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CONSEQUENCES OF WAR ON SUPPLY CHAIN AND RELATIVE DISRUPTIONS

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ABSTRACT

For the Ukrainian people, the war is a humanitarian tragedy, but it also has a significant economic impact on the world. The direct effects of the war on international trade and investment are the main topic of this essay. The main issues raised in this study are how trade and welfare, particularly in developing nations, will be impacted in the near future. Which industries are experiencing the most disruption?

The war comes at a critical juncture in the global economy. Because COVID-19 outbreaks are still occurring and there is less political support, the recovery from the pandemic-induced recession is sluggish. Many nations are experiencing rising inflation, so major economies are raising interest rates to try to stop it. Growth in developing nations will be constrained by disruptions in international trade and investment, and price pressures will rise as a result, particularly if governments impose trade restrictions to protect their economies.

The war's immediate impact is felt in the food and energy trade. In terms of producing and exporting wheat, corn, barley, sunflower seeds, and sunflower oil, Russia and Ukraine are among the top seven nations in the world. Along with fertilizers and agricultural products, Russia is a significant supplier of fossil fuels like crude oil and natural gas. Prices rise as a result of interruptions in these supplies, which has detrimental effects on world trade, prosperity, and asymmetrical effects on exporting and importing nations. Higher commodity prices, rising production, and increased shipments are helping exporters offset some of the decline in exports from Russia and Ukraine.

Contents

INTRODUCTION

In recent years there has been a wave of interest in the relationship between trade and militarized international conflict. The main focus was on the question of whether trade promotes peace. Trade produces economic benefits for both parties to the conflict, and the expectation that the conflict will disrupt trade and lead to a loss or reduction in trade profits prevents political leaders from clashing with key trading partners.[1,2,3] Realists and others,[4,5,6] on the other hand, contend that either trade has no influence on conflict or that trade, particularly asymmetric trade, causes conflict between trading partners.[7]

The less reliant state can employ financial pressure to exploit the opponent's vulnerabilities and influence its conduct in security and financial matters, perhaps leading to conflict and war.[8] Furthermore, a scarcity of resources can lead to economic competition,[9] which might escalate into strategic struggle and conflict under specific situations.[10]

Although contemporary liberal and realist ideas differ on the impacts of commerce on conflict, they appear to concur on the consequences of conflict on trade. Both agree that when governments engage in major conflict, commerce and other types of economic interchange between them will halt or drastically drop. The liberal assumption that trade reduces conflict is based on the notion that war will considerably restrict commerce or have a negative impact on trade conditions. Realistic theories predict that commerce, particularly in strategic items, would cease

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[1] Doyle, M. W. (1997). Ways of war and peace: Realism, liberalism, and socialism.
[2] Oneal, J. R., & Ray, J. L. (1997). New tests of the democratic peace: Controlling for economic interdependence, 1950-85. *Political Research Quarterly*, *50*(4), 751-775.
[3] Polachek, S. W. (1997). Why democracies cooperate more and fight less: the relationship between international trade and cooperation. *Review of International Economics*, *5*(3), 295-309.
[4] Buzan, B. (1984). Economic structure and international security: The limits of the liberal case. *International Organization*, *38*(4), 597-624.
[5] Levy, J. S. (1989). The Causes of War: A Review of Theories and Evidence. Philip E. Tetlock, Jo L. Husbands, Robert Jervis, Paul C. Stern, and Charles Tilly ed. *Behavior, Society, and Nuclear War*, *1,* 260–62
[6] Ripsman, N. M., & Blanchard, J. M. F. (1996). Commercial liberalism under fire: Evidence from 1914 and 1936. *Security Studies*, *6*(2), 4-50.
[7] Barbieri, K., & Levy, J. S. (1999). Sleeping with the enemy: The impact of war on trade. *Journal of peace research*, *36*(4), 463-479.
[8] Baldwin, D. A. (1985). Economic Statecraft ‹Princeton ‹Princeton University Press. *PP189*.
[9] Choucri, Nazli & Robert North, 1975. Nations in Conflflict: National Growth and International Violence. San Francisco, CA: Freeman
[10] Levy, J. S., & Ali, S. (1998). From commercial competition to strategic rivalry to war: The evolution of the Anglo-Dutch rivalry, 1609-1652. *The dynamics of enduring rivalries*, 29-63.

between rivals owing to profit concerns.[11] Fearing that its enemy would earn a relative profit from continuing the trade and use this benefit to improve its relative military force, the adversary would cease dealing with its rival during a conflict.

In opposition to both liberal and realist conceptions of interdependence and conflict, many historical examples of wartime deals with the enemy exist, including the trade of strategic assets that directly influence a state's capacity to fight war. Many historical references demonstrate this.[12] For example, during the Dutch eighty-year war with Spain (1565–1648), Baltic commerce was so crucial to the Dutch economy that the Dutch traded with the Spaniards at sea. In this way, the Dutch gained money to pay the soldiers patrolling the Dutch border against Spanish raids, while Spain earned money to maintain its fleet to safeguard Spanish trade against Dutch attacks.[13] Furthermore, throughout the Anglo-Dutch Wars, British insurance firms continued to cover French commercial ships supplied to the Dutch and paid exorbitant sums to replace merchant ships destroyed by British warships.[14] Furthermore, throughout the Anglo-Dutch Wars, British insurance firms continued to cover French commercial ships supplied to the Dutch and paid exorbitant sums to replace merchant ships destroyed by British warships.

Thus, both liberal and realist models accept the assumption that the onset of war significantly decreases the amount of commerce, at least for the duration of the conflict. It is unknown whether commerce will continue in recession after the war or whether it will rapidly rebound to pre-war levels. According to liberal ideas, the loss of trade profits refers not only to losses sustained during the conflict, but also to the harmful repercussions of the war on future trading relationships, at least for a time. We may conclude that the influence of the war on post-trade trade will be determined by the length and intensity of the conflict. Alternatively, the nature of battle, rather than its duration, may be the more important element. World wars have a bigger economic impact (on GDP, public spending, and public debt) than other transnational

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[11] Grieco, J. M. (1990). *Cooperation among nations: Europe, America, and non-tariff barriers to trade*. Cornell University Press.

[12] Giltner, P. (1997). Trade in 'Phoney'Wartime: The Danish-German 'Maltese'Agreement of 9 October 1939. *The International History Review*, *19*(2), 333-346.

[13] Howard, M. (2009). *War in European history*. Oxford University Press, 44

[14] Pares, R. (1963). War and Trade in the West Indies, 1 739-1763, London: Frank Cass and Co. *Ltd*, *1*(963), 287-288.

battles involving the major powers.[15] In certain other circumstances, it is understandable, albeit less likely, that political leaders are merely concerned in losing commerce during the conflict and anticipating a quick recovery thereafter. Clearly, if leaders expect commerce to restart promptly after the war's end, the deterrent effects of the predicted trade loss will be reduced. As a result, we find that, in most situations, liberal theories anticipate both a decline in commerce during the war and a steady revival of trade following the conflict.

Similarly, realists do not precisely describe what occurs in commerce when a conflict ends. War, under some conditions, settles existing issues and establishes the environment for productive trade soon after the war's conclusion. As the experiences of the United States, Japan, and Germany after World War II demonstrate, victorious nations might have substantial economic or geopolitical motivations to reconstruct post-war loser economies, which can stimulate trade. In some cases, perceptions of mutual threats persist after the war's end owing to concerns that the enemy may exploit trade advantages to increase military might and leverage in future battles or wars, potentially motivated by its own reasons. the loser to recoup his losses Many of the same reasons regarding the impact of war on commerce apply to conflicts that do not include a broad war between two nations, owing to concerns about conflict turning into war.

However, both liberals and realists concentrate on the state level and disregard the role of domestic players and third parties, leaving them unable to explain the significant phenomena of trade and commerce by private actors. Furthermore, while the influence of conflict on commerce is important to theories of the impact of trade on conflict, existing liberal and realistic theories fail to explain the impacts of economic interdependence on international conflicts satisfactorily. This article seeks to construct a more comprehensive and realistic link between economic interdependence and military transnational conflict.

Ships carry the majority of the world's trade, and historically, ship movement has never halted, not during the First or Second World Wars, nor during lesser wars. Ships transport ninety percent of the world's freight. Crude oil, carried by tankers, accounts for over 30% of total marine freight. Approximately 60% of the world's oil

[15] Rasler, K. A., & Thompson, W. R. (2021). *War and state making: The shaping of the global powers*. Routledge.

commerce is transported by water. While container freight accounts for around 23% of total dry cargo volume, it accounts for 70% of total worldwide cargo value. Despite the aesthetic and political importance of container transit, bulk items still account for 44 percent of all dry cargo shipments by volume (coal, cereals, iron ore, bauxite and phosphate rocks).[16]

China is now the world's factory, according to the trade map. A parade of ships carrying crude items like as iron ore, coal, and oil arrives at its ports, and fleets of container ships depart with industrial products in all directions. The Arabian Peninsula provides the majority of the oil used in China's production.

In order to be able to analyze the effects on trade we will try to analyze the trade imports and exports of the two wars as well as the trade relations between them. In particular, Russia is one of the most powerful participants in energy policy in the world. In Soviet times it was the first country in production and the third in oil exports. After the collapse of the Soviet Union, there was a long pause and then it returned to the energy market with two important advantages: its large area and the geophysical wealth found in its soil and subsoil. In this way it has large annual reserves of oil, coal and natural gas.

Russia, due to its large production of energy materials, has the ability to meet both its domestic needs and to make significant exports. In addition, it is worth noting that Russia, in addition to being a major producer of energy materials worldwide, is also a major consumer of energy, due to its huge size.[17] As for the countries where Russia exports its energy materials, these include EU countries as well as countries in Oceania and East Asia.

Russia, in addition, has a dominant position in two of the three most important energy markets in the world, such as that of Europe and Asia. In particular, Russia is increasingly present in the Asian market due to high demand from China and India, thus strengthening its position despite any difficulties in agreeing on the selling price.

Ukraine, on the other hand, has always had dependent relations with Russia, as it has few gas reserves and is supplied by Russian energy and the Russian pipeline network since Yeltsin's presidency. In particular, Russian imports account for 66% of

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[16] UNCTAD, *Review of Maritime Transport* 2017; U.S. Energy Information Administration, *World Oil Transit Chokepoints 2017*.Munif, , 192.

[17] Kuzemko, C., Belyi, A., Goldthau, A., & Keating, M. (Eds.). (2012). *Dynamics of energy governance in Europe and Russia*. Springer.

Ukraine's total energy consumption, including imports of natural gas, oil and fuel in order to ensure the smooth operation of Ukrainian nuclear power plants.

METHODOLOGY

The main subjects of this work and the research are the effects of the crisis on trade, the shipping sector, and the volatility of freight rates. The anomalies seen in the trade of the crisis-affected products and the issues in the maritime transport sector following the COVID-19 pandemic are examined to demonstrate how each crisis affects trade, shipping, and its price volatility. A literature review is followed by an analysis of how the COVID-19 pandemic will affect the maritime transport market. Research on variations in demand for maritime transport, port congestion, delivery delays, and finally the rise in operating costs is given special consideration.

In addition, the significance of maritime transportation to national and international transportation and to the setting of product prices is examined. The shipping industry's resilience to past and present crises is highlighted, along with the most recent, most pertinent strategies and guidelines that can be used as tools to get through crises more quickly. Finally, the impact of freight rates on product prices during periods of economic crisis in the maritime transport market is examined.

This essay is based on data that was made available by the International Maritime Organization, the European Union, and the United Nations in their academic and scientific papers and publications.

CHAPTER 1: How War Affects Economy and Shipping Trade

1.1 Maritime trade during the wars

The economies of the countries in the 19th and 20th centuries were not as developed as those of today, nor was the distribution of the markets comparable to today's globalized market; rather, it was more local in nature. As a result, during war conflicts, the economies of the wars bore the brunt of the economic damage caused by hostilities. Economic penalties used to be restricted to forbidding or prohibiting the enemy from engaging in commerce, while the economic statistics that were in the foreground linked to the needs and desires of the opposing belligerents in terms of both material and human resources. Economic warfare is an extension of warfighting that entails not only designing plans and techniques to bankrupt the opponent, but also optimizing resources and minimizing expenditures.

Only when the powerful engage in naval action against governments that are both weak militarily and poor economically does it become a strategy of significant military and political relevance. defenseless and unable to rely on the assistance of powerful neighbors During the two world wars, Admiral Mahan's opinion that the capacity of maritime states to have a large impact in the international system originates from their ability to sustain economic connections by maintaining trade routes regardless of the strength of the opponent was reaffirmed.[18] It is clear that the weakness of the defense rather than the might of the assaulting army is what makes marine economic warfare successful. Sporadic raids of commerce lines, for instance, had little impact on the outcome of any international war, and Britain's naval blockade of Germany during World War II had little impact either because of the size of the areas Germany held. Because the capitalism system could be altered to operate inside fewer economic borders, external economic embargo had no major effect.

Studies of the economic effects of the British blockade of Germany during World War I and of economic assaults against Britain in the conflicts of the 19th and

[18] Richmond, H. W. (1931). *Economy and Naval Security: A Plea for the Examination of the Problem of the Reduction in the Cost of Naval Armaments on the Lines of Strategy and Policy*. E. Benn limited. p. 61-72.

20th centuries have demonstrated that a state's administrative efficiency is a significant factor in determining its vulnerability to exclusion. This concept has been referred to as "liberal-capitalist" by Gerd Hardach,[19] and Mancur Olson examines the idea of economic "skills" that enable a state to be creative under duress.[20] Japan suffered more from American trade sanctions during the 1941–1945 period as a result of this talent gap than from its reliance on foreign raw resources. Because nations may make direct or indirect substitutes for goods that are in limited supply, Olson's findings are especially pertinent to the issue of food supply, which has seldom been a weak link in national security.

The capacity of a defender to defend his ships is one of the elements that defines his level of vulnerability. Major nations in particular require a powerful fleet more to protect their own commerce than to control the trade of others in order to influence world events. It is advantageous for a state in war to force its enemy to defend trade because it is a difficult task to take on. Prior to the Declaration of Paris,[21] navies made very little effort to defend their trade since their main focus was on defense against the enemy than than the preservation of trade. As a result, pirates and corsairs decimated maritime areas. However, the nineteenth-century creation of a very effective fleet made it more challenging for navies to sustain the resources required for both offensive and defensive goals. The twentieth century saw the advent of the submarine, which by the Second World War was the most untraceable naval weapon, and thus further strengthened the strategic blockade's potential.

In the First World War, a large number of British naval trawlers were developed for the country's merchant defence. When in 1917 the Admiralty was pressed to carry out a convoy, it declared that it could not do so as it would have to immobilize the Fleet by engaging the escorting destroyers. Later it was found that an escort system could be organized, but with the commitment of several warships. The British and American navies hoped that they could operate effectively after adopting the new anti-submarine technologies developed in the interwar years. During WWII, significant efforts were undertaken to minimize the usage of convoys to safeguard

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[19] Hardach, G. (1981). *The First World War, 1914-1918* (Vol. 2). Univ of California Press.

[20] Olson, M. (2008). The rise and decline of nations. In *The Rise and Decline of Nations*. Yale University Press.

[21] With the exception of contraband of war, products may be freely transported according to the Paris Declaration of 1856. However, for a blockade to be legally enforceable, it must be maintained by a force that is truly able to impede access to the enemy coast.

commerce on hazardous routes. In early 1942, the Americans, for instance, sought to avoid utilizing escort off their east coast, yet they suffered heavy casualties from submarine strikes. U-boats[22] were unable to thwart Allied military preparations after the German setbacks of 1943, but anti-U-boat operations constituted a significant portion of Britain's naval and aviation effort in merchant protection and persisted until the conclusion of the war.

The trade attack's restriction on merchant shipping's availability and economics is a key component of this approach. When product transportation without convoys was attempted during the two world wars, there were astronomical losses in both personnel and material. On the other hand, the effectiveness of a convoy system operation was uncertain and required the use of various resources (first-line attack ships) vital to naval combat. The cost-effectiveness of commerce or the strategic mobility of troops, on the other hand, might be reduced by an enemy with little investment in assault resources.

However, there is more than one combatant who is affected by the resource limitation of the trade war. A resource that may have been exploited in another way must also be blocked by the attacker. The calculus only clearly favors the attack when the cost of the escort is greater than the cost of the naval forces deployed in the attack. For instance, in terms of financial cost, the German commitment to the U-boat operations during World War II was greater than that of the Allies. Clausewitz's remark that defensive warfare is fundamentally stronger than offensive warfare appears to be applicable in naval economic warfare.[23]

Merchant defense is an unavoidable part of the navy's job. It is not certain that the protection of commerce will be effective in the event of a war in Europe, especially given the likelihood that port regions will be destroyed as soon as hostilities begin. It is, however, far from improbable that the opposing Navy intends to use the same commerce raiding tactic to divert attention away from and constrain ally naval forces.

1.2 The Strategy of Prohibition of Maritime Trade

[22] German submarines known as "U-boats" were employed in the First and Second World Wars to conduct economic naval blockades.
[23] Von Clausewitz, C. (1950). *On war* (Vol. 1). Jazzybee Verlag. pp. 357-9.

The trade embargo is a tactic that, for the most part and when applied in accordance with the British understanding of the laws of war, is used against neutral nations in order to apply the enemy's pressure as suffocatingly as possible. It inevitably turns neutrals into opponents. Diverse incentives for launching trade attacks, as well as different situations, influence the amount to which belligerents escalate. Smaller navies believe that belligerents should not meddle with neutral trade until a near blockade of an enemy port decreases the prospect of a wider battle.However, because of the "free ships generate free products" philosophy, the strategic usefulness of the trade embargo can only be explained by the market worth of enemy ships and their contents, as well as the political ramifications of their capture. In order to prevent the enemy from accessing resources, a comprehensive economic blockade must infringe on other nations' neutrality. The only way the belligerent will be able to carry out his plan is by a mix of strong military force and wise compromises to the demands of neutrals.A mercantilist strategy that seeks to maximize the riches of the belligerents while occasionally impoverishing the adversary necessitates a less comprehensive involvement in commerce. But because the victor ultimately achieves economic dominance, mercantilism will always be viewed as destructive to neutrals.

The purpose of economic warfare is to enrich the belligerents by utilizing the natural powers of business. Despite constant advancements in enforcement technologies over the course of naval and administrative blockades, a major power has never been effectively blocked in a significant way. Those who want to keep trading are more motivated than those who want to stop it. Governments work together with the enemy during times of conflict because either it is understood that the belligerent must engage in trade to support his lifestyle or because commercial interests have political sway. International corporations have no interest in adhering to the embargo; instead, they would rather profit from the high cost of war and secure business interruption insurance for themselves. It may only be necessary to make a little improvement in the effectiveness of the adversary's economic system for mercantilist trade warfare to be beneficial.

From the seventeenth century, mercantile and associated principles dominated naval strategy. Adam Smith demonstrated that the financial burden of fighting the Seven Years' War was borne by Britain's abroad trade. Because it impedes the expansion of the global economy as a whole, capitalism is a failed economic theory.

However, rather than considering the overall wealth of all nations, military strategy must take into account the relative richness of states. Economic theory and practice known as "mercantilism" advocated government control of a country's economy for the aim of bolstering state authority at the expense of competing national powers. This was prevalent in Europe from the 16th through the 18th century. It was intended to increase exports and decrease imports for an economy, making it the economic counterpart of political absolutism. To do this, it advocates for colonialism, taxes, and subsidies for certain commodities.[24] Britain's economy was so effectively competitive that for a brief while in the middle of the nineteenth century, it was possible to pursue unbridled mercantilism through Free Trade. Free commerce was a mercantilist tactic used by the Anglo-French governments during the Crimean War to reduce the impact of the conflict on the trade that supported their military efforts. The belligerents of the American Civil War or the two World Wars did not repeat this experiment, but after the First World War, the distinction between "mercantilism" and "free commerce" grew progressively muddled.

During WWII, Germany, Japan, and the United Kingdom concentrated on the necessity to maximize belligerent riches. Because diplomatic and persuasive methods were utilized, Britain was able to do this more successfully. In these conditions, London was forced to restrain Britain's long-term economic growth in order to maintain in the near term the political forces in the United States that backed Lend-Lease, a mechanism through which the United States financed its allies in World War II. World War II with weapons, food, and other raw supplies, as well as tanks, planes, trucks, and ammunition. Although Franklin D. Roosevelt had promised the US would provide material support to anti-fascists in June 1940, existing US law required the UK to pay in cash for its growing US armament purchases. Winston Churchill, the newly elected British Prime Minister, warned that his nation would soon run out of cash to pay for war supplies.

Roosevelt came up with the idea of a lend-lease on December 8, 1940, and the US Congress approved it in March 1941 as a solution to this problem. This law provided the president the authority to provide assistance to any country whose defense was seen as crucial to the United States and to accept payment "in goods or

[24] Britannica, The Editors of Encyclopaedia. "Mercantilism". Encyclopedia Britannica, https://www.britannica.com/topic/mercantilism. Accessed 21 July 2022.

property, or any other immediate or indirect advantage that the President considers suitable." Although lend-lease had been authorized largely to aid Britain, it was also made available to China and the Soviet Union. Although more than 40 nations had received loan help at the conclusion of the war, the British Commonwealth of Nations and the Soviet Union were the largest receivers of aid (respectively, 63 and 22 percent). Gifts made up the majority of the $49.1 billion in aid. The so-called reverse lend-lease, in which allies sent $8 billion in supplies to US troops stationed abroad, helped to offset a portion of the cost of the lend-lease program.[25] The advantages that America has made from the two World Wars—first as a neutral nation, then as a belligerent one—resemble the triumph of mercantilism in the eighteenth century. However, neither British nor American strategy constituted a mercantilist trade war in the conventional sense; rather, it was similar to one.

As a "quiet, continuous, exhausting pressure," Mahan defined how naval operations affect a state's military economy.[26] The impact of naval operations on a state's war economy was defined by Mahan as "silent, persistent, exhausting pressure." The impact of maritime power on history from 1660 to 1783. The power of such action to trigger significant political outcomes is certainly considerably less than Mahan claims, but this influence only manifests itself after protracted trade wars. Only if the immediate victims have a large amount of political influence and the deprivation is not absorbed by the opposing society can blockade and mercantilist trade warfare generate effects quickly.It usually typically took a number of years for the trade ban's consequences to become noticeable since this seldom happened. Between the passage of the Navigation Act in 1651 and Napoleon's ultimate defeat by European forces supported by British subsidies, there was a period of one and a half centuries in the case of Britain's great commercial war. Between 1942 and 1945, the American embargo of Japan had an immediate negative impact on the economy. By the time the Americans had to decide between invading Japan and deploying atomic bombs, it had failed to yield any clear-cut political outcomes. It is to be assumed that the political outcome will finally take the form of a negotiated solution because

[25] Britannica, The Editors of Encyclopaedia. "lend-lease". Encyclopedia Britannica, 7 May. 2022, https://www.britannica.com/topic/lend-lease. Accessed 21 July 2022.
[26] Mahan, A. T. (2020). *The influence of sea power upon history, 1660-1783*. Good Press.

economic hardship seldom results in an emergency crisis like an invasion or bombing. Economic warfare does not persist during armed wars precisely because of this.[27]

1.3 The Legal Status of the Trade Prohibition

With the established idea of "just war," which mandates that tactics must be covert and proportionate, the war on commerce has proved challenging to reconcile. Attempts to establish belligerent rights through treaty were an essential technique of reducing the damage done to neutrals. What puzzled people the most was whether neutral ships might legitimately be stopped, inspected, and even condemned as a prize. The growth of container freight services is putting pressure on the notion of continuous trip, which was developed in the seventeenth century and is currently used to support the idea of shipping. The ability of neutral warships to offer security to possibly contraband merchants is still a point of contention between the United States and Britain.

There was a change in the definition of law itself behind the disagreements over the rules of war. The Roman Code, which remained unchanged, served as the primary source of law until the Declaration of Paris in 1856. Treaties between nations have altered the application of the law of war since the Middle Ages. However, the Declaration of Paris, which had virtually unanimous support from all governments, signaled the beginning of a time when treaties eclipsed Roman law's dominance in importance. As a result, the law's foundations of respect were undermined. A number of nations looked for justifications to change the laws of war to fit their current requirements during World War I. Following the war, world society began to battle for a new legal framework centered on humanity. However, the impact of legal structures on the execution of countertrade activities was lessened as a result of World War II. Jus ad bello, the definition of the right to employ force, and its analysis received more attention than jus in bello, the regulation of state behavior during war. The methods that governments choose to carry out their conflicts still have an impact on how the world reacts politically, but the air war and the extermination camp have given the horror of attacks on ships a whole new meaning.

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[27] Tracy, N. (1991). *Attack on Maritime Trade*. Springer.

One of the unforeseen effects of economic warfare is the potential of escalation. It is important to consider the need to balance the requirements of belligerents and neutrals as one part of the need for legitimacy. The possibility that a trade war may enrage neutrals is known as the escalation risk. The lengthy period necessary to accomplish outcomes from economic warfare exacerbates the challenge of sustaining the act's acceptability and legality.

Because trade interference is acknowledged to be gradual, the parties retain a level of caution and escalation until the prohibition is fully implemented. This fundamental rule has only been disregarded by those with great military might. Since 1945, the Soviet Union has steadily increased its blockade at sea against the United States. The threat of American political retaliation was a threat because it may increase bloodshed beyond what was necessary for Soviet objectives.The Americans were driven to escalate the Cuban missile crisis and the Haiphong embargo, bringing the world to the verge of nuclear war, but in both cases, the trade freeze was widely seen as a "mild" response in comparison to the American military chiefs' proposals.

During the Cuban Missile Crisis, the US declared a huge stretch of ocean near Cuba off-limits to ships transporting ballistic missile components. Surface ships from the United States visited and investigated merchants who were allegedly transporting the components as part of the blockade. The blockade allowed ships carrying valid documents to pass through, but turned away ships carrying contraband and illicit items. Furthermore, because the employment of warships for surveys imposed little hardship on neutrals, few objected to the extensive blockade area.[28]

In order to blockade Haiphong Harbor's entrances and stop commercial trade to North Vietnam during the Vietnam War, mines were also planted there. The United States laid their mines knowingly within North Vietnamese national seas and deployed their warships to alert the merchantmen due to the potential for severe repercussions on neutral merchant ships from these mines. Few neutral powers complained to the practice of blockade since there were no neutral boats headed for neutral ports lost and the blockade region was tiny. To avoid escalation, the US was

[28] Jones, T. D. (1983). The International Law of Maritime Blockade-A Measure of Naval Economic Interdiction. *Howard LJ*, *26*, 759.

especially concerned with averting the sinking of allegedly neutral Soviet commercial ships.[29]

1.4 The Implications of the Trade Ban on National Governments

The historian can note, among other things, that warfare on marine trade has minimal impact on the political strength of the enemy. Shipowners have demonstrated minimal ability to influence state war policy, either as a lobbying body or as independent players. The capacity of shipowners to withhold services provided during economic warfare was less effective than their ability to develop responses to attacks on trade as actors in a state. The governmental authority is anticipated to design controls compelling the ships to re-enter the ocean in order to achieve the continuance of commerce. Strong, democratic nations with powerful trade associations typically have powerful navies that can maintain maritime trade during crises or conflict.

The geopolitical environment as well as the domestic tax system's structure have changed have an impact on state incentives. Governments no longer find it useful as an instrument for foreign policy to attack commerce. The most antiquated form of warfare is without a doubt the naval assault on trade since the Declaration of Paris in 1856. The totalitarian system could not only use tax money to fund naval forces in the 20th century, but it also had the power to coerce people into joining its ranks. However, the truth remains that there is no longer any justification for governments to choose to invest in another strategic system over pursuing a naval strategy against trade. The employment of administrative economic warfare tactics is still justified, it should be underlined. However, the indirect economic expenses incurred may outweigh the fiscal advantages.

The 'Mahanist' marine strategy's usefulness was significantly impacted by the growing use of inland land transit by continental governments. Admiral Gorskov did not exploit this impression as justification for naval development since Soviet experts were never persuaded of Sea Power's capacity for economic warfare. Southeast Asia became a site of East-West conflict during the Cold War because to its closeness to the Pacific Ocean. For the first time since Russia's defeat in the Russo-Japanese War, the Soviet Navy increased its presence in the Pacific during the lengthy leadership of

[29] Swayze, F. B. (1976). Traditional principles of blockade in modern practice: United States mining of internal and territorial waters of North Vietnam. *JAG J.*, *29*, 143.

Admiral Sergei Gorskov. Submarines equipped with nuclear weapons sailed the seas, as surface ships from both sides attempted to track them down.

Today, the importance of naval forces in supplying land troops with maritime logistical linkages and in preventing enemy action is more and more restricted to certain situations. Armies in the eighteenth century developed an extraordinary reliance on maritime transport as a result of the creation of a supply system to replace foraging and the declining efficiency of inland transportation methods. The construction of canals and railroads altered the strategic needs of armies, often reducing their need on fleets. Only if it was deployed abroad could the great engineer armies of the 20th century continue to rely on water transport. The Western Allies' strategic mobility was severely hampered by the shipping shortages, which were made worse by the U-boat campaign and the expense of escorting. Conversely, Asian military have proven in Korea and Vietnam that they are capable of continuing to fight despite having extremely little marine transport and logistical support.

When the crises in Ethiopia and Manchuria occurred in the 1920s, the notion that economic penalties might be a form of worldwide protest against revisionist nations engaged in hostilities was proven to be untrue. Export restrictions were occasionally imposed following World War II, although they were more focused on having an economic impact or restricting access to technology than they were on expressing displeasure. The Beira patrol is an illustration of a naval blockade carried out for show, despite the fact that its real goal was to persuade Rhodesia to end her uprising. The Royal British Navy principally ran the "Beira patrol," a maritime interdiction operation, from 1966 and 1975, which was one of the strangest blockades in contemporary history. In an effort to prevent oil supplies from passing through the port of Beira in the Portuguese territory of Mozambique and reaching Southern Rhodesia (now Zimbabwe), the Royal Navy and Air Force maintained control over ships in the Mozambique Channel. Despite the military's skillful execution of these operations, Rhodesia, which had unambiguously declared its independence in 1965, was not subject to Britain's complete oil embargo.[30]

London did not expand its marine interception efforts to other ports in Mozambique or abroad. However, despite the mission's growing unpopularity with

[30] Mobley, R. (2002). The Beira Patrol: Britain’s Broken Blockade against Rhodesia. *Naval War College Review*, *55*(1), 63-84.

the Navy due to the substantial resources invested in its execution, he insisted on continuing. London's determination to uphold United Nations sanctions on its insurgent colony had necessitated the Beira patrol. Only when Mozambique gained its independence from Portugal in 1975 and was able to tell the UN with credibility that no oil would move through its territory to Rhodesia would the British government call an end to this mission.

Naval attacks against ships are always used as a kind of coercive diplomacy. If carried out with vigour by a big navy, it is a highly important political protest. Even if such an expedition barely constitutes an act of economic warfare, it does draw some of its political importance from the lengthy history of at-sea conflicts involving commerce and the growing hostile responses to them. This is how the Soviet Union's deployment of submarines in the Atlantic during the 1973 confrontation with the United States with the purpose of providing military assistance to Egypt was seen, but a more likely explanation is that it was a wartime readiness deployment. Measures of economic warfare, notably in 1775, 1941, as well as in 1990-91, constituted a transitional stage between peace and war.

We may learn from the Manchurian and Ethiopian crises that, absent extremely strong incentives to keep the enemy out, sanctions are likely to result in war if they are successful. However, imposing financial punishment by administrative methods is more risky since it gives the victim the choice of a violent reaction, the repercussions of which are unknown.

It is obvious that naval operations against trade is still a feature of the conflict. It may be an effective way to contain hostile troops. Action against commercial ships obviously restricts logistical movement by water, but it may also be employed to demonstrate force. The use of neutral interaction is an unavoidable and potentially desirable result. Long-term repercussions of the mercantilist kind of trade war are significant. Negative forms, such as economic isolation, can nevertheless be successful against some of the most susceptible victims.[31]

[31] Tracy, N. (1991). *Attack on Maritime Trade*. Springer.

CHAPTER 2: Economic Data before the Russia-Ukraine war

2.1 Political economy of post-Soviet trade

When the Soviet Union split, many Soviet enterprises found themselves cut off from their old trade partners. In Russia, institutional reforms in 1992 placed them in a dangerous economic condition, unclear not only about future interactions with free markets, but also about the status of the business itself and the regulations of the gambling industry. State-centric interactions persisted but were under strain.

Russia changed the economics and commerce of these things by utilizing hydrocarbons and agriculture. Previous significant political reforms laid the groundwork for future trade and trade policy. Privatization, in particular, demolished the agricultural sector, maintained gas under state control, and left oil in a limbo between private oligarchs and state-owned property. This influenced political relations, resulting in disparities in the incentives for various trade strategies, such as hydrocarbon defense versus agriculture.Russia has enjoyed a major competitive edge over other global participants in the gas and oil industries, giving an incentive to preserve government power in this sector. Oil and gas gave revenue to the government as well as soft power, and gas offered substantial influence to Russian public opinion in the form of inexpensive heating. Such benefits did not exist in the agriculture industry. However, post-2014 policies in Crimea and Ukraine, particularly Western sanctions, have transformed the way state elites view agriculture, leading to import substitution policies that execute agricultural trade policies that are more similar to those of hydrocarbons.

As the state's core policy, Russia's trade policy was tightly controlled. However, the country's economic agents see governmental engagement in the economy negatively.[32] Nonetheless, there is a significant relationship between state institutions and firms, as well as relationships between state-enterprises, economic and geopolitical situations of nations.[33] While businesses want to maximize earnings

[32] Alt, J and Shepsle, K 1990, *Perspectives on Positive Political Economy* , Cambridge University Press, New York.
[33] Wade, R. (2004). *Governing the market: Economic theory and the role of government in East Asian industrialization*. Princeton University Press.

and market share, political elites and government officials strive to maximize resources and positions of power. States may aim to shape commerce in order to pursue objectives (for example, lobbying and favoring certain clients), or to shape the economic sector in the interests of society.

The private elites who moved the economy out of the hands of the state gambled in the 1990s, hoping to prevent a return to a communist economy and, at most, to accomplish a "primitive accumulation of wealth" to invest in domestic growth. This experiment produced excellent results. After 2000, Vladimir Putin's new political economy returned the state to development, notably in critical industries including as hydrocarbons and military industry. When Russia seized Crimea, the West imposed sanctions, prompting the Putin administration to undertake "import substitution" strategies and develop a variety of indigenous sectors.

The ability and coherence of state institutions, as well as the interests of official elites with commercial entities, were critical in reorganizing post-Soviet commerce. The corporate elites would concentrate on both political and commercial gain, that is, forming alliances with the political elites to protect and advance their interests. Subsidies or tax breaks, advantageous regulatory regimes, and other measures were included.

While agriculture and hydrocarbons were potentially geared to both domestic and international markets at the same time, they all leaned more in one direction. Hydrocarbon companies focused more on export markets because there was more demand and wealth. Agricultural enterprises, on the other hand, faced tougher competition in the global market, but were in demand within the domestic market.

We indicate two primary groupings of players and lobbyists directing trade policy in two directions: increasing local output while reorienting imports from countries that have not placed sanctions on Russia (agricultural) and integrating into the global hydrogen export market. Politics has been crucial in the case of hydrocarbons. Reforms such as privatization and dry gas exports have helped to protect the gas sector. Through Gazprom, the state held control of the industry and a near-monopoly. This program, however, included the provision of inexpensive gas for local use, so restraining the increase of gas exports. Under Vladimir Putin, the oil sector was reorganized and substantially privatized, and the state regained control of the firms. Rising oil prices in the 2000s transformed oil into a soft power instrument, but one that the state did not directly control. Oil trade and profits were more

influenced by the market than gas trade and earnings. The lack of a strong advocate in the Kremlin meant less state investment or protection for agriculture, and agriculture could not be a geopolitical instrument or a domestic growth engine. 1 Sanctions imposed in 2014, on the other hand, created a considerable incentive for import substitution strategies. such that elite investments can boost and control the future expansion of local agricultural commerce, while overseas trade remains a difficulty at the moment.

2.2 Oil and gas

Oil and gas income, both potential and actual, have complicated Russia's political economy.[34] Furthermore, considering its key role in political power, there are concerns regarding its effectiveness. Certain property arrangements and tax policies can help to alleviate the hydrocarbon curse.[35] Russia's economic policies, especially its energy sector, is well-planned and implemented, allowing Putin to establish his dominance at home and abroad and restore the power he lost to oligarchs.[36]

Russia produces around 500 million tonnes of oil equivalent each year, but markets varies. For starters, gas is less useful in terms of energy than oil. Second, while Russia exports three-quarters of its oil output[37], it consumes about two-thirds of its gas output at prices lower than the export rate. Russia's oil exports earn more than four times the cash from gas exports. As a result, one could argue that oil pays the bills overseas while gas subsidizes the domestic economy. This demonstrates that the structure and strategy of Russian gas and oil have taken different routes,[38] notwithstanding differences in agricultural trade. As it revealed during the Khodorkovsky attack in 2004, large corporations are complimentary to or part of state strategy, as energy was, is, and will continue to be the finest weapon of Russian leaders.[39] Vladimir Putin has supported state control of Russia's energy sector, but a

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[34] Rogers, D. (2016). The depths of Russia. In *The Depths of Russia*. Cornell University Press.
[35] Luong, P. J., & Weinthal, E. (2010). *Oil is not a curse: Ownership structure and institutions in Soviet successor states*. Cambridge University Press.
[36] Miller, C. (2018). *Putinomics: Power and money in resurgent Russia*. UNC Press Books. p. 41–48
[37] Lomagin, N. A., & Hass, J. K. (2019). States and dirigisme versus markets: Hydrocarbons, agriculture, and Russia's trade policy, 1991–2017. In *Russian Trade Policy* (pp. 43-65). Routledge.
[38] Miller, C. (2018). *Putinomics: Power and money in resurgent Russia*. UNC Press Books. p. 48–56
[39] Goldman, MI 2008, *Petrostate. Putin, Power, and the New Russia* , Oxford University

model that allows the state to play a decisive role is being pursued, but energy policy is largely driven by powerful national energy companies (NECs) pursuing corporate and commercial interests.[40]

Russia's proved oil reserves are estimated to be 109.5 billion barrels, or over 6.4 percent of total global reserves. The country has the world's largest confirmed natural gas reserves, with over 32 trillion cubic meters (17.3 percent of total world reserves), enough for almost 80 years at present production rates.[41] The Yamburg, Urengoy, and Medvezhye deposits contribute for more than 40% of output. Despite declines in gas output in 2014 (4.3 percent) and 2015 (1.5 percent), Russia is the world's second biggest producer of natural gas, after the United States, and its major exporter. In 2016, oil accounted for 22% of Russia's primary energy use, while gas accounted for 52.2 percent. The great bulk of Russian gas is supplied via pipelines, although the nation generated approximately 15 billion cubic meters of liquefied natural gas (LNG) in 2016, all of which was exported by the Sakhalin II project. Yamal LNG, which began operations in late 2013, is one of the world's largest and most difficult LNG plants. Novatek is developing the huge South Tambey gas field with partners Total, CNPC, and the Silk Road Fund.The project intends to use more than 4 billion barrels of equivalent oil in gas reserves. To accomplish this, more than 200 wells have been sunk, and three LNG trains, each with a capacity of 5.5 million metric tons, have been constructed.[42] The Russian Arctic and the Baltic Sea are potential future LNG destinations. In general, Russian NECs are the backbone of the Russian economy.

In 2016, around 8.1 million barrels of oil and petroleum products were sent overseas on a daily basis (5.1 million of which were crude oil, 3 million refined products). This figure grew by 8.1% in 2017. Despite the fact that state-owned Transneft monopoly pipelines carry more than 85 percent of all oil exports, the percentage of marine missions remains high despite the worldwide downturn. Approximately 68 percent of all gas exports are delivered to Europe, with Germany accounting for approximately 50 percent and Turkey contributing for approximately 25 percent, respectively. For the first time, Russia became China's top crude oil

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Press, New York.

[40] Gustafson, T. (2012). *Wheel of fortune*. Harvard University Press.

[41] Josefson, J., Rotar, A., & Rice, B. (2018). Oil and gas regulation in the Russian Federation: overview. *Practical Law*.

[42] About the Project (yamallng.ru)

supplier in 2016. Total quantities in 2017 were over 24.5 million cubic meters, 9.5 percent more than in 2016. Sakhalin II delivered 65.5 percent of its liquefied gas to Japan, 17 percent to South Korea, 12 percent to Taiwan, and tiny amounts to China. LNG shipments from Sakhalin II climbed by 2.5 percent in the first two months of 2018 compared to the same time in 2017. As a result of low oil prices and limited access to funding as a result of international sanctions, Russia's domestic oil and gas sector has faced greater hurdles in recent years. Total oil and gas exports fell in 2017, owing mostly to low hydrocarbon prices. Nonetheless, government policy on oil and gas has prioritized preserving present production levels and sustaining state-owned enterprises.[43]

As oil and gas export profits increased from $ 28 billion in 1998 to $ 143 billion in 2005, the oligarchs who controlled Russia's oil output avoided taxes and attempted to transform their money into politics.[44] While Russia's oil sector was privatized and diversified in the 1990s, the tendency under Putin's tenure was a greater concentration of oil assets in the hands of state-owned firms. State-owned businesses such as Rosneft, Gazprom, and Gazprom Neft produced about half of all oil. Gazprom has a de facto monopoly in gas.[45] Gazprom owns more than 70% of Russia's gas reserves and delivers two-thirds of the country's domestic gas. In comparison, the second largest producer, the private business Novatek, generated 62 billion cubic meters of gas in 2017, compared to 471 billion cubic meters produced by Gazprom. The state also controls oil and gas transportation. Transneft is in charge of oil transportation, while Transnefteprodukt is in charge of oil products and natural gas transportation inside Gazprom's Single Gas Supply System (UGSS). The Ministry of Energy establishes quarterly schedules that specify how much oil each producer can pump through the Transneft pipeline. Once access rights are granted, oil companies are typically unable to increase their capacity to export pipelines, though they do have

[43] Arapova, E. Y., & Isachenko, T. M. (2019). Russian trade policy: Main trends and impact on bilateral trade flows. *International Journal of Economic Policy in Emerging Economies*, *12*(1), 26-48. p. 49

[44] Gustafson, T. (2012). *Wheel of fortune*. Harvard University Press. p. 187–188

[45] Mitrova, T. (2014). The political and economic importance of gas in Russia. *The Russian Gas Matrix: How Markets are Driving Change*, 6-38.

some flexibility in changing delivery routes. Oil and gas are generally traded through direct exchange agreements, notwithstanding federal law limitations.[46]

State control, however, is not restricted to direct ownership or control of transportation. Regulatory measures that make the state the final arbitrator of resource rights disputes are also significant. The transition to energy efficiency and transformation of energy production are formal official policy goals outlined in Russia's Energy Strategy 2030. While crude oil prices are not controlled, gasoline, gas, and oil transportation prices are. The wholesale price of gas generated by Gazprom and its subsidiaries is regulated. Independent producers, who account for a very tiny proportion of overall production, are not regulated. Some users, however, such as residential consumers, are entitled to fixed retail gas pricing. The Federal Price Office establishes adjustable prices.[47]

Mining licensing is likewise carefully controlled and gives several benefits to the state. According to Russian legislation, a foreign investor must get prior approval from the Government Committee led by the Russian Prime Minister. Existing restrictions prohibit activities at Gazprom and Rosneft on the continental shelf.

The combination of commercial and state-owned oil businesses resulted in some variation in capacity-building plans, and Russia is partly bound by the global oil market structures, in which OPEC plays a key role. In other words, the geopolitics of oil revolves in part on the collective decisions of this specific cartel, which may limit Russia's freedom of action. However, in 2017, the cartel and several non-OPEC oil producers led by Russia reached an agreement known as OPEC plus[48] to reduce output by 1.8 million barrels per day (bpd) and improve oil prices. Russia's state-owned oil giants Rosneft and Gazprom Neft, as well as the private Lukoil, reduced output by 300,000 barrels per day. They pressed for a clear message on how to exit the cutbacks so that the market does not run a deficit, prices do not rise too quickly, and competitive US shale businesses do not increase output further. In this context, Russia need significantly lower oil prices to balance its budget with OPEC leader Saudi Arabia, which is planning a listing for national energy champion Aramco and

[46] Arapova, E. Y., & Isachenko, T. M. (2019). Russian trade policy: Main trends and impact on bilateral trade flows. *International Journal of Economic Policy in Emerging Economies*, *12*(1), 26-48. p. 50

[47] Josefson, J., Rotar, A., & Rice, B. (2018). Oil and gas regulation in the Russian Federation: overview. *Practical Law*.

[48] Hickin, P. (2017). OPEC-Plus: Old Strategies, New Manifesto–Fuel for Thought, viewed 6 June 2018.

will therefore benefit from the most costly downturn.[49] With oil at roughly $ 80 per barrel in May 2018, Russia and OPEC not only met their target, but also established a high degree of trust that this agreement will be long-term through new forms of collaboration, such as "market stability measurement," discussions, and so on. The expected reintroduction of US sanctions on Iran's oil exports, along with a significant decline in Venezuelan oil production, provides Russia and other producers with a chance to raise output while remaining within the overall objective. As a result, Russia has significantly altered its oil diplomacy and gained some practical successes in discussions with its largest OPEC member, Saudi Arabia. In contrast to the Cold War era, when OPEC, led by Saudi Arabia, contributed significantly to the fall of Soviet power, particularly after the invasion of Afghanistan, it appears that Russia's deep involvement in the Syrian crisis has not prevented OPEC states from finding a common denominator with Russia. Oil (or the desire to maintain oil prices constant and high) is now inextricably linked to Western countries.

The state and politics are more fundamental to the gas industry, whereas oil has a mix of public and private players and interests pursuing both market and geopolitical aims. Natural gas accounts for more than half of household energy consumption, which is utilized in houses (cooking, heating), as well as in the generation of electricity.[50] To avert widespread unrest, the Russian government has resisted drastically hiking gas prices since the 1990s. Furthermore, Gazprom has invested in higher-value non-gas projects for the Russian government, such as infrastructure for the 2014 Sochi Olympics and the 2018 World Cup.

Furthermore, international gas trading began with commercial incentives but evolved into a geopolitical rationale over time. As Boris Yeltsin's Russia and the West appeared to be approaching diplomatically in the 1990s, Russian gas shipments to Europe appeared to be an economically sound policy, a development from the prior Soviet supply to Europe. Following 1973, the Soviet Union appeared to be a more dependable partner in the hydrocarbon trade than the Arab countries, who imposed an oil embargo to punish the West for supporting Israel. In the late 1970s, Soviet officials launched talks with Western European and American businesses to develop

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[49] Lawler, A., El Gamal, R., & Nasralla, S. (2017). OPEC, Russia agree oil cut extension to end of 2018. *Reuters*.

[50] Mitrova, T. (2014). The political and economic importance of gas in Russia. *The Russian Gas Matrix: How Markets are Driving Change*, 6-38.

the Urengoi gas field in Siberia, the world's biggest gas field. The talks centered on the construction of a massive pipeline that would run from Siberia to the Soviet-Czech border. In exchange for participation in the project, Western European nations were promised huge and secure supply of Soviet gas for the next 25 years, equivalent to around one-third of their total gas demand. The $ 30 billion initiative was billed as the greatest East-West trade transaction in history.[51]

For ecological and geopolitical reasons, readily available Russian gas might replace coal, nuclear energy, and oil. Germany and Turkey, in particular, were eager to purchase Russian gas since the price was low, delivery was simple via pipelines, and Europeans saw Russia as an useful partner until the seizure of Crimea. This has increased Europe's reliance on Russian gas. However, relations between Russia and the European Union deteriorated after 2004, and European firms began to respond negatively to market inequalities - for example, Gazprom had better access to European markets and ownership of European enterprises. Even though Putin didn't overtly utilize gas as a soft power instrument, European leaders were well aware of their reliance on Russian gas. Despite the importance of European gas markets to Gazprom's earnings, European opinions of energy security have shifted.

Political tensions stemming from the 2014 Ukrainian crisis, as well as the ongoing disagreement between Kiev and Moscow over Ukraine's gas obligations, have motivated the European Commission to perform a "stress test" to analyze the impact on 38 European nations if Russia shuts off natural gas supply. six months of gas Bulgaria, Finland, and Estonia will be severely damaged (losing three-quarters of their total gas), followed by Latvia and Croatia. It should be noted that the EU might alternatively acquire LNG on the worldwide market, produce and then utilise gas reserves, turn to Norway, and even invest in other fuels such as biomass. Furthermore, the hydrocarbon boom in the United States (e.g., from fracking) and the developing possibility for LNG shipping are boosting rivalry with Gazprom, particularly in Europe, limiting its worldwide market dominance. US LNG will not free Europe from Russian gas anytime soon, and Russia will continue to be Europe's leading gas supplier for the foreseeable future - more than 30% of gas continues to flow from

[51] Arapova, E. Y., & Isachenko, T. M. (2019). Russian trade policy: Main trends and impact on bilateral trade flows. *International Journal of Economic Policy in Emerging Economies*, *12*(1), 26-48. p. 63

Russia, and most of American and foreign LNG can travel to Asia rather than Europe.[52]

The Russian hydrocarbon trade, which appeared promising in the 2000s, is now confronted with difficulties. While gas exports to Europe were at their highest level since the 1970s in 2017 (194.4 billion cubic meters) and oil prices were slowly rising,[53] Russia's reliance on hydrocarbon exports was felt when prices fell and the Russian economy remained stagnant, with growth in 2017 being half the global average. Furthermore, the post-2014 sanctions system and deteriorating ties with the West have stifled investment development, giving incentives for these countries to seek alternative energy sources. Russia, on the other hand, may form energy alliances with China in order to mitigate the impact of sanctions and set the framework for future cooperation. 6 Export levies on Russian hydrocarbons and products remain high 7 - over 65% for crude oil, 30% for natural gas, and 90% for gasoline.[54]

2.3 Energy Security and the role of gas in EU energy policy

Until the outbreak of the war between Ukraine and Russia, Russia was Europe's primary source of natural gas and an important supplier of oil. The European Union's "Clean Energy for All Europeans" agenda includes gas. Natural gas, in particular, is seen as a fuel that can aid in the transition to renewable energy sources.

More than a third of Europe's gas supply is still provided mostly by Russia, followed by Norway and other nations such as Algeria, however, Norway's gas output is steadily dropping as its fields mature.[55] As a result, EU gas imports will continue to play an important role in the EU gas market in the future. Russia is expected to be the leading source of supply through 2025, with Russia accounting for 40% of EU gas consumption.[56]

Furthermore, the EU imports more than half of its energy, and several Member States are strongly reliant on a single provider. This is primarily accurate for gas, but

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[52] Bordoff, J., & Houser, T. (2014). American gas to the rescue. *Columbia University, Center on Global Energy Policy, September*, *3*.

[53] Mikulska, A. (2020). Gazprom and Russian natural gas policy in the first two decades of the 21st century. *Orbis*, *64*(3), 403-420.

[54] Lomagin, N., Sherov-Ignatiev, V., & Trofimenko, O. (2012). Russia’s Accession to the WTO: Major Commitments, Possible Implications.

[55] Council, Atlantic. "Surging Liquefied Natural Gas Trade."

[56] Pisca, Iulia. "Outlook for EU gas demand and import needs to 2025." *The Hague, Clingendael* (2016), p. 25-27

it is also accurate for oil and coal to a lesser amount. As a result, the EU continues to be subject to supply interruptions caused by geopolitical crises, political or commercial disputes, infrastructural breakdowns, or other factors. This high reliance on a few numbers of providers has been recognized since the 1990s, and the European Commission is working to minimize reliance on imports and make the notion of energy supply a cornerstone of EU energy policy.[57]

The potential of establishing a new gas hub in the Eastern Mediterranean is especially appealing to Europe. The new resources might provide more energy supply for Europe's congested markets while also increasing diversification alternatives for countries that rely on a single provider. The Eastern Mediterranean is presently an important conduit for EU gas and oil imports, with the region accounting for around 35% of the EU's gas and 50% of its oil consumption.[58]

In fact, the US Geological Survey (USGS) estimated in March 2010 that the entire Levantine Basin – a geological formation enclosing the offshore parts of Israel, Gaza, Lebanon, Syria, and Cyprus – could produce up to 120 trillion cubic feet (3.4 billion cubic meters (bcm) of recoverable gas and 1.7 billion barrels of recyclable oil using a geology-based assessment methodology.[59] The USGS also projected that the Mediterranean area, encompassing existing and prospective oil and gas deposits (for example, the Aegean), might hold more than 340 trillion cubic feet of gas - more than proven US reserves, which are the world's fourth biggest behind Russia, Iran, and Qatar.[60]

2.4 The current situation of offshore gas exploration and development in the Eastern Mediterranean

Given growing fuel prices, Russia's need for ruble contracts, and trade restrictions with European countries, the European Union will need to explore for

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[57] Grätz, Jonas. "Common rules without strategy: EU energy policy and Russia." *Toward a Common European Union Energy Policy*. Palgrave Macmillan, New York, 2011. 61-85 p. 61- 86

[58] Szőke, Diána. "Geopolitics, Gas and Grand Ambitions: The Outlook for Petroleum Production in the East Mediterranean 16 November 2016| Paper| English."

[59] Levant Basin Province, Eastern Mediterranean. "Assessment of Undiscovered Oil and Gas Resources of the." (2010).

[60] BP, British Petroleum. "BP statistical review of world energy 2018." *https://www. bp. com/en/global/corporate/energy-economics/statistical-review-of-world-energy. html (accessed on 4 September 2018). Sustainability* 10.3195 (2018): 17, p. 27-28

alternate energy sources. In 2009, a joint venture managed by US-based Noble Energy discovered massive gas resources in the Tamar field off the coast of Israel, altering Israel's economic and geopolitical situation.[61] It was the biggest gas field ever discovered in the area at the time, with estimated proved and prospective reserves ranging from 9 to 11 trillion cubic feet (280 bcm). In 2010, an American firm uncovered an even bigger tank (Leviathan) containing around 16 trillion cubic feet or 620 billion cubic meters.[62] The Oil & Gas Journal estimated Israel's proven oil reserves to be 11.5 million barrels in January 2014, and in July 2017, an independent judge, Netherland, Sewell & Associates, Inc., estimated the volume of gas in the Tamar field to be 11.2 trillion cubic feet, with an additional 14.6 million barrels of concentrate (an extremely light mixture of liquid hydrocarbons), a 13 percent increase from the previous estimate.[63]

Encouraged by the findings of Tamar and Leviathan, the Republic of Cyprus increased its research efforts along the southern limits of its Exclusive Economic Zone (EEZ), which is near to the location of both Israeli reserves. Cypriot natural gas has been around since 2007, when the nation announced the first phase of offshore licensing in its Exclusive Economic Zone, allowing Noble Energy to explore for gas in Cypriot seas. Noble Energy made a major breakthrough four years later: the finding of the Aphrodite gas field in Cyprus's southern Exclusive Economic Zone, which has an estimated relatively minor gas discovery of 4.5 trillion cubic feet (140 bcm).[64]

This provided Cypriot authorities the confidence they needed to award licenses to additional energy corporations, who flocked to the region in the hopes of capitalizing on the approaching gas transition. As a result, all 13 offshore blocks in Cyprus's EEZ have been given to multinational oil and gas corporations from the Netherlands, France, Italy, the United States, and Israel, who have all committed considerable investments based on previous pledges. resources.

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[61] The Arab world's oil resources, in particular, influenced Israel's international position in 1947, when the American oil industry opposed partition of Palestine for fear of alienating Saudi Arabia, and in 1973, after the Yogom Kiomp OPEC war, many Western countries demanded Israel's complete and unconditional withdrawal from all territories occupied in 1967 in order to appease the Arabs.

[62] Stergiou, Andreas. "Geopolitics and Energy Security in the Eastern Mediterranean: The Formation of new 'Energy Alliances'." *The New GeopoliTics of The eAsTeRN MediTeRRANeAN* (2019): p. 13.

[63] Ibid

[64] Oikonomopoulos, Konstantinos, and Costis Stambolis. "Hydrocarbon Exploration and Production in the East Mediterranean and the Adriatic Sea." *Background Paper Institute of Energy for South Eastern Europe* (2012): 16-17.

Cyprus successfully completed an international bidding procedure in December 2016, awarding the rights to explore Blocks 6, 8, and 10 to four multinational companies: Eni and Total. Eni, ExxonMobil, and Qatar Petroleum International, in that order. Eni ultimately reported in February 2018 the finding of a resource located just north of the maritime boundary with Egypt, within the Egyptian EEZ, containing between 6 and 8 trillion cubic feet of gas - substantially more than the 4, 5 tcf of Aphrodite discovered in 2011.[65]

The Republic of Cyprus has also granted Exxon Mobil and state-owned Qatar Petroleum drilling licenses in Block 10 (Delfini area) near the Egyptian Zohr field and the Cypriot Calypso field, indicating similar reservoirs and raising hopes for the construction of a possible LNG terminal in the Eastern Mediterranean. 2 Exxon Mobil revealed the initial exploratory results at the end of February 2019, which will be verified by a second well, most likely in 2020. The finding might represent a volume of 5 to 8 gallons of gas, according to a preliminary assessment of the well data. trillion cubic feet (142 to 227 billion cubic meters).[66] Despite its enormous significance for East Med gas collection, the new find does not appear to be significant enough to support the construction of an LNG plant in Cyprus. As a result, shipments to Egypt remain the most plausible possibility for monetizing Cypriot gas.

2.5 The political economy of Russia's agricultural trade

Russia is theoretically self-sufficient and becoming an increasingly major food exporter after almost a century of costly and dramatic agricultural experiments that resulted in famine (1930s) and subsequent reliance on importation of foreign grains and other essential goods. Agriculture is Russia's second fastest growing industry behind hydrocarbons, expanding at a rate of 2.4 percent over the previous 15 years. Agriculture was highlighted as a national priority for increased investment by the Putin government in 2005, resulting in federal programs to reinvigorate agricultural firms. After nearly a decade of debate, the Medvedev government adopted a "Food Security Doctrine" on February 1, 2010, aimed at developing agriculture and fisheries and generally responding to sudden changes in international and domestic food

[65] Stergiou, Andreas. "Geopolitics and Energy Security in the Eastern Mediterranean: The Formation of new 'Energy Alliances'." *The New GeopoliTics of The eAsTeRN MediTeRRANeAN* (2019): p. 13.
[66] Mobile, Exxon. "ExxonMobil makes natural gas discovery offshore Cyprus." (2019).

markets, in order to guarantee domestically produced food for the population and effectively participate in international food security cooperation. The doctrine identified risks and mechanisms for Russian food security and established limits for domestic production of specific food products: no less than 95% domestic production of cereals, 80% domestic production of sugar, 80% domestic production of vegetable oil, 85% domestic production of meat, 90% domestic production of milk, 80% domestic production of fish, and 95% domestic production of potatoes.[67] Due to several problems, including declining global oil prices, geopolitical pressures, and Western sanctions, GDP declined by 0.6 percent in 2014, the ruble lost nearly half its value, inflation spiked, and the stock market crashed. Between 2015 and 2017, Russia's economy experienced a fresh recession, resulting in a 0.2 percent reduction in GDP in 2016. Production dropped from $ 86.4 billion per year in 2008–2010 to around $ 0 billion in 2015–2017. However, growth was 3.5 percent each year from 2015 to 2017, and agriculture contributed for 4.4 percent of GDP in 2017 (compared to 3.8 percent before 2012).[68] Potanin, Deripaska, Abramovich, and the Magamedov brothers are among the oligarchs who have turned their focus to agriculture. Sanctions and sanctions policy in 2014 and beyond aided this sector: food imports plummeted from US $ 60 billion to US $ 20 billion between 2014 and 2016, while exports reached $ 20.5 billion in 2017.

Households contribute a sizable portion of agricultural output. This mostly comprises labor-intensive goods such as potatoes, vegetables, meat, and milk: small farms generate around 50% of meat and milk, as well as approximately 60% of wool and 25% of eggs. Agricultural businesses, on the other hand, dominate: they account for 45.7 percent of overall agricultural production, compared to 7.5 percent for private farms and individual entrepreneurs. Cereals account for 16.4 percent of Russia's total agricultural output, or $ 14.2 billion each year. Cereal crops account for over 60% of all farmed land. Cereals' percentage of global agricultural production fell in 2009–

[67] Demidova, E. A. (2021). GLOBAL TECHNOLOGICAL CHALLENGES OF THE AGRO-INDUSTRIAL COMPLEX. *Международный научно-исследовательский журнал*, (4 (106) Часть 4), 101-104.

[68] World Bank 2017, 'Russia's Recovery – How Strong Are Its Shoots?', Russia Economic Report , no. 38, November

2010 after peaking in 2008, when the cereal crop totaled 108.2 million tonnes. This grew once again in 2017, with the harvest reaching a new high of 134.1 million tons.[69]

The early delay in agricultural recovery during the Soviet period and the 1990s was due, in part, to a lack of official effort to encourage or enforce property reorganization and trade in this sector. In the 1990s, the Agricultural Lobby was one of the weakest groupings in the Duma. As a result, the sector was not as well protected as Gazprom and the gas sector from oligarchic theft or international competition. Agricultural interests, on the other hand, had supporters. From 1993 to 2003, the major priority of agricultural operators was to preserve or grow governmental assistance and pay off debts.

Because the Russian elite believes that Western sanctions will remain in effect for some time, Russian agriculture can grow not only because of less competition and state subsidies to replace imports - some in young people. Sectors such as aquaculture - but also because millions of hectares of land remain untapped and thus a source of investment and profit. Because of these factors, Russia's agricultural trade strategy is predominantly inward-looking. Cereal exports are rising the most. Simultaneously, stakeholders in this sector are eager in foreign investment to assist upgrade infrastructure (about 40% of which is obsolete), innovation, and access to international markets, potentially in Europe, Asia (China), Africa, and the Middle East.[70] Furthermore, according to the 2016 All-Russian Agricultural Census, the number of rural households has declined by 38.7 percent in the previous ten years, from 285,100 to 174,600. This is due to little government backing and harsh competitive strategies by firms. According to communists and peasants, there is a strong chance of oligopolies forming in important regions, which would lead to further deterioration of Russia's provinces and increased unemployment. Finally, Russian agricultural firms' debt is nearly equivalent to their turnover. The situation for small enterprises has improved since 2018, thanks to a new system of short-term loans with a 5% interest rate, for which the Ministry of Agriculture covers the margin with the market interest rate. If the Russian agro-industry takes full advantage of the protector of its position in the Russian market and invests earnings wisely, rather than

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[69] World Bank 2017, 'Russia's Recovery – How Strong Are Its Shoots?', Russia Economic Report , no. 38, November

[70] Arapova, E. Y., & Isachenko, T. M. (2019). Russian trade policy: Main trends and impact on bilateral trade flows. *International Journal of Economic Policy in Emerging Economies*, *12*(1), 26-48. p. 60

politically, there may be an even greater possibility of growing into other markets. Meanwhile, there is agreement among smaller farmers and bigger businesses: both support the state's decision to keep the anti-sanctions system in place until the end of 2018, ideally longer. In some ways, their ambition has come true, as the Russian government now defends its agriculture industry against Western competitors more than ever before in the post-Soviet period. However, we should not overestimate the impact of all trade policies: the widespread use of various NTBs against Georgian wine and mineral water, as well as dairy products from Belarus, made little difference to Russian producers and consumers, and appeared to be motivated by political considerations.[71]

Because of the rural lobby's collapse in the 1990s, it was an unpredictable force. After 2014, food security became a more pressing political problem, prompting the government to move to protection and subsidies. This, however, did not imply that "agricultural" as a group of actors with a shared collective identity and set of interests obtained political capital. This resource is still divided among corporate companies and smaller landowners, and it is not as significant to the world economy – and hence to the Russian state's geopolitical interests – as oil and gas. As a result, unlike oil and gas, the state has not aggressively reformed this industry to the benefit of the state.

In the 2000s, Russia had a more advantageous position and gained from hydrocarbon prices. In conjunction with the privatization strategy, the government might use Gazprom and natural gas for soft foreign policy and domestic popular support. Agricultural commerce faced international competition and did not have nearly the same position in the global market until 2014 owing to underinvestment. Of course, company penetration in agricultural production and commerce means at least a better position in the home market, but the increase in the global market will necessitate much more investment in production and marketing as a function of both know-how and investment.

Politics and markets have altered Russia's agricultural and hydrocarbon commerce, with the former gaining ground after 2014. Is it possible for Russia to escape the problems of import substitution and state-owned enterprises? Oil and gas continue to be profitable, and agricultural exports have expanded. Cereal exports were

[71] Lomagin, N. A. (2017). A cold peace between Russia and the West: Did geo-economics fail?. In *The Russian challenge to the European security environment* (pp. 85-114). Palgrave Macmillan, Cham. p. 98–101

52.4 million tonnes in July 2017–18, a 49 percent increase over the previous year (Rambler 2018). Short-term gains, however, may not usually transfer into long-term trends. Although short-term advantages are achievable, states might get hooked to increases in state property and protection over time. If the government is forced to reorganize its hydrocarbon enterprises, Russian officials may lose their employment, as well as certain perks, such as relatively inexpensive gas. Agricultural commerce may eventually become competitive in the global market, but this would increase Russia's reliance on global markets.

2.6 International Transport Costs

Following World War II, there were a number of significant technological and organizational advancements that impacted the merchant shipping sector. After the Suez Crisis in 1956, with access to the Indian Ocean via the Canal constituting a concern at the time, shipowners began to build bigger boats, particularly massive tankers capable of transporting oil around the Cape of Good Hope. The Canal could accommodate ships of up to 35,000 tons, but owing to the crisis, the first 100,000 ton ship was launched in 1959, and by the 1980s, numerous 500,000 ton ships were in service.While shipping oil per tonne from the Persian Gulf to Europe via Africa rather than Suez initially cost $ 7.50 more, the total cost per tonne over the African route was just $ 3 in 1970. A second breakthrough was container transportation, which cut port management costs and the time ships had to stay in port by up to 90%.[72] Furthermore, open-registry shipping emerged, in which ships were registered in nations with low tax rates and good legal status, such as Panama or Liberia. The resulting decreased transport costs ranged between 12% and 27%, while the percentage of worldwide shipping capacity recorded under such flags of opportunity climbed from 5% in 1950 to 45 percent in 1995.[73] Finally, specialized ships for transporting chemicals, automobiles, and other goods were constructed.[74]

The issue is that these efficiency improvements were not reflected in fee reductions. Several scholars observed the fact that transportation expenses remained a substantial barrier to commerce in the postwar period, equivalent to or higher than

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[72] Hugill, P. J. (1993). *World trade since 1431: Geography, technology, and capitalism*. JHU Press.σελ. 149–50

[73] Hummels, David. "Have international transportation costs declined?." (1999).p. 8

[74] World Bank. *Global economic prospects and the developing countries 2002*. 2002. p. 103-5

those imposed by customs charges.[75] Transportation expenses in the mid-1960s afforded US companies a somewhat better level of protection at the time.[76] In addition, transportation costs appeared to have risen between the mid-1960s and the onset of the oil shock in 1973.

This aided aviation transports. Fares dropped drastically throughout the 1950s, 1960s, 1980s, and 1990s. represented as a proportion of the price of the products sent Long-haul flights and North America saw the greatest decreases in fares. As a result, the ratio of air to sea exports increased dramatically. Air freight accounted for only 6.2 percent of total US imports in 1965, but 24.7 percent in 1998.[77] Meanwhile, the percentage of US exports accounted for by air travel climbed from 8.3 percent in 1965 to 29.3 percent in 1994. Due to the higher cost of air transportation over shipping, it was mostly employed for commodities with a high value-to-value ratio. It was also used more over long distances than over small distances. As a result, nations farther away from the US are more inclined to trade high-value light commodities closer to the US.[78]

There was also the benefit of cost savings from speedier transportation. Fares represent the cost of moving goods between certain ports, but they do not account for the cost of items held on board vessels for lengthy periods of time. According to Hummels (2001), each extra day that commodities wait in transit is equivalent to a 0.8 percent ad valorem duty on industrial items. Since 1950, the switch to air transport and speedier ships has resulted in a huge drop in storage costs: from the equivalent of 32% in 1950 to a bill of 9% in 1998. This definitely reflects a substantial decrease in commercial expenditures.[79]

However, 9% is still a significant figure, much above the average tariffs in the United States in 1998. In comparison to an average US direct transportation cost of 10.7 percent, these two fees were comparable to a 21 percent levy near the end of the

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[75] Waters, W. G. "Transport costs, tariffs, and the pattern of industrial protection." *The American Economic Review* 60.5 (1970): 1013-1020.
[76] Finger, J. Michael, and Alexander J. Yeats. "Effective protection by transportation costs and tariffs: a comparison of magnitudes." *The Quarterly Journal of Economics* (1976): 169-176.
[77] Hummels, David. "Have international transportation costs declined?." (1999).
[78] Harrigan, James. "Airplanes and comparative advantage." *Journal of International Economics* 82.2 (2010): 181-194.
[79] Hummels, David. "Time as a trade barrier, Purdue University." *Unpublished Manuscript. http://www. mgmt. purdue. edu/faculty/hummelsd* (2001).

twentieth century, a significant trade barrier.[80] Furthermore, transportation costs have been a considerably larger issue for commerce in poor nations, particularly in Sub-Saharan Africa, with potentially major repercussions for African trade, investment, and development.[81]

[80] Anderson, James E., and Eric Van Wincoop. "Trade costs." *Journal of Economic literature* 42.3 (2004): 691-751. p. 704

[81] Amjadi, Azita, and Alexander J. Yeats. *Have transport costs contributed to the relative decline of sub-Saharan African exports? Some preliminary empirical evidence*. No. 1559. The World Bank, 1995.

CHAPTER 3: Global Economic Data after the Russian invasion of Ukraine

Oil, gas, and metals are crucially supplied by Russia, and rising prices for these products will undoubtedly have a disastrous impact on the global economy. Nearly 40% of the natural gas and 25% of the oil used in Europe comes from Russia. The likelihood of rising inflation and an economic downturn in Europe has significantly increased as a result of Russia's war.

The US and other Western countries have imposed severe sanctions on Russia in response to their rage over Putin's aggression. Particularly, the West restricted high-tech exports to Russia, removed significant Russian banks from the SWIFT international payments system, and severely restricted Moscow's use of its foreign exchange reserves. The Putin administration appeared caught off guard by the swift and coordinated international retaliation against Russia.[82] In addition to earlier increases, gas prices have increased by 20% since the war's beginning, and as a result, they are now roughly six times what they were in 2021. The spike in gas prices is causing both higher inflation and utility bill inflation. Households consequently have less money to spend, and the rise in consumer spending that will follow the war in Ukraine will worsen the already tense situation brought on by the COVID-19 pandemic.

Industrial companies that use a lot of gas, like fertilizer manufacturers, have cut production as a result of rising gas prices, which economists refer to as a demand crash. Operating equipment and purchasing fertilizer cost more for farmers. If the economy of Germany contracts once more in the first three months of 2022 after contracting by 0.7 percent in the fourth quarter of 2021, it will enter a technical recession. The decline in the economy might be countered by a rise in German defense spending.[83] Olaf Solz, the chancellor, announced that the government would increase defense spending above 2 percent of GDP and set aside 100 billion euros

[82] Maxkambayev, A. X. (2022). 6-7 yoshli bolalarda jismoniy konikma va malakalarni rivojlantirishda harakatli oyinlarning roli. *Jismoniy tarbiya sport mashg" ulotlari nazariyasi va uslubiyatining nazariy-amaliy muammolari*, *4*(5), 55-59.

[83] Махкамбаев, А. Х., Акбаров, А., & Улугмуродова, Г. Ж. (2021). Педагогическая оценка значения двигательной активности студенческой молодежи. *Современное состояние и перспективы развития*, *2*(3), 117-118.

(about 111 billion dollars) in a special fund for its armed forces in response to the Russian invasion.[84]

In addition, according to Holger Schmiding, chief economist at Berenberg bank, higher prices and a detrimental effect on confidence may cause the real GDP growth in the euro zone to decline from 4.3 percent to 3.7 percent for 2022.[85] Companies are scrambling to find raw materials and components to meet rising customer demand due to the unexpectedly strong recovery following the pandemic recession. Lack of supplies, shipping delays, and higher prices were caused by flooded factories, ports, and shipyards. Any return to normalcy will be delayed by disruptions in the Russian and Ukrainian economies.

3.1 Sanctions in Russia

Numerous sanctions have been imposed against Russian entities and well-known Russian citizens by the US, the EU, and other nations. The sanctions currently in place against any major economy are the harshest ever. Sanctions against financial institutions, against business dealings, and against individuals are the three main categories. Russia has responded by taking action against organizations and people from the US, EU, and UK.

3.1.1 Existing sanctions before the war

After Russia invaded and annexed Crimea in 2014, the US imposed sanctions on organizations and people it believed were strategic to the Russian economy or who were deemed to be undermining Ukraine's democracy, sovereignty, or security. In order to aid the Russian arms industry, sanctions were also placed on activities taking place in the occupied Crimea. The US Treasury also put restrictions on which Russian financial, energy, and commodity firms could receive new funding from US-based organizations. Additionally, exports of energy and military products are prohibited by the US. Despite the fact that it is difficult to separate the precise effects of these

[84] Tursunov, I. G., Eshniyozov, U. A., & Durdiyeva, S. A. (2021). "TURLI MUHITLARDA ELEKTR TOKI" MAVZUSINI O'QITISHDAGI INNOVATSIYALAR. *Academic research in educational sciences*, *2*(2), 513-523.
[85] Tank, A. Economic Impact of Russia–Ukraine War.

sanctions from the drop in the price of oil and concurrent changes in domestic politics, it is believed that they have decreased investment and output.

3.1.2 Financial penalties

The main objectives of the economic sanctions were to restrict Russia's access to its foreign exchange reserves and obstruct the operations of Russian financial institutions abroad. Most significantly, the Central Bank of the Russian Federation has been subject to blocking sanctions imposed by the United States, the EU, and other nations. Due to these sanctions, Russian authorities are unable to access foreign exchange reserves that are either held by institutions in sanctioned countries or whose liquidation would necessitate access to those countries' financial systems. In mid-February 2022, Russia held $643 billion in foreign reserves, which meant that this was roughly equivalent to freezing half of that amount. In Russia, physical gold accounts for a sizable portion of the remaining reserves (roughly half). Without access to G10 currency clearing, it might be challenging for the CBR to effectively monetize gold given that G7 sanctions also apply to transactions to liquidate gold reserves. The majority of the balance is made up of Yuan-denominated assets. As a result, Russia's capacity to intervene in the foreign exchange market to support the ruble or to provide domestic banking systems with dollar or euro liquidity is severely constrained. Similar restrictions apply to transactions with the Russian Ministry of Finance and the National Property Fund.

The second-largest bank in Russia, VTB, is one of the seven that have been excluded from the SWIFT financial messaging network. The limitations impede international activities because SWIFT offers financial institutions a global network for exchanging information about cross-border transactions. Other notable banks, including Sberbank, the biggest bank in Russia, are subject to immediate sanctions that range from restricted access to correspondent banking networks to an outright ban on all business dealings with entities in sanctioned nations. In contrast to SWIFT-related actions, these sanctions target financial institutions directly rather than just their means of communication, rendering many international business activities for sanctioned banks unprofitable. Additionally, the United States and the United Kingdom have imposed restrictions on new investments in Russia, extending

restrictions already in place on investments in the Russian energy sector and other particular industries.

It is estimated that international sanctions of varying severity apply to up to three-quarters of the assets in the Russian banking sector.[86] It is important to keep in mind that some penalties have built-in exceptions that permit only certain types of transactions. For instance, US sanctions allow for the continuation of payments for energy purchases while allowing Americans to continue receiving payments for the servicing of Russian debt until the end of May. The fact that Russia is still selling gas and oil suggests that, despite the fact that most of the pre-war international reserves are frozen, Russian institutions still have the capacity to create new reserves.

The short-term effects on Russia's banking system will be negligible. Long-term financial system deregulation will compel Russia and other nations to look for alternatives to current US dollar-centric systems, including card network systems.

SWIFT alternatives exist in Russia and China already, but it would be costly and time-consuming to develop a complete banking messaging system. The likelihood of using any specific substitute for a global payment system backed by US dollars is higher. It is anticipated that more nations will adopt multi-messaging transaction systems. Several nations, particularly in Asia, are already attempting to connect their central bank-backed payment platforms. This transition will be accelerated by the crisis.[87]

Due to these actions, the value of the ruble fell, causing the Bank of Russia to increase its policy rate from 9.5% to 20.0%, the highest level in 20 years. The central bank will likely be forced to increase its policy rate to 30% as a result of continued pressure on the ruble, according to analysts at S&P Global Market Intelligence. Russian consumer price inflation will increase from 6.7% in 2021 to 23.6% in 2022 as a result of currency depreciation and supply chain disruptions. The economic recovery will be hampered by an unfavorable investment climate; real GDP is not anticipated to reach its 2021 peak until the 2030s. Real GDP is expected to contract by about 40% in 2022, according to analysts at S&P Global Market Intelligence, and consumer prices are expected to rise by 30%. The outcome of the war, government, foreign

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[86] World Bank. 2022b. “War in the Region.” Europe and Central Asia Economic Update, World Bank, Washington, DC.

[87] Abdusoliyev, A. I. O. G. L., Rahbar, I., & Narimanovna, K. M. (2021). Moliyaviy menejment tizimini rivojlantirish tamoyllari. *Oriental renaissance: Innovative, educational, natural and social sciences*, *1*(9), 972-977.

assistance for reconstruction, and the return of the populace will all influence how quickly things recover. According to UN estimates, nearly 2 million people are internally displaced within Ukraine, and 3.17 million refugees (or 7% of the population) have left the country.[88]

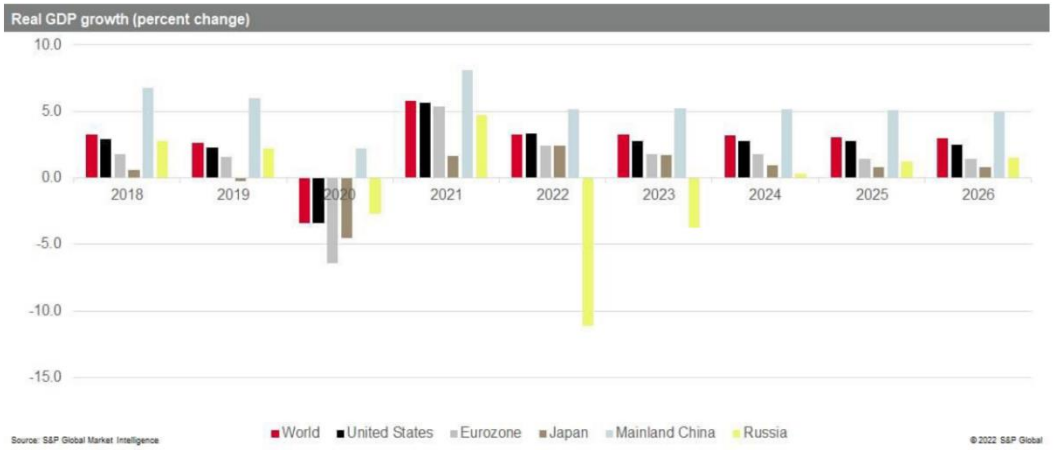

Figure 1: Forecast of GDP change 2018 - 2026 (Source: S&P Global Market Intelligence)[89]

3.1.3 Trade sanctions

Russia has faced an increasing number of export bans, import restrictions, and trade sanctions imposed by the United States, the European Union, and other countries. While they may not have the same immediate effect as economic sanctions, these effects on the economy's reliance on imported goods in the industrial and technological sectors will develop quickly and last over time.

Export controls to Russia have primarily targeted "dual-use" technologies, such as semiconductors, as well as products and services used in the oil and gas, aerospace, and aviation industries. Technologies with both military and civilian applications are referred to as dual-use technologies. The future efficiency of Russia's extractive industries is intended to be decreased by restrictions on oil and gas imports, which could be made worse by Russian voluntary exits from significant multinational oil and gas companies. A consequence of aviation restrictions could be a rapid deterioration of Russia's commercial air fleet due to the concentration of the supply chains for plane manufacturing in sanctioned nations. The sanctions force the lessors from sanctioned nations, who own a sizable portion of the planes currently in Russia,

[88] Tank, A. Economic Impact of Russia–Ukraine War.
[89] https://www.marketwatch.com/

to sever their lease agreements with Russian airlines. What will happen to these planes is unknown. Export restrictions on semiconductors to Russia will limit that country's capacity to produce a variety of products for both industrial and consumer technology.

Numerous tariffs and import restrictions are being implemented as part of policies to reduce imports from Russia, as are future reductions in energy imports from Russia. Although they only made up a small portion of the countries' total energy imports, the United States and Canada have both banned the import of Russian fossil fuels, and Lithuania was the first European nation to stop buying Russian natural gas. By the end of 2022, the UK has stated that it will stop importing Russian coal and oil, and Japan and the EU have similarly announced that they will stop importing Russian coal. Additionally, the EU is actively considering new sanctions on Russian oil imports, and the European Commission has approved a two-thirds reduction in EU-wide Russian gas imports by the end of 2022. The World Trade Organization's Russian regime has been challenged by a coalition of allies, opening the door for a variety of tariffs and import restrictions to be implemented legally. Various Russian exports were restricted or subject to higher import taxes by the Allies at the same time. The EU has also prohibited Russian ships from entering EU ports and stopped all road freight transport from Russia and Belarus in an effort to exacerbate logistical barriers to Russian exports.

Additionally, the EU, the UK, and the US all prohibited Russian aircraft from flying in their airspace. This will weaken Russia's trade connections by reducing the options for air freight in addition to reducing commercial air links.

In retaliation for sanctions, Russia has implemented export restrictions and halted grain exports to nearby Eurasian Economic Union nations. More than 200 products have been prohibited from export by the Russian government to nations that sanction Russia; however, this ban does not apply to essential raw materials or energy goods. Separately, in an effort to safeguard Russian food supplies, a limited licensing system has been put in place for the country's grain exports to the Eurasian Economic Union.[90]

[90] World Bank. 2022b. “War in the Region.” Europe and Central Asia Economic Update, World Bank, Washington, DC.

3.1.4 Other penalties

The wealth and activities of numerous Russian officials, politicians, and businessmen have been the target of numerous asset freezes and travel bans. Asset freezes can have effects that go beyond the person who is the target when they result in the exclusion of sanctions against businesses that are primarily owned by sanctioned people and entities.

A significant number of multinational corporations have voluntarily left Russia in addition to official sanctions. More than 250 multinational corporations have halted operations or new investments, and more than 150 have announced complete withdrawals. The nearly complete shutdown of these businesses will constrain Russia's longer-term economic prospects in addition to reducing economic activity in the short term. The Russian economy's strategic sectors can sometimes be significantly impacted by voluntary withdrawals; for instance, when major oil companies like Shell and BP leave the country.

New sanctions have also been imposed on Belarus. Travel restrictions, asset freezes, and export restrictions are all imposed on Belarusian individuals and entities connected to the Russian invasion, including financial institutions and defense firms. Although less extensive than sanctions against Russia, these actions will put pressure on Belarus' already-fragile economy.[91]

The Central Asian neighbors of Russia will suffer as a result of the conflict and sanctions. Russia has shifted to hiring younger migrant workers from nations like Tajikistan and Uzbekistan as its own labor force has aged. These workers' families have grown dependent on remittances.[92] Even during COVID-19's peak in 2020, the Russian central bank reported that remittances from Russia to Uzbekistan were over $3.9 billion and $2 billion respectively. A Central Asia expert for the US Institute of Peace, Gavin Helf, wrote that pressure on the ruble, restrictions on foreign banking, and, in the long run, the collapse of the Russian labor market would all have immediate and significant economic effects on Central Asia.

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[91] Guenette, J. D., Kenworthy, P. G., & Wheeler, C. M. (2022). Implications of the War in Ukraine for the Global Economy.

[92] Eshniyozov, U. A. (2021). ELEKTROTEXNIKA FANINI O ‘QITISH JARAYONIDA TALABALARNING KASBIY KOMPETENTLIK KO’NIKMALARINI RIVOJLANTIRISH. *Academic research in educational sciences*, *2*(12), 362-370.

The invasion by Russia has also led to a massive influx of Ukrainian refugees. The EU projects that approximately 7,000,000 people will be displaced as a result of the refugee crisis, with Poland, Hungary, Romania, Moldova, and Slovakia bearing the brunt of this displacement.

3.2 Sanctions on technological products

According to Mark Zandi, chief economist at Moody's Analytics, 70 percent of the neon used to manufacture semiconductors is produced globally by Russia and Ukraine combined.[93] This is especially concerning given the current global shortage of computer chips, which is particularly acute in the automotive industry. Although Zandi points out that chipmakers have since stocked up on neon and are looking for alternatives to Russian supplies, neon prices increased by 600% when Russia annexed Crimea from Ukraine eight years ago.

But in response to the conflict between Russia and Ukraine, the West's allies sanctioned Russia in addition to imposing country-level export restrictions on technology.

In two ways, technology is becoming more geopolitical and regional. First, countries see access to technology as a competitive advantage, as evidenced by the US attitude toward semiconductors. Every player will eventually have to use US equipment due to the fragmented chip market and complex product. Therefore, any technology sanction imposed by the US prevents a nation or business from using semiconductors. Second, there is a shift in the global and national scope of the Internet. Russia is interested in adopting China's national firewall, which is being used to censor access to content that its government deems dangerous. China has been at the forefront of this change. Through its values-driven approach to data privacy and AI regulation, the EU has also created regional internet barriers.

Regionalization of the Internet won't necessarily result in a "internet" where various systems are totally distinct and incompatible with one another. The larger conflict is between China and the US, who want to establish a cyber-sovereign model in place of the open, decentralized, and industry-led multi-stakeholder governance

[93] Эшниёзов, У. А. (2020). Маьсофавий таьлим шаклида “электротехника” фанидан “ярим ўтказгичли тўғрилагичлар” мавзусини “swot” методи ёрдамида, ўқитишда инавацион ёндашувлар. *Academic research in educational sciences*, (4), 713-722.

model that currently governs the Internet (closed, centralized, and state-led). However, as the relationship between the US and the EU demonstrates, there are tensions not just between democracies and autocracies but also between blocs.

Along with this, Russia and Ukraine provide 30% of the world's palladium, which is used in automobiles, cell phones, and dental fillings, and 13% of the titanium used to make passenger aircraft. Nickel is a key component used to make steel and the batteries for electric vehicles, and it is also widely produced in Russia. Supply chains cannot keep up, according to Vanessa Miller, a partner in the firm Foley & Lardner LLP's supply chain practice.

3.3 The effects on product prices

The Ukraine conflict will keep fuel and commodity prices high for the majority of the year. This will not only raise business costs, but will also exacerbate current energy and food security concerns. In addition to Europe, the Middle East, Singapore, and China are also being forced by the war to reevaluate their food and agricultural policies.

Wheat, corn, and sunflower oil—all used in the production of food—make up 30%, 19%, and 80% of the global exports from Ukraine and Russia, respectively. Poor, unstable nations like Yemen and Libya receive a large portion of the generosity of Russia and the Ukraine. In a time when food prices are at their highest levels since 2011, some countries are experiencing a food shortage, the threat to farms in eastern Ukraine and the suspension of exports through Black Sea ports could reduce the availability of food.[94]

To reduce the amount of agricultural products used as animal feed and to promote alternative protein sources, some EU nations, including Germany, have reacted by attempting to reduce their use of these products. Such a strategy will aid in insulating the region from global crises because approximately 60% of the EU's cereal consumption is used for animal feed. It will also aid in achieving sustainability goals by lowering high livestock methane emissions.

Contrarily, the Middle East is probably going to increase its investment in agriculture and other strategies to boost agricultural productivity and cut down on

[94] Tursunov, I. G., & Eshniyozov, U. (2020). Relaxation effects in silicon doped with gold at pulse hydrostatic pressure. *EPRA International Journal of Research and Development*, *5*(5), 440-444.

water use. The government will pay attention to this and provide funding for alternative protein and food technology companies.

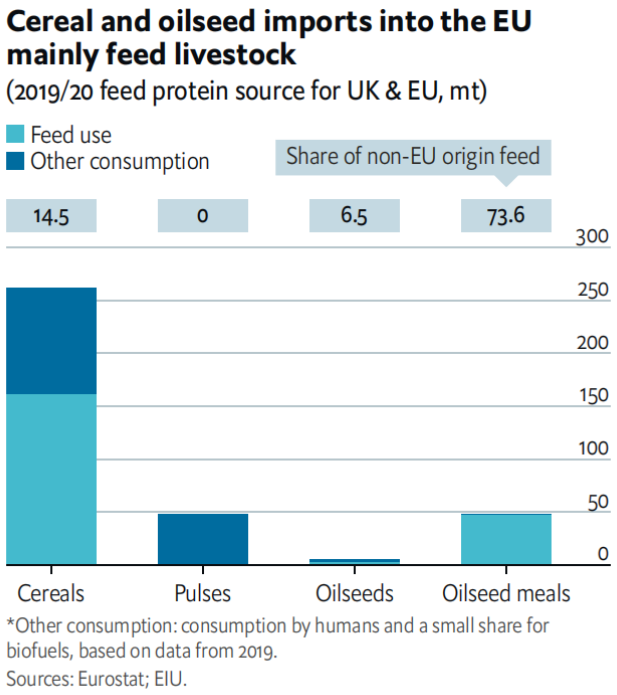

Figure 2: Cereal and oil seed imports into the EU mainly feed livestock (Source: Eurostat, EIU)

Although the US has prohibited the import of Russian oil, the European Union's reliance on Russian oil and gas has prevented the adoption of similar measures. Western sanctions against Russia, despite their scope, have maintained vital energy lines open to Western Europe. However, to diversify their energy sources, European countries will make significant investments to boost their imports of liquefied natural gas (LNG). In order to reduce their reliance on gas for power generation and possibly postpone the implementation of their plans to shut down and phase out nuclear power plants and stations that rely on coal and lignite, EU countries will be compelled to invest in more energy-efficient fuels and increase heating insulation. It is also anticipated that significant public and private investment will be made in renewable energy.

All of this will lessen the financial assistance that developed countries provide to emerging economies for their energy transition. Therefore, in order to support their population and economic growth, emerging economies will keep spending money on fossil fuel energy production. In essence, the conflict between Ukraine and Russia

will widen the gaps in the energy transition between developed and developing countries.

Middle East and North African oil and gas exporters will profit from noticeably higher energy prices, making them a notable exception. Real global GDP is predicted to decline by 22% over the course of 2022, reaching its lowest level since 2006 as a result of strict Western government sanctions and a significant outflow of businesses from Russia. The output will decrease by 11.1% in 2022 and 3.7% in 2023 on an annual basis, with significant drops in fixed investment, private consumption, and exports. The downward spiral started in late February when new sanctions were put in place by the United States, the European Union, the United Kingdom, and Canada to deny the Russian central bank access to its foreign assets and bar major Russian banks from using the SWIFT financial messaging system.[95]

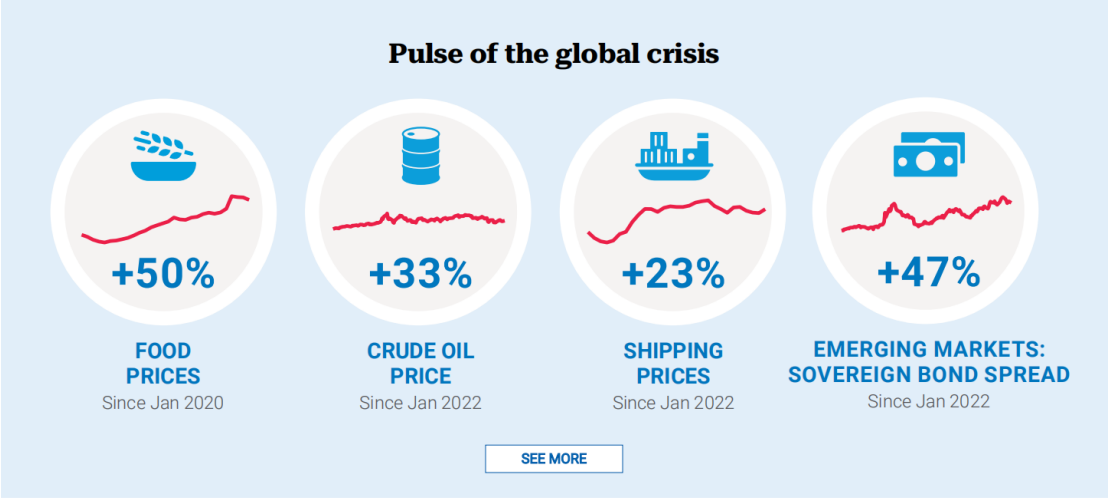

Figure 3: The increase in production due to the war (Source: Global Crisis Response Group)

Divided into short, medium, and long term strategies, the energy crisis should be addressed with measures that, despite their length, must be taken immediately.

Developing nations in particular must work to control energy demand in the near term. This can be accomplished by implementing new technologies and altering consumer behavior when it comes to heating, cooling, and mobility. The additional benefit of energy efficiency and demand reduction is that they are the quickest, most

[95] Razzoqova, J. R. Q., Qaxorov, M. X., & Kushakova, M. N. (2021). Temir yo ‘l transportining moliyaviy boshqaruv tizimini takomillashtirish. *Oriental renaissance: Innovative, educational, natural and social sciences*, *1*(9), 978-986.

cost-efficient, and financially successful interventions available to mitigate the effects of energy price increases in the near term. Pressure will be put on developing nations to target vulnerable populations in order to make sure that the energy they have can reach all of their citizens. Demand reduction is pushed by high energy prices alone, but controlled, strategic, and equitable reductions require the right policies.

Measures taken in the medium and long term must be in line with the Paris Agreement and the Sustainable Development Goals. The crisis has brought attention to the demand for renewable energy and the need for energy resilience.

The opportunity to switch to renewable energy sources is presented by the high cost of fossil fuels. Although the cost of renewable energy has also increased significantly, it is now competitive due to the comparative rise in the cost of fossil fuels. The use of fair and sustainable methods to harness the advantages of renewable energy will be essential, as will addressing any potential bottlenecks in the supply chain.

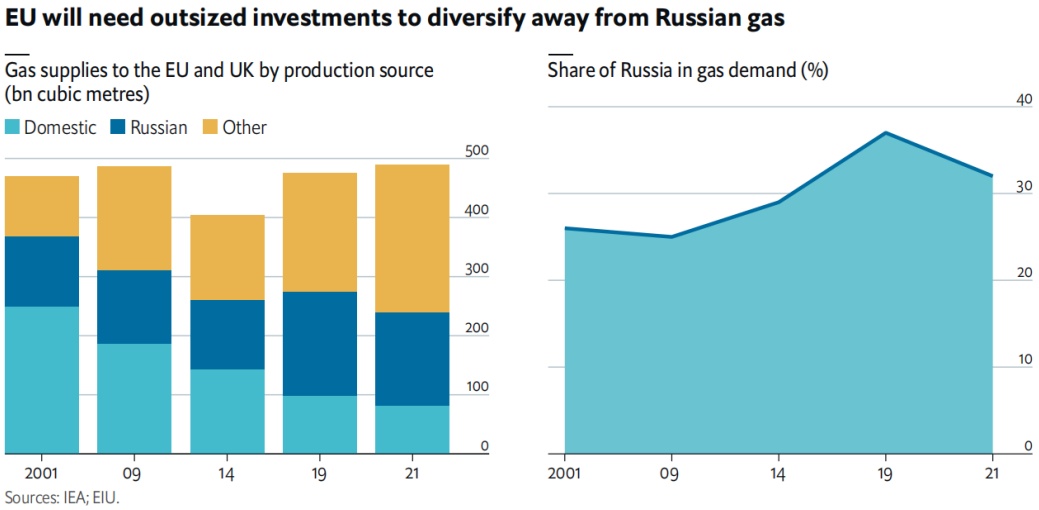

Figure 4: The coverage of the EU's Natural Gas needs and Russia's exports to the EU (Source: IEA, EIU)

3.4 The Present Financial Situation and the Prospects for Normalization

The conflict between Russia and Ukraine will primarily hasten the changes already brought on by the pandemic, tensions between the US and China, and climate change. The war will disrupt supply chains in industries like the automotive sector, adding to the pressure for localization. Furthermore, increased public and private

sector efforts to increase food security will be accelerated by rising energy and other commodity prices.

Additionally, it is anticipated that the financial support for clean energy projects in developing nations will be impacted by the investments necessary to lessen Europe's reliance on Russian energy. On the other hand, economic sanctions imposed on Russia might quicken the shift away from financial systems backed by US dollars and toward interoperable central bank digital currencies (CBDCs).

Both the pandemic and the earlier trade war between the US and China have already disrupted supply chains. The Russia-Ukraine war's disruptions will make them last longer and increase the pressure on businesses. This could imply stockpiling key components, reducing just-in-time production, and increasing investment in local suppliers.

Supply chains that are shorter also cost less to ship and insure while being less vulnerable to trade and geopolitical disruptions. Additionally, as labor costs rise, suppliers in nations like China and Russia gradually lose their advantage in low costs, favoring production in developed countries. In an effort to make the switch to greener vehicles, automakers have already made significant investments in local electric vehicle (EV) and battery production. This presents an opportunity to create new supplier networks from regional markets, frequently with the help of financial incentives from the government. According to most major automakers' estimates, which are depicted in figure 2, the production of only electric cars will be limited by 2035.

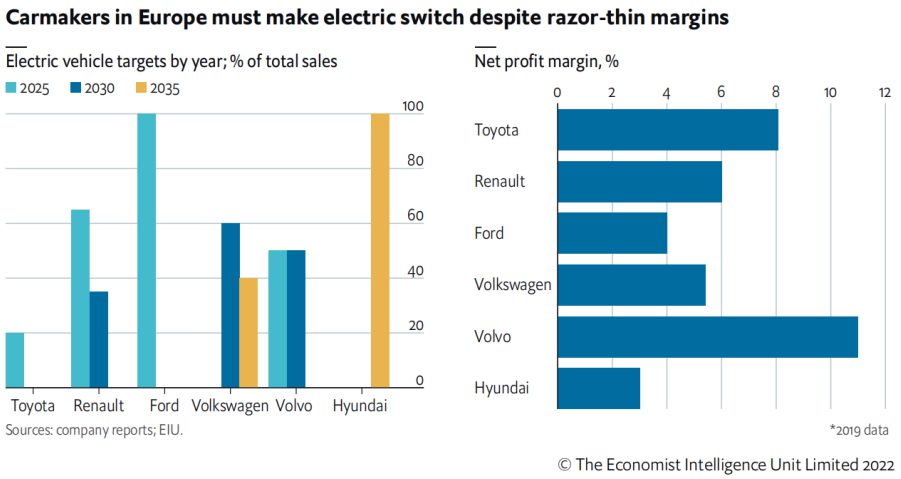

Figure 5: Automakers' Electric Car Production Estimates and Financials for 2019 (Source:EIU)

By the end of 2022, more people are expected to be pushed into extreme poverty and food insecurity due to the war-related food crisis. According to the World Food Program's (WFP) most recent operational programming update, 47 million more people will experience food crisis as a result of the conflict in Ukraine in 2022, putting 345 million people in 82 countries at high risk of or experiencing acute food insecurity.[96] According to estimates, in the first three months of the war, 71 million people fell into poverty, with outbreaks occurring in the Balkans, the region around the Caspian Sea, and sub-Saharan Africa.[97] Riots and social protests have also increased in intensity. Between the first and second quarters of 2022, there were a smattering more riots in different parts of the world.[98]

Commodity prices on global markets are still high, but they are beginning to level off. After reaching an all-time high in March, the Food and Agriculture Organization of the United Nations (FAO) food price index slightly decreased in June 2022, falling by about 3.3%. Early in July, the price of crude oil dropped under $100 per barrel, and it has stayed there ever since. Agriculture and commodity spot indices are lower than they were before the war. The cost of shipping has also gradually begun to decline, particularly for fuel and tanker ships, which have the strongest correlations with commodities and have significantly increased import prices and consumer prices.[99]

Nevertheless, the state of the world continues to present challenges on a global scale. Price volatility is high, which means that prices are still high and may continue to rise. Furthermore, even though high inflation has caused some commodity prices to drop, the situation has remained challenging for billions of people, whose socioeconomic prospects have gotten worse. The possibility of stagflation scenarios in the second half of 2022 and 2023 (low growth and high inflation) has raised serious concerns.

The majority of consumers have not noticed any difference in inflation rates due to the drops in commodity prices. Global inflation accelerated in July 2022, and the income levels of the various nations showed strong correlations. The least

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[96] Food Security Information Network, 2022, Global Report on Food Crises, https://www.fsinplatform.org/ (accessed on 12 August 2022)
[97] https://www.undp.org/press-releases/global-cost-living-crisis-catalyzed-war-ukraine-sending-tens-millions-poverty-warns-un-development-programme (accessed on 12 August 2022)
[98] https://acleddata.com/dashboard/#/dashboard. (accessed on 12 August 2022)
[99] https://unctad.org/webflyer/review-maritime-transport-2021 (accessed on 12 August 2022)

developed nations, in particular, are experiencing even higher rates of inflation, despite the fact that inflation in advanced economies is breaking decades-old records.

Although recent inflation measures in many economies have included food and especially energy prices as a key component, it is likely that measures in some of the world's largest economies will stabilize in the near future.

There are growing concerns about an impending economic slowdown, which, when combined with high inflation, could result in a return to stagflation in late 2022 or 2023. The CPI is still rising, consumer confidence is declining, and leading industrial indicators in many nations indicate that production is slowing down. In some important markets, unemployment is still declining, but the messages are not entirely clear, and UNCTAD model data on the gross domestic product indicate a slowdown, but no acceleration. By decreasing household income, constricting country fiscal spaces, and putting more pressure on financial markets, stagflation would ultimately hasten the cost-of-living crisis.

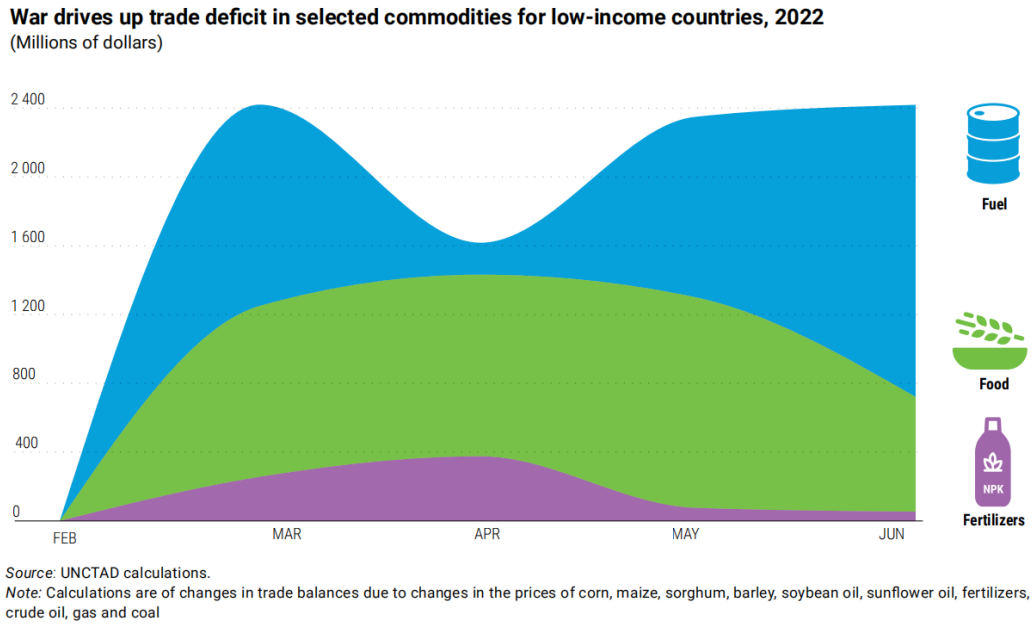

Figure 6: War drives up trade deficit in selected commodities for low-income countries 2022 (Source: UNCTAD)

Despite declining commodity prices, the financial situation in developing nations is still getting worse as a result of the strengthening US dollar. The value of developing nation currencies relative to the dollar has decreased by 5.1 percent since the start of 2022 a 2.1 percent decline in value in June. These economies' government

bond yields rose by 162 basis points during the same time frame. in June, up 64 basis points. As a result, the debts and import accounts of developing nations are put under more stress. By June 2022, low-income countries' trade deficits were about 2.5 billion dollars larger than they would have been if pre-war commodity prices had persisted.[100]

Additionally, since the start of the war, food imports have increased by $24.6 billion in the 62 nations that are the most vulnerable. According to the International Monetary Fund, debt problems affect not only 60% of low-income countries, but also 30% of middle-income countries.[101]

[100] https://www.unicef.org/press-releases/global-hunger-crisis-pushing-one-child-severe-malnutrition-every-minute-15-crisis. (accessed on 12 August 2022)
[101] https://blogs.imf.org/2022/07/13/facing-a-darkening-economic-outlook-how-the-g20-can-respond/ (accessed on 12 August 2022)

CHAPTER 4: The Effects of War on Merchant Shipping

The success of international trade depends on maritime transport, which is the most significant mode of transportation on a global scale. The best way to gauge the effects that an increase in sea freight could have on many economies is to look at how much of the world's trade—roughly 90% of it—is conducted by sea. A significant part of fostering prosperity has always been played by the shipping industry. International trade can be significantly impacted by transportation, and product prices are largely influenced by transportation costs. The full cost of all freight, insurance, and other fees should be taken into account when calculating transportation costs.[102] A 10% increase in transportation costs reduces trade volume by 20%.[103]

The intensity of geopolitical tensions rises as the war escalates. Significant inflation is already being fueled by it, which increases the possibility of advanced economies' monetary policies tightening sooner. Millions of Ukrainians have emigrated to nearby nations, far outnumbering the number of refugees who fled the wars in the Balkans and Syria combined. Sharply rising food prices are being caused by disruptions in agricultural production and shipping around the world, which could result in millions of people going hungry. Figure 7 displays the indicators for the war's worsening sectors.[104]

[102] Sánchez, R. J., Hoffmann, J., Micco, A., Pizzolitto, G. V., Sgut, M., & Wilmsmeier, G. (2003). Port efficiency and international trade: port efficiency as a determinant of maritime transport costs. *Maritime economics & logistics*, *5*(2), 199-218.
[103] Limao, N., & Venables, A. J. (2001). Infrastructure, geographical disadvantage, transport costs, and trade. *The world bank economic review*, *15*(3), 451-479.
[104] Caldara, D., & Iacoviello, M. (2022). Measuring geopolitical risk. *American Economic Review*, *112*(4), 1194-1225.

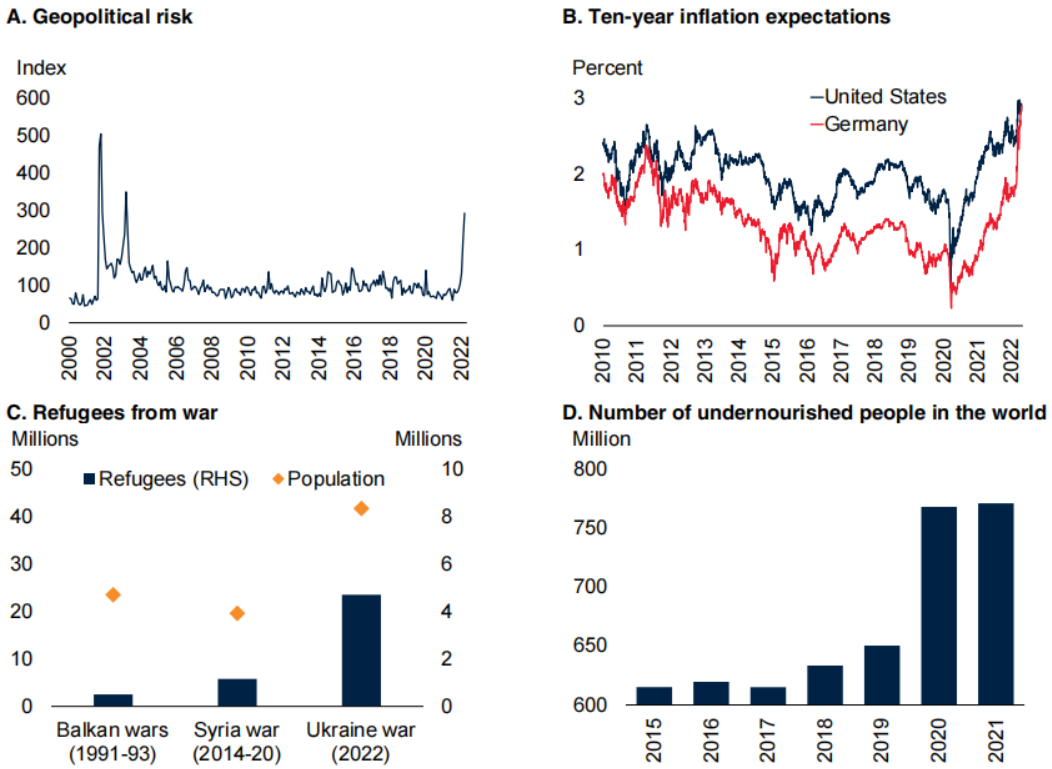

Figure 7: Things that are getting worse because of the Russia-Ukraine war

Sources: Bloomberg; Caldara and Iacoviello (2021); Eurostat; Food and Agriculture Organization of the United Nations; World Bank; World Food Program.

A. Chart shows monthly average of daily geopolitical risk index (1985-2019 average=100) as in Caldara and Iacoviello (2021). Last observation is April 11, 2022.

B. Figure shows 10-year breakeven inflation expectations derived from 10-year government bond yields and 10-year inflationprotected government bond yields. Last observation is April 13, 2022.

C. Current estimate of refugees fleeing Ukraine is 4,796,245 as of April 15, 2022, based on UN data.

D. Data for 2022 is estimate.

4.1 Fare prices

In the past, prices have played a significant role in the organization and navigation of shipping routes. Freight rates fell by a quarter between 1820 and 1913 as the amount of merchant shipping between empires quadrupled. Great Britain and other Western European nations benefited the most from the decline in freight rates in the nineteenth century. They benefited from the declining cost of sea transportation because they imported food and raw materials in extremely large quantities. Additionally, the ships that had imported such goods did so while carrying

manufactured goods rather than ballast, which promoted the export of European goods. The nineteenth century saw fares decline in part as a result of technological advancements in shipbuilding and navigation as well as improvements to port infrastructure. However, fares were significantly affected by factors such as monopoly or navigation laws.

Prior to the development of European shipping firms in the 19th century, freight rates were negotiable and varied depending on the level of demand (for both particular goods and destinations), the seasons, and the type of ship transporting them. Different rates applied to coastal trade, tramp shipping (sea transport without a set schedule or predetermined ports of call), and feeders (the movement of goods from a hub port to a smaller port). The types of trade in which European companies participated had an impact on the setting of freight prices in the area.

British businesses believed that cartel agreements were more morally righteous than price competition, which could force other British businesses out of business. This type of business ethics developed from the notion that a market could only support competition when it had sufficiently matured.

On coastal or feeder routes, where profit margins were smaller, local shippers provided services in place of British companies, which controlled the most lucrative sea routes. This meant that because of their higher price tags, more efficient technologies, like steam, were adopted later by these smaller or more regional shippers.

The shipping industry today is ordering ever-larger ships in an effort to continuously cut costs. The largest shipping companies with headquarters in Europe enjoyed antitrust immunity up until 2008 thanks to the European Council Trade Regulation. The regulation was probably repealed in 2008 in response to China and other developing Asian economies threatening to enact shipping regulations that would protect one another. The repeal led to a significant decline in freight rates, which was made worse by the world financial and economic crisis, which saw a 20% decline in global trade.

The primary factor that has allowed maritime transportation to play a crucial role in global trade is its cost-effectiveness, which goes beyond its obvious

efficiency.[105] However, as a result of the COVID-19 pandemic and Russia's invasion of Ukraine, we are currently experiencing the largest increase in freight rates in decades. Due to the Suez Canal's closure in March 2021 and Russia's invasion of Ukraine, the unprecedented rise in freight rates that we have been seeing for the past two years has been exacerbated even more. The biggest effect that the Russian invasion of Ukraine is anticipated to have on the shipping industry is expected to be higher freight rates. In general, as a result of the effects of the aforementioned events, the quick rise in freight prices will further impede the world economy's ability to recover.[106]

It is clear that the global market has not yet recovered from the financial crisis of 2008 and 2009 if one looks at the growth rates of international trade. The average annual growth rate from 2012 to 2019 was 2.3%, compared to 6.2% from 1990 to 2012.[107] While it is true that the second half of 2020 and the entirety of 2021 saw a recovery in global trade, it is also true that the supply was less flexible and constrained by delays and traffic because of the COVID-19 pandemic, which led to higher prices.[108] The value of total world trade reached a record $7.7 trillion in the first quarter of 2022, an increase of USD 1 trillion over the first quarter of 2021. The growth rate is anticipated to moderate, though, as a result of the slower rate of economic contraction brought on by rising interest rates, inflationary pressures, and worries about the sustainability of debt in many global economies as a result of Russia's invasion of Ukraine.

When the COVID-19 pandemic's effects are compared to those of the crises of 2008 and 2009, it is clear that each crisis had a significant impact on the supply chains in the shipping industry. Shipping firms, terminal managers, and ports, on the other hand, are displaying greater resiliency than they did during the previous crisis throughout the pandemic. This is most likely the result of company-implemented

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[105] International Chamber of Shipping (N/A). Shipping and World Trade: Driving Prosperity. Available online: **https://www.ics-shipping.org/shipping-fact/shipping-and-world-trade-driving-prosperity/** (accessed on 12 June 2022).
[106] Orhan, E. (2022). The Effects of the Russia-Ukraine War on Global Trade. *Journal of International Trade, Logistics and Law*, *8*(1), 141-146.
[107] Schaefer, C. (1989). Antonin Besse of Aden: The Founder of St. Antony's College Oxford.
[108] Khalili, L. (2021). *Sinews of war and trade: Shipping and capitalism in the Arabian Peninsula*. Verso Books.

measures and improved risk management.[109] International trade and production both collapsed as a result of the 2008 global financial crisis. The worldwide recession resulted in a massive drop in demand for transportation in general, plunging the shipping market into crisis.

The delivery of vessels ordered before the 2008 crisis hampered the recovery from the crisis. The supply, which was already higher than the demand, was significantly increased by these deliveries. The sharp decline in prices in the sea container market reflected the effects of overcapacity as well as the global decline in production and trade. During the 2008 and 2009 financial crisis, the big players' strategy of allowing prices to fall below liquidity thresholds became a serious issue. The main goal of this strategy was to remain competitive and put the competitors at risk. Long-term, this strategy will only produce more losses and ultimately bring about the company's demise.[110] The financial crisis of 2008 demonstrated how susceptible this market is and how crucial it is to create effective information-communication channels in order to more easily deal with crises in the future. Shipping companies must implement good reporting mechanisms that are tailored to the various types of information they expect to receive.[111]

The way the shipping industry responded to earlier crises reveals that each had unique effects. All facets of the Ukrainian economy have been impacted by Russia's invasion of that country, and the sanctions that many nations have imposed on Russia have caused the disruptions to spread to the rest of the world. Most countries' future economic growth predictions are pessimistic. During the crisis, the following strategies should be considered by companies in this market:

Capacity consolidation (for example, by reducing navigation speed).

Increasing and lowering operating expenses — OPEX. Fuel and lubricants, crew, maintenance, spare parts, and consumables are the main operating costs to be reduced.

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[109] Notteboom, T., Pallis, T., & Rodrigue, J. P. (2021). Disruptions and resilience in global container shipping and ports: the COVID-19 pandemic versus the 2008–2009 financial crisis. *Maritime Economics & Logistics*, *23*(2), 179-210.

[110] Jerebić, V., & Pavlin, S. (2018). Global Economy Crisis and its Impact on Operational Container Carrier's Strategy. *Promet-Traffic&Transportation*, *30*(2), 187-194.

[111] Keuper, M. The Implications of the Russian Invasion of Ukraine on the Future of Sino-European Overland Connectivity.

Scale economies. Although this is nothing new in the sea container market, the high costs involved in achieving economies of scale make it very challenging to implement.

Increase spending on unmanned vessels.

Energy source diversification.

Increasing automation and digitization use.

The movement of goods along the main sea lanes caused numerous issues for the logistics departments of businesses all over the world in the final months of 2021, when the COVID-19 pandemic was still active. Costs for maritime transportation have tripled since Europe went into lockdown, and there are several reasons for this[112]:

Due to the mobility restrictions in place in the majority of nations, many shipping companies were forced to send their ships on their scheduled voyages even though there was a lot of unused cargo capacity because of cancellations or schedule adjustments.

China has had to deal with a greater volume of goods for export to the world's major ports. Many ports around the world were experiencing long unloading lines, resulting in slower vessel turnover and, as a result, higher contract prices.

Due to International Maritime Organization rules regarding switching fuels, prices were rising at the beginning of 2020. Shipping companies must use VLSFO starting on January 1, 2020, per the regulations (very low sulfur fuel oil).

Recent changes in the food industry are a result of pressure on international supply chains and on private consumption. The full-scale invasion of Ukraine by Russia began just as the market was beginning to recover from the COVID-19 pandemic. As a result, March 2022 saw the highest freight rates ever. The reason for the increase in prices on all sea routes is the imbalance between the rising demand and the constrained supply. Demand grew much faster than expected.[113] The majority of the major market players have asked their governments for financial support, despite the fact that the rise in fares suggests that the market is successfully controlling supply and counteracting the decline in demand with higher prices. Even six of the top ten

[112] UNCTAD. Container Shipping in Times of COVID-19: Why Freight Rates have Surged, and Implications for Policymakers, UNCTAD Policy Briefs, No. 84. 2021.
[113] UNCTAD Communications and Information Unit. High Freight Rates Cast a Shadow over Economic Recovery, PR. 2021/040. 2021.

shipping firms, including CMA CGM, COSCO Shipping Lines, HMM, Evergreen Marine, Yang Ming, and Pacific International Lines, have made this claim.[114]

Figure 8 depicts the impact of fare increases on product price increases by charting the top ten consumer goods based on an estimated price increase shown in percentages. Prices for electronic, electronic, and optical products are expected to rise the most. This is due to the fact that the majority of these goods are produced in east Asia and must travel great distances before they can be consumed. All consumer prices are not affected equally by higher fares. Products with the highest levels of global supply chain integration are those whose prices are most impacted by them.[115]

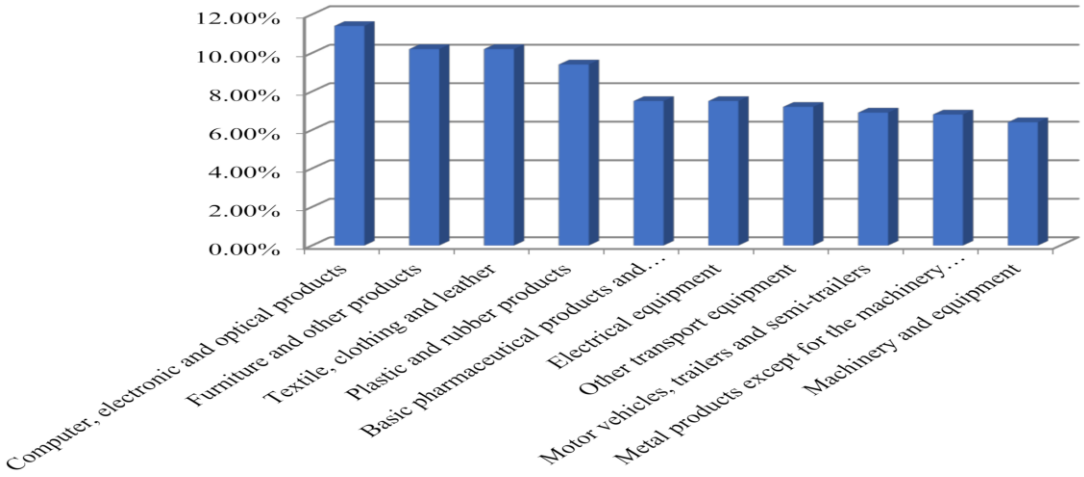

Figure 8: Top 10 consumer goods products according to the estimated price increase (%). (Source:Canton, H. ,2021)

The kind of goods or services that are consumed is largely what changes. Generally speaking, basic items like food and luxuries last longer. The average rise in consumer prices that would result from this fare increase would be 1.5% the following year. In nations where import-dependent industries are prevalent, this increase will be even more noticeable.[116]

The cost of production will also increase as a result of the fare hike, which could eventually have an impact on how quickly national economies grow. This influence will not be evenly distributed and will likely be stronger in economies with smaller populations. Industrial production will decline by over 1% in the US and the Eurozone as a result of higher freight rates in the container shipping sector and supply

[114] ECLAC. The Effects of the Coronavirus Disease (COVID-19) Pandemic on International Trade and Logistics, Bulletins, br. 6. 2020.
[115] Canton, H. (2021). United Nations Conference on Trade and Development—UNCTAD. In *The Europa Directory of International Organizations 2021* (pp. 172-176). Routledge.
[116] Prevljak, H. EU Maritime Transport to Increase in Coming Years. So Will GHG Emissions. 2021.

chain disruptions of 10%. Despite the fact that the United States' industrial production began to recover in July 2021 and that strong growth in private consumption followed, the country's industrial consumption is still growing at a negative rate. This is the clearest illustration of how changes in the shipping industry influence the rate of the world economy's recovery. At a time when the industry was just starting to recover from the effects of the pandemic, the Russian invasion of Ukraine has further weakened the stability of fares.[117]

Imported goods prices in developing countries are expected to rise by 8.7%. Small island developing nations are predicted to experience the biggest rise in import prices as well as consumer prices. While the global average increase is estimated to be 10.6%, small island countries face increases of up to 24.2%.

4.2 Profitable Routes

Among other factors, spot delivery contracts and forward contracts play a role in determining the price of goods. Spot trading tracks a commodity's price at the time of purchase. Contrarily, commodity futures are calculations of the anticipated price of the desired good at a later time. The original purpose of futures contracts was to protect against potential price changes in the future by securing exchange rates at the time the sales contract was made. Since they are frequently used with commodities whose prices are speculative but whose production and export require lead times, futures contracts have long been a part of most market transactions.

A commodity's prices at various future dates are included in an index of potential futures prices for that commodity. A futures contract is an agreement between a buyer and a seller to exchange an underlying good at a future cost on a specific date. In financial futures, the value of the market index serves as the underlying product rather than the commodity itself. In a futures contract, a wager is made as to whether the futures price will increase or decrease at a specific future date. Instead of entering into a contract to sell a commodity, sellers speculate on the rise or fall of a price index instead. An options contract gives an investor the right, but not the obligation, to buy or sell an underlying commodity. The ability for investors to profit from a declining market by purchasing puts or selling futures makes derivatives,

[117] United Nations. *Review of Maritime Transport*; United Nations Publications: New York, NY, USA, 2021;

also known as futures and options, particularly appealing as speculative products. Future trades can benefit from this ability to protect against potential losses by purchasing insurance. Futures are available for commodities like grains, weather, and oil. In essence, they are wagers on whether the price of oil, grain, or whether the weather will get better or worse.

On the potential cost of sea routes, speculation is also an option. The underlying commodity futures trade is a freight cost index for a specific route. The Baltic Dry Index, for example, was developed in the 1980s at the Baltic Exchange. The Baltic Exchange, a shipping exchange founded in London in the middle of the eighteenth century and acquired by the Singapore Exchange (SGX) in 2016, produces the Baltic Dry Index, which tracks freight rates for bulk commodities (such as iron ore or grain).[118] The exchange chooses a number of significant freight forwarders (or shipping companies) from among its members and subscribers who provide on a daily basis an analysis of spot and forward delivery prices on a given route for a variety of different dry bulk cargoes on vessels of specific sizes. The data is weighted and compiled by model developers on the Baltic Exchange, who then release a single value that serves as an average of ship sizes, routes, and cargoes. It's crucial to keep in mind that these figures aren't fixed but rather the convergence of a variety of invested factors in a set of projected current and future prices. When the global trade boom was at its height in 2007, freight options were created, replacing the freight futures based on this index that had first appeared in 1985. By betting on the index's future, cargo futures were to be used to "hedge" (or protect) against price volatility on a specific route. Any decrease in spot prices for a buyer of a futures contract may be offset by future gains if futures rates increase.[119]

Although derivatives were supposedly created as a risk management system for buyers and sellers to guard (or "hedge") against price fluctuations, they had two significant effects right away. The underlying goods or products became irrelevant to the exchange process due to the first way they allowed speculation. No matter what was being traded, it didn't matter. Instead of betting on the commodity itself, wagers were made on the price's direction. Financial derivatives, in fact, encouraged "the

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[118] Sheppard, C., Al-Husiani, M., Al-Jamali, F., Al-Yamani, F., Baldwin, R., Bishop, J., ... & Zainal, K. (2010). The Gulf: a young sea in decline. *Marine Pollution Bulletin*, *60*(1), 13-38.

[119] Lancaster, W., & Lancaster, F. (2011). *Honour is in contentment: life before oil in Ras Al-Khaimah (UAE) and some neighbouring regions* (Vol. 25). Walter de Gruyter.

greatest game of chance on the planet" by placing bets on stock markets. Second, prices could be directly impacted by derivatives through a feedback loop, and they often were. According to Donald McKenzie, the mathematical models used to determine option pricing were "a machine, not a camera" because they produced the outcome they were supposed to represent. Furthermore, the model "provided an economic justification for what might otherwise have seemed dangerous mathematics," as MacKenzie's meticulous description demonstrates.

There is no single index that tracks container prices; whereas WorldScale, founded in 1952, is used to track tanker cargo and the Baltic Dry Index has become the dominant index for bulk commodities in recent years. Such indices may be offered by freight forwarder associations and freight consulting companies based on pricing information supplied by their members or subscribers. For instance, in 2006 Drewry Shipping Consultants started creating the World Container Index (based on eight significant container routes). Since 2004, Harper Petersen & Co. has made HARPEX available (along with eight time charter routes for different sized container ships). China's government has also developed its own indices. In 1998 and 2005, respectively, the Shanghai Container Index and the China Container Index were first developed. The first is a combination of spot and futures prices for containerized export routes from ten Chinese ports to twelve international destinations (calculated from twenty-two domestic and international shipping companies). The latter only keeps track of spot prices for containers leaving Shanghai.[120]

The very profitability of businesses whose data construct prices depend on them, along with objective measures determined by the participants, are what determine price-setting processes in addition to empirically measurable factors. This has aided in the financing of shipping routes.

[120] Emery, K. O. (1967). Geological aspects of sea floor sovereignty. In *The law of the sea: offshore boundaries and zones* (pp. 139-159). Ohio State University Press.

CHAPTER 5: CONCLUSION

How government regulations, commercial trade, and investment choices change in response to a world with increased geopolitical risk will determine how the war in Ukraine affects globalization in the long run.

The war directly affects businesses with operations in Russia and Ukraine as well as businesses that depend on suppliers from those countries. Nevertheless, because geopolitical risk has increased globally, the shock brought on by the war goes far beyond these two nations. Since the beginning of the year, the global Geopolitical Risk Index has more than doubled, rising to levels not seen since the beginning of the Iraq War in March 2003.[121] Additionally, the data reveal significant changes in geopolitical risks in many economies connected to Russia and Ukraine in international trade and value chains, including China, Finland, Sweden, Taiwan, and China, indicating a change in perceptions regarding the likelihood of future conflicts and the need for sanctions. The long-term effects of the globalization war will ultimately depend on how governments' policies and businesses' trade and investment choices adapt to these broader geopolitical risks.

The conflict in Ukraine brings to light the dangers connected to the interconnectedness of international trade, just as the 2020 COVID-19 pandemic and the 2011 earthquake in Japan did.

Dependence on foreign producers can result in production disruption when the country of origin is hit by a bad shock, such as a natural disaster, pandemic, or war that has an adverse impact on the country's ability to conduct trade. As a result of these shocks, businesses will reevaluate the production's efficiency vs. resilience trade-off, which will result in long-term shifts in the structure of their trade relations in the form of repositioning and diversification.[122]

The case for altering the global market's supply chain is, however, unlikely given the technological and economic factors that have supported the international production fragmentation in recent decades. Even after a negative shock, certain

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[121] Caldara, D., & Iacoviello, M. (2022). Measuring geopolitical risk. *American Economic Review*, *112*(4), 1194-1225.

[122] Posen, A. S. (2022). The End of Globalization? What Russia's War in Ukraine Means for the World Economy. *Foreign Affairs*, *17*.

elements—such as technological advancements that lower communication costs and regional wage disparities—remain. Although businesses will adjust their trade and investment choices to the new environment, these factors will continue to drive global production fragmentation as businesses look to increase productivity and keep up their competitiveness. As a result, unless there is a fundamental shift in the policy environment that affects trade costs, a decline in global production appears unlikely.[123]

Although the war in Ukraine may alter supply chains, especially for businesses that depend heavily on nations where geopolitical risks have increased, it does not spell the end of globalization. The premium that businesses must pay to cover the risk of potential production disruptions in a foreign country brought on by economic sanctions or the outbreak of a conflict rises as geopolitical risk does. Because a company's reliance on imports from the at-risk nation increases its risk of disruption, more exposed firms are more likely to leave in order to avoid paying higher insurance premiums. The reshaping of some supply chains, however, may not result in a sudden deglobalization, according to a number of factors that are causing inertia. First, geopolitical risks have no effect on cost differences between countries. Reintegration into expensive nations is therefore unlikely. Second, moving production is expensive because it is more expensive to establish new relationships in a foreign country and to build new infrastructure.

For instance, businesses in the automotive sector, which demands a large upfront investment in infrastructure, and businesses based on sophisticated intermediate products, which depend on investments in particular relationships, face higher costs of relocating production and are consequently less likely to leave a nation with a higher geopolitical risk. This conclusion is supported by data on market restructuring after the 2011 Japanese earthquake, even if the shock's nature differs.[124] Production may be reorganized by companies in these industries and for these goods if they anticipate a change in policy that will affect trade costs rather than just following market incentives.

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[123] Antràs, P. (2020). *De-globalisation? Global value chains in the post-COVID-19 age* (No. w28115). National Bureau of Economic Research.

[124] Freund, C, A Mattoo, A Mulabdic, M Ruta (2021), "Natural Disasters and the Reconfiguration of Global Value Chains", World Bank Policy Research Working Paper n. 9719.

Businesses modify their production and trade structures to pursue economic efficiency in response to increased geopolitical risks. They might search for new suppliers in developing nations with latent comparative advantages and lower geopolitical risks during this process. While a more uncertain and fragmented world is worse for high-risk economies and the global economy as a whole, new suppliers will profit from expanded investment and trade opportunities. According to data from the 2011 earthquake in Japan, businesses did not abruptly stop producing instead they switched out their suppliers from the earthquake-stricken nation with new ones from developing nations. Government policies should concentrate on reducing tensions and securing global value chains from future disruptions in this situation rather than aiming for renewal or proximity.

Due to its effectiveness and efficiency, maritime transport, along with the movement of goods, has dominated the growth of world trade. Ships help modern lifestyles by transporting large quantities of goods from their point of origin to their final destination. No one could have anticipated such a volatile demand, despite the fact that the shipping industry is accustomed to demand fluctuations and shipping companies are ready for such disruptions. Despite the lessons from past crises, no one could have foreseen the COVID-19 crisis's extreme fluctuations in the supply and demand of transportation services. Due to this demand volatility, which was further impacted by the Suez Canal blockade and the International Maritime Organization's provisions for the use of low-sulfur fuels, fares nearly increased sevenfold in 2021. This means that the activities undertaken thus far have been ineffective, and alternative solutions should be sought to avoid an increase in transportation costs.

These sharp price increases not only cause additional supply chain disruptions but also put the recovery of the world economy in jeopardy. The price of products that rely on the services of this industry as well as the cost of production will be impacted by the rise in freight rates in this market. In 2023, it is anticipated that the increase in consumer goods prices brought on by the fare change will be 1.5%. This is especially important for developing countries and island nations. There, anticipated price increases for consumer goods as a result of fare increases may reach nearly 9% in 2023. Economic disparities between these nations and developed nations present another barrier, and they will need to make efforts to close this gap.

Consumer goods prices in the European Union have been steadily rising since the pandemic's initial outbreak, and this trend was further exacerbated by Russia's

invasion of Ukraine. The stability of the global market, which was just starting to recover, has been further weakened by this incursion. The world has experienced severe unrest as a result of this invasion, which is regrettably still going on, and it is anticipated that it will be very difficult to return to things as they were before the crisis. More and more economies are experiencing inflationary pressures, financial market imbalances, and supply issues with goods imported from Russia and Ukraine.The pandemic's disruptions are reflected in both supply and demand, indicating the need to cultivate great flexibility to reduce disruption risks and balance demand. Based on previous crisis experiences, it is expected that the shocks will be more severe in smaller economies and affect the recovery dynamics of some national economies. Depending on how much the products are integrated into global supply chains, the impact on product prices will vary.

The primary challenge for the global shipping industry is to build a system that is resilient to disruptions. Companies must develop more adaptable capabilities in order to respond to crises more quickly in the future. The flexibility of the capacity that is available has proven to be the best remedy for the supply chain disruptions.

Ample channels of information must also be established in order to better prepare for and handle future crises. Incorporating short- and long-term risk management strategies is another helpful tool for ensuring additional defense against potential disruptions in the future. The maritime transportation industry must make an effort to utilize its resources more effectively, particularly the available cargo space. Even though a lot has been done in this area so far, efficiency must be maximized. This is likely to result in the development of a multi-dimensional maritime link management model, where flexibility and information exchange will serve as the cornerstones for supply chains that are incredibly effective and resilient.

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