POST-WAR MACROECONOMIC

FRAMEWORK FOR UKRAINE

RAPID RESPONSE
ECONOMICS
3

Torbjörn Becker
Barry Eichengreen
Yuriy Gorodnichenko
Sergei Guriev
Simon Johnson
Tymofiy Mylovanov
Maurice Obstfeld
Kenneth Rogoff
Ilona Sologoub
Beatrice Weder di Mauro

CEPR PRESS

Post-war macroeconomic framework for Ukraine

CEPR PRESS

Centre for Economic Policy Research
187 boulevard Saint-Germain | 75007, Paris, France
33 Great Sutton Street | London, EC1V 0DX, UK

Email: cepr@cepr.org
Web: www.cepr.org

ISBN: 978-1-912179-63-3

CEPR

WITH SUPPORT OF CEPR PARIS FOUNDING PARTNERS

CEPR PRESS

Post-war macroeconomic framework for Ukraine

Torbjörn Becker, Stockholm School of Economics, and CEPR

Barry Eichengreen, University of California – Berkeley, and CEPR

Yuriy Gorodnichenko, University of California – Berkeley, and CEPR

Sergei Guriev, Sciences Po, and CEPR

Simon Johnson, Massachusetts Institute of Technology, and CEPR

Tymofiy Mylovanov, Kyiv School of Economics, and CEPR

Maurice Obstfeld, University of California – Berkeley, and CEPR

Kenneth Rogoff, Harvard University, and CEPR

Ilona Sologoub, Editor, VoxUkraine

Beatrice Weder di Mauro, Graduate Institute Geneva, and CEPR

CENTRE FOR
ECONOMIC
POLICY
RESEARCH

CENTRE FOR ECONOMIC POLICY RESEARCH (CEPR)

The Centre for Economic Policy Research (CEPR) is a network of over 1,700 researcheconomists based mostly in European universities. The Centre's goal is twofold: topromote world-class research, and to get the policy-relevant results into the hands of key decision-makers. CEPR's guiding principle is 'Research excellence with policy relevance'. It was founded in the UK in 1983, where it is a Charity, and in November 2019 CEPR initiated the creation of an Association under French law, in order to provide a vehicle for an expansion in France. The members of the Conseil d'Administration of the Association are identical to the UK Board of Trustees.

CEPR is independent of all public and private interest groups. It takes no institutional stand on economic policy matters and its core funding comes from its Institutional Members, projects that it runs and sales of publications. Because it draws on such a large network of researchers, its output reflects a broad spectrum of individual viewpoints as well as perspectives drawn from civil society. CEPR research may include views on policy, but the Trustees/members of the Conseil d'Administration of the Association do not give prior review to its publications. The opinions expressed in this report are those of the authors and not those of CEPR.

Contents

Foreword

This is the third title in CEPR's Rapid Response Economics series, which is designed to publish research on major policy issues with the utmost speed.

Post-war macroeconomic framework for Ukraine, by Torbjörn Becker, Barry Eichengreen, Yuriy Gorodnichenko, Sergei Guriev, Simon Johnson, Tymofiy Mylovanov, Maurice Obstfeld, Kenneth Rogoff Ilona Sologub and Beatrice Weder di Mauro builds on previous analysis for wartime macroeconomic policies and offers a comprehensive macroeconomic framework tailored for the postwar period. The report highlights the significance of sustainable public finances, sound monetary policy, a predictable and fair regulatory framework, and flexible labour markets as the cornerstones of successful reconstruction.

The authors acknowledge the enormous challenges ahead for Ukraine, including strained public finances and the need to generate revenue. The report outlines how the policy mix must work together to deliver a stable macroeconomic environment that enables the efficient allocation of resources, fosters sustainable economic growth, supports human capital development, attracts foreign direct investment, facilitates technological advancements, and contributes to various aspects of the reconstruction process.

Overall, this report acts as a platform to facilitate additional dialogue and policy discussion regarding the reconstruction of Ukraine. It highlights the crucial role for the Ukrainian government and its citizens in shaping a modern nation with strong democratic foundations and a sustainable economy. The objective of this report is to make a meaningful contribution to the achievement of that success.

CEPR, which takes no institutional positions on economic policy matters, is delighted to provide a platform for an exchange of views on this important topic.

Tessa Ogden

Chief Executive Officer, CEPR

July 2023

Executive Summary

More than 500 days since the start of the full-scale Russian invasion in 2022, the scale of destruction in Ukraine is staggering: millions of internally displaced persons and refugees, hundreds of thousands killed or injured, and many homes in ruins. However, even in this dark hour, it is vital to develop plans for Ukraine's reconstruction so that the recovery can start as soon as possible. The purpose of this report is to propose a macroeconomic framework for the post-war period (some of these recommendations can be implemented earlier) that can support a successful recovery. We stress that sustainable public finances, sound monetary policy, a predictable and fair regulatory framework, and flexible labour markets provide the foundation for the success of human capital development, foreign direct investment, technological leapfrogging, and many other elements of reconstruction.

Even with significant foreign aid for post-war Ukraine and access to (income from) Russian frozen assets, public finances will be strained by limited tax revenues (the economy has shrunk, the labour force is reduced, the ability to raise taxes without hurting the economy is limited) and large spending demands to cover basic public services, social support, and rebuilding needs. To mobilise revenues, the government should ask for a deep debt relief, close loopholes, broaden the tax base, minimise quasi-fiscal risks from state-owned enterprises, and privatise these enterprises. On the spending side, the government should focus on developing more targeted aid, consolidating services, reforming the pension system, avoiding credit interventions, as well as minimising tax breaks, special zones, and other forms of tax expenditures. We also advise establishing a fiscal council, furthering the decentralisation reform by shifting more resources and powers to the local governments, and continuing the digitalisation of government services.

Monetary policy should return to inflation targeting with a managed floating exchange rate. Non-performing loans should be collected in a publicly owned 'bad bank' so that the cleaned banks can effectively facilitate the flow of credit in the economy. To minimise a chance of the boom-bust dynamics in the post-war economy and risks associated with the banking system weakened by the war, we advise using capital controls and macro-prudential tools to contain potentially excessive growth of credit, speculative capital flows, potential dollarisation of the economy, and vulnerabilities of the concentrated banking sector. Some financial repression may be inevitable but there are better options to address post-war challenges. Finally, the National Bank of Ukraine should not serve as a development bank to facilitate the recovery.

Labour market policies should switch from the approach that emphasises the protection of jobs to the approach that focuses on providing insurance. The latter will help facilitate enormous post-war adjustment across space, sectors, and skills in the labour market. To reduce mismatches, this approach should be supported with remedial education and training, which can be funded with donor aid and backed with their technical assistance. With looming demographic challenges, it is critical to encourage labour force participation by allowing flexible forms of employment, stronger connection between social benefits and earnings, subsidised childcare, and related policies. Migration can help close workforce shortages.

The main objective for the regulatory framework is to provide a fair and predictable economic environment. With an eye to eventual adoption of EU regulations, Ukraine should conduct a comprehensive audit of current regulations and use regulatory impact assessment for weighing costs and benefits of future regulation. Although some efficiency gains can be achieved quickly (e.g. by accepting EU licenses), other areas (e.g. antitrust regulation) require deep reforms to grow domestic institutions rather than outsource them.

A difficult road lies ahead of Ukraine and only Ukraine can accomplish its homework and transform itself into a modern country with robust, democratic institutions and a dynamic economy. The international community has offered Ukraine unwavering support during the war and for the post-war period. The determination of Ukraine and its partners gives us reasons to believe that Ukraine's rebuilding will be a success story and we hope that this report will contribute to this success.

I. INTRODUCTION

1. More than 500 days since the start of the full-scale Russian invasion in 2022, the scale of destruction in Ukraine is staggering: millions of internally displaced persons and refugees,[1] hundreds of thousands killed or injured,[2] many homes are in ruins.[3] However, even in this dark hour, it is vital to develop plans for Ukraine's reconstruction so that the recovery can commence on the first day of peace in Ukraine, if not earlier. Indeed, early planning is key because Europe has not faced an endeavour so monumental since WWII. Reconstruction will have scores of projects, involve many players, and employ colossal resources. The spectrum of tasks ranges from urban re-development to fighting corruption. As emphasised in Becker et al. (2022a), coordination of these efforts is paramount for reducing waste and delays. The purpose of this report is to propose a macroeconomic framework for the post-war period which can support a successful recovery.

2. Building on earlier analysis for wartime macroeconomic policies in Becker et al. (2022b), we focus on four core areas: fiscal policy, monetary and financial sector policy, labour markets, and regulatory framework. An overarching objective of these policies is to deliver a stable macroeconomic environment that can facilitate the flow of resources to most efficient uses and to lay foundations for durable economic growth. For example, we discuss the design of government spending and taxation that can deliver sustainable public finances consistent with non-inflationary funding for large reconstruction needs, demographics constraints, and limited resources. We stress that these policies should reinforce each other (e.g. moderate-to-low fiscal deficits can support price stability) and thus it is critical to have a broad perspective on macroeconomic policies.

3. The initial macroeconomic conditions for the reconstruction are challenging. With massive defence spending and social support needs, the fiscal deficit is at 30% of GDP (NBU 2023). The Russian blockade of Ukrainian ports severely curtails key trade routes for Ukrainian grain, steel, and other products thus creating a large external imbalance. Russian attacks on Ukrainian energy infrastructure (including the Russian occupation of the Zaporizhzhia Nuclear Power Plant, the largest one in Europe) continue to disrupt economic activity significantly. However, even with this difficult background, it is important to launch preparations for the post-war macroeconomic environment. For example, the Ukrainian government can work on institutional reforms (antitrust legislation, preparations for privatisation, etc.) and make initial steps for future economic liberalisation (move to a managed float of the exchange rate, develop plans for the resolution of non-performing loans, etc.).

1 According to the United Nations High Commissioner for Refugees (2023), eight million Ukrainian refugees are recorded in Europe and elsewhere and six million Ukrainians are internally displaced.
2 According to a poll run by the Kyiv International Institute of Sociology (2023), 80% of Ukrainians have a family member or a close friend who was killed or injured in the war
3 Kyiv School of Economics (2023) reports that 8.2% of housing stock is destroyed or severely damaged.

4. Obviously, the ongoing war makes any projection tentative. For example, while designing a programme for Ukraine, the International Monetary Fund (2023) does not perform debt sustainability analysis due to extreme uncertainty. Despite the fog of war, our baseline scenario is that Ukraine has ironclad security guarantees such that another Russian missile or ground attack is unlikely for the foreseeable future. However, even in this case, we assume that Ukraine will have to commit significant resources to the national defence to deter potential aggression in the future. Moreover, as discussed in Grygorenko and Schnitzer (2022) and Becker et al. (2022a), the private sector will likely need additional assurances in the form of military insurance, private-public partnerships, etc. to de-risk investment.

5. Given the scope of Ukraine's reconstruction, this report necessarily leaves out a number of other important areas such trade policies, anti-corruption, institutional development, human capital, and organisational structure for rebuilding Ukraine. Early coverage of these topics can be found in Movchan and Rogoff (2022), Becker et al. (2022c), Eichengreen and Rashkovan (2022), and other chapters in Gorodnichenko et al. (2022) but more analysis is needed to keep up with the fluid situation in Ukraine.

II. FISCAL POLICY

Challenges

6. The Russian invasion put the Ukrainian public finances under enormous stress. Revenues have declined because the economy shrank and because the government cut some taxes to support economic activity.[4] At the same time, spending increased dramatically to cover the cost of defence as well as to support refugees and others affected by the war. For the moment, the resulting fiscal imbalance is covered by international aid. But one may expect that fiscal imbalances will persist well into the post-war period. For example, Ukraine will have to commit significant resources (probably on the order of 5% of GDP with some observers saying that it could be as high as 20%) to the security sector. The economy will recover only gradually. The social commitments needed to support those who are deeply affected by the war (internally displaced persons, veterans, etc.) will be large.

7. The government has had weak institutional capacity to enforce tax collection. It is unlikely that tax compliance will improve radically after the war unless the country takes deliberate and active steps to enhance it. The tax system is perceived as unfair giving the edge to those in a favourable position to evade taxes.

4 Since July 2022, Ukrainian government restored import taxes and some excises, and since July-August 2023 it returns to pre-war taxation rates.

8. Ukraine will likely face a demographic crisis and significant workforce shortages after the war. (Confederation of Employers of Ukraine (2023) estimates that the labour force might shrink from 17 million before the war to 11 million after the war unless there are substantive migration inflows after the war). With millions of Ukrainians taking refuge in the EU, UK, US, Canada, and other countries, the capacity of the economy to grow will be significantly curtailed. This also means that the ability to raise taxes could be limited in the near term, since refugees are less likely to return if they face high taxes. (Put another way, low tax rates may generate higher revenues insofar as they induce tax-paying former refugees to return.) Relatedly, because the refugees tend to be disproportionately younger, the pressure on the pension system is higher. Ukraine should develop and implement a proactive migration policy to cover shortages of workforce and attract Ukrainian diaspora and migrants from other countries.

9. Because the country will not have domestic resources adequate for financing its reconstruction, a viable model for economic recovery will inevitably require significant economic aid from Ukraine's allies and compensation for damages. Although some of this aid can come from public sources (bilateral aid, international financial institutions, etc.), there is a clear need to attract private capital not only in order to close the funding gap but also to ensure that Ukraine receives technology transfer and is integrated into global value chains.

TABLE 1 A SUMMARY OF TAXES IN UKRAINE

TAX	RATE	BASE
Personal income tax (PIT)	18%	Salary
Military surcharge	1.5%	Salary
Single social Contribution	22%*	Salary (between 1-15 minimum salary)
Corporate income tax (CIT)	18%	Profit
Rent for use of natural resources	1-70%, depending on the resource	Market price of extracted resource
Excises	varies depending on the type of goods	Unit of good, engine volume for vehicles, etc.
Value added tax (VAT)	20% (7% for drugs)	Price
Import duty	4.4% (Most Favoured Nation)	Value of imports
Export duty	Export duties are very high and applied to a few products (oilseeds, scrap metal, skins) to prevent exports rather than collect revenues	
Energy duty (existed until 2016)	2%	Value of natural gas supplied to consumers
Eco tax	Varies depending on the type of pollutant	UAH per ton
Other taxes	Debt for taxes that applied before 2011	
Vehicle tax	UAH 25,000 per vehicle	Vehicle that is no more than 5 years old and costs no less than 375 minimum salaries (UAH 2.5 mln in 2022)

TAX	RATE	BASE
Property tax, incl. land	Land: 0.1% - 12% (rates defined by local governments within min and max defined by the law) Real estate: no more than 1.5% of minimum salary (exact rates set by local governments)	Normative land value. One sq.meter
Parking fee	Defined by local governments but no more than 0.075% of minimum salary	One sq. meter, except for places for free parking for persons with disabilities
Tourist fee	Internal tourists: up to 0.5% of minimum salary foreign tourists: up to 5% of minimum salary	One night of stay (children, people with disabilities, those who came for business trips or for treatment are exempt)
Small entrepreneurs payment (single tax)	3%, 5% or 15% (2% since the start of the full-scale war until August-2023)	Revenue

*During war time and six months after, it is allowed not to pay single social contribution (SSC) but this time will be deducted from pension calculations. Single social contribution goes to the pension fund and is used to pay pensions, unemployment benefits, and sick leaves.

TABLE 2 DISTRIBUTION OF TAX REVENUES BY SOURCE AND GOVERNMENT LEVEL

2021, ACTUAL TAX REVENUES	CENTRAL GOVERNMENT			LOCAL GOVERNMENT			CONSOLIDATED BUDGET
	General fund (GF)	Special fund (SF)	Total GF+SF	General fund (GF)	Special fund (SF)	Total GF+SF	
Personal income tax (PIT)	10.95%	-	9.84%	61.58%	0.00%	61.21%	22.09%
Military surcharge	2.88%	-	2.58%	-	0.00%	0.00%	1.97%
Corporate income tax (CIT)	14.86%	-	13.35%	4.67%	0.00%	4.64%	11.27%
Rent for use of natural resources	5.86%	19.97%	7.29%	2.49%	0.00%	2.47%	6.14%
Internal excise	6.91%	12.58%	7.48%	0.63%	0.00%	0.63%	5.85%
Excise on imports	1.55%	57.05%	7.19%	2.15%	0.00%	-	5.99%
Excise from retail trade	0.00%	0.00%	0.00%	2.39%	0.00%	2.38%	0.57%
Internal VAT less refund	15.66%	0.00%	14.07%	-	2.14%	-	10.71%
VAT on imports	38.24%	0.34%	34.39%	-	-	-	26.19%
Import duty	2.67%	9.14%	3.33%	-	-	-	2.54%
Export duty	0.13%	0.00%	0.12%	-	-	-	0.09%
Energy duty	0.00%	0.00%	0.00%	-	-	-	0.00%

	CENTRAL GOVERNMENT			LOCAL GOVERNMENT			
2021, ACTUAL TAX REVENUES	General fund (GF)	Special fund (SF)	Total GF+SF	General fund (GF)	Special fund (SF)	Total GF+SF	CONSOLIDATED BUDGET
Eco tax	0.29%	0.92%	0.35%	-	99.99%	0.60%	0.41%
Other taxes	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Vehicle tax	-	-	-	-	0.01%	0.00%	0.00%
Property tax, incl. land	-	-	-	12.55%	0.00%	12.47%	2.97%
Parking fee	-	-	-	0.04%	0.00%	0.04%	0.01%
Tourist fee	-	-	-	0.07%	0.00%	0.07%	0.02%
Small entrepreneurs payment (single tax)	-	-	-	13.43%	0.00%	13.35%	3.18%
Total, UAH bn	994.55	112.54	1107.09	344.64	2.07	346.71	1453.803

General principles

10. Organising a fiscal policy supportive of economic recovery starts with swift restructuring of the existing public debt (which we estimate to reach 100% of 2023 GDP). Most of the debt (62%) is to external creditors (roughly ⅓ to international financial institutions, ⅓ to other governments, and ⅓ to private bondholders and banks). Internal debt is largely held by banks. The government cannot run a fiscal policy supportive of recovery if it is devoting 10% of revenues to servicing debt. When the war is over the government should seek a major haircut (e.g. it was 80% for Iraq in 2006-2008) to free up resources for reconstruction and basic government functions. As first step, the restructuring process can simply start with an extended moratorium on interest and amortisation. Because internal debt would be impossible to restructure without destabilising banks holding government bonds, we envision that the focus should be on external debt. Reiterating the message in Becker et al. (2022a, 2022b), we emphasise that Ukraine should be supported with grants rather than loans during the war and after the war is over.

11. Economic recovery will be hindered by a volatile and uncertain macroeconomic environment. To ensure macroeconomic stability, the government should avoid fiscal deficits not supported by foreign aid or other funding sources that present minimal risks for macroeconomic stability. It also should not use seigniorage as a significant source of revenue to ensure price stability.

12. Mobilising tax revenue: Given the high costs of reconstruction and what will unavoidably be a central role for the public sector in this process (the government will need to, for example, provide military insurance, take stakes in projects, provide subsidised financing, etc.), the government should have a reliable source of revenue (Table 1 summarises the system of taxes in Ukraine) that creates minimal distortions for the economy, promotes economic growth, and requires modest resources for enforcement. This is particularly important if international aid is delayed or falls below expectations. Unfortunately, the space for manoeuvre here is limited: the government cannot significantly raise taxes without hurting the economy and cannot meaningfully reduce them without undermining its ability to cover basic public services. In this context, further reforms of customs and tax administration are necessary to reduce smuggling and other forms of tax evasion.

13. Focus on efficient spending: With pressing needs and limited resources, a priority should be to ensure that public funds are used in the most effective manner.

14. Use fiscal policy to support institutional development: because Ukraine's reconstruction is about the deep modernisation of the country, fiscal policy should be an integral part of broader development. For example, the fiscal system should be consistent with decentralisation reform and EU integration.

Taxes

15. The large size of the shadow economy, weak tax enforcement, and a high elasticity of the base for labour and profit taxes call for reliance on indirect taxes such as the value added tax (VAT) and excise taxes. These taxes are the workhorse of the current system (Table 2); they will have to play an even more important role in the future for a number of reasons. First, VAT and excises are investment friendly. Second, these taxes create fewer distortions for labour supply and production chains. Third, in the Ukrainian context, with significant administrative constraints, it is likely easier to enforce a VAT than income taxes (VAT has built-in self-enforcement).

16. Personal income tax: given weak tax enforcement, a flat personal income tax (i.e. a system under which the tax rate is the same for all incomes; this system was adopted in Ukraine in 2004) offers the advantage of administrative simplicity. With the fixed rate, income taxes can be withheld by the employer, which should improve tax compliance. The main disadvantage is that this tax imposes a heavy burden on low-income individuals. Typically, this issue is addressed with progressive income taxes, but this comes at the cost of a higher complexity. A compromise is to introduce a surcharge tax on high income individuals. Specifically, the tax authorities can use their data to determine if an individual has annual income above a certain threshold and then require this individual to pay the surcharge. For example, a solidarity surcharge of 5.5% for high-income individuals was introduced in Germany in 1991 to pay for the costs associated with reunification of Germany (the surcharge was effectively abolished in 2019). Ukraine has had a similar military surcharge (applied to all incomes) since 2014. In short, this surcharge that applies to incomes above some threshold is a form to introduce mild progressivity that would be socially acceptable and easy to implement. Another option is to introduce inheritance taxes that kick in above some threshold for bequests (currently, Ukraine has 0% rate for relatives, 5% for non-relatives, and 18% for non-residents).

17. Some groups may need a modified treatment of their personal income tax to ensure that they continue to actively participate in the labour force. For example, the tax rate may be lower for people who receive a government pension and continue to work.

18. Corporate income (profit) tax (CIT): the high elasticity of the base for corporate income tax makes it very sensitive to tax rates and prone to evasion (achieved through inter alia transfer pricing). This is especially important in the Ukrainian context, where reconstruction is expected to rely on foreign direct investment. To address this, there seem to be two strategies. First, Ukraine can join the 'inclusive framework' discussed/implemented by OECD economies. The main idea of the framework (also known as base erosion and profit shifting, or BEPS) is to ensure that the participating countries apply a minimum corporate income tax rate. A limitation is that this approach requires collective action, but only a handful of countries have

formally implemented BEPS. A backup option is to use a destination-based cash-flow tax (Auerbach 2017). Unlike BEPS, this approach does not require collective action and thus can be implemented quickly but this approach is not compatible with BEPS (that is, if BEPS becomes the adopted framework, firms may be double taxed). Irrespective of which route is taken, changes in this tax should be consistent with the EU requirements.

19. Social contributions: payroll taxes were combined into a single social contribution in 2011 which reduced the tax burden and simplified reporting. However, there are continuing calls to cut rates further and even to abolish this tax entirely. But it is extremely unlikely that Ukraine is on the wrong side of the Laffer curve with this tax. Further reductions in the rate will undermine public finances (including the viability of the pension fund and provision of basic social insurance).

20. The special treatment of natural persons entrepreneurs (фізична особа-підприємець (FOP), also known as small entrepreneurs) is one of the largest loopholes in the tax system. For example, some employees may be registered as entrepreneurs to pay the 5% income tax and minimal social contributions instead of 18% income tax on natural persons, 1.5% military surcharge, and 22% payroll tax. This creates distortions in the labour market (effectively a dual labour market with a large informal sector) and increases the burden on those who pay taxes, social contributions, etc. Personal income taxes should be applied uniformly in the economy.

21. Tax rates in Ukraine are broadly in line with rates in other countries in the region (Table 3 compares VAT rates), and the resulting tax burden is not particularly onerous by the standards of peer countries. Valid complaints about taxes in Ukraine emphasise not the average tax rates but the lack of predictability, arbitrary interpretations by tax inspectors (and hence selective prosecution), and costly compliance. These issues – and not changes in effective rates – should be the focus of reforms.

22. The Ukrainian government may receive access to Russian assets that are currently frozen in the West (Zelikow and Johnson 2022). This may take various forms ranging from i) compensation for damages, ii) interest income from the Russian assets, or iii) revenues from levies on income from the Russian assets. Option i) gives direct access to significant resources but options ii) and iii) can unlock significant funding too, if Ukraine can borrow against future income streams. Another option is to transfer the actuarial claim on external seized Russian assets from Ukraine to Europe in exchange of Europe giving Ukraine grants. This option puts the onus of collecting loans on Europe, which has more power to do so, and is also a way of persuading the European public to make transfers of the magnitude that are needed

for reconstruction. In any case, it is important to develop and execute a plan before the war is over to minimise delays at the reconstruction stage. This resource can provide a lifeline for the country ravaged by the war.

TABLE 3 VALUE-ADDED TAX RATES IN EASTERN EUROPEAN COUNTRIES, 2023

COUNTRY	REDUCED RATE (%)	STANDARD RATE (%)
Bulgaria	9	20
Croatia	5 / 13	25
Czech Republic	10 / 15	21
Estonia	9	20
Hungary	5 / 18	27
Latvia	5 / 12	21
Lithuania	5 / 9	21
Poland	5 / 8	23
Romania	5 / 9	19
Slovakia	10	20
Slovenia	5 / 9.5	22
Ukraine	7	20

Source: taxfoundation.org

Spending

23. The four major functions for the Ukrainian government in the post-war era are defence (armed forces, police, etc.), social insurance (support the poor, internally displaced, veterans, etc.), provision of public goods and services (education, healthcare, infrastructure, etc.), and public contributions to rebuilding infrastructure and housing construction. The set of tools is somewhat specific for each of these functions, but the general principles are the same: encourage competition on the supply side, have effective cost control, encourage transparency, target support, and develop public-private partnerships where applicable.

24. Public procurement (especially for defence): Prozorro, a public procurement system platform launched in 2015, has been a success story. Many businesses got access to government contracts, competition reduced prices, the public obtained much needed transparency, and the procurement process was standardised.

The effectiveness of this platform can be further increased by linking it to other registries so that opportunities to abuse the process are reduced further. While the platform is particularly suitable for relatively standardised goods and services, ensuring competitive bidding for more specialised items (e.g. tanks) may require direct bilateral negotiations with suppliers. It may be impossible to have fool-proof solutions in such cases but some types of contracts (e.g. firm-fixed-price contracts) are more likely to lead to cost control than others (e.g. cost-plus contracts).

25. The success of social insurance critically depends on the ability of the government to identify and target vulnerable groups and to introduce incentives to minimise distortions and abuse. For example, social support should ensure that the marginal cost faced by a recipient of social aid is close to market prices. This means for example that energy subsidies given to the poor should be lump-sum rather than a share of energy costs. This structure incentivises households to be more energy efficient. Furthermore, a capped amount of aid limits the liability of the government and thus yields better cost control. In this context, universal basic income is a particularly costly programme because it is not targeted and thus should not be used.

26. Social insurance (energy subsidies, veteran support, unemployment benefits, etc.) in Ukraine (which accounts for approximately 25% of government spending) is rather fragmented (Ieruslymov and Marchak 2021). For example, social insurance is provided by ten central government agencies and 12 local government agencies. As a result of such fragmentation and Soviet legacy (e.g. some assistance is in-kind, offers options that are not relevant anymore, or is too small to meaningfully help the target group), there is wasteful duplication, uneven access (people may be unaware of some programmes), and costly administration. The lack of coordination can create perverse incentives for aid receipts (e.g. some individuals may face high marginal tax rates as they graduate from one programme to another). This means that social insurance should have a clear and smooth phase-out of benefits and should aim at reintegration of a person into the labour market whenever possible. Many of these challenges may be addressed by standardising social assistance, creating a publicly available registry of social programmes, and establishing a national registry of social aid recipients.

27. Given looming labour shortages, work requirements may be necessary for recipients of social aid. While standard for some programmes (e.g. the unemployed have to search for jobs and may lose benefits if they turn down too many job offers), this is not currently the case for other programmes. The main challenge for work requirements is that some recipients may not have qualifications necessary for employment. Some of these concerns may be addressed by providing training but there should be a form of public works that can allow recipients to satisfy work requirements. The latter can include a variety of work in the context of Ukraine's reconstruction (e.g. clear rubble, paint buildings, etc.).

28. Historically, the Ukrainian government was mandated to provide free education and healthcare. The Soviet legacy in these sectors and lack of reforms resulted in a bloated, inefficient, and corrupt system. Recent reforms (e.g. giving financial autonomy to universities, making the healthcare system patient centred) help to improve the quality of supply but these efforts should be intensified to increase competition and reward quality over quantity. For example, vouchers given to students to pay for educational services could improve competition among schools and encourage schools to seek cost effective provision of education (e.g. charter schools in the US). In a similar vein, vouchers given to the elderly can help improve the provision of care and control the costs (e.g. Medicare Advantage in the US is a capitated programme in this spirit). Education vouchers to unemployed people have been provided for quite a long time. The experience of this programme can be studied to develop the best design for healthcare or education vouchers provision.

29. Reconstruction will likely require significant government involvement. Calls for preferential treatments, special economic zones and the like are already part of public discourse. As we discuss below, such 'tax expenditures' are potentially very costly: Marchak and Markutz (2020) report that tax expenditures accounted for 14% of government revenue in 2010 but the government eliminated most preferential treatments and tax expenditures fell to 3% in 2019. We suggest using other tools to attract foreign direct investment (FDI) and facilitate reconstruction. This could include grants, providing infrastructure (e.g. building roads to factories) and educated workforce, etc.

30. Some forms of public spending may be outsourced to private providers. For example, the government can use road tolls to finance transportation infrastructure. Giving sea ports in concessions could create more competition across trade routes and free up resources for other reconstruction projects. Public-private partnerships can reduce the stress on public finances too.

31. Pension reform: The pension fund of Ukraine (which spends approximately 10% of GDP) has been in the red for years due to a rapidly aging population, tax evasion, low contributions, etc. Various attempts to rescue the current system were largely unsuccessful, whether they involved reducing contributions (inspired by the idea of the Laffer curve), introducing a funded tier (problematic because capital markets are undeveloped), capping benefits, or experimenting with inflation indexation. In addition, Ukraine has not had a census since 2001 which limits the quality of data available to the government.[5] Given the rapidly shrinking population, the outlook for the current pay-as-you-go (PAYGO) system is bleak unless the economy and contributions improve radically. Because the government has to honour previous pension commitments, a viable model of reform has to rely on a dual track system

5 However, the demographers recommend implementing a census two-three years after the war ends, when people more or less settle down. Prior to that, data from local governments or registries can be used for rough estimates.

where the rules and contributions for the young cohorts (usually younger than 55 years) should differ from those for the older cohorts. The old system will be gradually phased out as the pool of recipients shrinks.

32. Pension reforms are almost invariably fraught with political constraints as they involve redistribution of resources across generations. The choice set for Ukraine is further limited by the absence of deep capital markets (the only meaningful option for pension-fund investment in Ukraine is public debt). However, even within the pay-as-you-go framework, one can introduce changes that make the pension system more stable. In this context, Auerbach and Lee (2009, 2011) suggest public pension programmes with 'notional defined contribution' or 'nonfinancial defined contribution' (NDC) as viable alternatives. These programmes are designed to absorb demographic shocks without raising taxes on the workers. Although some income risk is shifted to the retirees, NDC can reduce distortions of work incentives common for the standard pay-as-you-go system (recall that the individual accounts in the NDC system are based on individual contributions and explicit rates of return). This system has been used in Sweden since 2001 and other countries followed.

33. Significant resources will have to be committed to public contribution to repairing and rebuilding housing stock and infrastructure. We envision that this one-off spending item will be managed by the reconstruction agency with funding provided by international donors, compensation for damages inflicted by Russia, and tax revenues. While homeowners may be compensated with vouchers (Green et al. 2022) and infrastructure projects may be funded by the reconstruction agency, a different approach should be taken for large assets. Consider the Azovstal steel mill as an example.[6] On the one hand, Azovstal was privately owned before the war and the owner may opt to get compensation for damages rather than rebuild the steel mill. On the other hand, the owner is unlikely to have resources to rebuild the steel mill from scratch and thus may need government support. We advise against the approach where the government takes over the steel mill, compensates the previous owner, uses public money to rebuild it, and then privatises the steel mill. A better approach is to offer concessionary, convertible loans (ideally with incentives to implement a green transition) to the previous owner to rebuild the steel mill (or build another asset). In this case, the government does not take control over the asset directly but can share in the success of the project. Some funding for rebuilding Azovstal and similar assets could come from the compensation from Russia for the damages (this includes suing Russia for damages in international courts).

6 https://en.wikipedia.org/wiki/Azovstal_Iron_and_Steel_Works

State-owned enterprises and privatisation

34. State owned enterprises (SOEs): The government has a significant presence in the economy (e.g. four out of the five largest banks in the country are state owned). It also has to support loss-making state-owned enterprises (e.g. Naftogaz, the national gas and oil company, had $1.1 in net losses in 2022[7]). Although corporate governance of SOEs improved dramatically since 2014 due to the introduction of independent boards, corporatisation, audits, etc., SOEs continue to drain public funds and breed corruption. By the end of the war, the Ukrainian government will have accumulated significant additional ownership from nationalisation of firms critically important for defence, systemically important firms, etc. Relatedly, the government has seized a number of assets associated with Russia or Ukrainian collaborators during the war. A specialised agency manages these assets but this agency has been consistently criticised for poor results. To ensure that SOEs do not present quasi-fiscal risks, the government should focus on privatising SOEs or (if privatisation is not possible) strengthening corporate governance. Because many SOEs are natural monopolies it is important that prices are regulated by independent boards and that decisions of these boards are not overruled by the government.

35. With limited fiscal capacity after the war (the economy is not strong enough to generate large tax revenues and to avoid government support), privatisation could be an important source of revenue for the government. Given the failures of privatisation in the 1990s, it is critical to ensure that post-war privatisation is fair, transparent, and efficient. Making tangible progress in reforming the judicial branch before privatisation is key for meeting these objectives. Unlike the 1990s, there is no immediate need to privatise as quickly as possible. The government should start preparing for this process during the war to ensure that legal and organisational challenges are addressed before privatisation is launched. As suggested in Mylovanov and Roland (2022), a reconstruction agency, which utilises expertise of the European Commission, can provide technical assistance.

36. Smaller firms can be sold via the ProZorro platform with minimal restrictions on the bidding process. Ukraine should build on the success of 'small' privatisation since 2018 when local governments had more say in how assets are privatised (Bout 2023).

37. Privatisation of large assets such as the PrivatBank, local utilities, etc. should take a different route. Although having open access to the bidding process is paramount, the search for new ownership should focus on strategic investors with long-term experience and interests in the industry. For example, Ukraine can build on the model implemented by the European Bank of Reconstruction and Development

7 The losses resulted from freezing communal tariffs during the war. While this policy helped reduce inflation in 2022, moving to free market tariffs with a proper safety net has long been on the government agenda. While unpopular, this reform is necessary to improve efficiency.

(EBRD). In this model, a credible financial institution co-invests in an asset with a commitment to upgrade corporate governance, management practices, etc. With this 'skin in the game', the possibility of looting or mismanaging the asset is reduced as the investor is interested in maximising the value of the asset. Although development banks are natural candidates to become such investors, other investors (e.g. Blackrock, JP Morgan, and similar investment funds[8] as well as potentially funds that specialise in distressed assets) may be interested too. In this process, it is important to avoid creating conglomerates with significant monopoly power. For example, some assets (especially previously owned by Russian oligarchs) may be split into smaller enterprises before privatisation.

38. Previous privatisation efforts have been used to set up a capital market in Ukraine. Specifically, some state-owned enterprises were privatised via a stock exchange. This approach failed to create a deep capital market (Ukraine has multiple exchanges but activity is minimal). Given the gross underdevelopment of the stock market, we advise against using the current exchanges for privatisation.

39. Ukraine has de facto two agencies in charge of government property: State Property Fund of Ukraine (SPFU) and Asset Recovery and Management Agency (ARMA). SPFU was created to implement the large-scale privatisation in the 1990s. ARMA was created in 2016 to process assets arrested or confiscated in corruption and other criminal cases. Some state-owned enterprises are managed directly by ministries. Apart from duplicating functions, the agencies have been plagued by scandals. For example, ARMA has failed to appoint managers to firms with sanctioned Russian owners. Dmytro Sennychenko, the head of SPFU in 2019-2022, is a fugitive in a corruption case. There is a clear need to merge and reboot this branch of the government. Perhaps, state-owned enterprises can be collected in a sovereign fund (with proper governance and personnel) that would manage all state-owned assets.

40. Some Russian assets abroad may be seized to compensate Ukraine for damages. Ukraine and the relevant partners can hire highly reputable advisors (it may be necessary to exclude firms that have business in Russia or its allies to avoid potential conflicts of interest) to help with generating the highest price. If the scale of this operation proves to be significant, it may be necessary to establish an agency governed by representatives from the relevant governments to ensure consistency in policies, lower costs of selling Russian assets, and minimal corruption.

8 Blackrock and JP Morgan announced that they will set up an investment fund to support Ukraine's reconstruction; https://www.ft.com/content/3d6041fb-5747-4564-9874-691742aa52a2.

Budgetary process

41. Tax breaks: 'Tax expenditures' (that is, tax revenue lost due to special treatments, breaks, deductions, exceptions, etc.) result in lost tax revenue but also create distortions due to lack of budget oversight, lack of transparency, open-ended commitments, and avoidance of budget rules. The general philosophy of tax reform should therefore be to eliminate tax expenditures. If an industry or group needs support, such support should be provided through explicit budget transfers. This approach will render transparent the costs of support programmes and enhance the ability of the authorities and society to set clear priorities for various forms of spending. For example, when the government eliminated VAT exemptions for agribusiness and substituted these with subsidies 'per head' (i.e. a payment per head of poultry or cattle), the public saw that the government was subsidising the largest producers ('agro-oligarchs'). Such transparency would not be possible with a tax expenditure.

42. Credit interventions versus fiscal interventions: Because credit interventions are typically off-balance-sheet, they are a popular 'solution' to issues that require government attention but fail to meet the requirements of the budgetary process. Although state guarantees are a useful tool, such guarantees can become accounting gimmicks and expose the public finances to significant risks. Indeed, although the current programme to reduce the cost of credit for small and medium enterprises (SMEs) is relatively transparent (the government covers a certain percentage of credit risk on portfolios of SME loans of banks), the government guaranteed substantial amounts of debt and then had to service it when the borrowers failed (e.g. State Food and Grain Corporation of Ukraine borrowed $1.5 billion from China in 2012; this debt was guaranteed and later assumed by the government when the corporation defaulted). We suggest using fiscal interventions, which are more transparent and subject to oversight, to minimise off balance sheet activities. If there is a government guarantee or loan, the government should use the market value of the guarantees or loans as the listed 'cost' and put aside provisions for potentially failed loans.

43. Budget rules versus fiscal councils: Various governments have tried to discipline their budget processes by developing a set of rules (e.g. the Maastricht Treaty imposed on EU governments two restrictions: 3% of gross domestic product (GDP) for the government deficit and 60% of GDP for government debt). While these rules can be useful guidelines or reference points, they lack enforcement mechanisms, since parliaments can choose to modify the rules (i.e. 'who polices the police?'). Fiscal councils such as the Dutch Central Planning Bureau, the Swedish Fiscal Policy Council, and others provide a more flexible and credible approach to controlling public spending. Such councils collect and disseminate information pertinent to budgetary processes thus informing the public and enhancing transparency. They score budgetary proposals and provide independent macroeconomic forecasts.

Since it is unrealistic (and inappropriate) to expect that unelected officials will be given the authority to set tax rates or define tax rules, the responsibilities of such bodies and their members should be carefully circumscribed.

44. Even so, the evidence suggests that these kinds of limited fiscal councils enhance fiscal discipline. A similar council should therefore be established in Ukraine. The process could resemble in broad terms what is used for the country's other independent public bodies (e.g. the National Bank of Ukraine). This means long, overlapping terms, members are nominated by different stakeholders, the selection process open to public scrutiny, and so forth, with the goal of ensuring that members are protected from political influence and have appropriate qualifications.

45. Decentralisation: Given the Soviet legacy, the central government in Ukraine has had a dominant role in nearly all governmental decisions. This allocation of responsibilities and resources has resulted not only in atrophy of local governments and massive inefficiencies (local knowledge and circumstances were often ignored), but also in a highly polarised political system where the winner takes all. To create a more competitive political and economic environment, Ukraine has implemented a decentralisation reform in 2014-2020 with significant powers and resources being delegated to local governments. For example, personal income tax revenue is now split between the national government (21%), oblast (15%), and local communities (64%). This not only gives more stable revenues to local governments but also incentivises them to develop local economies and hence the tax base.

46. A key underutilised resource for local governments is the property tax. In part, the reasons for this underdevelopment range from inadequate infrastructure (e.g. registry of owners for real estate, land, etc.) to inertia. In addition, one should appreciate that decentralisation remains curtailed as local governments do not set the rules for taxes (e.g. tax bases are defined by the central government), they have little control over tax rates for personal income taxes or property taxes, and they often do not have access to pertinent information from the tax authorities. More regional flexibility with personal income taxes and property taxes is desirable. With more access to and control over tax revenue, local governments should also have more control over their borrowing.

47. Digitalisation of government services not only cuts costs and minimises opportunities for corruption, but also provides data necessary for public oversight and scrutiny. For example, ProZorro has been highly instrumental in enhancing access to government contracts and improving transparency. The government mobile app Diia ('Action') digitised many services so that Ukrainians can use smartphones for about 50 government services (e.g. apply for a marriage certificate, social support, etc.). Provided necessary data protection, one may expect more efficiency gains from further digitalisation and increasing access to the internet.

III. MONETARY AND FINANCIAL SECTOR POLICIES

48. The central mandate of the National Bank of Ukraine is to deliver price stability. Inflation targeting with a floating exchange rate is the best framework to deliver this objective in the medium to long run. With the appropriate conditions, the transition to this framework may start during the war to lay foundations for macroeconomic stability necessary for a successful recovery. Given the wartime and potential post-war disruptions in economic and financial activities, the central bank should also employ additional tools such as capital controls and macroprudential regulations to ensure a smooth transition and avoid a boom-bust cycle.

49. Fiscal dominance will continue to colour the workings of monetary policy during the reconstruction stage. Although central banks historically played some role in helping governments to finance reconstruction after wars, the costs of such an approach outweigh the benefits. For example, while funding from the central bank can carry arbitrarily low interest rates, fiscal dominance eventually leads to inflation and macroeconomic instability, hence undermining the recovery of the private sector. The National Bank of Ukraine should not serve as a development bank to facilitate the recovery.

50. Given the scale of the war and post-war reconstruction, one can anticipate that the National Bank of Ukraine may encounter conflicting objectives (for example, price stability versus financial stability). There is no simple solution to these trade-offs and discretion is needed to address specific challenges. The best approach to hitting multiple targets (price stability, financial stability) is to develop multiple policy instruments (interest rate policy, macroprudential policy).

51. Perhaps the largest post-war challenge for the central bank is non-performing loans (NPLs) in the banking sector. The National Bank of Ukraine should focus on resolving this issue as fast as possible to minimise spillovers from bad assets to good assets. A resolution of this problem will resume the flow of credit and facilitate Ukraine's reconstruction. As we discuss below, we propose a centralised approach that aggregates non-performing loans in a 'bad bank'.

Inflation targeting

52. Inflation targeting requires functioning markets to transmit policy decisions to the economy. One such channel is the exchange rate that operates not only by changing the competitiveness of Ukrainian exports but also by changing inflation expectations of households and businesses (Coibion and Gorodnichenko 2015). A managed float with potential interventions by the central bank could be one way to ensure monetary transmission. A key risk for this channel is the ability to increase Ukrainian exports which can be constrained by a Russian blockade of Ukrainian ports. The bank lending channel is largely mute now when the credit risks due to

the invasion are particularly high (nominal (!) volumes of credit to households and businesses have been consistently declining since February 2022). However, as the security risks subside and the economic activity picks up, the lending channel should become more operational. More competition in the banking sector and a deeper hryvnia money market should also strengthen the transmission.

53. There are signs that the economy is adjusting to wartime footing and that monetary transmission has improved. For example, the passthrough from policy rates to deposits rates has been gradually improving. One can draw parallels to 2014-2015 when the National Bank of Ukraine launched inflation targeting. At that time, the financial and real sectors were severely disrupted by the Russian annexation of Crimea and the occupation of the Donbas. The International Monetary Fund was lukewarm to introducing inflation targeting, but the National Bank of Ukraine went ahead and was able to reduce inflation to the target within three to four years. Although the current environment is even more challenging and the enormous macroeconomic uncertainty and volatility make hitting the target consistently a very difficult task, the central bank possesses the tools and competence to complete a gradual restoration of inflation targeting.

54. The central bank had to print approximately 400 billion hryvnia in 2022 to support the war effort. This monetary overhang is amplified by significant deposits accumulated by households and (to a lesser extent) businesses receiving defence payments from the government. Although this excess in high-powered money will dissipate gradually as the economy recovers, the central bank will need to continue sterilising liquidity to preserve price stability and minimise fluctuations in the exchange rate.

55. The inflation target of the central bank is 5%. While the targets in advanced economies are usually set at 2%, emerging economies have similar inflation targets. There are several reasons why Ukraine may benefit from this slightly higher target. First, positive inflation can help with adjusting real wages when workers are averse to nominal wage cuts. This consideration can be important in the early years of reconstruction, when one can expect large labour flows and significant adjustment across sectors and skills. Second, one can also expect more macroeconomic volatility (probably three times larger than for advanced economies) which can push the policy rates close to zero more often. While it may seem like a remote scenario, Ukraine did experience a deflation in 2013. The inflation target can be lowered in the future to be in line with the ECB inflation target of 2% but the current inflation target is a reasonable choice for the moment.

Exchange rate

56. With many competing demands for public spending and monetary accommodation, Ukraine is likely to experience inflationary pressure during the reconstruction period. This makes it tempting to adopt an exchange rate peg, inter alia to the euro, as a way of anchoring inflation expectations, imposing monetary discipline on the central bank, and not incidentally promoting exports to the EU.

57. We caution against this approach. Pegs are fragile, and their collapse can have disastrous macroeconomic consequences. Accumulating the foreign reserves and policy credibility needed to sustain a peg would be challenging in a volatile post-war environment. Adopting a peg is no guarantee that monetary policy will be subordinated to exchange rate stabilisation in practice; if it isn't, then the country ends up with an overvalued currency, Dutch disease and, eventually, a crisis. Orderly exits from currency pegs become necessary when circumstances change, but such orderly exits are very much the exception and not the rule.

58. Ukraine should therefore opt for a managed float, where the exchange rate is broadly determined by the stance of monetary policy and day-to-day fluctuations may be limited (see Becker et al. 2022b for more details). The National Bank of Ukraine should be prepared to intervene in the foreign exchange market in response to disorderly and excessive exchange rate fluctuations. This means accumulating adequate foreign reserves (at least $30 billion, roughly the level the National Bank of Ukraine had before the war [9]) to support the exchange rate in periods of excessive depreciation. It also means engaging in sterilised intervention and accumulating reserves in periods of excessive appreciation. Periodic intervention does not, however, mean preventing the exchange rate from fluctuating. A degree of exchange rate variability – in both directions – is needed to avoid presenting investors with one-way bets and precipitating speculative attacks. This exchange-market response to capital-flow surges and reversals may have to be supplemented with capital controls, as we describe momentarily.

59. It may be tempting to peg the exchange rate to the price of the country's principal export commodities. Under this regime, the currency would appreciate when markets for Ukraine's principal export commodities boom and their prices rise, and it would depreciate when the corresponding prices fall, in both cases offsetting the procyclical impact of global commodity market developments on the Ukrainian economy. A problem with this approach is that it would make the exchange rate a function of current account developments (commodity export revenues showing up in the current account), whereas the Ukrainian economy and balance of payments will also be buffeted by capital-flow surges and reversals. Commodity market

9 To give a sense of what would constitute adequate reserves, we note that the National Bank of Ukraine sold between $1.5 and $4 billion per month in 2022-2023 to defend the fixed exchange rate, the NBU had to adjust the exchange rate when reserves approached $24 billion in July 2022, and Ukraine's monthly imports stood at approximately $5 billion.

developments should be allowed to affect the exchange rate over and above the ECB-NBU 3% inflation-target differential, but so too should capital-account conditions. A managed float rather than a simple peg – including the simple rule of pegging to the export prices – is the best solution for Ukraine.

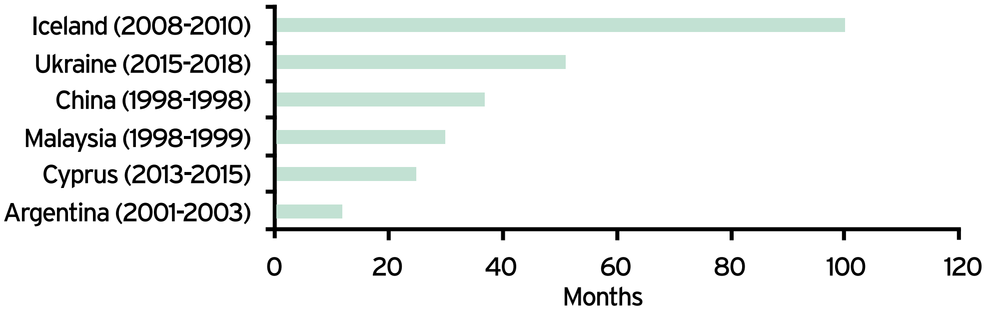
60. Currently, Ukraine has a fixed exchange to provide a nominal anchor for the economy. While this framework helped to tame the panic in the early days of the war, the fixed exchange rate creates increasingly large distortions for the economy. For example, the real exchange rate appreciated by more than 10% against the dollar since the current rate was fixed in July 2022 (the appreciation against the euro was more modest at 4%). Such appreciation helps to reduce inflation, but it also makes Ukrainian exports less competitive. A market-based approach with a managed float will allow adjustments to the changing landscape of the Ukrainian and global economy and help avoid multiple exchange rates in the country. Ukraine could also use this transition to switch its focus from the US dollar to the euro to align more with the EU economy.

Capital controls

61. Macroeconomic uncertainty and security risks call for caution in lifting capital controls. The experiences of Iceland, Ireland, Cyprus, and other countries following the global crisis in 2007-2009 suggest that the process of loosening capital controls can take years. Ukraine had a similar experience after the Russian aggression in 2014: controls were introduced to limit capital flight and contain the panic and it took years to lift the controls.

62. With the financial system weakened by the war, and given other uncertainties, Ukraine may be particularly vulnerable to large and sudden capital outflows. Because capital controls introduced ex ante to prevent destabilising flows appear to be more effective than controls introduced during a crisis (e.g. Bhargava et al. 2023), it is important to design and implement controls before a crisis strikes. To be clear, capital controls are a complement rather than a substitute for credible monetary and fiscal policies.

FIGURE 1 DURATION OF POST-CRISIS CAPITAL CONTROLS FOR SELECT COUNTRIES.



Source: Bhargava et al. (2023)

63. Ukraine's positive experience with capital controls in 2014-2015 suggests that capital controls for the post-war recovery should be comprehensive to minimise leakage and corruption risks and to maximise effectiveness. Capital controls can be also instrumental in imposing a degree of financial repression but, as we argue below, there are better alternatives.

64. It is imperative that the central bank and the government closely coordinate their approach to capital controls. For example, the list of critical imports set by the government has been so loose during the war (somehow cigars became a critical import) that the central bank was undermined in its efforts to enforce capital controls.[10]

65. Although capital controls often emphasise restrictions on outflows, Ukraine could experience strong capital inflows at the reconstruction stage and thus suffer from Dutch disease and a boom-bust cycle. Indeed, the projected amount of aid could outstrip the capacity of Ukraine to absorb funds (various constraints and bottlenecks are on display in Italy, which has struggled with absorbing EU funds allocated to Italy during the Covid-19 crisis).[11] To attenuate potentially negative effects of the Dutch disease, some restrictions on portfolio inflows and short-term credit may be desirable to reduce the risk of asset bubbles, construction booms, and sudden and large withdrawals. (On the bright side, a strong hryvnia can boost the purchasing power of Ukrainians and hence make refugees more likely to return to Ukraine.) The prospect of Dutch disease is also a reason why donors need to make sustained long-term commitments of aid flows rather than just large one-off payments.

66. Loosening capital controls should follow normalisation of the foreign exchange market. In other words, the hryvnia should be allowed to float first, and then capital controls can be lifted gradually. The degree of controls may be weakened

10 After four months, the list of critical imports was abandoned, and import taxes reintroduced.
11 https://www.reuters.com/markets/europe/why-italy-is-tangle-over-its-eu-recovery-funds-2023-05-24/

or strengthened as necessary in light of capital account (im)balances. To reduce distortionary effects of anticipated revisions in capital controls, the authorities should not commit to a schedule of changes in capital controls.

67. Capital controls could be complemented by other measures to minimise the chance of a boom-bust cycle. For example, there could be surcharges for imports of consumer goods so that Ukraine has incentives to use aid to import machines, equipment, and other investment goods. In other words, foreign aid and capital inflows should be used to boost the productive capacity of the economy rather than to finance consumption. It is unlikely that foreign direct investment will be materially affected by capital controls as significant profits (and hence repatriated dividends) should mainly materialise many years after the recovery starts.

Macroprudential policies

68. Reconstruction presents unusual challenges for macroeconomic stability. Specifically, rapid recovery may need a significant expansion of credit to finance investment (in new housing, infrastructure repair, etc.) and consumption (purchases of cars and other durable goods). Because the war heavily dented (if not wiped out) equity and private wealth, reliance on credit could be heavier than is usual during the expansion phase of typical business cycles. A strong inflow of reconstruction aid can result in a stronger hryvnia, thus further amplifying borrowing. In short, there is the danger of a pronounced boom-bust cycle in post-war Ukraine, which would endanger macroeconomic stability and undermine popular support for reforms, EU accession, and more generally market-based economy. It is imperative therefore to utilise macroprudential tools to contain excessive credit growth.

69. The National Bank of Ukraine should be the core supervisor in this arena. Having a single regulator not only clarifies the responsibilities but also limits regulatory arbitrage and leakages. For example, one may expect a rise of shadow banking and it will be important to have one body to set the regulatory perimeter. Given the high substitution between conventional and shadow banking, macroprudential powers for the whole financial sector should be vested with the central bank that already regulates conventional banks. Some responsibilities may be delegated to the central bank directly (as was done with the insurance sector that had poor oversight when supervised by the National Commission for State Regulation in the Field of Financial Services, allowing the development of a host of problems). At the same time, the National Bank of Ukraine should continue to use the Financial Stability Council to coordinate policies and share information.

70. The banking sector in Ukraine is highly concentrated (Oschadbank and Privatbank, two state-owned banks, control more than 50% of deposits). Although the central bank runs regular stress tests, such concentration suggests that additional microprudential supervision (this may also cover the payment systems maintained

by these banks and special attention to the banks' boards and management quality and potential political influences common for state-owned banks) is needed to ensure that none of these banks can undermine the operation of the financial system. In addition, Raiffeisenbank Ukraine (the fourth largest bank and a subsidiary of the Raiffeisen Bank International (RBI) headquartered in Austria) has indirect exposure to Russia via Raiffeisen's presence in Russia (the RBI earned $2 billion in profits in Russia, which is more than a half of RBI's profits).[12] If RBI experiences problems due to its exposure to Russia, Raiffeisenbank Ukraine may face headwinds as well.

71. Although Ukraine's capital markets are underdeveloped, the financial sector is evolving quickly. The central bank should take steps to remain ahead of the curve, with an eye toward facilitating market development while also attending to macroprudential considerations. For example, the National Bank of Ukraine could create a registry for over-the-counter (OTC) trading to have better information on trading networks and risk exposure (the International Swaps and Derivatives Association (ISDA) and other central banks could provide technical assistance). The current level of capital market development also calls for a small set of macroprudential tools to keep regulation simple, minimise regulation arbitrage and opportunities for abuse and corruption, and avoid wading into industrial policy. For example, the toolkit can include limits on credit growth, caps for loan-to-value ratios, cyclical reserve requirements, tougher limits on maturity/liquidity/currency mismatches, and a version of the Volcker rule (i.e. commercial banks should not be allowed to do proprietary trading using deposits). Market-based rather than sectoral restrictions should help to reduce regulatory leakages.

72. Because Ukraine would like to join the EU and attract capital from European economies, macro- and microprudential regulation should be aligned with the EU practices. To this end, Ukraine should seek technical assistance from the European Systemic Risk Board, European Central Bank, and European Banking Authority. Alignment with the EU framework will facilitate the entry of foreign banks into Ukraine (including by purchasing a state-owned bank) to provide fresh capital and diversify risks. In this context, it is important to modernise the Ukrainian legal framework to accommodate financial instruments (securitisation, convertible bonds, warrants, etc.) used in advanced economies to provide flexibility in financing reconstruction.

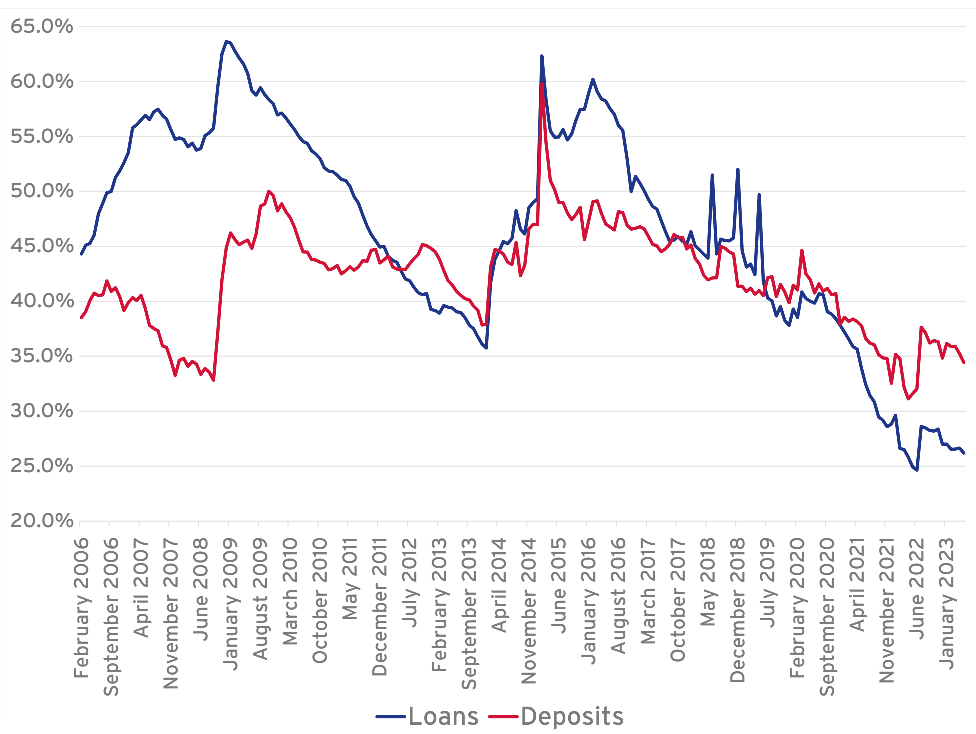
73. Post-war recoveries often rely on financial repression to repair the balance sheet of the banking sector and the public sector, mobilise savings, direct credit, and potentially minimise bank runs by reducing the choice set available to savers. Some form of financial repression may be inevitable in Ukraine too (indeed, Ukraine

12 https://www.reuters.com/business/finance/austrias-rbi-earns-growing-share-profit-russia-2023-02-01/

used financial repression to help banks rebuild their balance sheets after 2014 and uses financial repression now by offering savers negative real interest rates). However, there exist better tools for addressing post-war challenges. As discussed above, Ukraine should receive a significant debt relief thus reducing the need to use financial repression to repay public debts. Bilateral or multilateral lending to the Ukrainian government after the war will likely be on highly concessionary terms, thus reducing the need to raise funds cheaply at home. The banking sector can be recapitalised by the government directly. Post-war recoveries relied on growth financed by low interest rates forced on savers because countries often did not have access to external funding and aid. We anticipate significant inflows of capital and aid into Ukraine after the war. Finally, financial repression can create more opportunities for corruption.

74. Similar to other transition countries, Ukraine has experienced significant dollarisation. Although the share of deposits and loans denominated in foreign currency has declined from approximately 60% in 2015 to roughly 30% today (Figure 2), the current share remains high and thus poses risks to the economy (especially if firms and households can borrow in foreign currency via shadow banking). The central bank should continue encouraging deposits and loans in hryvnia as well as develop opportunities to hedge exchange-rate fluctuations to limit vulnerabilities due to dollarisation.

FIGURE 2 SHARE OF DEPOSITS AND LOANS (HOUSEHOLDS AND NON-FINANCIAL CORPORATIONS) IN FOREIGN CURRENCY.



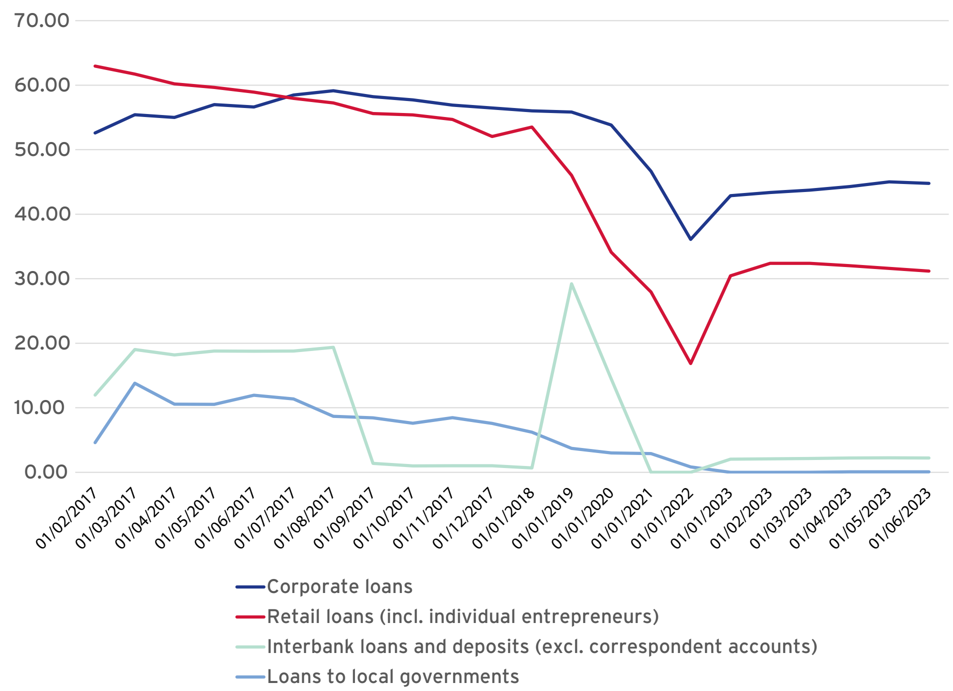
Source: National Bank of Ukraine.

75. Macroprudential regulation naturally focuses on tail risks. As a result, while the flow costs are continuous and tangible, the benefits may be less apparent because the risks may not be realised. Unfortunately, the extreme scenario became reality in Ukraine in 2022, but the National Bank of Ukraine's pre-war macroprudential work paid off when the banking system withstood the war shock. We hope that this lesson will prove useful in defending macroprudential regulations in the post-war period when one may hear loud calls to lift regulations to help the economy grow faster.

Rehabilitating the banking system

76. The invasion created enormous stress for the banking sector and the broader economy. As of April 2023, 38.8% of corporate and consumer loans are non-performing (Figure 3), with a large share of non-performing loans inherited from the pre-war period. State-owned banks hold about 75% of the sector's non-performing loans (NPLs), with PrivatBank alone having over 40%. The potential losses of the loan portfolio will plausibly reach 30%. Although banks started to recognise losses and to provision funds in order to cover these losses, a successful economic recovery requires a thorough clean-up of the banking sector.

FIGURE 3 SHARE OF NON-PERFORMING LOANS



Source: National Bank of Ukraine

77. The 2014-2015 crisis offers a template for recapitalising the banks. Weakened by related-party lending and poor management, the banking sector was heavily hit by the loss of assets in Crimea and the Donbas. The share of non-performing loans exceeded 50% in 2017.[13] As discussed in De Haas and Pivovarsky (2022), the authorities adopted an approach ('Kyiv approach') that was relatively favourable to borrowers and allowed for voluntary out-of-court restructuring of non-performing liabilities. This approach could handle the large stock of non-performing loans without a lengthy legal process.

78. State-owned banks were more reluctant to employ voluntary resolutions because the management of these banks was concerned about potential criminal cases from 'inflicting losses' to the state (write-offs may be considered as misappropriation or damage to state property). This aspect is important in the current context because so many non-performing loans are concentrated in state-owned banks. Although the initial plan was to conclude the resolution of non-performing loans by 2022, the approach was extended to 2028 to complete the resolution.

79. Given the size of the problem and the urgency of improving the health of the banking sector, De Haas and Pivovarsky (2022) recommend using a (semi-)centralised approach (e.g. distressed assets are put into one or several 'bad banks') rather than a decentralised approach (e.g. the 'London approach' which emphasises voluntary arrangements between banks and debtors outside of the court system). The bad banks could be privately owned (e.g. Sweden in the early 1990s) or publicly owned (e.g. Korea in 1997-1998 or Ireland after the sovereign debt crisis in the 2010s). The main advantage of the centralised approach with a publicly owned 'bad bank' is the economy of scale that allows not only processing similar assets fast, utilising scarce talent to manage assets, and obtaining better prices from potential buyers, but also attracting funding from potential international donors or obtaining compensation for damages from Russia (many non-performing loans could be directly linked to the Russian aggression). Non-performing loans that are not absorbed into a 'bad bank' may be resolved using the Kyiv approach.

80. To ensure that the banking sector can facilitate credit flows effectively once the war is over, it is important to launch preparations now. Specifically, developing guidelines for asset quality review (AQR) and running a preliminary AQR would inform policymakers about the size of required recapitalisation and help develop tentative recapitalisation plans. To carry out the centralised approach to resolving non-performing loans, the government needs to prepare a legal framework to either

13 Many of the loans were not performing well before 2014 and the banks used ever-greening of their loan portfolios to avoid recognising losses. After major reforms in the National Bank of Ukraine, the central bank improved bank supervision and forced banks to recognise non-performing loans.

set up a new agency to handle the 'bad bank' or empower existing institutions (e.g. the Deposit Guarantee Fund). We also advise against blanket debt forgiveness as such programmes tend to be very expensive fiscally.

81. Using public money to recapitalise private banks is a politically sensitive issue as the public has little appetite for give-aways. Hence, the government should redouble its efforts to earn back at least some money from recapitalisations. In practical terms, this means enforcing strict management standards (independent boards, enhanced transparency, risk management, etc.) and a subsequent sale of the government stake to domestic or foreign investors. Although national governments typically recapitalise banks with direct capital injections or long-term subordinated debt, Ukrainian circumstances may allow for a broader coalition of national government, international banking groups, and donor countries. For example, to support foreign-owned banks in Ukraine, other central banks can help the National Bank of Ukraine by providing assistance to the banking groups in their jurisdictions.

Financial market development

82. Ukraine lacks deep capital markets to raise and allocate funding for the reconstruction. Although the central bank cannot resolve this problem by itself (e.g. it cannot improve the protection of minority shareholders), it can help develop infrastructure for market-based finance and especially integrate Ukraine's financial system into the global capital markets. For example, allowing non-residents to use Clearstream international central securities depository to purchase Ukrainian government bonds significantly increased the ability of the Ministry of Finance to attract foreign investors and reduced the cost of borrowing. Similar tools for private debt can provide a stepping stone for deeper integration and greater access to capital. In the same vein, the central bank can facilitate the development of an active market for mortgages.

83. The payments system admirably withstood the shock of the war. Within-country payments are generally cheap and fast. Cross-border payments are cumbersome and expensive, however. With a large Ukrainian diaspora in Poland, Germany, and other countries, remittances will continue to be a significant force for the current account (for example, remittances stood at $15 billion in 2021, more than double the size of foreign direct investment into Ukraine) and for funding projects (especially, for small and medium enterprises). The central bank should enhance the payments system (this may require strengthening policies aiming to reduce money laundering and terrorist financing) to broaden access to and reduce the cost of cross-border transfers (e.g. PayPal offers limited services in Ukraine).

IV. LABOUR MARKET

84. The pre-war labour market in Ukraine was characterised by two key features. First, there was a significant mismatch between skills sought after by employers and skills workers were able to supply (Anastasia et al. 2022, Kupets et al. 2023). Second, a dual labour market emerged in response to the regulatory and fiscal reasons. Although some workers had effectively permanent contracts, others were hired as contractors/entrepreneurs with minimal social protection and trivial tax liability and contributions to the pension system. The outdated labour code, based on the legislation passed in the 1970s, contributed to the imbalances and rigidities in the labour market (e.g. overtime work is allowed only in exceptional cases) as well as to the rise of the informal sector. The pre-war demographic challenges are exacerbated by many workers leaving the country during the war.

85. One can expect that millions of workers will have to change jobs after the war (Anastasia et al. 2022 estimate that this will involve at least 10% of the labour force). Reasons range from changes in residence due to destroyed housing to mental and physical scars of the war, to changes in the structure of Ukraine's economy. (As of September 2022, polls suggest that 39% of respondents had changed their place of residence.) There is already a clear regional mismatch of labour supply and demand (e.g. Zaporizhzhya has few vacancies and many job seekers relative to Lviv). Veterans will need help to reintegrate into civilian life. Millions of workers will likely return to Ukraine but their job market prospects will have to be sufficiently attractive to draw them back home. Shortages of labour will likely be acute in the early post-war years (pre-war labour force participation in Ukraine was at 55%, which is lower than the 60% average for OECD countries).

86. Given the large labour market flows, the philosophy of regulating the labour market should change from protecting jobs to insuring workers. This means that the government should provide unemployment compensation, strong incentives to search for jobs, a platform to aggregate and share job market information, assistance with retraining and job search, and other active labour market policies (e.g. offering a temporary wage subsidy to workers changing jobs, see Boeri and Cahuc 2022). Given anticipated labour shortages after the war and the experience of other Eastern European countries in crisis times (e.g. Blanchard et al. 2013), it is unlikely that such liberalisation of the labour market will result in mass unemployment. To make this approach sustainable in the long run, it should be funded by Ukrainian taxpayers. Kupets et al. (2023) call for developing a labour market information system which would include a single dataset with available vacancies, as well as the monitoring and evaluation systems for labour market policies and services provided by the Public Employment Service. Currently the Public Employment Service does not appear to meet the expectations: with 1.7 million unemployed according to International Labor Organization methodology in 2021:Q4, only 300,000 were

registered with the Public Employment Service; the number of vacancies registered with the Public Employment Service is smaller than the number of vacancies posted on online platforms such as work.ua, jooble.ua, etc.

87. Still, some groups may be unable to find meaningful employment in the post-war economy. Although early retirement is used in other countries to deal with such job losses, this approach would undermine the already-strained pension system in Ukraine (Anastasia et al. 2022). We suggest using extended unemployment benefits or similar schemes to bridge these persons to retirement.

88. The war and the Covid-19 crisis have led to massive gaps in schooling. Human capital is also reduced by direct losses of human life and lack of work experience (Blundell et al. 2016, Dinnerstein et al. 2020, and others estimate that a year without work depreciates human capital by 4% to 8% per year) and loss of firm-/sector-specific human capital due to forced changes in employment. This calls for remedial education and training on a massive scale. In the context of switching from 'protect jobs' to the 'insure workers' approach, it will be critical to provide retraining of job losers to minimise the cost of job loss. To ensure that the supply of skills is consistent with the demands of business, more active involvement of businesses in determining the curriculum (especially for vocational education and training as is done in the German Fachschule) should help reduce supply-demand mismatches and other inefficiencies. Reintegration of veterans, disabled, refugees, and internally displaced persons presents additional challenges (Gorodnichenko et al. 2022). Apart from subsidised training and education, tax credits to businesses hiring these groups and disability-inclusive infrastructure, more active community support (transition/support groups, counsellors, etc.) may be needed (Demers 2011). Because these programmes are one-offs, they could be financed with international aid and as part of EU accession (perhaps with EU's Support to mitigate Unemployment Risks in an Emergency (SURE) programme).

89. Although adverse effects from potential shortages of workers can be mitigated to some extent by a less rigid labour market, the Ukrainian government can employ other tools to utilise available resources more effectively and to exploit potential synergies with other policies. For example, the government can provide subsidised childcare to boost female labour force participation and to increase fertility. Working-from-home and other flexible arrangements can stimulate employment of marginally attached groups as well as bring back human capital lost during the war.

90. Since many Ukrainians could be abroad, it will be important to ensure that their income is not subject to double taxation. A labour market more open to immigrants should also help to cover workforce shortages (Anastasia et al. 2022).

91. Although lower labour taxes are sometimes recommended to reduce the prevalence of informal employment, the tax burden on labour in Ukraine (18% in personal income taxes, 1.5% in military surcharge, 22% in social security contributions) is similar to

that in peer European countries. Furthermore, reduction in taxes will jeopardise the system of social protection. Therefore, lowering taxes on labour should be linked to reducing the size of the informal sector, closing loopholes, broadening the tax base (e.g. large businesses should not be allowed to classify their de facto employees as small entrepreneurs), and enhancing tax enforcement. To move informal workers to the formal sector, the government should reduce the cost of compliance with labour laws but also clarify the link between personal contributions and the coverage of social insurance.

92. At this point, Ukraine lacks adequate infrastructure to monitor the labour market. For example, the last census was in 2001. High-quality measurement of the labour market state will be essential for timely policy responses. With the technical assistance of the EU, Ukraine should develop and implement a high-frequency labour force survey tracking respondents over time, a job vacancy database (with details on the location and skill requirements of each vacancy), and a household survey collecting information on programme participation (see Kupets et al. 2023 and Anastasia et al. 2022 for more details). These data will enable the government to evaluate labour market policies and make adjustments as necessary.

V. REGULATORY ENVIRONMENT

93. With the failed Soviet experiment in Ukraine and a history of corruption in the government, fully libertarian arrangements are suggested as a way forward for Ukraine. This strategy is unlikely to serve Ukraine well. Regulations are desirable for a number of reasons, such as to control monopoly power, deliver safe products to customers, address externalities, etc.

94. Furthermore, on its path to EU accession, Ukraine will need to align its regulatory environment with the EU framework, which is hardly a *laissez faire* state. Hence, the main objective should be to enhance the efficacy of regulation rather than abolish it altogether. We propose several strategies for improving the quality of regulation.

95. Ukraine's regulatory environment is an amalgam of Soviet and market-economy requirements and standards. Although Ukraine has been gradually cutting red tape since 2014, doing business continues to be more difficult than in peer countries: Ukraine is 64th in the 2020 Ease of Doing Business rankings, while Poland and Lithuania are ranked 40th and 11th, respectively. There is a clear need to audit regulations to drop outdated requirements, remove contradictions, etc. Regulations should be assessed not only in terms of their potential benefits but also costs. Nearly all OECD economies use Regulatory Impact Assessment (RIA) to determine whether a proposed regulatory norm is desirable on the net. The World Bank's experience with RIA for developing economies could provide useful templates for Ukraine. Although Ukraine has applied RIA for some regulations, it needs to move beyond pro-forma, sporadic applications.

96. Because Ukraine aspires to join the EU, Ukraine can reduce regulatory burden by automatically approving licenses issued by the EU. For example, if a drug is approved for use in the EU, this drug would be automatically approved for use in Ukraine.

97. Kazakhstan and other countries experimented with outsourcing some judicial power (e.g. former UK judges can resolve disputes between investors and the authorities). Although there is clear value of arbitration in neutral courts in Stockholm, London and the like, outsourcing as was done in Kazakhstan is difficult to scale and appears to have rather limited results in terms of enhancing investor confidence. (According to the World Bank, the net foreign direct investment for Kazakhstan was only 2.2% of GDP in 2022 while the corresponding figure for Poland was 5.1%.) Given Ukraine's aspirations to join the EU, a better approach for the transition stage is to use the Court of Justice of the European Free Trade Association (EFTA) States. More fundamentally, the reconstruction process should focus on developing rather than substituting for domestic institutions. Ukraine can utilise the goodwill and talent of its friends and diaspora by recruiting them to help select qualified, reputable officials and judges in Ukraine.

98. The Antimonopoly Committee of Ukraine (AMCU) has been criticised for failing to address the problem of rising monopoly power. These results reflect both personnel and institutional weaknesses. For example, AMCU continues to have limited financial and operational independence. AMCU decisions have to be approved by courts (only 7% of fines levied by the committee are approved by courts). Anti-trust legislation has important contradictions (including whether the parliament or president appoints the head of the committee) within Ukrainian law and with EU directives. Given the central role of the committee in limiting the power of oligarchs, it is essential to bring this institution closer to EU standards. The transition may adopt a model where EC's DG-Competition can issue non-binding legal opinions which the Ukrainian authorities can utilise for their rulings.

99. It is important to limit the ability of businesses to capture their regulators. For example, regulators have to disclose their interactions with the business community, observe mandatory cool-off periods, follow conflict-of-interest policies, etc.

VI. CONCLUDING REMARKS

100. Our proposal for macroeconomic policies at the reconstruction stage is a building block for a broader effort to design and plan Ukraine's recovery. We stress that sustainable public finances, sound monetary policy, a predictable and fair regulatory framework, and flexible labour markets provide the foundation for the success of human capital development, technological leapfrogging, and many other elements of reconstruction. Just as Becker et al. (2022a) spurred academic and policy discussions

on the ingredients necessary for a successful recovery, this report aims to stimulate debate on the optimal macroeconomic framework for Ukraine. Thus, we view this report as a stepping stone for more discussion and research on the matter.

101. The reconstruction of Ukraine will be a test not only for Ukraine but also for its allies and international institutions. There is no doubt that a difficult road lies ahead of Ukraine for many years, presenting many risks: foreign aid could be poorly coordinated or not materialise, security issues may be not resolved completely, policies could take a populist turn, refugees may not return. It is also clear that only Ukraine can do its homework and transform itself into a modern country with robust, democratic institutions and a dynamic economy. The international community has offered Ukraine unwavering support during the war and for the post-war period. The determination of the Ukrainian people and Ukraine's partners gives us reasons to believe that Ukraine's rebuilding will be a success story. We hope that this report will contribute to that success.

REFERENCES

Anastasia, G, T Boeri, M Kudlyak and O Zholud (2022), "The Labor Market in Ukraine: Rebuild Better", in Y Gorodnichenko, I Sologoub and B Weder di Mauro (eds.), *Rebuilding Ukraine: Principles and Policies*, CEPR Press.

Auerbach, A (2017), "Demystifying the Destination-Based Cash-Flow Tax", NBER Working Paper 23881.

Auerbach, A J and R Lee (2009), "Notional Defined Contribution Pension Systems in a Stochastic Context: Design and Stability", in J Brown, J Liebman and D A Wise (eds.), *Social Security Policy in a Changing Environment*, University of Chicago Press.

Auerbach, A J and R Lee (2011), "Welfare and generational equity in sustainable unfunded pension systems", *Journal of Public Economics* 95(1-2): 16-27.

Becker, T, B Eichengreen, Y Gorodnichenko, S Guriev, S Johnson, T Mylovanov, K Rogoff , and B Weder di Mauro, 2022a. "A Blueprint for the Reconstruction of Ukraine." *CEPR Rapid Policy Response #1.*

Becker, T, B Eichengreen, Y Gorodnichenko, S Guriev, S Johnson, T Mylovanov, M Obstfeld, K Rogoff and B Weder di Mauro (2022b), Macroeconomic Policies for Wartime Ukraine, *CEPR Rapid Policy Response #2.*

Becker, T, J Lehne, T Mylovanov, G Spagnolo and N Shapoval (2022c), "Anti-corruption policies in the reconstruction of Ukraine", in Y Gorodnichenko, I Sologoub and B Weder di Mauro (eds.), *Rebuilding Ukraine: Principles and Policies*, CEPR Press.

Bhargava, A, R Bouis, A Kokenyne, M Perez-Archila, U Rawat and R Sahay (2023), "Capital Controls in Times of Crisis – Do They Work?", IMF Working Papers 2023/067, International Monetary Fund.

Blanchard, O, M Griffiths and B Gruss (2013), "Boom, Bust, Recovery: Forensics of the Latvia Crisis", *Brookings Papers on Economic Activity* 44(2 (Fall)): 325-388.

Blundell, R, M Costa Dias, C Meghir and J Shaw (2016), "Female Labor Supply, Human Capital, and Welfare Reform", *Econometrica* 84(5): 1705–1753.

Boeri, T and P Cahuc (2022), "Labor Market Insurance Policies in the XXI Century", *Annual Review of Economics*, forthcoming.

Bout, S (2023), "5 years of small privatization: How the reform taught communities and the state to manage their property more effectively", voxukraine.org, 29 June.

Coibion, O and Y Gorodnichenko (2015), "Inflation Expectations in Ukraine: A Long Path to Anchoring?", *Visnyk of the National Bank of Ukraine*, National Bank of Ukraine, issue 233, pages 6-23.

Confederation of Employers of Ukraine (2023). "How to compensate the 30% loss of workforce," Available at https://employers.org.ua/news/id2487.

De Haas, R and A Pivovarsky (2022), "The reconstruction and development of Ukraine's financial sector after the war", in Y Gorodnichenko, I Sologoub and B Weder di Mauro (eds.), *Rebuilding Ukraine: Principles and Policies*, CEPR Press.

Demers, A (2011), "When Veterans Return: The Role of Community in Reintegration", *Journal of Loss and Trauma* 16(2): 160–179.

Dinerstein, M, R Megalokonomou and C Yannelis (2020), "Human Capital Depreciation", CESifo Working Paper No. 8614.

Eichengreen, B and V Rashkovan (2022), "How to organise aid", in Y Gorodnichenko, I Sologoub and B Weder di Mauro (eds.), *Rebuilding Ukraine: Principles and Policies*, CEPR Press.

Gorodnichenko, Y, M Kudlyak and A Sahin (2022), "The Effect of the War on Human Capital in Ukraine and the Path for Rebuilding", CEPR Policy Insight, May.

Green, R K, J V Henderson, M E Kahn, A Nikolsko-Rzhevskyy and A Parkhomenko (2022), "Accelerating urban economic growth in Ukraine", in Y Gorodnichenko, I Sologoub and B Weder di Mauro (eds.), *Rebuilding Ukraine: Principles and Policies*, CEPR Press.

Grygorenko, Y and M Schnitzer (2022), "Ukraine's business environment", in Y Gorodnichenko, I Sologoub and B Weder di Mauro (eds.), *Rebuilding Ukraine: Principles and Policies*, CEPR Press.

Ieruslymov, V and D Marchak (2021), "Analysis of the effectiveness of legislative regulation of the provision of social assistance in Ukraine for the main target groups", Kyiv School of Economics.

International Monetary Fund (2023), "Ukraine: Request for an Extended Arrangement Under the Extended Fund Facility and Review of Program Monitoring with Board Involvement-Press Release; Staff Report; and Statement by the Executive Director for Ukraine", 31 March.

Kupets, O, O Betliy and F Postel-Vinay (2023), "Ukraine's labour market: the past, the present and the future", in Y Gorodnichenko and S Stepanchuk (eds.), *Ukraine's Road to Recovery*.

Kyiv International Institute of Sociology (2023), "How many Ukrainians have close relatives and friends who were injured / killed by the Russian invasion: results of a telephone survey conducted on May 26 - June 5, 2023", 29 June.

Kyiv School of Economics (2023), Report on Damages to Infrastructure, March.

Marchak, D and Y Markutz (2020), "Tax Breaks: Who and how is subsidized in Ukraine with tax breaks", Kyiv School of Economics.

Movchan, V and K Rogoff (2022), "International trade and foreign direct investment", in *Rebuilding Ukraine: Principles and Policies*, Yuriy Gorodnichenko, Ilona Sologoub and Beatrice Weder di Mauro, eds., CEPR Press.

Mylovanov, T and G Roland (2022), "Ukraine's post-war reconstruction and governance reforms", in Y Gorodnichenko, I Sologoub and B Weder di Mauro (eds.), *Rebuilding Ukraine: Principles and Policies*, CEPR Press.

National Bank of Ukraine (2023), Inflation Report – April 2023.

United Nations High Commissioner for Refugees (2023), Ukraine Emergency.

Zelikow, P and S Johnson (2022), "How Ukraine Can Build Back Better", Foreign Affairs, 19 April.

Дубровський, В, В Черкашин and О Гетман (2021), "Порівняльний аналіз фіскального ефекту від застосування інструментів ухилення/уникнення оподаткування в Україні: 2021", CASE Ukraine.

CENTRE FOR
ECONOMIC
POLICY
RESEARCH

This is the third of CEPR's Rapid Response Economics, a new series which is designed to publish research on major policy issues with the utmost speed.

More than 500 days since the start of the full-scale Russian invasion in 2022, the scale of destruction in Ukraine is staggering. However, it is vital to develop plans for Ukraine's reconstruction so that the recovery can start as soon as possible. This report proposes a macroeconomic framework for the post-war period that can support a successful recovery. The report stresses that sustainable public finances, sound monetary policy, a predictable and fair regulatory framework, and flexible labour markets provide the foundation for the success of human capital development, foreign direct investment, technological leapfrogging, and many other elements of reconstruction. An overarching objective of these policies is to deliver a stable macroeconomic environment that can facilitate the flow of resources to most efficient uses and to lay foundations for durable economic growth.

ISBN: 978-1-912179-75-6

187 boulevard Saint-Germain | 75007 | Paris | France
33 Great Sutton Street | LONDON EC1V 0DX | UK
EMAIL: CEPR@CEPR.ORG
WWW.CEPR.ORG