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# THE ECONOMY OF WAR AND POSTWAR ECONOMIC DEVELOPMENT: WORLD AND UKRAINIAN REALITIES

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**Abstract.** *The subject of the research* is the study of global economic growth during the war in Ukraine, the analysis of the war economy and the postwar economic development in Ukraine. *Methodology*. The study used general scientific methods, in particular: theoretical generalization; methods of positive and normative analysis and statistical analysis. *The aim of the work* is the process of studying the world economic growth during the war in Ukraine, the analysis of the war economy and the postwar economic development in Ukraine. *The conclusion of the study.* The forecast for global economic growth during the war in Ukraine assumes that the rate in developed economies will reach a 38-year high of 5.7 percent, while price growth in developed and developing countries will accelerate to 8.7 percent, the fastest decline since the global financial crisis of 2008. The acceleration is projected to decline by 2.5 percent and 6.5 percent, respectively, starting in 2023. Global socioeconomic development will depend on the most significant factors: energy and food contributed to rising inflation in 2021, when oil and gas supplies were constrained after several years of restrained investment and geopolitical uncertainty; rising food prices will affect every country in the world as extreme weather has reduced crop yields and rising oil and gas prices have increased fertilizer costs; factory closures, port restrictions, ship congestion, container shortages and staff shortages will continue to disrupt some sectors; labor shortages, especially in high-contact industries, are driving up wages, although inflation has caused them to fall. It has been researched that according to estimates of national and other international expert institutions, the reduction of Ukraine's GDP in 2022 will be 35%. The analysis showed that in April 2022, regions where significant hostilities are taking place or part of the territory is under occupation account for almost 20 percent of Ukraine's GDP, in particular: Kharkiv – 6.11 percent, Donetsk – 4.89 percent, Zaporizhzhia – 3.96 percent, Mykolaiv – 2.29 percent, Luhansk – 1.02 percent, Kherson – 1.62 percent. It is established that during the three months of the war in Ukraine there was a deep decline in economic activity, and the introduction of a number of tax changes to mitigate the shock in the economy led to a significant reduction in tax revenues. The directions of post-war economic growth for Ukraine are suggested.

**Key words:** war economy, world economic growth, post-war economic development, war in Ukraine.

**JEL Classification:** E20, H56, O10

## 1. Introduction

For almost three years, the world economy has been recovering from the effects of the coronavirus pandemic, and so has Ukraine's economy. Suddenly, in the twenty-first century, a neighboring state attacked to seize a large part of the territory, which led to Ukraine's defense of its lands. Russia's war against Ukraine led to a transition to a war economy. Developed countries supported Ukraine in its fight against the aggressor by imposing a significant number of sanctions, which is a record. The imposition of sanctions has affected both the aggressor's economy and the world economy as a whole. Ukraine has experienced significant social, economic, demographic, political, and military imbalances.

Marshuk L. M., Babyuk A. V., Strapachuk L. V., they note that "today in Ukraine as a result of martial law there is a crisis in the industrial and social spheres, financial and budgetary and banking systems, in particular, the reduction of production, growth

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of unemployment, aggravation of social tensions, significant public debt and budget deficit, reduced activity of banking institutions, inflation, etc. To overcome them, as well as to ensure the financial stabilization and economic recovery of the state, the support of international financial institutions is of great importance, which at present is not enough, as it is enough to finance all the necessary expenses in the near future" (Marshuk, Babyuk, Strapachuk, 2022).

Despite the militarization of Ukraine's economy, the government is trying to work out measures for postwar economic development, as the world forecasts that the economy will fall by almost 35 percent and the aggressor country by 8 percent. That is why the program of actions of the government and partner countries must form the levers of support for the post-war economic development of Ukraine. Accordingly, the study of global economic growth during the war in Ukraine, the analysis of the current state of the war economy and the proposal of measures of post-war economic development of Ukraine is very relevant and timely.

## 2. World economic growth during the war in Ukraine

The war in Ukraine has caused a costly humanitarian crisis that requires a peaceful resolution. At the same time, the economic damage from the conflict will contribute to a significant slowdown in global growth in 2022 and increase inflation. Fuel and food prices are skyrocketing, hitting vulnerable populations in low-income countries the hardest.

Global economic growth is projected to slow from 6.1 percent in 2021 to 3.6 percent in 2022 and 2023. This is 0.8 and 0.2 percentage points lower than projected in January for 2022 and 2023. After 2023, global growth is projected to decline to about 3.3 percent over the medium term. War-induced increases in commodity prices and heightened price pressures have led to inflation forecasts for 2022 of 5.7 percent in advanced economies and 8.7 percent in emerging and developing economies, 1.8 and 2.8 percentage points higher than forecasts last January. Multilateral efforts to respond to the humanitarian crisis, prevent further economic fragmentation, maintain global liquidity, manage the debt crisis, address climate change, and end the pandemic are essential (World Economic Outlook, 2022).

The latest Regional Economic Outlook lowers growth forecasts for Europe. For advanced economies, we lowered our growth projections by 1 percentage point to 3 percent in 2022 from the January projections, and for emerging economies, excluding Ukraine and Russia, we lowered our projected growth by 1.5 percentage points to 2.7 percent. Several major economies, such as France, Germany, Italy and the United Kingdom, are projected to grow little or even contract for two consecutive quarters this year. In Russia, activity is projected to contract by 8.5 percent and in Ukraine by 35 percent (Insights & analysis on economics & finance, 2022).

War is a supply shock that reduces economic output and raises prices. Indeed, we forecast inflation to accelerate to 5.5 percent in advanced economies and to 9.3 percent in European emerging economies, excluding Russia, Turkey and Ukraine. These forecasts are 2.2 and 3.5 percentage points higher, respectively, than our January forecasts.

The volatile international situation means that quantitative forecasts are even more uncertain than usual. Nevertheless, some channels through which the war and related sanctions will affect the global economy seem relatively clear, even if their magnitude is difficult to estimate (Table 1).

Monetary policy must balance the need to contain inflation with the need to limit output losses. Much of the pressure on prices comes from forces outside the control of central banks, such as shocks to energy and food markets and supply chain disruptions. However, monetary policymakers in many countries must continue the course of normalizing credit conditions to help contain inflation expectations and anchor domestic drivers of inflation, such as wages and housing rents.

If possible, governments should work with social partners to prevent wage price increases, including by providing sufficient support to households and companies that can hardly afford more expensive goods. To cope with supply shocks, automatic fiscal stabilizers, such as increases in unemployment insurance and tax cuts, should be allowed to operate freely. These measures will widen budget deficits as growth prospects weaken – justifiably so – and increase pressure on public finances in some countries. Nonetheless, fiscal policy may require more effort to support the economy if serious risks materialize.

Fiscal pressures will be more acute in a number of countries that open their borders to refugees, such as Poland, which hosts nearly 3 million people, or Moldova, where the number of refugees is very high relative to the population. This underlines the need to share the costs of humanitarian relief fairly among EU members. For non-member hosts, assistance by multilateral and regional partners should help manage costs, particularly where public finances are already stretched (Insights & analysis on economics & finance, 2022).

Europe's challenge will be to rebuild an economically strong Ukraine that will facilitate the return of refugees. Rebuilding the destroyed infrastructure will require extensive funding with a significant element of grants. Reconstruction and resettlement will help refugees return and restore economic growth.

Table 1
**Overview of the world economic outlook projections at market exchange rate weights (percent change)**

| | | Projections | | Difference from January 2022 WEO Update1 | | Difference from October 2021 WEO1 | |
|---|---|---|---|---|---|---|---|
| | 2021 | 2022 | 2023 | 2022 | 2023 | 2022 | 2023 |
| **World Output** | **5.8** | **3.5** | **3.1** | **-0.7** | **-0.3** | **-1.2** | **0.0** |
| Advanced Economies | 5.1 | 3.3 | 2.3 | -0.6 | -0.2 | -1.2 | 0.2 |
| Emerging Market and Developing Economies | 6.8 | 3.8 | 4.2 | -0.8 | -0.3 | -1.2 | -0.3 |
| Emerging and Developing Asia | 7.4 | 5.0 | 5.4 | -0.5 | -0.2 | -1.0 | -0.1 |
| Emerging and Developing Europe | 6.4 | -2.1 | 0.8 | -5.6 | -2.1 | -5.8 | -2.1 |
| Latin America and the Caribbean | 6.6 | 2.4 | 2.4 | 0.2 | -0.1 | -0.6 | -0.1 |
| Middle East and Central Asia | 5.1 | 4.6 | 3.4 | 0.5 | 0.2 | 0.7 | 0.0 |
| Sub-Saharan Africa | 4.5 | 3.8 | 3.9 | 0.2 | 0.1 | 0.1 | 0.0 |
| Memorandum | | | | | | | |
| European Union | 5.3 | 2.8 | 2.4 | -1.1 | -0.2 | -1.5 | 0.2 |
| Middle East and North Africa | 5.0 | 4.8 | 3.2 | 0.7 | 0.2 | 0.9 | 0.1 |
| Emerging Market and Middle-Income Economies | 7.0 | 3.7 | 4.2 | -0.8 | -0.3 | -1.3 | -0.3 |
| Low-Income Developing Countries | 4.0 | 4.6 | 5.3 | -0.6 | -0.1 | -0.6 | -0.1 |

*Source: IMF staff estimates*

Note: The aggregate growth rates are calculated as a weighted average, in which a moving average of nominal GDP in US dollars for the preceding three years is used as the weight. WEO = World Economic Outlook.

[1] Difference based on rounded figures for the current, January 2022 WEO Update, and October 2021 WEO forecasts

Reforms to strengthen institutions and public policy will maximize the growth dividend from recovery.

## 3. The economy of war in Ukraine

Danylyshyn B. notes that "According to the International Monetary Fund (WEO, April 2022) Ukraine's GDP reduction in 2022 will be 35%, which corresponds to the estimates of national and other international expert institutes, according to which Ukraine's GDP loss in 2022 due to military aggression RF can range from 30% to 50%. It is worth noting that global growth, according to the updated IMF forecast, will slow to 3.6% in 2022 (from 6.1% in 2021). The updated forecast of global GDP growth worsened by 0.8 percentage points and 0.2 cents for 2022 and 2023, respectively, compared to January. After 2023, global growth will slow to 3.3 percent over the medium term" (Danylyshyn, 2022).

Data from the State Statics Service of Ukraine (State Statistics Service of Ukraine, 2022) show that in 2021 the largest share of gross value added in gross domestic product by production method is wholesale and retail trade and repair of motor vehicles and motorcycles – 13.8%, rural, forestry and fisheries – 10.6%, processing industry – 10.3%, public administration; compulsory social insurance – 6.2%, mining and quarrying – 6.7%, transport, warehousing, postal and courier activities and real estate activities – 5.6%, education – 4, 3%. Taxes on products in the structure of GDP by mode of production are 14.3%.

If to consider the types of economic activities, we can predict a significant decline in the production of agriculture, forestry and fishing, mining and quarrying, transportation, warehousing, postal and courier activities, real estate operations due to military operations in and occupation of large parts of the territories. However, if to consider the GRP by region, in 2020 the highest percentage is in Kyiv – 24.03%, Dnipro – 9.44%, Kyiv – 5.74%, Lviv – 5.60%, Odessa – 5.22%. In March, the fighting covered 10 regions and the city of Kyiv, which together accounted for more than 55% of GDP in the past. In April 2022, the regions where significant hostilities are taking place or part of the territory is under occupation: Kharkiv – 6.11%, Donetsk – 4.89%, Zaporizhzhia – 3.96%, Mykolaiv – 2.29%, Luhansk – 1.02 %, Kherson – 1.62% (almost 19.89%). That is, it can be predicted that next year Ukraine's GDP will decrease by 20-25%. Economic activity has also declined in relatively calm areas due to disruptions in supply and production chains, uncertainty and increased risks, labor outflows and additional costs. In addition, the blockade of seaports also results in a significant share of Ukraine's GDP loss.

According to the National Bank of Ukraine (National Bank of Ukraine, 2022), the number of enterprises that completely stopped working has almost halved since the beginning of hostilities (from 32% to 17%). However, 60% of enterprises are operating below their pre-war level of utilization, almost 23% more than halved. At the end of April, most of the agricultural, transport and processing industries resumed work. The most difficult situation is in the construction and mining industries, and the volume of work remains much lower than the pre-war level. First of all, the workload in the occupied territories has improved, but in regions with active combat operations / occupied regions the situation is difficult. The second wave of the EBA SME survey showed a decrease in the number of unemployed enterprises from 42% to 26%. 17% of SMEs have already resumed operations, another 23% are preparing for recovery, and the number of full-time entrepreneurs has risen from 13% to 20% (41% among large companies, according to American Chamber of Commerce). Financial strength has also improved, but payroll is almost unchanged: 25% are paid in full (88% among large companies, according to American Chamber of Commerce), 27% are cutting salaries, 15% are sending employees on unpaid leave, and 9% are laying off staff.

According to the National Bank of Ukraine (National Bank of Ukraine, 2022), a deep recession in economic activity and the introduction of a number of tax changes to soften the shock in the economy led to a significant reduction in tax revenues in March and April. However, revenues were supported by early dividend transfers by state-owned enterprises (in March), tax advances (both in March and April), and grant funds from international partners. Instead, spending increased significantly, mainly on military and social programs, as well as business support and regional reconstruction. Significant state budget deficits were financed by debt sources, including international and monetary financing. A new debt instrument, the military IGLB, was introduced to the domestic market. In March and April, 135 billion UAH were raised, of which 70 billion UAH were bought by the NBU. According to the Ministry of Finance, the budget needs amount to about 5 billion dollars a month.

The team of authors notes that wartime unites Ukrainian society more and more closely. The division into social strata, political forces, professional associations, and even interest groups has all but disappeared in Ukraine today. All, with few exceptions, are working together toward a common goal: to kick the occupant out of our state. At the same time, the patriotic rush and emotional lift that drives Ukrainians to victory should not destroy the foundations of sound rationality, which is the key not only to effective management of military logistics, but is also rightly considered one of the cornerstones of future postwar reconstruction and economic recovery (Borshchevsky, Matveev, Kuropas & Nikita, 2022).

Today a number of measures for post-war economic development of Ukraine are being developed and are in effect, both by world countries and the government, including: preferential loans, tax vacations, compensation for the employment of IDPs.

Despite the achievements in the development of the Ukrainian village, the competence of the authorities and self-government is still not clearly defined, there is no effective cooperation between them in the design and implementation of development programs. The concept of sustainable development, encompassing economic, social and environmental trends, needs to be prioritized. Strengthening the progress of the priority components of the concept of decentralized sustainable development will enhance the possibilities for the modernization of economic relations based on the harmonization of community interests with the interests of power. It is also necessary to strengthen the development of the concept of a mutually integrated mechanism of accumulation and use of financial resources to provide an economic basis for environmentally-oriented growth (Stehnei, at el., 2017).

It should be noted the fact that Ukraine has a very seriously damaged infrastructure, which is why a favorable investment climate will help attract foreign and capital investment to rebuild it (Kramarenko, Haustova, & Arkhangelska, 2019).

In addition, Lunina I. O., Bilousova O. S., Frolova N. B. believe that "During the recovery period after the end of hostilities, forced lending to high-income enterprises may be used to finance the development of enterprises of priority economic activities (in exchange for shares or debt securities of such enterprises), as well as co-financing with the state and international organizations of investment projects on priorities determined with the assessment of damage and losses suffered by Ukraine as a result of the armed aggression of the Russian Federation" (Lunina, Bilousova & Frolova, 2022).

## 4. Conclusions

The forecast for global economic growth during the war in Ukraine assumes that the rate in developed economies will reach a 38-year high of 5.7 percent, while price growth in developed and developing countries will accelerate to 8.7 percent, the fastest decline since the global financial crisis of 2008. The acceleration is projected to decline by 2.5 percent and 6.5 percent, respectively, starting in 2023. Global socioeconomic development will depend on the most significant factors: energy and food contributed to rising inflation in 2021, when oil and gas supplies were constrained after several years of restrained investment and geopolitical uncertainty; the rise in food prices will affect every country in the world, as extreme weather conditions have reduced crop yields and rising oil and gas prices have increased the cost of fertilizers; plant closures, port restrictions, shipping congestion, container shortages, and staff shortages will continue to disrupt some sectors; labor shortages, especially in high-contact industries, are driving up wages, although inflation has driven down wages.

It has been researched that according to estimates of national and other international expert institutions, the reduction of Ukraine's GDP in 2022 will be 35%. The analysis showed that in April 2022 the regions where there are significant hostilities or part of the territory is under occupation account for almost 20 percent of Ukraine's GDP, in particular: Kharkiv – 6.11 percent, Donetsk – 4.89 percent, Zaporizhzhia – 3.96 percent, Mykolaiv – 2.29 percent, Luhansk – 1.02 percent, Kherson – 1.62 percent. It is established that during the three months of the war in Ukraine there was a deep decline in economic activity, and the introduction of a number of tax changes to mitigate the shock in the economy led to a significant reduction in tax revenues. The directions of post-war economic growth for Ukraine are suggested.

## References:

Marshuk, L. M., Babyuk, A. V., & Strapachuk, L. V. (2022). The influence of international institutions on the financial condition of Ukraine in wartime. *Economy and Society,* issue 37. DOI: https://doi.org/10.32782/2524-0072/2022-37-23

World Economic Outlook (2022). War Sets Back the Global Recovery, APRIL 2022. Available at: https://www.imf.org/en/Publications/WEO/Issues/2022/04/19/world-economic-outlook-april-2022

Irtyshcheva, I., Sukhostavets, A., Falovych, V., at el. (2021). Modelling the Innovative Competitiveness of an Enterprise with a Change in Investment Provision. *Estudios de Economía Aplicada,* vol. 39, no. 5 (2021): Special Issue: Innovation in the Economy and Society of the Digital Age. DOI: https://doi.org/10.25115/eea.v39i5.5041

Insights & analysis on economics & finance (2022). War in Ukraine is Serious Setback to Europe's Economic Recovery. Available at: https://blogs.imf.org/2022/04/22/war-in-ukraine-is-serious-setback-to-europes-economic-recovery/

Danilishin, B. (2022). Regarding the situation in the economy and financial markets. Available at: https://lb.ua/blog/bogdan_danylysyn/514088_shchodo_situatsii_ekonomitsi.html

State Statistics Service of Ukraine (2022). Available at: http://www.ukrstat.gov.ua/

Kramarenko, I. S., Haustova, K. M., & Arkhangelska, A. M. (2019). The role of investments in the development of the transport and logistics system of Ukraine. *Economy and society,* vol. 20, pp. 456–462.

National Bank of Ukraine (2022). Monthly Macroeconomic and Monetary Review May 2022. Available at: https://bank.gov.ua/admin_uploads/article/MM_2022-05.pdf?v=4

Stehnei, M. I., at el. (2017). Formation of financial instrumentation for the sustainable agricultural development: innovative approach. *Scientific bulletin of Polissia*, vol. 4(12), p. 1.

Pryshchepa, O., Kardash, O., Yakymchuk, A., at el. (2020). Optimization of multi-channel queuing systems with a single retail attempt: Economic approach. *Decision Science Letters,* vol. 9(4), pp. 559–564.

Borshchevsky, V., Matveev, E., Kuropas, I., & Nikita, O. (2022). Territorial communities under martial law: how to ensure effective governance in the context of post-war development priorities. Available at: https://www.prostir.ua/?news=terytorialni-hromady-v-umovah-vojennoho-stanu-yak-zabezpechyty-efektyvne-upravlinnya-v-contexts-priorytetiv-povojennoho-rozvytku