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Introduction

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"Rebuilding Ukraine means restoring the principles of life, restoring the space of life, restoring what makes people people. ... Of course, it is not only about restoring the substance of life, but also about institutional development. Our country has become a candidate for joining the European Union. ... And the reconstruction of Ukraine will be an equally great reform for all of us, because we will unite the democratic world to the extent that everyone will see: the worldview of free people always wins. The world will see that no one can ever achieve their goals through war." Volodymyr Zelensky¹

On 24 February 2022, Russia started a full-scale war on Ukraine. This blatant violation of Ukraine's territorial integrity was swiftly condemned by the General Assembly of the United Nations, but the war continues. Death and destruction are on a scale not seen in Europe since Word War II and the ripples of the war are felt everywhere – from the Ukrainian families who have lost their loved ones to African countries that face the prospect of hunger.

This is a dark hour for humanity, but we have to think about how Ukraine will rebuild after the war is over. This is important for ensuring the survival of the country in the long run; advanced planning and preparations now will save lives and increase chances of success. Furthermore, these steps will give hope to millions of Ukrainians that after the horrors of the war there is light at the end of the tunnel.

In a report commissioned by CEPR, Becker et al. (2022) provided the first blueprint for the reconstruction of Ukraine. When it was written in March of 2022, the uncertainty was extreme. How far would Russia go in destroying Ukraine? (Russian war crimes² and open calls for genocide³ in Ukraine speak volumes.) How much resistance would Ukraine put up? (Ukrainians are nearly unanimous in their desire and commitment to defeat the Russian aggression.) What aid would the civilized world give to Ukraine? (The world is united in supporting Ukraine.) Once unthinkable, Ukraine's victory now has increasingly clear contours. This calls for a more comprehensive analysis of what Ukraine should become after the war and what tools policymakers can use to fulfill these goals.

[&]quot;The reconstruction of Ukraine will be the greatest contribution to the maintenance of global peace," President's speech at the Ukraine Recovery Conference in Lugano, July 2022 (www.president.gov.ua/en/news/vidbudova-ukrayinibude-najbilshim-vneskom-u-pidtrimku-globa-76261).

See the Independent International Commission of Inquiry on Ukraine (United Nations 2022).

https://euvsdisinfo.eu/into-the-heart-of-darkness-what-russia-wants-in-ukraine/

To this end, this book offers perspectives from leading scholars and practitioners. Each chapter of the book covers a specific sector but there is a natural overlap across the chapters because Ukraine's reconstruction is a comprehensive transformation of the country, with many elements required to work in unison. With such a complex task, it is important to have a clear vision of the goals. The leitmotif of this book is clear: reconstruction is not about rebuilding Ukraine to the pre-war state, it is about a deep modernisation of the country. Infrastructure, technology, business environment, institutions, education, healthcare and other critical elements of the economy and society will have to leapfrog and undergo reforms to help Ukraine escape the post-Soviet legacy and become a full-fledged democracy with a modern economy, strong institutions, and powerful defense sector. As a part of this ambiguous agenda, Ukraine will become a full member of the European Union and NATO. To be clear, there should be no shortcuts – all the requirements to prospective members of these organisations, especially concerning democracy, robust institutions and low corruption, should be met.

The book repeatedly emphasises that allies' aid will be absolutely essential but, to make the reconstruction a true success story, Ukraine's future should be decided by the Ukrainian people. In other words, Ukrainians should own this process. For a long time (and for good reasons), Ukrainians perceived the state as some hostile and alien construct which is there to repress them. Now more and more people realise that they need to own the state, i.e. protect their rights and fulfill their responsibilities as citizens. Building on the wave of patriotism, establishing mechanisms for genuine citizen participation will help prolong national unity and volunteer enthusiasm of Ukrainians beyond the war, but more importantly, it will ensure democratic development of the country.

Ukraine's reconstruction will be a challenge not only for Ukraine but also for the world. The damage is huge and thus no one country or organisation will be able to implement the reconstruction process. It will require a lot of coordination between governments, international organisations, non-governmental organisations, businesses and other stakeholders. In the process, the mechanisms, institutions and alliances will be forged.

In the rest of these introductory remarks, we provide more background information, discuss the current situation in Ukraine and its main challenges, then give an overview of the reconstruction process as described in this book and conclude with a few tough questions that will need to be addressed to ensure sustainability of reconstruction, the prerequisite for which will be Ukraine's security.

1 PRE-WAR REFORMS AND DYNAMICS

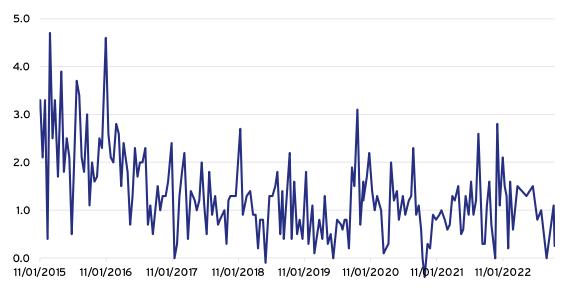
The current war is not the first time Russia has violated Ukraine's territorial integrity. After the Revolution of Dignity (also known as the Euromaidan) in 2013–2014, Russia annexed Crimea and occupied a large part of Donbas. The global community largely shrugged and let Russia get away with this crime (Germany, for example, continued to build gas pipelines from Russia to Germany bypassing Ukraine, which lowered the

cost of war for Russia), but it was a wake-up call for Ukraine. The state model based on corruption, technological degradation, disenfranchised citizens and weak armed forces threatened the very existence of the country. Reforming Ukraine became literally a matter of life or death for many Ukrainians.

After Viktor Yanukovysh, the corrupt, pro-Russia president of Ukraine, fled the country, a new president (Petro Poroshenko) and a new government (with Arsenii Yatshenkyuk as the prime minister) faced extremely difficult conditions. Russia controlled 7% of the country; Ukraine lost a lot of productive capacity; propaganda from the Kremlin spread fake news about Nazis in Ukraine; the currency and banks were facing a run and the economy was in free fall. Furthermore, international aid, and especially military assistance, was limited (the United States, for example, sent only non-lethal aid such as blankets), which made the tradeoffs for the Ukrainian government particularly painful.

The International Monetary Fund provided a vital \$17 billion loan in exchange for reforms. As shown by the Reform Index, a summary indicator developed by VoxUkraine to measure the intensity of reforms, Ukraine made tremendous progress immediately after the revolution. For example, the banking system went through a thorough clean up to root out related-party lending, improve bank supervision and make the central bank independent. Transparency was also improved dramatically. For example, public contracts were awarded via ProZorro, an electronic procurement system that opened access, enhanced reporting and enabled public scrutiny. In a similar spirit, public officials were required to report income and spending not only for themselves but also for their close relatives.

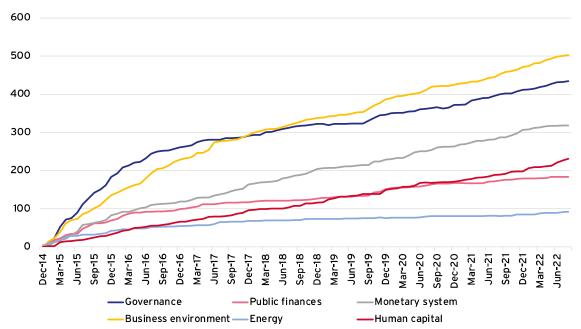
FIGURE 1 TIME SERIES FOR THE REFORM INDEX



Notes: The Reform Index is an analytical instrument aimed to quantitatively evaluate economic reforms in Ukraine. It is based on expert assessments of changes in the regulatory environment which can be considered as reforms (+5 corresponds to a profound reform) or anti-reforms (-5 corresponds to a profound antireform). The Index was created in early 2015. The Index has six components: I1. Governance, I2. Public Finance, I3. Monetary System, I4. Business Environment, I5. Energy Sector, I6. Human capital. See http://imorevox.org/about/ for more details.

Unfortunately, the reforms were uneven across sectors. For example, the judicial branch was barely reformed (establishing an anti-corruption court and reloading the Supreme Court were among the few bright spots there), which hampered reforms in other spheres. Reforms of the civil service were equally incomplete and disappointing.

FIGURE 2 CUMULATIVE REFORM INDEX SCORES BY SECTOR



Notes: Each line shows cumulative scores for key reforms. See notes for Figure 1 and http://imorevox.org/ for more details.

The Russian aggression of 2014 also had a profound effect on the economy. As discussed in the chapter on trade and FDI by Veronika Movchan and Kenneth Rogoff, Ukraine largely redirected its trade to the European Union and away from Russia. After multiple instances of Russia using energy to blackmail Ukraine, Ukraine stopped purchasing natural gas from Russia directly. Transit and other ties were cut (e.g. there are no direct air links between Russia and Ukraine since 2015) or severely curtailed. The continuous low-grade war in Eastern Ukraine was a security concern for many domestic and foreign businesses and made Ukraine less attractive for investment.

Although the post-2014 push to modernise and overcome the Soviet legacy was increasingly decelerating by the time Volodymyr Zelenskiy was elected president in 2019, Ukraine not only reconfirmed its strengths as an open, pro-democracy society but also underwent tectonic changes in its institutions, economy and society. For the first time in many years, Ukraine was set on a clear trend to lower corruption (see the chapter on anticorruption by Torbjörn Becker and co-authors). The public reached a consensus that the future of Ukraine lies with the European Union and joining the Union is the strategic goal for Ukraine. Visa-free travel to the European Union was instrumental not only in reinforcing the identity of Ukraine as a member of the European family but also in forging new alliances.

2 WAR LOSSES AND DAMAGES

The ongoing war has already resulted in massive loss of life, millions of destroyed families and homes, and enormous economic damages. We do not have the words to convey the pain inflicted by the war, but any socioeconomic indicator points to colossal costs.

After the full-scale invasion on 24 February 2022, Russia occupied over 120,000 km2 at the peak of its offensive. After the counter-offensive in Kharkiv oblast in September and in Kherson in November, Ukraine regained over 12,000 km², so at the moment of writing Russia occupied about 18% of the country, although the Ukrainian forces are making some advances every day. Almost a fifth of the country (which is equal to around to a third of Germany) is certainly a lot not only in terms of land but also in terms of productive capacity and, most importantly, people. Facing abduction, deportation, torture and extrajudicial killing, millions of Ukrainians are under Russian occupation.

As of September 2022, the Kyiv School of Economics estimates the damage to infrastructure at \$127 billion,⁷ with the majority of that attributable to housing (over 136,000 houses are damaged, destroyed or under occupation). The damage to industry is estimated at almost \$10 billion (412 enterprises damaged or destroyed) but indirect damage (foregone revenues) is much higher at \$30 billion. The World Bank (2022) estimates the cost of reconstruction at \$349 billion (as of 1 June 2022), noting that it will increase if the hostilities continue. Ukraine's GDP is projected to decline by 35% in 2022. The unemployment rate is over 30%.

The war has affected sectors and geographical areas very unevenly. The economy of Eastern Ukraine is largely destroyed (some of the largest steel mills were in Mariupol), while Western Ukraine is more lightly damaged. There is also major differentiation across production sectors. For example, Russian missiles destroyed all major oil refineries, but the IT sector remains strong (the number of vacancies there is similar to pre-war levels). This heterogenous impact of the war exacerbates mismatches in the labor market that existed before the war (see the chapter on the labour market by Giacomo Anastasia and co-authors).

The material estimates of damage do not take into account the enormous human cost of war. This war may have adverse demographic consequences for Ukraine comparable to the Great Famine of 1933 (Guzman 2022). There are not only more than 100,000 killed but also those injured and those whose health has because of lack of access to healthcare,

The exact number of people under occupation is unknown. In 2013, there were almost 2 million people in Crimea, 4.3 and 2.2 million in Donetsk and Luhansk oblasts (over 3 million lived in Donetsk and over 0.4 million in Luhansk cities respectively). At the end of 2021, Ukrainian statistical authority estimated that there were 4 million people in Donetsk oblast, 2.1 million in Luhansk oblast (including occupied territories), 1 million in Kherson oblast and 1.6 million in Zaporizhzhya oblast that are partially occupied as of September 2022. As of July, 2022 about 2 million people, of them several hundred thousand children, were deported to Russia (www.pravda.com.ua/news/2022/07/13/7357898/), with little opportunities to escape. In October Russia implemented forced "evacuation" of people from Kherson and oblast.

⁷ https://kse.ua/about-the-school/news/the-total-amount-of-damage-caused-to-ukraine-s-infrastructure-is-more-than-127-billion-kse-institute-s-report-as-of-september-2022/

basic amenities or even food and water. Psychological damage should not be neglected either; many people (and not only combatants) may have mental problems both during and after the war. Furthermore, the foregone schooling – in addition to COVID-19, when children could not receive proper education because of lockdowns – is another cost. Schools were either closed or moved to online teaching in the spring of 2022. Although offline schooling has restarted in safer regions, children need to go to bomb shelters quite often. In more dangerous regions they continue to study online (see the chapter on education by Martin Kahanec and co-authors).

Against this background of devastation, Ukrainians remain resilient if not optimistic. A recent survey⁸ shows that the share of people who would like their children to live in Ukraine has increased to 72% from 48% a year ago. Many Ukrainian refugees would like to return (81% hope to return to Ukraine some day, and 13% plan to return within the next three months, according to UNCHR 2022). Surveys of businesses (e.g. European Business Association surveys,⁹ Gradus, National Bank of Ukraine¹⁰) suggest stabilisation and even a modest recovery.

3 BASELINE SCENARIO

The Ukrainian government has stated its key objective in the war clearly: regain full control over the Ukrainian territory in the internationally recognised borders. This is the outcome supported by the vast majority of Ukrainians: 55% believe that Ukrainian victory should imply restoring Ukraine in its 1991 borders, 20% believe that the Russian army should be completely destroyed, and only about 20% consider some territorial concessions for Ukraine. Although there is a chance of negotiated peace that delivers this result, this outcome will likely be secured by the Ukrainian armed forces with the support of Ukraine's allies. Ukraine also aspires to join the European Union and NATO to secure its democratic and peaceful future.

Consistent with these objectives, the baseline scenario for this book is as follows: the territorial integrity of Ukraine is restored, Ukraine has credible security guarantees, and Ukraine is on a path to join the European Union.

Obviously, there is significant uncertainty in the outlook and the ranges of outcomes are wide. For example, the war can result in the fragmentation of the Russian empire into several dozen states shaped by economic or ethnic factors (Kuzio 2022). It is unclear whether these states will lean towards a democratic model or an authoritarian one. On

⁸ https://gradus.app/documents/284/Future_Ukraine_Gradus_Research_UKR.pdf (in Ukrainian).

^{9 &}quot;Surveys of small businesses that participate in the Unlimit Ukraine project" second wave (https://eba.com.ua/malyj-biznes-postupovo-povertayetsya-do-roboty, third wave (https://eba.com.ua/vse-bilshe-msb-povertayetsya-do-roboty-na-tli-skorochennya-finansovyh-rezerviv) and fourth wave (https://eba.com.ua/kozhen-p-yatyj-msb-povidomlyaye-pro-vtraty-vid-vijny-bilshe-100-tys-dolariv), in Ukrainian.

¹⁰ https://bank.gov.ua/en/statistic/nbusurvey

¹¹ https://dif.org.ua/article/independence-day-of-ukraine-what-unites-ukrainians-and-how-we-see-victory-in-the-sixth-month-of-war

the other hand, Russia may turn into 'another North Korea' with even more repression and state control over the economy. We do not cover these alternatives but we assume that the state(s) on the eastern border of Ukraine will remain hostile to Ukraine. In other words, future Ukraine may be similar to current Israel or South Korea security-wise. The threat of another invasion will shape a number of economic policies, ranging from the organisation of infrastructure, to rebuilding cities to the business environment to international trade. As a result of this threat, Ukraine will have to have strong armed forces and defence industry, as well as a fortified eastern border and limited movement of goods and people across it.

In any case, we are confident that Ukraine, supported by the countries that believe in the rules-based order, will win. Otherwise, we would not be writing this book.

4 RECONSTRUCTION AS A MULTI-LAYER PROCESS

As we discuss throughout this book, the reconstruction of Ukraine should be a transformation rather than rebuilding the country to its pre-war state. This deep modernisation should not only leapfrog business technologies and infrastructure but also radically upgrade institutions. This process will touch on nearly every element of the economy and society. Because the chapters of this volume will provide details for what this transformation will mean for specific sectors, we focus here on outlining the principles as well as a few tactical elements of this process.

As stated above, the ultimate goal of Ukraine's transformation is a full EU and NATO membership. What does this imply? First of all, a **full-fledged democracy**. This is a foundation for all subsequent efforts and reforms. This principle – supported almost unanimously by Ukrainians¹² – implies continuation of empowering citizens and communities. In practical terms, this means more decentralisation, more competitive political environment, more independent media, and so on (see the chapter on governance by Tymofiy Mylovanov and Gerard Roland).

Second, **robust institutions** and low levels of corruption (see the chapter on corruption) are central to the long-term success of Ukraine. Previous accessions to the European Union provide a natural template for the many steps necessary to achieve this goal (see the chapter on EU integration by Pavlo Klimkin and Ivan Mikloš). However, the reconstruction of Ukraine offers unique opportunities to accelerate the transition from the post-Soviet legacy to a modern democracy. For example, a reconstruction agency (see the chapter on governance and the chapter on the design of aid by Barry Eichengreen and Vladyslav Rashkovan) can be the role model for good governance as well as a source

According to a survey funded by the National Democratic Institute (2022), 94% of Ukrainians believe that it is important that Ukraine becomes a full-fledged democracy. A KIIS survey implemented at the end of October, showed that 86% of Ukrainians support continuation of Ukraine's resistance to Russia (www.kiis.com. ua/?lang=ukr&cat=reports&id=1151).

of expertise and cadres for the Ukrainian public sector. Aligning Ukrainian law with that of the European Union will increase transparency and reduce corruption. Obviously, Ukraine's progress should be measured not only on how laws are passed but also on how these laws are implemented and enforced.

There are a number of reasons to be optimistic that Ukraine will succeed in reforming its institutions irreversibly. Accession to the European Union is a powerful stimulus to push through difficult trade-offs and vested interests. The 'rally around the flag' moment is strong and will likely persist. For example, the war has increased the share of people who support Ukraine's independence (now almost 100%) and reduced the number of people who speak Russian in their everyday lives (from 26% in December 2021 to 13% in August 2022).¹³ The Russian fifth column in Ukraine effectively disbanded and the Russian threat is likely to remain a consolidating factor. Millions of veterans and volunteers can inject fresh blood into Ukraine's political life, thus helping to abandon previous corrupt practices.

Third, a **strong economy** is critical not only for 'proving' that democracy can provide superior standards of living but also for supporting a large defence budget. Institutional reforms discussed above will be the prerequisite for economic development, but policies promoting international trade and foreign direct investment (see the chapter on trade and FDI), favourable business environment (see the chapter on the business environment by Yegor Grygorenko and Monika Schnitzer) and inclusive, resilient financial system (see the chapter on the financial sector by Ralph De Haas and Alexander Pivovarsky) will also be needed. For example, insurance against military risks – similar in spirit to the Multilateral Investment Guarantee Agency (MIGA) managed by the World Bank – will be essential for overcoming security concerns that domestic and foreign investors may have.

The chapters on the energy sector (by Tatyana Deryugina and co-authors), infrastructure (by Volodymyr Bilotkach and Marc Ivaldi) and urban development (by Richard Green and co-authors) discuss how Ukraine can construct a durable backbone for this new, modern economy. For example, development of renewables and introduction of energy efficient technologies (especially in residential buildings) can not only improve the environment but also reduce the ependence of Ukraine on Russia or any other supplier of energy. Building back better is the recurrent theme of reconstruction in these sectors.

Because human capital is a key asset for any modern economy, Ukraine will need to continue reforming its education system (see the respective chapter) to prioritise quality, develop skills and competencies rather than provide degrees, and compensate for lost years of schooling. The education system should become a part of a larger effort on labour reskilling (see the chapter on labour). To integrate into modern production chains and

develop technological competitiveness, Ukraine will have to rethink the organisation and structure of its science sector so that it really becomes a source of new technologies for defense and businesses as well as data-based policies for the government (see the chapter on science and R&D by Yuliia Bezvershenko and Oleksiy Kolezhuk). Ukraine will also need to continue reform of its healthcare sector to not only improve the quality of life for millions of people but also create a stronger stimulus for investing in human capital (see the chapter on healthcare by Yurij Dzhygyr and co-authors).

The chapters emphasise that Ukraine will have to go through a massive reallocation of resources. For example, the country's infrastructure (especially railways) will need to be adjusted to accommodate the redirection of flows of goods and people towards the European Union and away from Russia. The economic life in urban centres will likely shift towards cities closer to the European Union. Mismatch in the labour market entails large flows of workers across space, occupations and skills. To facilitate and accelerate this adjustment, Ukraine will need to liberalise economic activity further and remain open to the rest of the world. Indeed, the nascent trend for nearshoring/reshoring/friendshoring gives Ukraine an opportunity to integrate into the European Union's value chains. To fully utilise this opportunity, Ukraine (and the European Union) should reduce tariff and non-tariff barriers and streamline cross-border flows of resources and ideas (see the chapter on trade and FDI). In a similar spirit, a society open to immigration can help address problems with shortages of labor.

Fourth, a **strong defence sector** will be needed to protect Ukraine from possible Russian attacks. Recall that the security risk will likely be the main impediment to Ukraine's development and, ultimately, only Ukraine can defend itself from future aggression. Although today Ukraine largely relies on Western arms, it is capable of producing effective weaponry that already has shown impressive results during the full-scale war. Defence could also spur development of new technologies that can benefit the economy. More generally, Ukraine will need to build resilience to withstand future attacks.

These four factors are deeply intertwined. Neither democracy nor a strong economy is possible without institutions (e.g. a law enforcement system). A strong economy is needed to support a strong army so that the choice between 'guns and butter' is not as stark as it is today in Ukraine. And the army is needed to protect assets and people and thus encourage investment. This calls for a comprehensive, deep modernisation of the country.

5 THE SCARS OF THE WAR

It is clear that the Russian invasion will leave many scars on Ukraine's society and economy. While current discussions tend to focus on ruined infrastructure, the potential demographic catastrophe may be more crippling in the long run. For example, the share of people aged 65+ increased from 12% in the 1990s to 17.6% in early 2022. At the same time, the share of people younger than 18 has been about 18% for the last 15 years, down from a quarter in early 1990s. As many women and children have left Ukraine, these ratios have probably changed for the worse.

Returning to normal life will not be an easy process for millions of people. For instance, internally displaced people will need resources to find new lives or rebuild their homes if they choose to return to their original areas. Veterans and the injured will need targeted support addressing their specific needs (physical and psychological rehabilitation, reskilling). Developing inclusivity at all levels – from roads and buildings to education and media spheres – will be a part of this support. It will also help people who had disabilities before the war and generally make Ukrainian society more 'European'. Many children have lost their parents, and Ukraine will need to streamline adoption procedures and to continue the reform to replace childcare institutions with foster families. Perhaps the most complicated part of this work will be bringing back children who were illegally transferred to Russia. Ukraine has already started this work, but it needs international support to scale it up.

Taking care of these vulnerable groups will require a redesign of social and labour market policies. Social support of the state and communities should cover a broad spectrum of needs ranging from prosthetics, to rehabilitation, to education and to psychological support. Integration and inclusivity will become the focus of government policies for years to come.

6 THE COST AND FUNDING

The estimates of the reconstruction cost vary from \$349 billion (World Bank 2022) to \$1.1 trillion¹⁴ and the ultimate bill will not be known until the war is over (the government cannot assess human losses and economic damages on the territories now occupied by Russia, banks will need to do asset quality review, we need to know how many refugees will return to Ukraine, and so on). This is a staggering sum but it is commensurate with the scale of destruction and suffering as well as Ukraine's needs to invest heavily into physical and human capital (for example, the share of investment in GDP will likely need to stay at about 30%, compared to 15–18% pre-war). Raising this amount will be a challenge but Ukraine and its partners can rely on a variety of sources, ranging from

frozen (and subsequently seized) Russian assets (and/or some form of reparations), to donor aid, to financing provided by multilateral institutions. It is equally important to ensure that the money is well spent. The chapter on the design of reconstruction aid focuses on this issue, but other chapters touch upon this matter too. Transparency, coordination, leadership, long-term planning and Ukrainian ownership are some of the key ingredients for the success of this effort.

It is also clear that public funds are not going to be enough to pay for the modernisation of the country, and hence, private investment will be critical. Public-private partnerships, concessions, subsidised 'war' insurance, and so on should incentivise foreign direct investment, technology transfer and cooperation between Ukrainian and foreign businesses and organisations. Although public funds will play a dominant role in the early stages of reconstruction when the focus is on humanitarian aid and restoring critical infrastructure, private funds should take over in the longer term. This phased approach will not only make Ukraine's reconstruction palatable to foreign taxpayers but also improve the allocation of resources in the long run.

To complete the reconstruction in the shortest possible time, it is better to start earlier. Certainly the best support for the reconstruction would be minimisation of damages. To do this, Ukraine needs more weapons delivered faster. Preserving the economy is equally important. For example, Ukraine needs external aid to cover the cost of the war. Direct aid to Ukrainian businesses (e.g. hiring Ukrainian workers remotely or helping Ukrainian firms enter the EU market) can help not only to keep the economy running but also to lay the groundwork for its recovery and integration into the European Union. Finally, institutional reforms can start already today (e.g. completing the judicial reform, training judges, continuing the civil service reform). Design of the reconstruction agency and selection of its staff can also start early.

7 BEYOND UKRAINE

The Russian invasion has upended the framework of European security and challenged the global rules-based order. Many institutions turned out to be unable or inadequate to address the threats and challenges. For example, the United Nations with the central role of the Security Council has been impotent in preventing or stopping the aggression. Tragically, Russia, currently a permanent member of the Security Council, is an aggressor not only violating the territorial integrity of a neighbour country but also threatening the rest of the world with nuclear strikes. Furthermore, Russian aggression undermines other cornerstones of global security, such as the non-proliferation of nuclear weapons. ¹⁵

¹⁵ In 1994, Ukraine gave up its nuclear weapons (at the time, the third largest arsenal in the world) in exchange of assurances from the United States, United Kingdom and Russia (!) that they will protect the territorial integrity of

In a similar spirit, humanitarian organisations also turned not only to be ill-prepared but also to have poor oversight. For example, the Red Cross could not provide effective monitoring of prisoners of war in Russia and apparently there is nothing anybody can do about it. The decision-making model of the European Union proved slow and ineffective in nearly every arena, from imposing sanctions on Russia, to giving adequate and timely military and economic aid to Ukraine, to safeguarding the energy security of the Union. Russia's war on Ukraine has also made it abundantly clear that information warfare is no less dangerous than conventional warfare. And yet, the civilised world was unprepared to handle fakes and hatred on social media¹⁶ – a major source of information for many people – where Putin's propaganda workers are as dangerous as the founders and journalists of Thousand Hills Radio who incited genocide in Rwanda.

The scale of the deficiencies exposed by the war is well beyond Ukraine and calls for a concerted response. For example, if the global community is committed to preventing future wars, the security architecture must be reformed so that 'big' countries cannot invade 'small' countries, nuclear powers do not blackmail the rest of the world, and punishment for war crimes is inevitable irrespective of whether the perpetrators come from 'small' or 'big' countries. The European Union will need to rethink its place and role in the emerging global environment. It can no longer afford to be a pacifist club free-riding on American military might. Its key decisions cannot be held hostage to any member of the Union, especially members with autocratic regimes or members whose leadership is potentially compromised by aggressive foreign actors. We all cherish freedom of speech, but uncontrolled development of social media has proliferated disinformation, hate speech, superstitions and prejudices and at the same time deprived quality journalism of revenues. Where one should draw the line (e.g. disclosing the ultimate owners of accounts, improving media literacy, introducing a 'code of ethics' for social networks) is a central question for society.

These issues are beyond the scope of this book, but it is important to flag these problems. 'Business as usual' since the 'end of history' is not an option. We must solve problems today rather than postpone them to the future. Reshaping the global security architecture to ensure lasting peace (and this is possible only when a would-be aggressor is swiftly defeated and strongly punished) will not be an easy task; it will require a lot of strategic thinking, strengthening horizontal ties and taking on responsibility. Perhaps, the alliance of countries working on the reconstruction of Ukraine may form a new worldwide organisation – an alternative to the UN, which would be able to prevent wars rather than dealing with their consequences. The bravery of the Ukrainian people fighting for their freedom and democracy in the most difficult of conditions should inspire the world to be courageous in taking on these global challenges.

8 CONCLUDING REMARKS

The aim of this book is to set a framework for Ukraine's post-war reconstruction. Despite the fog of war, preparation and planning can and should be done now so that reconstruction can commence on the first day of peace in Ukraine. In fact, some institutional reforms can start before the war ends to lay foundations for all subsequent reforms.

The reconstruction will be a monumental endeavor. No single book – including this book, which has 14 chapters on a broad range of issues and sectors – can offer an exhaustive account for every sphere and policy necessary for success. Obviously, there are many possible paths for reconstruction. Importantly, the Ukrainian government, with the participation of the Ukrainian people, should decide which way Ukraine will go. While deliberating future policies, the Ukrainian people and their allies should appreciate the scale of the damages, pre-war challenges, objectives and tools necessary to achieve these objectives. We hope that this book will be instrumental in making an informed decision about the structure, pace, goals, and funding for Ukraine's reconstruction.

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