ukraine#__ga=2.172183840.2057759738.1650750501-723871507.1650750501) (accessed 2022-05-30).

20. See: "Statement on Risks of Trafficking and Exploitation Facing Refugees from Ukraine Attributed to UNHCR's Assistant High Commissioner for Protection." United Nations High Commissioner for Refugees. <https://www.unhcr.org/news/press/2022/4/6255a6964/statement-risks-trafficking-exploitation-facing-refugees-ukraine-attributed.html> (accessed 2022-06-27).

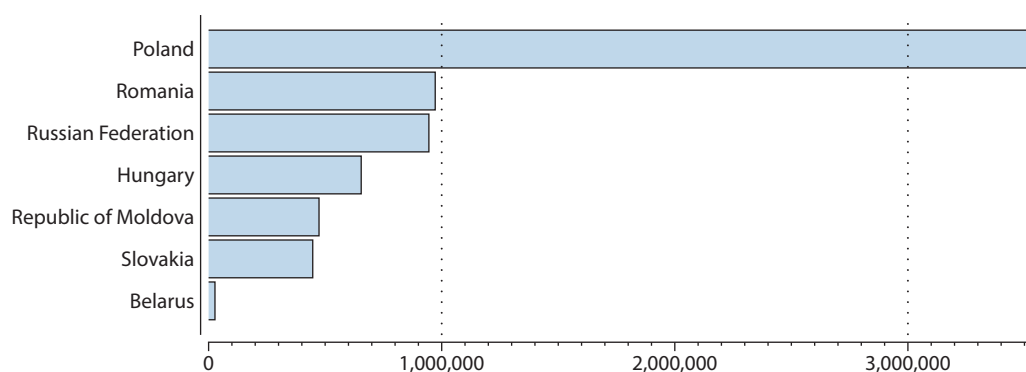


Altogether, the negative balance of the population of Ukraine who fled the war was 4,522.2 thousand people. Since the third month of the war, the number of refugees returning home to Ukraine has exceeded the number of those leaving it, as the situation in the regions of Western and Central Ukraine has become less threatening.

Among the neighboring countries (fig. 4), the largest flow of refugees from Ukraine was directed to Poland (more than 3.5 million people), Romania (972 thousand people), Russia (945 thousand people, although most of them were forcibly displaced), and Hungary (654 thousand people). For many refugees, these countries were only a stop on their way to other European countries (Germany, Italy, France, Croatia, Sweden, and others). Among those who fled Ukraine were also citizens of Ukraine with dual citizenship. Between 18 and 23 February, another 105,000 people moved to the Russian Federation from the Donetsk and Luhansk regions.

If we analyze the influx of refugees by country (fig. 5), then more than 75% are in three countries only: Poland (50.2%), Romania (13.8%) and the Russian Federation (13.4%). The share of refugees from Ukraine to other neighboring countries is less than 10%. It is clear that, depending on the number of refugees, these countries need additional assistance from the EU and international institutions to sustain them properly for a long time.

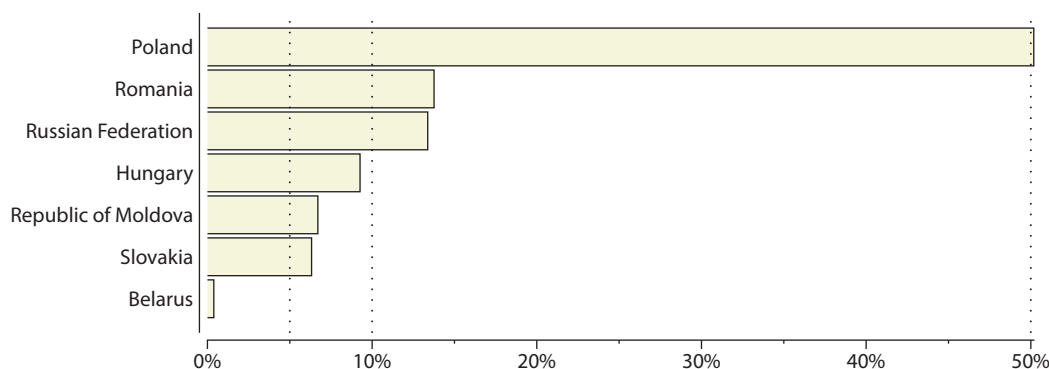
Poland provides the largest humanitarian assistance to Ukrainian refugees. This is evidenced by the increase in the number of Ukrainians in 12 largest Polish cities, which is discussed in the report “Urban Hospitality: Great Growth, Challenges and Opportunities” written by researchers from the Research Center and the Union of Polish Metropolises (UMP) in April 2022.<sup>21</sup> The collected data refer to the period from February 1 to April 1, 2022, (tab. 4).



**Figure 4.** Total influx of refugees from Ukraine to neighboring countries—according to the Office of the United Nations High Commissioner for Refugees (as of May 24, 2022)

*Note:* The numbers given in this table are higher than the total number of refugees fleeing Ukraine given above, as people crossing the borders between the countries are also taken into account.

*Source:* Author's elaboration based on the data published at <https://www.unhcr.org/>.



**Figure 5.** The structure of the influx of refugees from Ukraine to neighboring countries according to the Office of the United Nations High Commissioner for Refugees (as of May 24, 2022)

*Source:* Author's elaboration based on the data published at <https://www.unhcr.org/>.

21. See: “Urban Hospitality: Unprecedented Growth, Challenges and Opportunities.” A Report on Ukrainian Refugees in the Largest Polish Cities by M. Wojdat and P. Cywiński, Union of Polish Metropolises Research and

**Table 4.** The estimated increase in the number of Ukrainians in the period Feb. 1 – Apr. 1, 2022, and the percentage of Ukrainians in the population of the central city

Metropolitan area	Estimated increase in the number of Ukrainians in the period Feb. 1 – Apr. 1, 2022			Ukrainians in the population of the central city, as of Apr. 1, 2022 (%)	Growth of the population of the central city in the period Feb. 1 – Apr. 1, 2022 (%)
	Central city	Other towns and municipalities of the metropolitan area	Total		
Bialostocki	18,334	13,287	31,621	11	12
Szczecinski	27,989	6,389	34,378	13	15
Bydgosko-torunski	21,862	18,478	40,340	11	13
Poznanski	37,488	5,176	42,664	14	16
Lubelski	45,827	6,497	52,324	17	20
Lodzki	48,690	8,923	57,613	11	13
Rzeszowski	80,528	39,116	119,644	35	53
Krakowski	121,312	15,514	136,826	19	23
Gdanski	101,530	36,601	138,131	25	34
Gornoslasko-zaglebiowski	51,210	108,249	159,459	25	33
Wroclawski	112,696	72,601	185,297	23	29
Warszawski	164,537	118,476	283,013	13	15
Total	832,003	449,307	1,281,310	17	17
Poland			1,647,919	8	

Source: Author's elaboration based on the data published in "Urban Hospitality: Unprecedented Growth, Challenges and Opportunities." op. cit.

The authors show the rapid growth of the Polish population, which for the first time in history has reached more than 41.5 million, and emphasize the key role of local governments in the reception of Ukrainian refugees. In March 2022, the cities of the Union of Polish Metropolises and adjacent municipalities received almost 70% (over 2 million 200 thousand people) of all Ukrainian citizens currently living in Poland. This means an increase in the population of the largest Polish cities. For example, the population of Rzeszow increased by 53% and the population of Warsaw by 15%.

Especially at the beginning of the war, relatively many refugees decided to stay in the border towns to be as close to Ukraine as possible, as most of them assumed that they would return home quickly. Continuous monitoring of the refugee situation should be the basis for developing a further assistance plan for both Ukrainians themselves and the local governments that help them. After all, each city needs to be scaled to meet the needs of a much larger number of inhabitants resulting from the influx of refugees from Ukraine. We need more buses, drivers, and communal services, for example garbage collection. It is also an additional burden on the education system, transport, city cleaning, administration, health care, and water supply.

According to IMF experts, the resettlement of large numbers of refugees in the EU will have significant social and economic consequences in the long run.<sup>22</sup> On the one hand, the supply of labor will increase; on the other hand, there will be a risk of spreading anti-immigrant sentiments, which will shake societies in the EU.

At the same time, from Ukraine's point of view, the refugee crisis may result in the loss of the nation's gene pool, as well as its labor force for further reconstruction of the country. The director of the M. Ptukha Institute of Demography and Social Research of the National Academy of Sciences of Ukraine E. Libanova believes that if the war lasts for a long time, people who went abroad will

Analysis Centre. [https://metropolie.pl/fileadmin/user\\_upload/UMP\\_raport\\_Ukraina\\_ANG\\_20220429\\_final.pdf](https://metropolie.pl/fileadmin/user_upload/UMP_raport_Ukraina_ANG_20220429_final.pdf) (accessed 2022-06-27).

22. See: "War Sets Back the Global Recovery." op. cit.; "Rising Caseloads, a Disrupted Recovery, and Higher Inflation." op. cit.

not return (Feshchenko 2022). They will adapt to their new surroundings and get new jobs, their children will go to kindergartens and schools, and after the war there is a terrible risk of families reuniting abroad rather than in Ukraine. Men will go abroad to stay with their families. Another possibility is that the war will end fairly soon and the vast majority of Ukrainians will return to their home country, even if there is nowhere to go. If the former is the case, especially two groups should be considered. The first group is large families, mothers with young children, and people with special needs, who will receive permanent protection from the country to which they came. The second group is the most qualified, most mobile Ukrainians who will quickly find a job and adapt to the new situation.

The Ukrainian refugee crisis also creates new risks of human trafficking and exploitation. This crisis evokes the need for protection of women and children, accounting for 90% of all those fleeing Ukraine.<sup>23</sup> The risks of gender-based violence, human trafficking, abuse, psychological trauma and family separation increase during conflict and displacement, but given the gender profile of this outflow of refugees and the fact that many children have fled on their own, this has now multiplied. Because of the hidden nature of trafficking, it is difficult or even impossible to estimate how many Ukrainian women and refugee children may have fallen victim to traffickers. Fortunately, there have been few known cases so far. Refugees should be warned about the risks of predators and criminal gangs, which may try to exploit their vulnerability or entice them with promises of free transport, accommodation, employment or other assistance.

Another consequence of the war in Ukraine is the destruction of physical infrastructure. To assess this destruction, as well as to substantiate Ukraine's claim for future compensation of its losses, the Ministry of Economy of Ukraine and the Kyiv School of Economics (KSE) have launched a joint project "Russia will pay."<sup>24</sup> During the three months of the war, as of May 25, 2022, the total amount of direct losses of the Ukrainian economy from damage and destruction of residential and non-residential buildings and infrastructure already exceeded USD 105.5 billion (tab. 5).

The total losses of Ukraine's economy due to the war, according to joint estimates of the Ministry of Economy and KSE, taking into account both direct losses calculated in this project and indirect losses (GDP decline, investment cessation, labor outflow, additional defense and social support costs, etc.) fluctuate between USD 564 billion and USD 600 billion.

It is clear that the longer the war in Ukraine lasts, the greater the direct and indirect costs to the country's economy it will have. Therefore, these costs will be constantly updated, but there is every reason to believe that they will reach USD 1 trillion or more. Such a large amount is too high a price of the war for Ukraine and the economy will not be able to compensate for such losses, because, according to the State Statistics Service of Ukraine, Ukraine's GDP in actual prices in 2021 was estimated at 5 trillion 459.6 billion UAH, which in terms of the average annual rate of US dollar (USD/UAH 27.29) is USD 200 billion.<sup>25</sup> If we assume that GDP after the war is at the level of 2021 and will be fully used to cover the losses, it will take 5 years to do so. If about 10% of GDP is used to compensate for the losses, Ukraine's economic recovery will take 50 years.

It is clear that such a scenario of economic recovery in Ukraine is not acceptable, so it will be important for the country to receive all forms of support from all possible sources, so that the process of economic recovery lasts no more than 5–7 years, because it is crucial for the welfare of the population and Ukraine's full membership in the EU.

It is worth noting the opinion of Danylyshyn (2022) that the restoration of Ukraine's GDP to its pre-crisis level will require international funding for the reconstruction of Ukraine's economy and activation of fiscal and monetary instruments to restore investment processes in Ukraine, totaling at least USD 1 trillion (tab. 6).

23. See: "Statement on Risks of Trafficking and Exploitation Facing Refugees from Ukraine...", op. cit.

24. See: Russia will pay / damaged.in.ua. The project of collecting, evaluating, analyzing, and documenting information on direct losses to civilian infrastructure in connection with Russian aggression. <https://kse.ua/russia-will-pay/> (accessed 2022-05-30).

25. See: Derzhstat Ukrayiny [Держстат України] (State Statistics Service of Ukraine), official website available at <https://ukrstat.gov.ua/> (accessed 2022-05-30).

**Table 5.** Ukraine's direct losses from damage to physical infrastructure (as of May 25, 2022)

Infrastructure facilities	Number of items	Value of damages (USD million)
Residential houses (million m <sup>2</sup> )	44.2	39,379
Roads (thousand km)	23.8	29,879
Assets of enterprises (objects)	227	11,300
Civil airports (objects)	11	6,817
Railway infrastructure and rolling stock (thousand tracks / cities)	6.3/41	3,676
Healthcare facilities (objects)	643	1,132
Bridges and bridge crossings (objects)	295	1,646
Cars (thousands of units)	104.9	1,592
Secondary and higher education institutions (objects)	1123	1,540
Land fund (a thousand hectares)	4.7	1,108
Ports and port infrastructure (objects)	to be specified	471
Military airports (objects)	12	468
Administrative buildings (objects)	99	542
Kindergartens (objects)	621	538
Religious buildings (objects)	115	767
Cultural buildings (objects)	192	463
Shopping centers (objects)	19	329
Aircraft An-225 "Mriya"	1	300
Warehouse infrastructure (objects)	181	296
Oil storage (objects)	28	227
Retail	2,910	1,400
Others		1,619
Total		105,489

Source: Russia will pay / damaged.in.ua. The project of collecting, evaluating, analyzing..., op. cit.

**Table 6.** Approximate structure of the sources of financing Ukraine's economic reconstruction

Sources of funding	Volume (USD billion)	Percentage
Credits and grants from international organizations (IMF, World Bank, EBRD, etc.)	200	20
Official bilateral financing and EU structural funds	200	20
Reparations from the Russian Federation (including proceeds from the sale of confiscated assets and deductions from energy exports)	400	40
Financial assistance of international business and public organizations	100	10
Debt financing, including guarantees from leading countries	100	10
Total (approximately)	1000	100

Source: Danylyshyn (2022).

Significant sums of money can be raised in the form of reparations from the Russian Federation in the amount of about USD 400 billion. According to experts, the gold and foreign exchange reserves of the Central Bank of Russia and the property of Russian oligarchs, who have been under sanctions since the start of the war in Ukraine, is frozen in various countries around the world which do not support the aggression against Ukraine. It is very unlikely that Russia will voluntarily agree to pay any reparations to Ukraine. Therefore, it is necessary to use all the available international legal instruments as soon as possible to direct these funds to support the population and restore Ukraine's economy.

Johnson and Ustenko (2022) expressed the idea that the United States, the EU, the United Kingdom and other countries should create a global fund of monetary humanitarian support to Ukrainians, the initial cost of which should be USD 200 billion. This fund could issue bonds guaranteed separately or jointly by Western governments that decided to participate in Ukraine's reconstruction. These governments could then decide whether to transfer frozen Russian assets to the fund in the future as a way to meet their obligations. In any case, there are many people around the world who want to buy these bonds.

In April 2022, the President of Ukraine signed a decree establishing the National Council for the Restoration of Ukraine from the effects of war.<sup>26</sup> It is an advisory body tasked with developing a recovery plan which will include the following: rehabilitation and development of transport, medical, social, communal, industrial and housing infrastructure, energy, transport, military infrastructure, and industrial complexes; structural modernization and restart of the economy; measures to combat unemployment, support families with children, vulnerable groups, and other people in difficult life circumstances due to the war; restoration and preservation of cultural heritage sites; identification and development of proposals for priority reforms, the implementation of which is necessary in the war and postwar periods; preparation of strategic initiatives and regulations, the implementation of which is necessary for the effective operation and reconstruction of Ukraine in the war and postwar periods.

At the state level, the Cabinet of Ministers of Ukraine has established six separate funds for the reconstruction of Ukraine: the Army Support Fund, the Economic Recovery and Transformation Fund, the Public Debt Service and Repayment Fund, and the Property and Destroyed Infrastructure Restoration Fund.<sup>27</sup> In this way, the main sources and priority areas of financing the reconstruction of Ukraine have been identified.

Of course, in the conditions of war in the territories close to the combat zone, the implementation of large reconstruction projects has significant risks. Yet, all the procedures to replenish these funds, prepare the necessary design estimates, and begin reconstruction in the regions that are already relatively safe must begin before the end of the active phase of the war to quickly rebuild the rest of the destroyed infrastructure after the war.

## Conclusion

The war in Ukraine, which started with Russia's unjustified aggression, is a significant challenge for the entire civilized world, a struggle of democratic values against a dictatorship that cannot be lost. For more than 30 years of its independence, Ukraine has followed a difficult path of economic transformation and the formation of civil society. As a sovereign state, it has officially enshrined in its national legislation the goal of joining the European Union and NATO as the basis for its national security. Trends and forecasts for the socio-economic development of Ukraine for 2022–2024 before the full-scale war were mostly positive in both Ukrainian and international institutions. There was every reason to believe that Ukraine, having successfully completed judicial, administrative and land reforms, had implemented European legislation, and overcome corruption and the “shadow” economy, which could greatly accelerate the process of the country joining the European Union.

With the start of a full-scale war on the part of Russia on February 24, 2022, the most pessimistic scenarios unfolded not only for the economy of Ukraine, Europe and Central Asia but also the world economy in general for the next 3–5 years. According to various estimates of Ukrainian and international financial institutions, the decline in Ukraine's real GDP in 2022 could reach 30%–45%, provided that the hostilities do not spread to other regions of Ukraine and that the

26. See: Ukaz Prezidenta Ukrainy №266/2022 Pytannya Natsional'noyi rady z vidnovlennya Ukrainy vid naslidkiv viyny [Указ Президента України №266/2022 Питання Національної ради з відновлення України від наслідків війни] (Issues of the National Council for the Recovery of Ukraine from the effects of war. Decree of the President of Ukraine №266 / 2022 of April 21). <https://www.president.gov.ua/documents/2662022-42225> (accessed 2022-06-27).

27. See: “Fondy vidnovlennya Ukrainy” [Фонди відновлення України] (Cabinet of Ministers of Ukraine. 2022. Funds for the Restoration of Ukraine). <https://www.kmu.gov.ua/gromadskosti/fondi-vidnovlennya-ukrainy> (accessed 2022-06-27).



country receives continued support from its allies. It is also important for Ukraine to minimize the negative socio-economic consequences of the war by ensuring the effective use of the assistance it receives from friendly countries, including the financial aspects (finding an effective formula for the use of funds for economic incentives and social benefits), the humanitarian aspects (making targeted payments to those who need them) and the military aspects (weapons that will be most effective depending on the situation at the front). The state's economic policy in wartime should also combine the use of instruments of both state and market price, finances and credit, currency, customs and tariff, fiscal instruments, institutional and legal regulation of the economy, depending on the situation in financial, commodity and energy markets to support all possible means of macroeconomic stability in the country.

At the global level, all countries in the world must unite as soon as possible to minimize the negative effects of the financial, food and energy crises, as promoted by the UN.<sup>28</sup> Accordingly, in order to ensure food security, it is necessary to allocate funds for humanitarian food aid as soon as possible. Food producers, who face higher costs for transportation, urgently need support in the next growing season. To ensure energy security, governments should use strategic reserves and additional reserves to help alleviate this energy crisis in the short term. The world needs to accelerate its use of renewable energy, which is not affected by market fluctuations, and phase out coal and all other fossil fuels, accelerating the use of renewable energy and energy transition. To ensure financial security, the international financial system, including the G20 and development banks, must provide flexible, urgent and sufficient funding for the least developed countries, as well as exempt them from debt service under current conditions.

The economic tendencies, forecasts, and assessments of Ukrainian and international institutions presented in this paper concern only the first three months of the war in Ukraine. For this reason, any significant changes leading to an improvement or deterioration of the situation will require a verification of the information provided. Nonetheless, regardless of all the possible scenarios, the war in Ukraine will have the greatest catastrophic socio-economic consequences for Ukraine, Europe, and the world compared to the consequences of all the previous world crises. Therefore, the response of the world community to all the challenges caused by the war in Ukraine must also be adequate, timely and systematic, laying the foundations for the formation of the future world system of the financial, food, energy and military security of mankind.

After studying the analytical data on the first three months of the war in Ukraine gathered by well-known international institutions (UN, UNHCR, IMF, World Bank, EBRD), the authors think that this conflict will have increasingly negative global socio-economic consequences for humanity in the coming years and will last longer than one year.

## References

- DANYLYSHYN, B. [Данилишин, Б.] 2022. "Resursy Ukrainy dlya finansovoyi stabil'nosti pid chas viyny ta vidbudovy" [Ресурси України для фінансової стабільності під час війни та відбудови]. *Ukrayinska Pravda*, Last Modified 2022-04-22, accessed 2022-06-27. <https://www.epravda.com.ua/columns/2022/04/22/686099/>.
- FESHCHENKO, R. [Фещенко, Р.] 2022. "Portret absolutno inshoho ukrajintsy. Interv'yu NV iz profesorkoyu Libanovoyu pro kardynal'ni zminy v susp" [Портрет абсолютно іншого українця. Інтерв'ю НВ із професоркою Лібановою про кардинальні зміни в суспільстві]. Last Modified 2022-03-31, accessed 2022-06-27. <https://life.nv.ua/ukr/socium/viyna-v-ukrajini-yak-zminilo-sya-ukrajinske-suspilstvo-interv-yu-nv-z-elloyu-libanovoyu-50229900.html>.
- JOHNSON, S., and O. USTENKO. 2022. "A Basic Income for Ukrainians, Paid for with Frozen Russian Assets." *Politico*, Last Modified 2022-02-03, accessed 2022-06-27. <https://www.politico.com/news/magazine/2022/03/02/frozen-russian-assets-humanitarian-relief-00013286>.
- SHEVCHENKO, K. [Шевченко, К.] 2022. "Finansovo-ekonomichna polityka za voyennoho chasu" [Фінансово-економічна політика за воєнного часу]. *ZN,UA*, Last Modified 2022-05-30, accessed 2022-06-27. <https://zn.ua/ukr/macrolevel/finansovo-ekonomichna-politika-za-vojennoho-chasu.html>.

28. See: "Global Impact of war in Ukraine on food, energy and finance systems." op. cit.