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**ENERGY SECTOR AS AN OBJECT OF ECONOMIC
WARFARE AND ECONOMIC SANCTIONS**

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**ЕНЕРГЕТИЧНИЙ СЕКТОР ЯК ОБ'ЄКТ ЕКОНОМІЧНИХ ВІЙН
І ЕКОНОМІЧНИХ САНКЦІЙ**

Abstract. The article examines the problems of the emergence and deployment of economic wars and economic sanctions as radical tools for achieving goals. The authors assume that economic wars for their subjects play an important role in reforming national economies, their innovative renewal and strengthening competitiveness, as well as a modeling function in relation to the global economy. From the other side the use of such tools threatens the economic security of the objects, the economic war and sanctions undermine the foundations of their future development. It is noted that such wars can result in an open military conflict and facilitate the beginning of revolutionary changes in the national and global economic structure. The article draws attention to the fact that economic wars and economic sanctions ultimately require consolidation of efforts and lead to an increase in the level of manageability of national and global economies.

Emphasizing the importance of taking into account the environment, causes, goals, objects and conduct of economic warfare, the authors analyze the specific situation that arose with the invasion of Russia into Ukraine. The study proves that this invasion was due to the economic war lost by Russia, which was waged against Ukraine and against the countries of the West during the last decades. The strategy of forming a system of dependence of Western economies from Russian energy supplies just speed up the process of transition to much broader use of renewable sources of energy. Instead of increasing energy dependence of Western countries, Russia, whose economy was based on the use of natural energy resources which it tries to use as a means of pressure, itself fell into the trap of energy dependence.

The authors consider in detail the mechanisms of liberating countries from the influence of energy dependence and substantiate the conclusions that by unleashing a war against Ukraine, Russia actually contributes to the acceleration of the global energy transition and innovative renewal, transformation of the global economy. At the same time, thanks to its aggressive actions directed against Ukraine, it undermines the potential of foreign economic factors of economic development of Russia, and is forced to completely change the business model of international interaction, which will lead to the loss of economic sovereignty.

Key words: economic motives for war, economic war, economic sanctions, economic consensus and coordination, military conflict, global warming, global energy transition, war in the energy sphere, energy sector, energy resources, energy dependence, energy blackmail, energy price ceiling, global economic transformations, a change in the business model, limiting the possibilities of economic development.

Анотація. У статті досліджено проблеми виникнення, розгортання економічних війн і економічних санкцій як радикальних інструментів досягнення цілей. Автори виходять із того, що економічні війни для їхніх суб'єктів відіграють важливу роль для реформатування економік, їх інноваційного оновлення, посилення конкурентоспроможності, а також моделюючи функцію щодо глобальної економіки. Об'єктам економічної війни і санкцій застосування такого впливу несе загрозу економічній безпеці та підриває основи майбутнього розвитку. Зауважено, що такі війни можуть завершитися відкритим військовим конфліктом і бути початком революційних змін в національній і глобальній економічній структурі. У статті звернено увагу на те, що економічні війни та економічні санкції в кінцевому рахунку вимагають консолідації зусиль і ведуть до підвищення рівня керованості національних, інтегрованих і глобальної економік. Акцентуючи увагу на важливість урахування середовища, причин, цілей, об'єктів і ведення економічної війни, автори аналізують конкретну ситуація, що склалася із вторгненням росії в Україну. У дослідженні доведено, що це вторгнення було обумовлене програтою росією економічною війною, яка велась проти України і проти країн Заходу протягом останніх десятиліть. Стратегія формування системи узалежнення їхніх економік реалізовувалась через енергетичний сектор і наштовхнулась на ідею енергетичного переходу. Замість посилення енергетичної залежності країн, росія, економіка якої базувалась на використанні природних енергетичних ресурсів, і використовувалась як засіб тиску, сама потрапила у пастку енергетичної залежності.

Автори детально розглядають механізми вивільнення країн від впливу енергетичної залежності та обґрунтовують висновки про те, що, розв'язуючи повномасштабну війну проти України, РФ фактично сприяє прискоренню глобального енергетичного переходу та інноваційному оновленню, трансформації глобальної економіки. Водночас завдяки своїм агресивним діям, спрямованим проти України, російська федерація підриває потенціал зовнішньоекономічних чинників економічного розвитку і вимушена повністю змінити бізнес-модель міжнародної взаємодії, що спричинить у подальшому до втрати економічного суверенітету.

Ключові слова: економічні мотиви війни, економічна війна, економічні санкції, економічний консенсус і координація, військовий конфлікт, глобальне потепління, глобальний енергетичний перехід, війна в енергетичній сфері, енергетичний сектор, енергетичні ресурси, енергетична залежність, енергетичний шантаж, межа цін на енергетичні ресурси, глобальні економічні трансформації, зміна бізнес моделі, обмеження можливостей економічного розвитку.

JEL codes: F-29; H-56; Q-48

Problem statement. The war in Ukraine significantly changed the understanding of world economic development trends, clearly placed the emphasis in the content of international economic relations, and identified their strategically important and sensitive components. As a rule, many authors try to explain the reasons for Russia's open military aggression against Ukraine with political motives. These include, on the one hand, Ukraine's desire to join NATO and the European Union, and on the other hand, Russia's desire to restore imperial influence in the territories it once controlled. But it is more important, in our opinion, to consider the economic background of Russia's invasion of Ukraine, the beginning of which was laid long before February 24, 2022. It is not only about the attempts made already in the mid-1990s and continued until 2014 to take Crimea from Ukraine and economically subjugate Donbass in order to strengthen Russian economic potential at their expense. Often discussing the problems of the territory seized from Ukraine, they overlook the fact that in these territories over the past thirty years deep transformations have taken place with the significant role of our state — for example, new production facilities were created in Crimea, especially in the field of gas extraction, ports, port infrastructure and port management were modernized, new conditions for sea transit have been created, tourist and recreation areas have been updated, access to use them has been ensured, and a processing base for unique natural resources has been created. And in the territory of Donbass, in addition to the fact that industrial production was renewed, the state took upon itself all the social problems during the transformation process.

The annexation of Crimea was preceded by an incessant economic war unleashed by Russia, which was first of all reflected in the expansion of Russian capital into the territory of Ukraine and its aggressive behavior in relation to national capital, in attempts to control the structure of the national economy, processes of the formation of industries, forms of the international division of labor, financial relations, international trade and especially, using the energy sector of the national economy, the desire to ensure its full subordination to its goals. The economic expansion of Russia, which harms the national economy of Ukraine, breaks its natural economic structure and contradicts the national economic interests, was constantly accompanied by active political interference and pressure, which was extremely noticeable and manifested in

permanent political and economic crises, for which there was no reason in the successful transformation of economy.

The direct military invasion of the territory of Ukraine made Russia's economic goals transparent, fixed its further intentions aimed at the creation of an economic empire in which Ukraine was assigned the role of a satellite, and naturally unleashed the reaction of Western countries, which was also inevitable because the monopolization of a significant part of the economic space is a direct threat to the objective nature of international economic relations.

This reaction, which manifested itself in one of the radical forms of economic warfare — economic sanctions, requires special attention from economists and researchers, as it reveals many new aspects related to such measures of influence. Both the successes and the problems accompanying the use of these two powerful levers of pressure on the aggressor, as well as the consequences for national and integrated economies that join this pressure, deserve attention.

Literature review. Economic motives of military aggression are a constant object of research for economists. As N. Tzifakis, one of the modern authors studying this problem, notes: «In this respect, Mercantilism, Liberalism, Marxism, and Political Realism have provided the most influential accounts of the economic causes of war. Indeed, most of this scholarship focuses on the impact of trade on war, that is to say, whether economic interdependence and trade relations diminish or increase the probability of interstate war» [1]. His article contains a detailed review of scientific sources devoted to the study of economic wars as preconditions for aggressive invasion of other countries. Summarizing all previous studies devoted to this problem, he formulated the particularities of the tasks facing modern science, which must be adapted to modern practice, since modern economic wars make adjustments to these processes.

Many scientists, including Z. Abdelnour [2], D. Baldwin [3], J. O'Leary [4], addressing the problem of the meaning of economic wars, characterized them as a multilateral phenomenon of the world order, which has positive and negative aspects, and they were considered a non-market mechanism of managing the global economy and the state. R. Blackwill and J. Harris [5], who studied in detail the mechanisms and consequences of economic wars and sanctions, emphasized that only established countries can afford to and are increasingly conducting geopolitical fight by economic means. The sanctions policy of these countries, which regulate everything from global trade and investments to global energy, is used by them as an instrument of pressure and coercion.

N. Mulder [6] claims that economic sanctions, which dominate world politics today as an alternative to war, are actually one of the destructive methods of waging economic war.

In his book, D. Cortright [7] examines the issues of usefulness, relevance, success or failure of sanctions, as well as their impact on the division of the world into poor and rich countries. The applied part of his research is devoted to recent international conflicts, on the example of which the author demonstrates the main features and consequences of economic sanctions.

Askari, H.G., Forrer, J., Teegen, H., Yang, J. [8] turn to history to analyze whether economic sanctions have been successful by assessing their historical impact and modeling their effectiveness, and also analyze in detail the consequences of sanctions for international and domestic business in the modern global economy.

Directly the energy component of economic wars and sanctions is analyzed in his study by J. Norman [9], who considers the energy resource to be decisive for the development of the economy and analyzes it as a tool of economic blackmail. In particular, in 2018, R. Connolly [10] turned to the study of the problems of Russia itself, as a state against which sanctions are applied. His final conclusion was that these sanctions completely change the political economy of the country. He points out that the sanctions and Russia's reaction to them led to a strengthening of the role of the state in the Russian economy and forced a reorientation of foreign economic relations from the West to Asia, and that the effect of the application of sanctions may lead to the restructuring of the world economic space.

In general, in the works of these authors, the subject of research is often not only economic wars, but also as an instrument of influence, which can vary widely depending on the scale of the subjects and goals, the possibilities of access to distant markets and resources, fears about economic dependence and as a way of forcing peace, but all authors agree that in the era of globalization, such wars should have no place, since their destructive consequences for the world economy and the economies of individual countries, both those that initiated them and those against which they are directed, can effect on the structure of the world economy, turned it into an irrational one from the point of view of the market paradigm of globalization.

Most of these studies are focused on the influence of the processes of strengthening international economic interdependence and changing the goals and consequences of economic wars, on the question of whether economic globalization reduces or increases the probability of interstate conflicts and in what forms and for what reasons economic wars are waged. Investigating various aspects of these problems, the authors created an excellent methodological base for the analysis of specific situations arising in the international economic environment, in particular, in war conditions.

However, the changes occurring in the world economy as a whole, caused by Russia's invasion of Ukraine, and especially in the energy sector — the main weapon of economic blackmail, deserve a separate and operational study. It is no accident, therefore, that foreign and domestic authors pay close attention to the development of current events, trying to use a unique practical example to reassess the role and consequences for the world of open aggression and sanction pressure, to study the reasons for the modification of economic wars.

Although there are no fundamental studies of this issue yet, a number of scientific and applied studies allow us to make certain scientific generalizations. In particular, in a number of articles, scientists from the Berlin SWP Institute assessed the stationary regime of the EU, the USA, and Japan and assessed the effects of the sanction measures taken on the economy of Russia, China, India, and the energy market [11]. A number of studies by the Department of International Economic Relations and Business of the National Aviation University (Kyiv, Ukraine) were also devoted to these problems.

It should also be noted the important contribution to the study of new phenomena and trends brought to life by the confrontation between Ukraine and Russia, such international analytical institutes as the International Energy Association (IEA) [12], Independent Commodity Intelligence Services (ICIS) [13], which provide objective information processed by innovative methods and respond promptly to the ongoing changes in the global energy landscape and record the main trends. Since the beginning of the crisis, the IEA has monitored the impact of the Russian invasion to Ukraine on

the country's energy system and global markets. To directly support Ukraine, the IEA signed a two-year joint work program to support its recovery, including short and long-term energy priorities such as grid security, hydrogen and other renewable sources of energy as well as data and statistics cooperation.

The purpose of the article is to use the specific example of the military confrontation between Ukraine and Russia to trace how the basic component of the development of the world economy — the energy sector — is changing and how this war, which resulted from the preceding economic war and economic sanctions in the energy sector, affects the changes in the world economic landscape and promotes the acceleration of the energy transition.

It would seem that global economic interdependence is one of the protective mechanisms designed to prevent economic wars and open aggression. But, as experience shows, this mechanism does not work when individual countries, faced with the problem of waning national competitiveness, have accumulated sufficient financial and military potential, decide that their mission goes beyond national economic interests and proceed to implement the idea of «broad fields» formulated also by F. List, therefore they initiate a new redistribution not only of the economic space, but also of the territory.

Countries claiming economic (and political) dominance, professing imperial ambitions, the policy of which Y. Habermas called «hegemonic view of the world», «liberal nationalism», «imperial aspirations»[14], never stop before the rules that they themselves formulated for the world as fundamental: if compliance with these rules prevents them from getting additional economic space at their disposal (additional resources, access to critical infrastructure, etc.), then on the way to achieving this goal, all the mechanisms of economic war are first used, and then a military conflict is unleashed. Exactly what can be seen today on the example of Ukraine and Russia.

Any war pursues economic goals and is an extreme form of competition with the goal of ensuring free access to someone else's economic potential, and the «expansion of broad fields» implies the continuity of this process. In particular, the war unleashed by Russia is not limited to the latter's claims on the economic potential of Ukraine — it aims to obtain competitive advantages for further confrontation with the Western world, for the formation and expansion of the platform of geo-economic dominance.

As today's events show, the direct military expansion into Ukraine, which initially began as an economic war, does not draw the final line under the intentions of the aggressor to reshape the global economic landscape. Firstly, guided by this idea, Russia will never stop at what it has already achieved — it will be forced and will try to increase its competitiveness due to the attraction of extensive factors of its strengthening. Secondly, it itself turns into a source of global economic instability, the fuel of an economic war of a new quality — a sanction war, which, due to the special nature of globalization, passes from the stage of local wars to the stage of global economic war. Such an economic war will not end with the conquest of the territory of Ukraine — it will continue, but now it will no longer be limited to the economic space of two countries, but will draw (and is already drawing) new actors into its orbit, since the aggressor's accomplices will be included in the sanctions field, which, in its turn, they may also resort to sanctions. In this context, the resistance of Ukraine is a response to the challenges of the process of reformatting the geo-economic space.

The most sensitive, painful points and objects of the modern economic war of sanctions are resources as an extensive factor of economic competitiveness — first of all, natural, energy and financial resources, in many respects derived from material ones, but very important for development.

Since the Russian economy, despite the unleashed full-scale war, still remains connected with other economies of the world, it not only exerts a sensitive influence on them in this direction, but also represents a direct threat to their development. In recent decades, it has formed and strengthened itself as a resource base of the world economy and occupies an important, strategic position in the global economic structure, not yet claiming other strategic positions related to progress and development on an innovative basis and, due to this, strengthening the world economic potential. The advanced economies of the world, which have long ago crossed the monocultural boundary, still cannot afford to ignore this very important, resource-based component of economic development, the defining component of which are energy resources — gas, solid fossil fuels, oil, and products obtained from them.

Moreover, attention should be focused on the fact that Russia's invasion of Ukraine is unfolding against the background of the most important trend of global importance — the emerging «energy transition» in the world, which was the result of a consensus reached by developed countries, and is directed against climate change. On the one hand, achieving this goal gives countries' economies the opportunity to get rid of the influence of extensive growth factors, and on the other hand, they guarantee energy independence.

Naturally, these processes threaten Russia's economic leadership in the sphere of trade in energy resources and leave it alone with a profitable and reliable source of the national budget, thereby undermining the foundations of its economy. It is obvious that unleashing an open war in Europe precisely in this transition period means hindering these processes, primarily because energy resources still continue to play an important role as a supporting base for the economies of countries which have embarked on the path of energy transition. By manipulating of this circumstance, Russia is trying to preserve its economic influence, the existing national economic model of development and, at the same time, its political ambitions.

Economic sanctions as a way to tame an outright aggressor are a complex process that can have both positive and undesirable effects for the countries applying them. That is why countries, defending the existing world order, had to constantly take into account that an economic war would also be unleashed against them in response. These measures could include hybrid elements of politics as well as various instruments of foreign economic policy aimed at strengthening the international economic influence of the aggressor mainly usual methods of open economic warfare (for example, the same sanctions and protectionism). But more sophisticated methods of using economic assets to strengthen one's positions could also be applied, for example, indirect control over world trade, facilitation of dependence in the sphere of international division of labor, destructive influence through the export of capital and investments, manipulations in the currency and financial sphere. In addition, the aggressor could already use specific methods to prevent damage from sanctions, for example, parallel imports and hidden forms of export, to which Russia and Belarus adapted during the years of economic war preceding the invasion.

Starting a war against Ukraine and taking into account the degree of the dependence on energy resources by European countries, Russia was not expected that these countries will be not afraid to start economic war with it, because it believed that Russian retaliatory sanctions in the energy sector could seriously endanger the economies of European countries and their competitiveness. Nevertheless, the level of threat to the world economic order, which comes from Russia, forces Western countries to consolidate and resort to extreme measures in their demand not only to stop open aggression against Ukraine, but also the economic war against them, which has also been going on for many decades.

The integration of countermeasures into a consistent geo-economic strategy of the world community was designed to ensure the stability of the global economy, but in turn it implies the development of a new round of economic war (including sanctions), which in many cases tends to the form of an embargo.

After the invasion of Russian troops into Ukraine, a number of countries began to introduce and expand sanctions against Russia, and, of course, this primarily concerned energy resources — the basis of its economic power. Thus, the ban on the import of oil, liquefied natural gas (LNG) and coal from Russia, the investments in Russian energy sector by US companies was introduced by the USA [15]. But in this case, it should be noted that the United States is one of the richest countries with energy resources in the world, and it is quite capable to successfully resolve the problems of energy supply on its own.

The European Union (EU) and other European countries, which are among the major actors in the process of ensuring the global energy transition, also began actively imposing sanctions against Russia. At the same time, it is important to understand that the EU, in particular, at the beginning of the war in Ukraine, did not solve the tasks of diversification of energy supplies in the necessary volumes, so all the time it was forced to import them from Russia, which was their largest supplier of crude oil and oil products, gas and solid fuel. Thus, on the eve of the invasion of Russian troops into Ukraine, in 2021 the volume of energy imports for the EU from this country amounted to 108 billion US dollars — 62 % [16]. The attempt to completely change its energy balance has encountered the serious shortage of global energy resources, often inspired by countries that are not interested in stabilizing and fixing prices on the market of energy raw materials. Therefore, it created additional impetus for EU to reform the energy sector, to diversify energy supplies and accelerate energy transition, which required certain time. Nevertheless, recognizing the existence of the framework and requirements of the transition period to the new energy supply system and not completely refusing the import of energy products from Russia, the Commission of the European Union has already approved the sixth package of sanctions, prohibiting the export of technologies to Russia and the provision of services for the exploration, production, and processing of energy resources and energy development, as well as new investments in the energy sector of the aggressor country.

The most striking example of the consequences and the most painful experience of the introduction of sanctions by the EU was the gas sector. At the same time, it should be taken into account that the EU's dependence on Russian gas has steadily grown over the last decade. According to the International Energy Association (IEA), the consumption of gas during this period before the application of sanctions decreased gradually and was insignificant, but its production in Europe has fallen by two thirds since 2010,

and this gap was filled due to the increase in imports. As a result, the share of Russia in the total EU demand for gas increased from 26 % in 2010 to an average of more than 40 % in the period from 2018 to 2021. The IEA, having expressed its concern about this growing dependence, considered this circumstance as a threat to the economies of the integration association [17].

The adoption by the European Union of the Versailles Declaration in March 2022 — the obligation «as soon as possible» to abandon the import of fossil fuels from Russia was intended to change the energy and gas markets of the member countries of the union in the coming years, which, of course, affected global trade and market dynamics, while changing the direction of world flows of energy raw materials (*Fig. 1*).

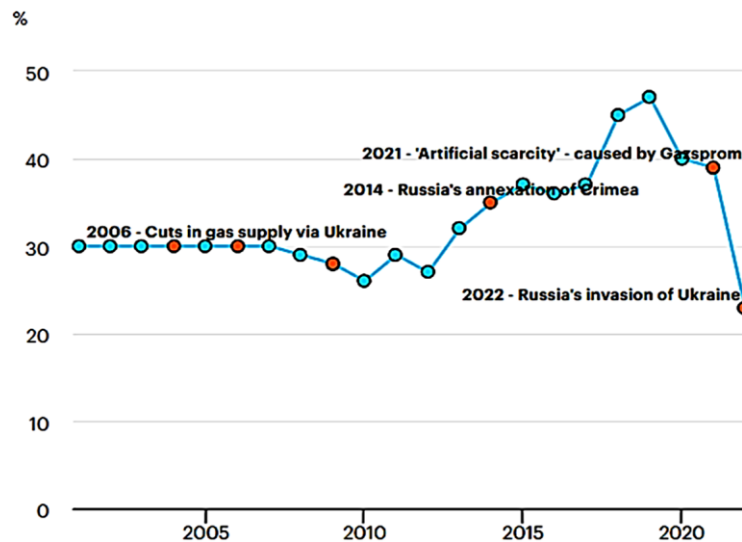


Fig. 1. Share of European Union gas demand met by Russian supply, 2001–2022

Sources: IEA.URL: <https://www.iea.org>

The EU was aware of the consequences of joining the sanctions policy, first of all, the existence of a real threat of a reduction in natural gas supplies to Europe via Nord Stream–1 from Russia [18]. And Russia indeed, as evidenced by the data provided by the IEA, in 2022 more than halved the supply of pipeline gas to the EU. Already in July, exports from Russia amounted to about 3.7 billion cubic meters of gas, which is approximately three times less than in June last year, when Russia exported 12.4 billion cubic meters.

Sanction activity of the EU, increased demand due to the exaggerated dependence of the EU on Russian gas (adaptive expectation effect) and reduced supply, the emergence of a chain of intermediary countries selling the same Russian gas led to the fact that this ultimately affected gas prices, and not only in Europe, but also in the world.

Contrary to expectations, the European gas market turned out to be stable, as countries were able to fill their storage facilities by more than 95 % due to the increase in non-Russian supplies and a rapid reduction in consumption. As a result, Russia's share

of gas demand in Europe fell from 23 % in 2022 (Fig. 1) to less than 10 % in January 2023. Overall, in September, Russia's share of the European gas market was only 8.5 %. For comparison, the share of Norwegian gas in September was 35 %, liquefied natural gas — 41.7 %, and gas imports from Algeria reached 10.4 %. Russia, with its 8.5 %, has become a secondary and very insignificant supplier of gas to Europe. That is, Europe, contrary to expectations, reduced the volume of gas supplies from Russia, entered the winter season with a wider offer: by the beginning of 2023, «record LNG supplies, increased pressure of gas pumping through Norwegian pipelines and lower gas consumption — all this played an important role in stabilizing the gas market after Russia's February invasion of Ukraine and preventing an unfolding energy crisis» [19].

At the same time, thanks to the rationalization of gas consumption under the REPowerEU plan, the EU was able to continue to reduce its needs until the end of the year and consequently reduce the demand for Russian gas, and as a result reduced it by two thirds, although this required an additional attraction of about 300 billion euros of investments [20].

By the end of the year, the market adapted to the situation and prices began to fall. Thus, at TTF, one of the largest gas hubs in Europe, before the beginning of the heating season, a sharp jump in prices was recorded, but then a sharp drop followed (Fig. 2).

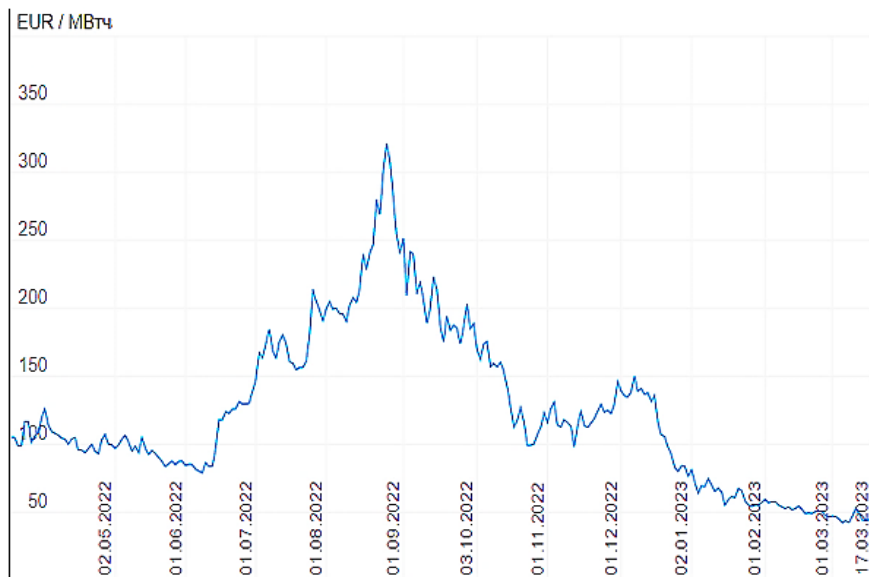


Fig. 2. Dynamics of natural gas prices at the TTF gas hub (Title Transfer Facility, Netherlands), EUR

Sources: Ministry of Finance of Ukraine. URL: <https://index.minfin.com.ua/markets/gas/>

The same dynamics are observed in the world gas market (the trend towards a sharp drop in prices was observed everywhere — on the London, New York and other stock exchanges), which can be explained by the fact that during the year that has passed since the beginning of the war, the entire world economy managed to adapt to the

change in gas market actors and the decrease in demand for it due to the decrease in the level of consumption.

A positive aspect of sanctions for countries that have been able to reduce their dependence on Russian gas thanks to sanctions is that it pushes them on the path of energy transition.

And despite the fact that EU has initially faced an unprecedented increase in gas prices and a shortage of almost 30 billion cubic meters of natural gas last year, it did not give up its intention to continue to impose sanctions against the Russian energy sector and against persons connected with its functioning [20]. Such position will facilitate another Russian attempts to manipulate gas prices and increase the gap between gas supply and demand in Europe. Therefore, the only way to reduce this gap and avoid the risk of electricity shortages is to increase energy efficiency, accelerate the introduction of renewable energy sources, install solar panels and wind farms, heat pumps, and promote energy conservation, which contributes to the reduction of gas demand. But it should also be considered that such rapid measures could result in significant changes in structure of national economy, which could lead to the certain loss of competitiveness of basic industries and decrease in the level of stability and self-sufficiency, a revision of the national business model.

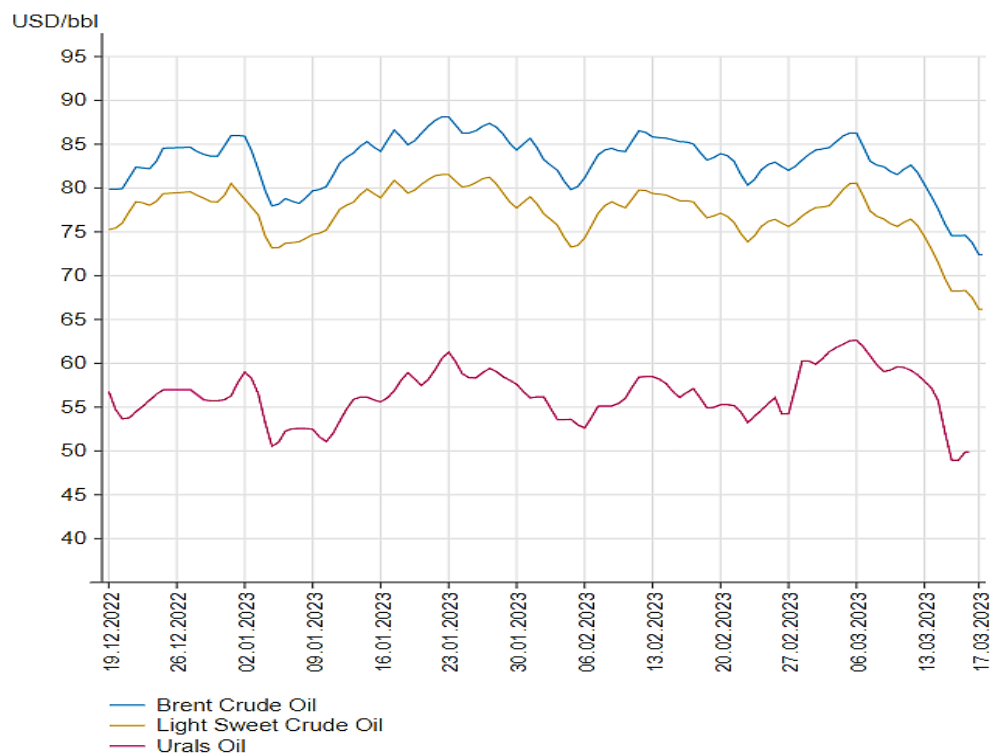


Fig. 3. Dynamics of price changes for marker grades of oil of 2023 (Brent, WTI, Urals, USD/bbl)

Sources: Ministry of Finance of Ukraine. URL: <https://index.minfin.com.ua/markets/oil/>

After the introduction of sanctions against Russia, Europe's position in the oil sphere became no less vulnerable. Its dependence on the import of oil and oil products has also increased significantly in the last decade, but since the beginning of the events of 2022, here, as well as in the gas sector, there is a tendency to reduce import requests for Russian oil.

But this process has a somewhat different character — in this sector, unlike the gas sector, where it is easy to trace the export activity of Russia and the direction of its gas flows, especially gas transmitted through pipes, the price decrease occurs more smoothly (*Fig. 3, Fig. 4*) due to the clearer correspondence between world demand and world supply of oil and oil products.

The reason for this is that Russian oil, the transportation of which was easy to trace before, is now increasingly redistributed through shadow channels. Such countries as China, India, Turkey, OECD Asia were involved in these schemes, when they buy Russian oil, process it, and then resell oil products obtained from it under their own brand. Oil flows rushed towards Asia, increased the specific weight of its demand, which exceeds their own needs (*Fig. 4*), quickly turning these countries into the main traders of embargoed oil of Russian origin.

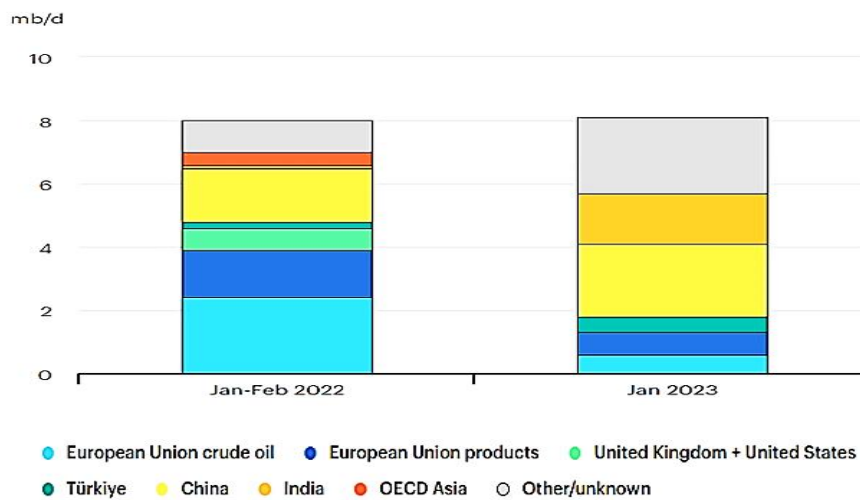


Fig. 4. Russian total oil exports, January 2022 — January 2023

Sources: IEA. URL: <https://www.iea.org/data-and-statistics/charts/russian-total-oil-exports-january-2022-january-2023>

At the same time, it should also be pointed out the fact that oil sales destinations have gone into the shadows, which, in fact, allowed Russia to saturate European countries with oil and oil products through intermediaries.

It must be said that this allowed Western countries to gain time to adjust their own oil import model. But as soon as such an adjustment was made in order to cut off the bypass channels that weaken the effectiveness of the sanctions, the Western countries made a consolidated decision to establish a price ceiling for oil and impose sanctions on countries that did not join this policy.

This was a fairly effective form of applying sanctions and actually pulling into these orbit countries that had not previously joined them. Western countries took into account that the sharp increase in oil could well compensate for Russia's reduction in export volumes. The price ceiling on Russian oil made it possible to achieve the set goal — to reduce the revenues of the Russian budget, but it did not provoke a rise in world oil prices due to the disappearance from the market of one of the largest exporters.

In December 2022, when one of the Western sanctions packages began to work, which included a ban on European oil imports via sea routes, and allowed Russian ships to use Western logistics and insurance companies only on the condition that their cargo costs less than 60 dollars per barrel, China and India was still interested in the development of oil flows. Thus, India processed more and more Russian oil and replaced Russian oil products in Europe with its supplies (although there were purely technological restrictions on the volume of Russian oil that India was ready to accept for processing). This slowed down the fall in oil prices. But additional sanctions in the form of price restrictions on oil refining products — diesel and others, which have been put into effect since February of this year, not only significantly affect the revenues of the oil refining business in Russia and these countries, but also force Russia to reduce oil production, as well as accelerate the process decrease in oil prices. The average daily reduction in oil prices indicates the acceleration of this process (*Fig. 5.*)

Reference oil prices as of 03/17/2023			
Oil grade		Price (USD/bbl)	
		03/16	03/17
<u>Brent</u> Brent Crude Oil	72,41	-2.19	-2.94 %
<u>WTI</u> Light Sweet Crude Oil	66,18	-2.13	-3.12 %
<u>Urals</u> Urals Oil	49,89	0.94	1.92 %

Fig. 5. Reference oil prices as of 03/17/2023

Sources: Ministry of Finance of Ukraine. URL: <https://index.minfin.com.ua/markets/oil/>

Correspondingly, on its part, Russia reacted to the introduction by Western countries of a price ceiling for Russian oil and oil products. It refers to the prohibition of deliveries of Russian oil and petroleum products to foreign buyers, provided that the contracts for these deliveries directly or indirectly provide for the use of a mechanism for fixing the marginal price.

Nevertheless, the threat of sanctions, which became real for the mediator countries, forced them to join these measures, in particular, India. Turkey also took a number of decisions in this direction, announced its intention to close all channels of parallel import. If we take into account that it is supposed to support the functioning of the price limitation mechanism, which will be adjusted every two months towards a decrease (by 5 %) of the average market price of Russian oil and petroleum products, based on data provided by the International Energy Agency (IEA [21]), one should expect a full price

control and changes in the composition of participants from Western countries and Australia in the oil market.

The changes that are taking place under the influence of Russia's invasion of Ukraine in the gas and oil sectors of the world economy — an important component of economic development — can be safely extrapolated to the entire global economic landscape. Russia's economy is gradually being pushed out of it, which is not only losing profitable positions in world trade, but is also gradually losing its development prospects.

First, the Russian Federation has already lost Europe as the main market, as the largest investor in the Russian economy, and as the most important source of improving the country's well-being.

Secondly, the business model that Russia had been building for decades was destroyed. Its essence was that the economy was focused on cooperation with the EU and the main Russian export goods — oil, petroleum products, gas, coal, metals — were sold mainly to Europe and the countries of the European Union. In essence, this country's economy played a service role in relation to the European economy and was dependent on it.

Thirdly, it was there that industrial equipment for the modernization of the Russian economy and consumer goods were bought with the currency earned there.

Fourth, part of the established model of international relations was that European countries became the main foreign investors in its economy. If companies from the USA invested in this economy, they were not an important market for Russia, like European countries.

Thus, the key oil and gas sector received investments and technologies from British BP and Shell, French Total (now Total Energies), German Wintershall (now Wintershall Dea).

The modernization of the electric power industry was carried out using the capital and know-how of the German company Siemens, the French EDF and Alstom, and the Finnish Fortum, which have now refused further investments, reduced or stopped production, canceled supplying equipment due to image considerations and worsening business conditions. Therefore, most likely, the collapse of the Russian economy will not occur due to the reduction of gas and oil revenues, but due to the lack of long-term investments in new projects (including in the extraction of energy resources and fuel, in green technologies).

And finally, the loss of the European market for Russia leaves it with domestic sources of development, so, in particular, according to the IEA estimates, if at the beginning of 2022 Russia received about \$20.8 billion per month only from oil exports, then by October this amount had decreased by 17 %, to \$17.3 billion — and this despite the fact that at the first stage the volume of exports even slightly increased, but already by the middle of 2022 it fell by 36 %, and production was reduced by 13.2 % [19].

A huge amount will also cost Russia the loss of the European gas market (according to the IEA, the losses this year can amount to more than \$10 billion). This includes Russia's income from the export duty (for pipeline gas it is 30 %), the mineral extraction tax (the rate on gas — 18 %).

Hopes for the redistribution of flows in favor of Asian countries, primarily China and India, which can help preserve the country's dominance and income, also become illusory due to the problems that arise in them in connection with technological capabilities and the general situation in the world.

Sanctions in the energy sphere, of course, play their role. Not always the one that the international community was counting on, but in any case, sensitive for Russia.

Main results of the research. In our study, we assumed that Russia's open military aggression against Ukraine, despite its declared goals, is due to the previous economic war lost by Russia. In continuation of the widespread and fair understanding of economic war as a process of mutual destruction of the economies of warring countries, one should take into account the goals that these wars pursue in each specific case and which often remain invisible. If these goals cannot be achieved by economic means, if the economic war is lost, then, depending on the importance of the set and unfulfilled tasks, it goes into an open phase, which actually happened in Russian-Ukrainian relations. In this case, it is not only a struggle for access to markets and resources necessary for the formation of a base of national competitive advantages — among the tasks of the open invasion was an attempt to transform the Ukrainian economy to its own needs, changed its model and reformatted national economic interests, turning it into a service economy, deprived of economic sovereignty.

This war is also a way of coercing the solution of many economic problems of the international order, which have accumulated in the aggressor in the previous period, first of all, the gigantic non-modernized economy faced a global challenge — the need for an energy transition, which for it meant the collapse of its own basic model. Ukraine, which tried to break its dependence on this model, was seen by Russia as an outpost that stood on the way to this collapse.

The specifics of the consequences of the economic war, the application of its radical weapon — economic sanctions, military aggression against Ukraine is that, despite the sharp violation of the global energy balance, the rapid growth of prices for energy resources, which affects national economies and solvent demand, against the background of threats to the energy security, this economic war will not be stopped. It became the starting point and a factor in changing the global energy model.

Economic problems in the countries of the world in the context of the escalation of the war in Ukraine have given rise to even more close attention to the energy sector than when discussions were held and preparations for the energy transition were being carried out. In the context of the global energy transition, they pushed even wavering countries to action. Russia, as an opponent of such a transition, is expected to increase the effect of sanctions pressure. These sanctions will have a second task — to strangle the sanctioned economy, to reduce development prospects to zero. The decisions made now will have a prolonged effect, which, in fact, is what the transition period to the new world energy model requires not to give up the consumption of fossil energy resources until complete independence from them is achieved.

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