Introduction

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Will the war in the Ukraine upend the world economic, financial, and political order? Five months after the Russian invasion, we know that the consequences of the war will be massive, far-reaching, and enduring. Since we opened a channel on CEPR/VoxEU to promote and disseminate rapid analysis, we have published more than 50 contributions on the consequences of the war. This book selects a few representative contributions for an early stocktaking of lessons and to provide a first assessment on what might lie ahead. It goes without saying that uncertainties at this stage are enormous, and that risks to both the Ukrainian and the European and global economies – the main objects of our analysis – seem strongly biased towards the downside.

LOCAL SUFFERING AND POSSIBLE GLOBAL CONSEQUENCES

The tragedy that has been unfolding in front of our eyes since the Russian invasion of Ukraine on 24 February 2022 was, on some level, predictable given the previous annexation of Crimea by Russia and the build-up of Russian troops at the Ukrainian border since late 2021. However, most analysts did not expect such a rapid and large-scale Russian attack – an attack that was not confined to the Donbass region but targeted the whole of Ukraine. The length of the war was also underestimated by military experts – most predicted a Russian victory within a week.

The first and most important consequence of the war is the massive loss of human life. The Ukrainian population has suffered terribly while fighting off the attack by one of the world's most powerful armies with courage and determination. According to the UN High Commissioner for Human Rights, from its beginning up to 18 July, the war had caused an estimated 11,862 civilian casualties in the country (5,110 killed and 6,752 injured).[1] The US government estimates military casualties among the invading Russian forces at around 15,000 killed and perhaps 45,000 wounded, and a similar, slightly smaller number on the Ukrainian side.[2]

1 www.ohchr.org/en/news/2022/07/ukraine-civilian-casualty-update-18-july-2022.
2 "CIA director estimates 15,000 Russians killed in Ukraine war", Reuters, 21 July 2022 (www.reuters.com/world/europe/cia-director-says-some-15000-russians-killed-ukraine-war-2022-07-20/).

As detailed in the chapters that follow, beyond lost lives and injuries, the economic losses are enormous and take many forms. The simplest measures are consumption losses. Oleksiy Blinov and Simeon Djankov (Chapter 25), using bank card activity, show that private consumption fell by half during the first month of the war and then recovered half of the loss, up to 70–74% of the previous year's level by June.

A macroeconomic crisis is looming because the Ukrainian government has been forced to partially finance the war with an inflation tax. Revenues only cover about a third of the Ukrainian government's monthly deficit of $5 billion; another third has been covered by loans and grants; and the rest by the central bank. Promised financial support from the West has been falling short, inflation in the Ukraine has been accelerating and the fixed exchange rate is unsustainable (Becker et al. 2022).

Noam Angrist, Simeon Djankov, Pinelopi Goldberg and Harry Patrinos (Chapter 26) show enormous losses of education and human capital – particularly coming after the pandemic. Ukranian children are estimated to have lost one year of schooling due to the combined impact of the Covid-19 pandemic and the war. Worryingly, Tilman Brück, Michele Di Maio and Sami Miaari (Chapter 27), using data from the intifada, show that these schooling and human capital losses are likely to have persistent effects. Finally, as Sascha Becker points out (Chapter 28), there are the huge costs from the internal and external displacement of over 10 million Ukrainians due to the war. Investing in the human capital of these refugees is crucial, but the 'uprootedness' comes with a potential silver lining. World War II history shows a shift in preferences post-displacement towards investment in human capital rather than physical capital, as those forcibly displaced realise it is the only thing they and their children can truly take with them. It is thus crucial to invest in education of refugees as quickly and as comprehensively as possible.

The consequences of the war reach far beyond the Ukrainian–Russian border. In fact, the conflict could hardly be more global in its implications. In terms of long-term geopolitics, Putin's challenging of Ukrainian sovereign borders violates the (in recent decades) sacrosanct doctrine of the inviolability of sovereign borders. A shift away from a liberal, rules-based international order to one where great powers create their spheres of influence and force small countries into choosing sides would be a slippery slope that could trigger further wars worldwide and threaten the freedom and self-determination of billions of people.

Moreover, the current conflict bears a non-zero risk of direct confrontation between the biggest nuclear powers on the world stage – the Western defensive alliance NATO, which supports Ukraine, versus Putin's Russia. Beyond geopolitical shifts, the global economic implications are vast.

ECONOMIC CONSEQUENCES OF THE SANCTIONS

The West responded to Russian aggression with unprecedented economic force. Freezing Russian central bank reserves and limiting the access of Russian banks to the Western payments' system was a reaction that showed unity and strength. Sanctions have been deployed incrementally over the last years and increasingly appear to be the economic weapon of choice, as demonstrated by Gabriel Felbermayr, Aleksandra Kirilakha, Constantinos Syropoulos, Erdal Yalcin and Yoto Yotov (Chapter 5).

The effectiveness of financial sanctions on Russia has been disputed. An often-cited indicator of ineffectiveness has been the ruble exchange rate. Russia's currency depreciated sharply, losing almost half of its value in March, but has since recovered to the pre-war level. Oleg Itskhoki and Dmitry Mukhin (Chapter 6) argue instead that the ruble appreciation is the result of the effective sanctions on Russian imports, which lowered demand for foreign currency, as well as financial repression. Similarly, Mark Harrison (Chapter 3) argues that import sanctions are effective, since Russia is unable to spend its growing export revenues and is simply accumulating financial claims on Western economies through energy sales which it cannot use.

Financial sanctions on Russia have been imposed sequentially since the annexation of the Crimea in 2014. Studies on the real and financial effects of these previous sanctions support a more sceptical view. Mikhail Mamonov, Anna Pestova and Steven Ongena (Chapter 4) find that Russian banks largely anticipated global sanctions and not sanctioned banks were partly able to compensate for them. Anna Pestova, Mikhail Mamonov and Steven Ongena (Chapter 11) show that those sanctions had some measurable effects on Russian firms but that they are rather small. In fact, according to Nigmatulina (2021), the sanctions exacerbated misallocation and hit the 'wrong' firms, as the ones close to power were shielded.

Payments for Russian oil and gas were exempt from sanctions. Nevertheless, Russia started to restrict the flow of gas to various European countries in the spring, partly claiming technical problems and partly non-compliance with their new payments policy. Why Russian suddenly demanded payment in rubles was a puzzle, since it needs foreign currency, not rubles, to pay for imports or to support the exchange rate. The suspicion was that it was just a pretext to be able to allege non-compliance by buyers and cut supplies while claiming to be sticking to contracts. Moreover, Gazprombank had been exempted from sanctions precisely to ensure the flow of payments. Michele Savini Zangrandi (Chapter 2) suggests that the 'rubles only' policy may have been a move to protect MICEX, the main foreign exchange platform, from any sanctions.

The intention of economic sanctions was to increase the cost of the war to Russia while at the same time limiting the cost to the West. The high dependence of many European countries meant that they continued to buy gas and oil from Russia while at the same time attempting to refill their storages and diversify energy suppliers. The result was a

sharp increase in prices (from about €20/MWh in 2021 to about €180 in mid-July 2022) as well as a more than 30% increase in Russian fiscal revenue. Thus, part of the cost of war is being paid through higher prices charged to citizens around the world, even if they are opposed to the war.

Early on, there were many calls for a full embargo on Russian energy (see Chapter 10 by Anette Hosoi and Simon Johnson), but some feared the economic costs of such an embargo would be too high. This is why a paper written by group of economists (see Chapter 15 by Rüdiger Bachmann et al.) led to a very heated debate in Germany. The authors were the first to estimate the macroeconomic effects in a multi-sector macro model (specifically, the one by Baqaee and Fahri 2021). They found the cost of a full gas embargo on the German economy was substantial but manageable, at below 3% of GDP. Smaller sized effects were estimated for France.

Short of an embargo, there are two tools that can be used: import tariffs and price caps. Philippe Martin and Beatrice Weder di Mauro (Chapter 1) argue that a combination of these two would be the best European response for several reasons. An import tariff on Russian oil would reduce the rents that Russia receives from these sales, while a price cap is the right tool to use on gas. Given the number of buyers and suppliers in the oil market, it is a more effective instrument than attempts to organise a buyer cartel and implement a price cap (which is what the G7 had agreed to do). For the pipeline gas market, on the other hand, Europe should organise a single buyer and negotiate a price schedule with Russia. The infrastructure of the pipelines conveys both seller and buyer market power, in principle. However, up to now Europe has chosen not to exercise such buying power. The resulting competition between different countries and energy companies has led to the above-mentioned price hike and huge profits for all suppliers (including Norway and Algeria). A single European buyer and price cap would have to go hand-in-hand with a binding energy saving and rationing scheme and securing the sharing of energy in the coming winter.

WORLD TRADE WAR AND DISRUPTED SUPPLY CHAINS?

The belief that increasing international trade and lengthening global value chains would secure not only economic prosperity but also a peaceful world has been one of the underpinnings of the great globalisation of the last decades. This belief is now in doubt.

Most of the existing literature supports the view that interdependence and trade reduce the scope for conflict (Polachek 1980, Martin et al. 2008, Rohner et al. 2013, Gallea and Rohner 2021). Higher interdependence and more business increase the opportunity cost of conflict, and hence warrant peace. In dynamic settings, however, vicious and virtuous cycles can arise. Rohner et al. (2013) show that a conflict may deplete mutual trust and drive down trade between conflict parties, which may then find it cheaper to engage in

future conflict, leading to a 'war trap'. The world seems currently in the middle of such a spiral of conflict, destroying trust and trade and potentially making future wars more likely.

A distinction that this existing literature has not made is the difference between trade in general versus trade in fossil fuels and other precious natural resources such as rare metals and minerals. While for all types of trade the ensuing interdependence is in principle a force of peace, for trade in fossil fuels there is a second, countervailing effect: resource wealth may enrich autocrats and prop up belligerent regimes in petro-states. Gallea et al. (2022) show that leaders of countries that are central nodes of the international gas network manage to cling to power for longer, among other things by fending off international sanctions. More generally, resource wealth tends to hollow out democracy and to favour autocratic regimes (e.g. Acemoglu et al. 2004).

What does this mean for the future of the international trade regime? Will world trade remain to a large extent global, involving different political systems, or will there be 'clubs' where democracies trade with each other and non-democratic states interact in separate trade networks? One aspect that makes the latter scenario not too likely is that many key natural resources are concentrated in autocratic countries. Consequently, it may be not so easy for democracies to fully cut trade links with non-democracies. However, accelerated regionalisation and reshoring of supply chains may still be unintended outcomes of the aggression.

In the short term, the war is adding to the stress of global value chains, which have still not recovered from the pandemic shock – whether manufacturing or agricultural. Deborah Winkler and Lucie Wuester (Chapter 17) study the position and role of Russia in global value chains. They point out that the country sits very high in those value chains – exporting raw materials (mostly metals) and chemicals and energy (notably, coke and petroleum). Hence, disruptions to trade with Russia have a global impact through price hikes, notably for energy goods, which affect transportation costs and virtually all global value chains.

Alvaro Espitia, Simon Evenett, Nadia Rocha and Michele Ruta (Chapter 19) worry about the impact of policy interventions in terms of worsening the war-related losses due to trade disruptions. Focusing on the escalating reactions to the fear of loss of food exports from Ukraine and Russia, they show that as countries impose export restrictions to protect themselves against the loss of imports, a 'multiplier effect' is induced: export restrictions mitigate pressures on domestic food markets by diverting supplies from the world market, and the surge in world prices that results from these measures leads other governments to retaliate by imposing new export restrictions, leading to a further surge in prices. Thus, supply chain distortions multiply as they extend. Michele Ruta (Chapter 18) notes that inertia is likely to preserve supply chains, and that even when substitution

takes place from one country to another, it is unlikely to affect costs significantly. It is only the misguided reactions by governments, inducing autarky and reshoring, that lead to very significant losses in productivity and high economic costs.

How persistent are these costs likely to be? Tobias Korn and Henry Stemmler (Chapter 20) show in their chapter that when violence persists over time (as it already has in this war), the relocation effects caused by violence tend to persist in the long run. Once relocation away from a certain supplier or buyer takes place, it remains after peace is established. Thus, supply chains are likely to remain permanently altered by the conflict, away from Ukraine and Russia.

What are the key policy consequences of this analysis? We would highlight three.

1. This war has shown as how urgent and necessary is to strengthen the resilience of supply chains.
2. Government intervention to restrict trade, while a priori appealing, is likely to increase the losses due to the war and must be very carefully employed, if at all.
3. Absent a positive intervention, the exclusion of Ukrainian (and Russian) firms from global value chains is likely to be persistent. Reversing this will require permanent positive policy interventions by Ukraine's partners in the West.

IMPACT ON DEVELOPING COUNTRIES

Poverty is a main driver of conflict. This has been shown in dozens of studies exploiting adverse income shocks (Miguel et al. 2004, Jia 2014, König et al. 2017). This body of evidence stresses that bad productivity shocks fuel the scope for conflict, including by reducing the opportunity cost of engaging in appropriative activities. Commodity price shocks can also have adverse effects (Bazzi and Blattman 2014, McGuirk and Burke 2020).

There is a significant and growing risk that we will soon see soaring food prices in developing countries that will impoverish parts of the population and trigger a heightened risk of social unrest. As Erhan Artuc, Guillermo Falcone, Guido Port and Bob Rijkers (Chapter 24) note, Ukraine and Russia combined account for over a quarter of global wheat exports, and Ukraine alone accounts for 14% of global corn exports. As a result, prices have soared and are expected to remain high. Using a simulation tool, Artuc et al. estimate welfare impacts of up to a 10% loss (Armenia's case) for the poorer 40% of the population, with an average of almost 2% loss in welfare for that population. The burden is large, and the impact is disproportionately in the South. In a separate simulation, also including energy prices, Maksym Chepeliev, Maryla Maliszewska and Maria Filipa Seara e Pereira (Chapter 22) find drops of a similar magnitude in real income in developing

countries of around 1% of GDP on average. Whereas energy is the main driver of the impact in high-income countries, more expensive food is the main source of the impact on poorer countries.

The direct impact of food and energy restrictions on low-income countries is accentuated by the potential sudden stop of lending from one key and common lender to all developing countries – China. Using a new data set, Sebastian Horn, Carmen Reinhart and Christoph Trebesch (Chapter 23) show that China has become the most important official player in international sovereign debt renegotiations but that, except for symbolic debt cancelations of small zero-interest loans, Chinese lenders almost never provide deep debt relief with face value reduction. They also show that China's multi-year overseas lending boom had mostly come to an end before the war and was further hit by it.

Thus, low-income countries face a drop in financing on top of a huge increase in energy and food prices. The consequences are very concerning, as Eoin McGuirk and Marshall Burke (Chapter 21) show. The impact is very heterogeneous, depending on the net position of the individual countries. While countries that are net exporters may see an increase in prosperity and less conflict, net food and energy importers will likely see hunger, misery, food riots and an increase in inter-group conflict.

What are the policy implications? We would emphasise the following key lessons:

1. As Chepeliev et al. (Chapter 22) point out, policies to cushion the blow by reducing demand for energy and food in rich countries could help contain the impact on food and energy prices. At the very least, rich countries should 'do no harm' and avoid imposing export restrictions.

2. Policy must also aim to cushion the impact on poorer countries via targeted support measures, focusing particularly on net food importers.

3. The financial consequences of 'sudden stops' of finance may significantly increase the damage, and rich countries must stand ready to substitute Chinese financing, for the sake of poor countries and for their own sake – avoiding riots and war is in everyone's interest.

POLITICAL FALLOUT AND LONG-RUN IMPACT ON MULTILATERALISM AND THE GLOBAL ORDER

Political economists and political scientists have long stressed the harmful political side effects of the world's addiction to fossil fuels (which adds to their devastating environmental impact).[3] Fossil fuels are associated with a greater risk of civil wars (Ross 2012, Dube and Vargas 2013, Morelli and Rohner 2015), inter-state wars (Caselli et al.

3 In this chapter, we often refer to recent work in the literature on the economics of conflict. For recent literature surveys, see, for example, Anderton and Brauer (2021) and Rohner (2022).

2015), mass killings (Esteban et al. 2015), corruption (Caselli and Michaels 2013), and hollowing-out of democracy (Ross 2012). External threats and wars often act as catalysts to promote nation-building (Sambanis et al. 2015, Alesina et al. 2020).

Several chapters in the book address the long-run consequences of the conflict for the world order – specifically on the trading system, the monetary system, and the identity of the European Union.

Concerning the trade architecture, the main potential consequence, as Eddy Bekkers and Carlos Góes (Chapter 31) argue, is the division of the world into two blocs: a Western-centric bloc and a China-centric bloc. How costly would such a division be? Using a simulation, the authors show that the costs are significant – 5% of world GDP on average and up to 10% for poorer countries. Hence, they argue, preserving the current trading system is essential.

Second, the unprecedented use of sanctions, as Markus Brunnermeier, Harold James and Jean-Pierre Landau (Chapter 30) argue, will have a long-term impact on the international monetary system, although it will leave the central role of the dollar in it unchanged, given its unique set of advantages. Instead, the changes will have to do with the demand for reserves by third countries, who now see that reserves do not provide the advantage in terms of cushioning potential shocks that they had anticipated. Instead of using reserves in that role, countries will choose to protect themselves by reducing their integration with the global financial system, leading to increasing fragmentation of financial markets and accentuating an existing trend – the almost complete stop in global financial integration.

Finally, the war is having profound effects in the European Union. In the face of adversity, different factions may close ranks and move closer together. This is surely something that has been observed for the European Union since the beginning of the war. Indeed, the chapter by Kai Gehring (Chapter 29) shows that the Russian attacks on Ukraine in 2014 increased European identity and trust in European institutions. Of course, as he also points out, the jury is still out on whether this effect of closing ranks in Europe and the West will be permanent or will crumble if the costs of a prolonged war, winter energy insecurity, spiralling energy prices and inflation become more apparent.

It is worth noting this closing of ranks has been limited to the West. China has sided with Russia and Asian or many lower-income countries have chosen to abstain from condemning Russia's aggression. As a result, the entirety of UN multilateral institutions, from the Security Council to the World Bank and IMF, are now hobbled because their shareholders are split. The G20 can no longer be the prime forum for international agenda setting either. So right now, the multilateral order seems broken, and it is unclear how it can be fixed.

SOME UPSIDES?

The war in the Ukraine represents a critical juncture for the world. At this stage, many risks are on the downsides. But as far as EU countries are concerned, one can point to a few potential upsides.

Democratic countries and the liberal world order have been shaken to their foundations. Many would have anticipated only a feeble and hesitant response from the European Union and NATO. The reaction from liberal democracies was more decisive and united than expected. Europe and NATO may come out stronger. The European Union has already decided to open up candidacy to Ukraine and Moldova, and other Eastern European countries might follow. EU enlargement will require a deeper rethinking and strengthening of European governance.

A possible positive outcome may be a strengthening of democracy around the world. This would be the case if smaller countries concluded that their freedom and self-determination hinges on a democratic world order. But let's face it – we might also be heading into a new Cold War, a divided world where the superpowers compete on the territories of smaller, poorer countries.

Another silver lining to this tragedy might be a willingness to boost the green energy transition away from fossil fuels, as discussed by Luis Garicano, Dominic Rohner and Beatrice Weder di Mauro (Chapter 32). Although in the short run greenhouse gas emissions are increasing because of the war, it has become abundantly clear that energy provided by green sources yields a double dividend: limiting global warming and fostering energy security. High energy prices caused by the anticipation of fossil fuel sanctions and by damage to the energy infrastructure may accelerate investment in renewables and in energy efficiency, and may contribute to reducing climate change.

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