Shaping the path to economic recovery

1 July 2022

Key messages

- Russia's large-scale aggression against Ukraine is inflicting significant damage on Ukraine's economy, undermining macroeconomic stability and degrading its productive capital. Ukraine's forward-looking recovery and reconstruction aspirations should ensure the right framework conditions are in place and leverage international support, to achieve a sustained recovery that achieves a stronger, greener and more resilient economy.
- In the short-term, maintaining macroeconomic stability, amidst the ongoing disruption of the war and pressures of defending the country, will buttress Ukraine's defence and ensure solid foundations for the recovery. Seeking to maximise international partners' support in the form of grants or highly concessional loans, and developing mechanisms to provide certainty over the size and timing of support, would support confidence and financing of the budget and the current account.
- Into the longer-term, agile macroeconomic management will remain essential in managing the reconstruction and supporting the economy's competitiveness. Developing a more effective tax system will support sustainable public finances
- The longer-term recovery is an opportunity to "build back better" investment climate, enhancing competition, transparency and integrity across sectors, raising skills, fostering digitalisation and bolstering research, development and innovation,.
- Putting in place the policies and systems enabling all of Ukraine's citizens, especially those displaced by the war or defending the country, to contribute fully to the recovery will provide for a more inclusive economy.

Preparing for Ukraine's economic recovery

Russia's full-scale invasion of Ukraine is inflicting historic human suffering. It is also inflicting deep damage on the country's economic fabric. Ukraine can recover, through policy choices that strengthen the framework conditions and that leverage international support. Enabling all of Ukraine's people, especially those displaced by the war or defending the country, to contribute fully to the recovery will provide for a more inclusive economy. Putting in place the financing and policy measures to "build back better" damaged infrastructure, businesses and housing will enable a more productive, greener and more digitalised economy. Improving the investment climate, enhancing competition, transparency and integrity across sectors, raising skills, and bolstering research, development and innovation will enable Ukraine's economy to seize new economic opportunities, diversify and become more productive and environmentally sustainable. This policy brief outlines some of the policy priorities for an economic recovery strategy that responds to Ukraine's immediate needs (2022-2023) and that can help put Ukraine on a sustainable path of strong economic growth in the medium to long term (2023 and beyond).

Macroeconomic stabilisation as a foundation for recovery

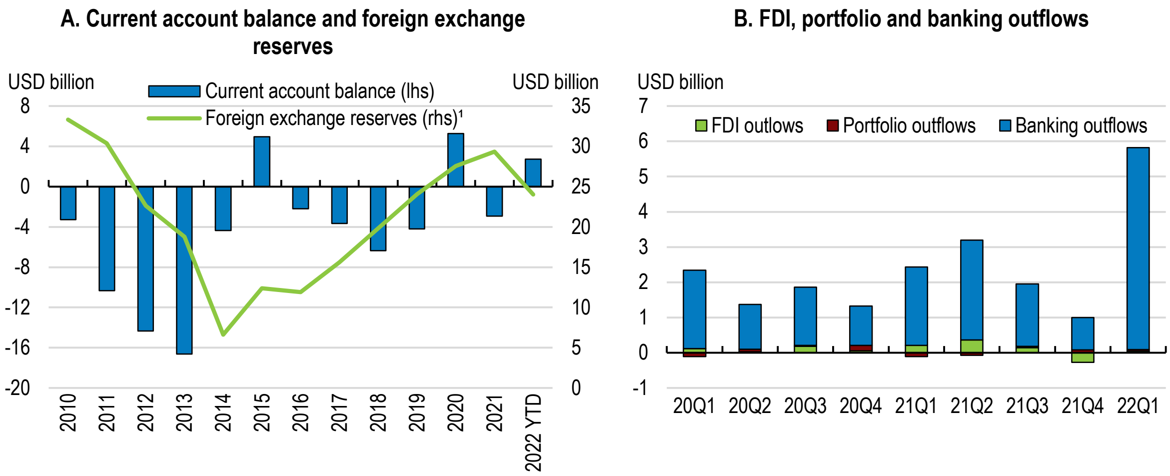
Russia's war against Ukraine is reducing activity, cutting export earnings and compressing fiscal revenues, while public spending needs are growing. Estimates of lost productive capacity and economic activity in 2022 vary between 30% and 50%. Almost half of businesses have reduced or suspended their activities (Kyiv School of Economics, 2022[1]). Exports have halved, as key export routes via the Black Sea and to Russia have been closed and only a fraction can take over land or via the Danube to Western markets. For example, Ukraine produced 9% of global grain exports, and its Black Sea routes have been closed. An estimated 30% of crops have not been planted in the 2022 spring season and agricultural stockpiles have been destroyed or spoiled, imperilling food supply in Ukraine and globally. At least 15% of workers have been laid-off and most others have had their working hours and incomes reduced.

Current account pressures are sustainable in the very short term but are growing. Imports have fallen as supplies of key items such as fuel have been cut, but they have fallen less than exports, adding to current account financing pressures. Along with increasing demands to shift savings into foreign currency, this is building balance of payment pressures. Inflation is mounting, with prices rising by more than 16% in the year to April 2022, although the prices of basic goods have been frozen. The exchange rate has been fixed against the US Dollar and the capital account closed, supported by significant but declining foreign exchange reserves, although unofficial market exchange rates are now around 10% below the official rate (Figure 1). While banks remain sound, access to cash is becoming constrained. The National Bank of Ukraine raised its policy rate from 10% to 25% in mid-June 2022, in an effort to avert outflows of deposits from banks and to improve demand for the hryvnia (Figure 2, Panel B). Expected financial flows from Ukraine's international partners are likely to support the exchange rate and domestic monetary stability, although the uncertain timing and volumes of that support create challenges for managing policy and add to uncertainty for the private sector.

Fiscal sustainability relies on official external support. Tax revenues have fallen by 80% since the start of the war (Becker et al., 2022[2]). The government has been largely reliant on monetary financing and loans to meet its approximately EUR 4.7 billion monthly financing needs (Figure 2). The government also assesses that its ability to raise new financing through domestic bonds is limited to USD 1 billion per month. Domestic banks' government debt holdings are already high. Between 24 February and 7 June 2022, Ukraine received more than USD 7.9 billion in primarily humanitarian grant funding and USD 49.4 billion in loans and other repayable finance. A number of external partners have pledged further substantial support although the share of grant funding is difficult to assess. Commitments by Ukraine's international partners of over EUR 28 billion since the start of June 2022 are expected to limit the drain on fiscal reserves to EUR 9 billion in 2022. Multilateral support for government financing includes the following:

1. The EU-led "Rebuild Ukraine Facility", which provides grants and loans for reconstruction. It is financed by the EU and Member States.
2. The IMF-administered "Account for Ukraine", which is a channel of grants or loans from IMF members, their official institutions, and intergovernmental agencies and organisations to assist Ukraine in meeting its balance of payments and budgetary needs.
3. The EBRD's EUR 2 billion Resilience and Livelihoods Framework, which focuses among others on payment deferrals, debt forbearance and restructuring, as well as emergency liquidity finance for Ukraine.
4. A multi-donor facility led by the World Bank to cover essential public expenditure, such as public payroll, which has already received a mixed concessional and commercial loan of USD 1.5 billion.

Figure 1. Ukraine's foreign exchange reserves are buttressing growing current account pressures



1. Year-end values. 2022 value is up to April.
Source: CEIC; OECD Monthly Capital Flow Dataset; and OECD calculations.

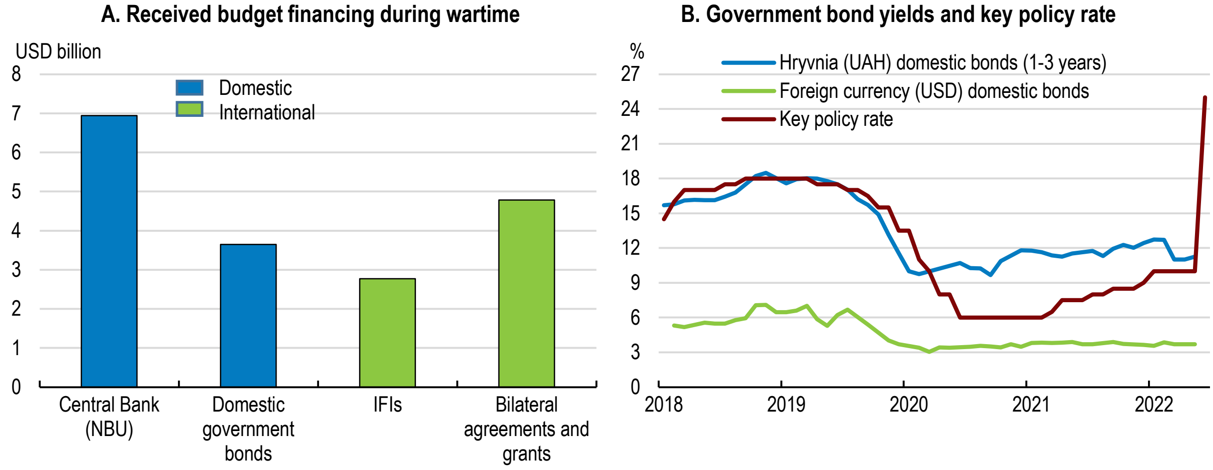
Immediate measures to support macroeconomic stability

Ukraine's immediate fiscal and current account needs have been funded. These are sustainable in the short-term if confidence in the banking system and exchange rate can be maintained. Ensuring transparency about external financing support and needs will buttress confidence in the exchange rate and banking system. Without a high share of grant or highly concessional loan financing, Ukraine's gross financing needs risk being unsustainable, undermining the conditions for a recovery. Ukraine and its partners should do the following to maintain macro stability against the backdrop of the war:

- **Continue fiscal and current account support, seeking to the extent possible grants or loans with very long repayment terms and low fixed interest costs.** Seeking clarity and pre-commitments from international partners over the timing and volumes of disbursements would provide policy makers and the private sector with greater certainty. Limiting the public sector's gross financing needs will reduce spending pressures and vulnerabilities, especially during the early years of the recovery.
- **Provide loan guarantees to keep high-productivity firms operating.** Public loan guarantees can shield viable firms from the repercussions of the crisis without generating significant risk of maintaining "zombie" firms or of stopping firms from shifting into activities with better prospects if their existing activities are likely to become unviable (Demmou and Franco, 2021[3]).

- **Encourage the return of those who have left Ukraine**. Retaining skilled workers in Ukraine will be critical to sustaining the economy through the war and to rebuilding and leveraging investment in the recovery. Maintaining macroeconomic stability and identifying the financing for the recovery will build confidence and contributions for Ukraine's future.

Figure 2. The budget is relying on central bank and official financing as market rates rise



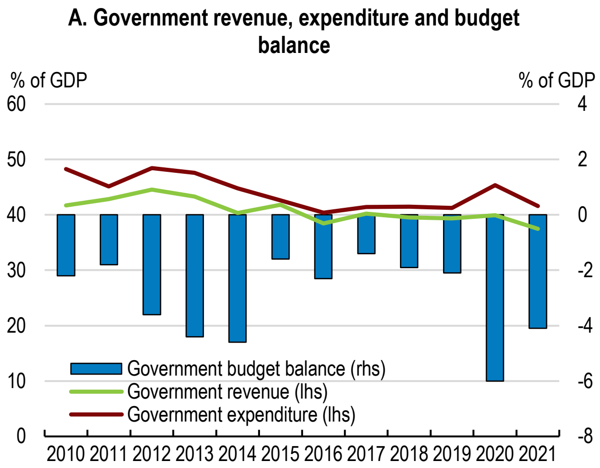
Note: Panel A: State budget financing between February 24 and June 22, 2022.
Source: Ministry of Finance, Ukraine; National Bank of Ukraine; and OECD calculations.

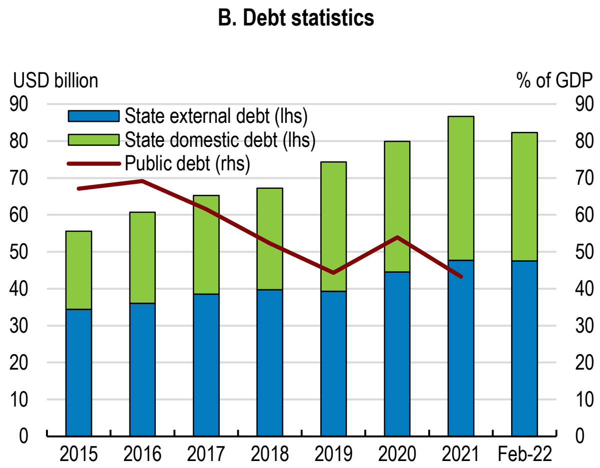
Longer-term measures to strengthen Ukraine's macroeconomic foundations

Maintaining macroeconomic stability will remain challenging through the recovery, requiring a balancing of the expected large financial inflows for reconstruction with the economy's lost production capacity and the need to support the workers and businesses shifting to new activities and locations.

- **Re-establish a medium-term fiscal framework that ensures fiscal sustainability and manages expected recovery support adapted to the changed situation.** The medium-term budget objectives agreed in 2021 – achieving a primary budget surplus and ensuring public debt remained below 60% of GDP – present a solid basis for a future medium-term strategy (Figure 3). Ukraine's future strategy should seek to limit gross financing needs and develop fiscal space to respond to future shocks while managing the financing for reconstruction. Returning public debt ratios to modest levels will contribute to sustainability. Strengthening the budget preparation process can help ensure that fiscal objectives are achieved through balanced revenue and expenditure decisions, rather than by cutting growth-supporting spending (PEFA Secretariat, 2019[4]).
- **Develop a framework to manage financial inflows while protecting export competitiveness and macroeconomic stability.** As Ukraine rebuilds its productive capacity, international financial support will need to be managed so as to avoid generating sustained inflationary pressures or rapid exchange rate appreciations that weaken exporters' international competitiveness. Integrating these arrangements into the central bank's monetary policy and reserves management frameworks and governance would support monetary stability. As monetary policy management will remain unusually complex through this period, further strengthening the National Bank of Ukraine's (NBU) internal governance and operational practices, by continuing to ensure the NBU independence and by building exchanges with high-performing central banks elsewhere, could be fruitful.

Figure 3. Prior to the war, public debt ratios were modest and fiscal policy was consolidating





Source: Ministry of Finance, Ukraine; and OECD calculations.

- **Improve the quality of public expenditures.** The post-war recovery will provide an opportunity to review and improve spending programmes, to increase spending that supports growth and develop a sustainable social protection system that supports inclusiveness and those left vulnerable following the war. For example, it will provide an opportunity to review and improve the sustainability of the pension system in light of Ukraine's ageing population [see Social Protection Policy Note]. Implementing measures to improve the effectiveness of public spending, including a medium-term expenditure framework, spending reviews and performance assessments, can guide the reallocation of expenditure to areas where it best supports growth and well-being, and can improve outcomes when fiscal space is tight. A process of strong *ex ante* evaluations and consultation to prioritise between the need to rebuild network infrastructure, and to invest in skills and social services, can guide spending priorities. Similarly, the tax and contribution system can be re-evaluated to reduce distortions, broaden the tax base and encourage activity and investments. Avoiding tax concessions that risk being poorly targeted or becoming permanent, would support fiscal credibility and long-term tax morale.
- **Strengthen the tax system's design and administration.** As part of the post-war recovery, Ukraine will have to rebuild its tax system and tax base. In the immediate aftermath, it may consider temporary tax measures that raise revenues at low compliance costs while stimulating economic recovery and supporting the cash-flow of businesses and households. The country will then need to rebuild and adapt its tax system to its evolving economic situation. To support the recovery, the rebuilt system will need to stimulate innovation, entrepreneurship and economic activity. While there may be a case for targeted tax incentives to support investment and reconstruction, care should be taken to ensure that these tax incentives are effective and efficient, particularly in light of the two-pillar solution to address the tax challenges of the digitalised economy, which was agreed by more than 130 jurisdictions, which includes a global minimum effective tax rate of 15%. The post-war reconstruction may strengthen compliance and improve the system's administration, so strengthening public finances and tax morale into the future.
- **Building a stronger capacity to produce and use economic statistics to guide the recovery.** Prior to the invasion of Ukraine, efforts were underway to improve the quality of Ukraine's economic statistics. The war has halted these efforts and severely disrupted the capacity of Ukraine to produce even a set of core official statistics. Re-establishing and modernising the Ukrainian national statistical system, by setting up a new infrastructure for data management and statistics, and rebuilding the human and technical capabilities to collect and produce relevant official statistics will be indispensable to monitor the reconstruction, assess its effectiveness, and ensure that it is

inclusive across different population groups. This will require the support of the international statistical community to rebuild established and explore new data sources and tools and the implementation of international standards (ex. SDMX). Improving official and private capacity to use these statistics can support a virtuous cycle of greater demand for quality statistics and better policy making.

- **Enhancing Ukraine's macroeconomic analysis and projection capacity to manage macroeconomic policy through the reconstruction.** A first step would be to strengthen Ukraine's short-term forecasting infrastructure for economic analysis and 2-years-out economic projections. The short-term analysis can be anchored in long-term scenarios, that typically include potential output estimates and that can simulate the long-term impact of policy measures and Ukraine's alternative recovery strategies.

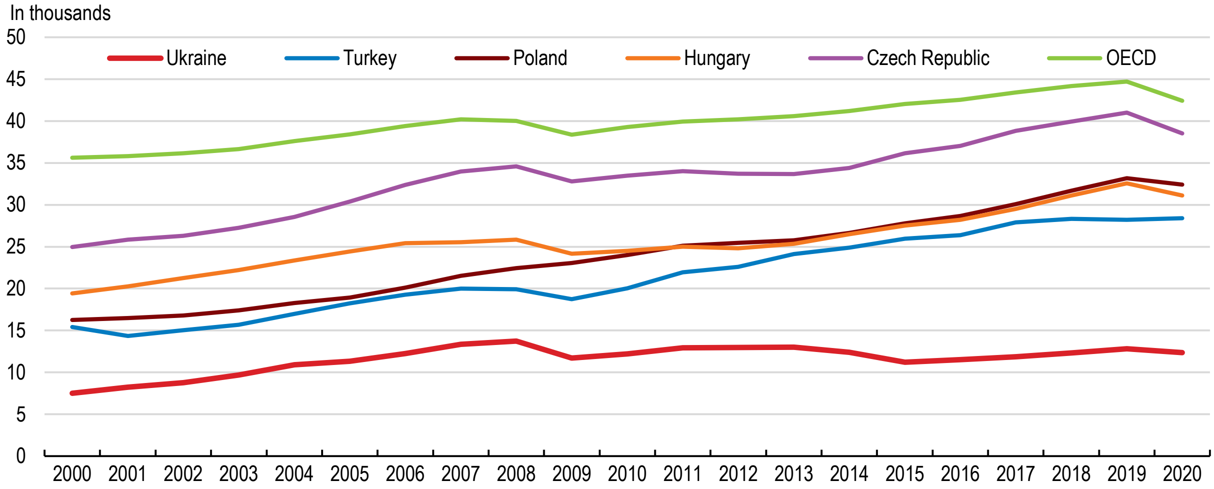
Longer-term measures setting the conditions for a sustained, resilient and prosperous recovery

The war has suspended or destroyed production in many of Ukraine's leading sectors. Damage to transport infrastructure is estimated at over USD 41 billion, and 41 cities, nearly 2000 educational facilities, 700 health facilities, as well as 200 cultural heritage cites have been damaged or destroyed (Kyiv School of Economics, 2022[1]). Steel production, which generated one-quarter of exports before the war, has been a notable target and will require focused reconstruction efforts (Box 1). Agricultural activity, which generated 10% of GDP and 40% of exports, will be limited until crops can again be planted and shipments delivered.

The damage from the war has amplified the economy's pre-existing weaknesses. Unlike its Western neighbours, Ukraine had not been on a convergence path towards OECD average levels of productivity and incomes, reflecting low investment, and an undiversified economy that added limited value to its raw material products (Figure 4 and Figure 5). Economic activity was dominated by a modest number of large enterprises producing about half of business value added, while a large number of micro, small and medium-sized enterprises employed most private-sector workers (OECD et al., 2020[5]).

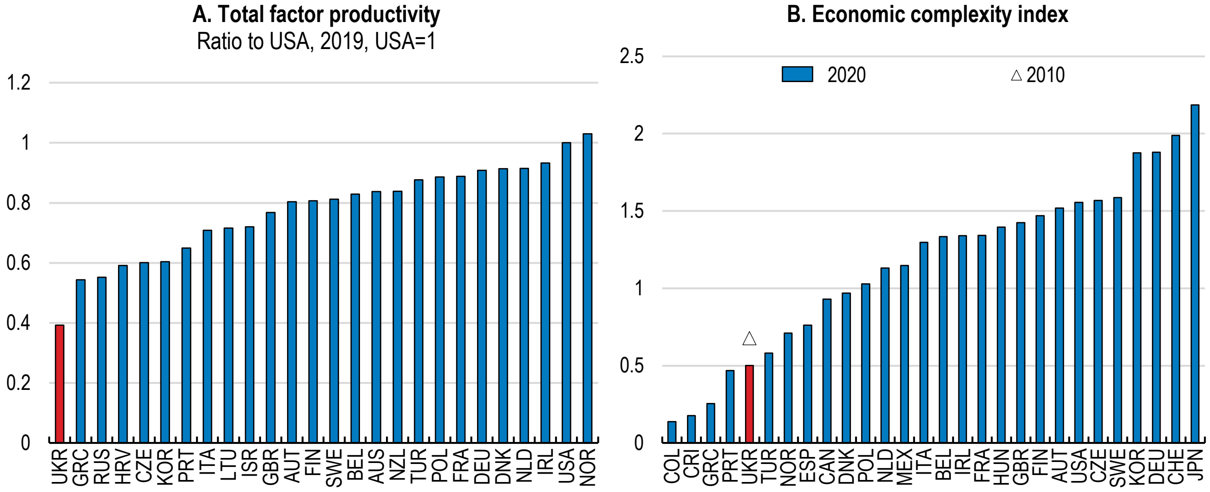
Figure 4. Unlike its western neighbours, Ukraine's income was not converging towards the levels of the advanced economies

GDP per capita, constant 2017 international $, purchasing power parity



Source: World Bank; and OECD calculations.

Figure 5. Diversifying activity would support productivity



Note: Panel C: 1. Index scale from 0 to 6, from most to least competition-friendly regulations. Whiskers indicate range of OECD countries between 5 best and top 5 lowest performing OECD countries. Ukraine was surveyed in 2017, applying the 2013 Product Market Regulation Methodology.
Source: Penn world table; OEC; OECD 2013 PMR database; and OECD calculations.

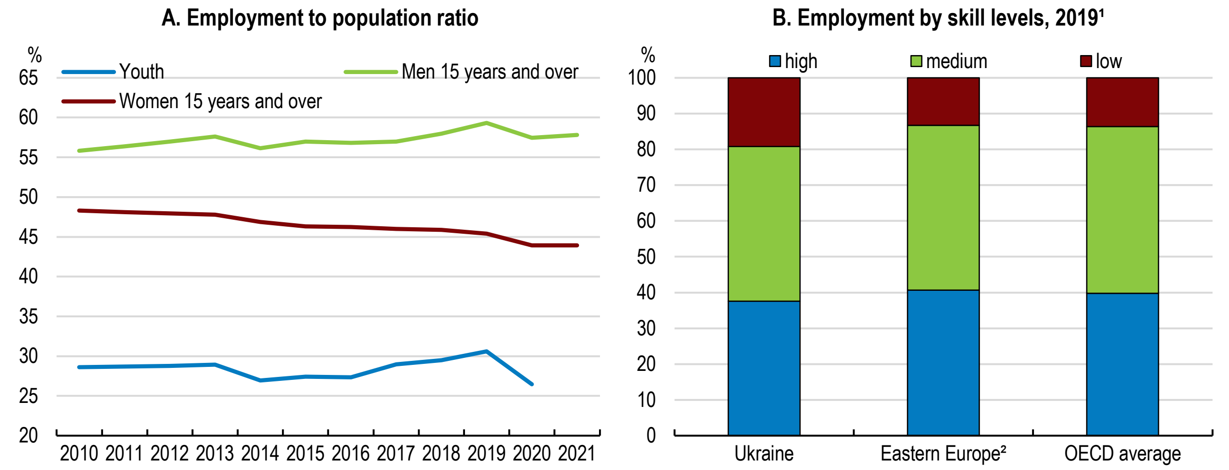
Enabling the workforce to contribute and benefit fully from the recovery

The Russian invasion of Ukraine has led to large population movements, disrupting workplaces and creating risks of a permanent loss of skills. As many as 30% of workers have been displaced, either internally or out of Ukraine. Most workers' hours and wages have been cut, and an estimated 15% have been laid-off (Becker et al., 2022[2]). Many workers have shifted from their regular activities to supporting Ukraine's defence. These workers will need to re-integrate into regular activities as the situation normalises. In addition to the casualties, physical and mental health injuries from the war are likely to affect many workers (see the policy responses on an inclusive recovery in Ukraine and on vocational education and training systems).

Prior to the war employment rates were moderate, underemployment was significant, notably for youth, and skill levels lagged comparator countries in many dimensions (Figure 6**).** While the workforce's average years of education and resources devoted to education are high, especially relative to other countries of Ukraine's income levels, professional skills and outcomes are poorer, and educational inequalities were growing before the war (see the policy responses on an inclusive recovery in Ukraine and on vocational education and training systems. Ukraine has used training programmes to help workers transition to new opportunities following the economic shock of the end of communism. Ensuring that the population displaced both internally and abroad participates in education and training will provide continuity to disrupted lives and prepare the skills for the recovery.

The modernising of Ukraine's active labour market policies, under way before the war, should be expanded to meet the needs of the recovery. These efforts focused on improving the public employment service's job matching capacity (European Training Foundation, 2022[6]). This capacity will become even more vital through the economic recovery, as new and more diverse higher-skill opportunities emerge, placing new demands on education and training. These include deeper needs for fundamental problem-solving and communication skills, as well as new vocational skills for the more advanced technologies as firms rebuild. Developing strong digital skills, both specific technical skills to implement digitalisation and the broader skills to make the most of digitalised work environments, would give Ukraine's workforce a competitive advantage. Expanding the supply of agronomists and other skilled agricultural specialists can help that sector be a leading driver of Ukraine's recovery (Box 3).

Figure 6. The recovery needs to bring more and higher-skilled jobs



1. Skill levels are mapped to occupations based on ILO definitions: the level "high" includes managers, professionals and technicians and associate professionals. The level "medium" includes clerical support workers, service and sales workers, skilled agricultural, forestry and fishery workers, craft and related trades workers and plant and machine operators, and assemblers. The level "low" includes all elementary occupations.
2. ILO region of Eastern Europe includes Belarus, Bulgaria, Czech Republic, Hungary, Republic of Moldova, Poland, Romania, Russian Federation, Slovakia and Ukraine.
Source: ILO; and OECD calculations.

- **Undertake a skills assessment to provide a basis for the reconstruction of the education and training system, and for developing and pursuing a national skill's strategy.** The war's disruption to the workforce and activity is likely to make rebuilding the population's skills essential for a sustained recovery. Developing a national skills strategy would guide priorities for university and lifelong learning courses that cater for the needs of key sectors. The assessment can develop collaboration between government, businesses and academia to bring educational processes and outcomes in line with the emerging market needs (OECD, 2015[7]) (see the policy response on an on vocational and education training systems).
- **Strengthen apprenticeships to increase younger workers' skills and help firms to bridge labour needs**. Apprenticeships generally focus on younger workers, complementing the up-skilling and re-skilling of incumbent workers. In Ukraine, apprenticeship could allow students to switch back-and-forth between education and firms, thus increasing labour input where needed. Apprenticeships may also provide important information to the education system, enabling it better to tailor the skills supplied to the needs of the business sector. For priority skill areas, such as in information and communications technologies (ICT), the government may introduce financial incentives to support relevant apprenticeships, and such targeted financial incentives have been found to be more beneficial than untargeted financial incentives for apprenticeships (Kuczera, 2017[8]). Reforming the regulatory framework for apprenticeship in Ukraine would make the costs and benefits more attractive to employers, expanding apprenticeship opportunities.
- **Develop a grant scheme to cover a substantial share of the cost of training to raise participation.** A proper monitoring and evaluation mechanism should be put in place together with the policy. To avoid the misuse of such grants, the government may pre-screen a list of potential providers of training among which the beneficiary firm may choose, based on objective indicators.
- **Train workers and improve management practices for innovative and digitalised work.** Teleworking and digital technologies allow firms to continue operating during the disruption of the war, and can support firms' productivity and develop new digital business models. To realise this, firms need to operate flexibly, and to continue with this flexibility as the security situation normalises. Achieving this requires continued investments in workers' skills and managerial

practices, alongside supporting firms' investments in intangible discussed above (Calvino et al., 2022[9]). Management skills can be improved through a mix of stronger awareness among relevant stake-holders such as Chambers of Commerce and Industry Associations, and subsidising access to management training, consultancy and coaching.

Better regulations to attract investment and support a sustained recovery

The massive investment requirements to reconstruct the economy create an historic opportunity for Ukraine to leapfrog to higher value-added and more sustainable activities. The movement of people and firms, and the rebuilding of infrastructure and machinery are opportunities to raise productivity and diversify activity across the country. Rebuilding infrastructure, from entire cities to the energy system to production processes, is an opportunity to lock-in early low-greenhouse gas emission housing, urban design, and production technologies (see Boxes 1 and 2), which will give Ukraine a competitive advantage as the global economy de-carbonises (see the policy response on the environmental impacts of the war in Ukraine).

Attracting substantial, long-term private investment will be central to the recovery. Private investment, from both foreign and domestic sources, will be needed to rebuild not just businesses' factories and other facilities, but also for infrastructure, such as railways, ports and waterways, and social infrastructure such as hospitals and education facilities. Innovative private financing can contribute to rebuilding and improving the quality of Ukraine's housing stock (see Box 2). Attracting long-term private investment, that provides both finance and innovative business processes and technologies, will require getting the framework conditions right.

Ukraine has undertaken significant reforms to improve its investment and business environment in recent years. Key reforms include improving corporate governance requirements, simplifying establishment and licencing procedures, addressing competition issues, making public procurement more efficient and transparent and reinforcing anti-corruption architecture (OECD, 2016[10]; OECD, 2022[11]). These are evident in Ukraine's relatively strong ranking in some of the OECD product market regulation indicators (Figure 5, Panel C). However, the uncertain security situation meant these reforms have not translated into improved investor confidence or demand for finance.

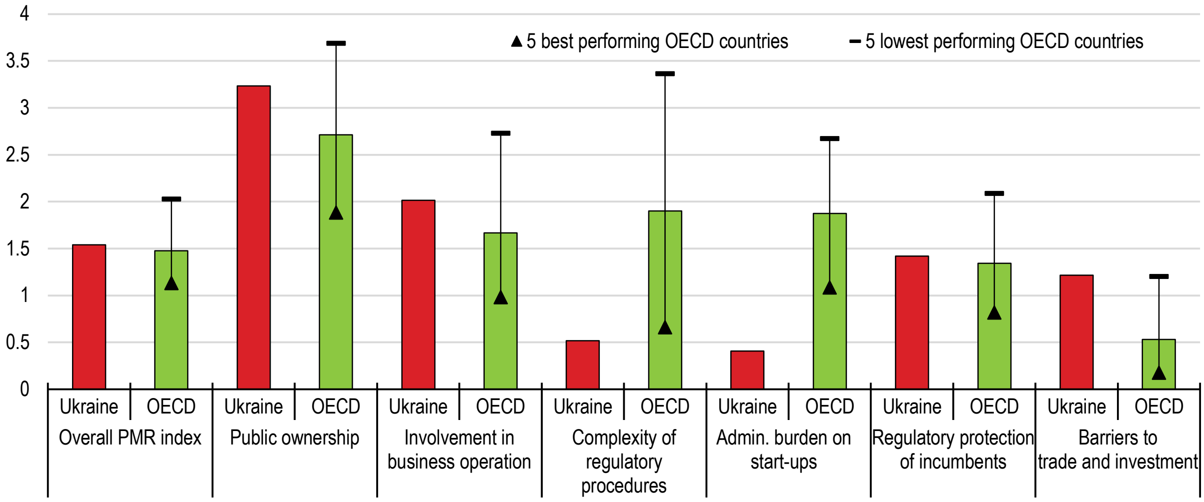
Improving competition and strengthening the role of the Anti-Monopoly Committee (AMC) will support investor confidence. In particular, Ukraine should pursue its efforts to support the Commission's resourcing and independence; improve the legal framework against hard-core cartels and bid rigging; eliminate conflicts with the Commercial Code; and enable the AMC to transparently set its priorities y setting and processes (OECD, 2016[12]).

Improving the investment climate will be key to raise investment from the modest pre-war levels. Corruption, frequent changes in government and senior officials, excessive law-making matched by weak implementation, lack of transparency, and the uncertainty and duration of judiciary processes have all depressed investor sentiment (OECD, 2016[13]). Improving Ukraine's investment climate for the recovery will require strengthening law enforcement, strengthening the rule of law and ensuring political stability.

A stronger role for foreign direct investment (FDI) is likely to be central to the recovery. Construction, renewable energy, financial services, transport and ICT account for over 60% of the value of greenfield investments in Ukraine since 2003 (Financial Times, 2022[14]). Prioritising foreign investments in these critical sectors, for which Ukraine has proven to be an attractive investment destination, will help accelerate the nation's reconstruction and recovery.

Improving the business climate would support existing firms' investments in rebuilding, and encourage new dynamic, innovative start-up to rejuvenate the economy. Many aspects of the business environment remain onerous for both starting-up and operating a business (Figure 7). Policy failures and regulations are greater obstacles for new firms than incumbents (OECD, 2016[15]; Amici et al., 2015[16]). The efficiency of the civil justice system, the quality of insolvency arrangements and ensuring that regulations are technologically and operationally neutral rather than favouring incumbents would enable greater dynamism among new start-ups, supporting a strong recovery and a more diversified economy.

Figure 7. Reforming public business ownership and governance would improve the business environment



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Source: Penn world table; OEC; OECD 2013 PMR database; and OECD calculations.

- **Review existing regulations for the creation and operation of business activities, aligning with OECD countries' good practices, and simplifying compliance.** A 2015 Law on Licensing introduced some reforms aimed at simplifying procedures, especially in terms of registering a business (OECD et al., 2020[5]), but more can be done to re-think the approach to authorising different business activities. Principles of "zero licensing" for certain low-risk yet high value-added activities, "silence is consent" and "once-only" rules mean businesses would provide information to the administration only once, and can send important signals to domestic and foreign investors about the government's approach to regulation, business efficiency and administrative costs (OECD, 2022[17]).
- **Establish a one-stop-shop for innovative firms.** As more flexible administrative procedures are developed, they can be applied first to firms that are registered as being especially innovative. A one-stop shop could be established to collect, distribute and follow-up on requests from these firms for simplified bureaucratic and regulatory processes (France has found such an approach to be effective).
- **Improve energy regulation.** Better regulation of the energy sector can help Ukraine rebuild its energy system, navigate the shock of loss of historic supplies and to integrate into European energy markets. Building on work underway prior to the war to open the electricity sector, identifying and removing obstacles to new investment and reducing costs in the sector can help restore Ukraine's energy supply.
- **Develop an FDI strategy, aligned with the National Recovery Plan, to prioritise Ukraine's investment needs and support links with domestic firms.** UkraineInvest, since its creation in 2016, has been actively working to improve Ukraine's image as a successful location for business, in particular, by promoting its national talent in the ICT sector (OECD, 2020[18]). UkraineInvest can also design investment promotion packages that combine a variety of investment generation tools such as intelligence gathering (e.g. raw data analysis, market studies), sector-specific events (e.g.

road-shows, business fora and fairs, country missions), and pro-active investor engagement (one-to-one meetings, email/phone campaigns, enquiry handling) (OECD, 2022[19]).

- **Help business clusters develop through effective network and knowledge infrastructure.** Well-designed cluster development policies may encourage companies to collaborate together for the development of joint projects, foster industry-science linkages, and enhance cross-sectoral interactions. Prior to the war, Ukraine's aviation manufacturers had demonstrated the benefits of such clustering. When foreign direct investors are located in such clusters, they are likely to be more willing to collaborate with other local firms and organisations. From a policy perspective, this means that cluster policies should be aligned with FDI promotion, SME and regional development policies to increase the potential of FDI for local productivity gains. Cluster policies can achieve meaningful impacts when they integrate sectoral priorities, keep regional and local actors involved (e.g. businesses, municipalities, universities), and provide support (e.g. technical assistance, funding, capacity building) that takes into account the diversity of sub-national economies and FDI-SME ecosystems (OECD, 2022[19]).

Box 1: Building back a resilient steel industry

The ferrous metallurgy industry generated about 25% of Ukraine's exports and 9% of employment prior to the war. Several steelmaking plants and critical infrastructure such as intermediary hubs, rail connections and port warehouses have been heavily damaged or partially destroyed. Restoring production swiftly would be a driver of the economy's stabilisation and recovery and contribute to retaining skilled workers.

- **Maintain operating production.** Identify firms with ongoing steelmaking capacity, ensure they can access raw materials and are connected to logistics chains. Support these firms through public intervention programmes that link support to the additional costs firms face to restore production activity to normal levels. This support should be temporary and progressively eliminated once conditions normalise. Supply chains for steel plants can be secured by identifying the raw materials required and ensure that that these are available for domestic producers, and by shifting stocked materials from idled to operating plants.
- **Restore damaged plants and infrastructure.** Planning and identifying the financing to restore steel plants and logistical infrastructure early would speed up their return to operations once conditions allow. The restoration works is an opportunity to bring steel production plants and logistics infrastructure to European standards.
- **Achieve a greener and more productive industry.** Restoring production is an opportunity to modernise plants and improve the competitiveness and sustainability of Ukraine's steel industry. Existing plants are highly carbon-intensive. Restoration can improve energy efficiency, and transition production to more innovative and cleaner processes. This investment is also an opportunity for Ukraine's steel industry to align with the Responsible Business Conduct commitments it has entered. Potential investment priorities include energy efficiency, scrap-based and circular economy products, and breakthrough technologies including hydrogen-based steelmaking. Decarbonising the steel industry will be essential to reach the national carbon goal of net neutrality by 2060, and will support broader improvements in industrial processes, such as developing low-carbon energy, electricity and related infrastructure.

Developing access to finance for stronger, higher-quality investment

Investment inflows to Ukraine and banks' financing have been modest and volatile over the last decade, contributing to low overall investment. Capital flows plummeted in the first quarter of 2022, with substantial divestments of portfolio and direct investment assets starting already in January (Figure 1, Panel B). Meanwhile Ukraine's banks' financing to businesses has been low (

Figure 8), and has been effectively halted by the war. Raising finance will be critical for the public and private sector to build back better infrastructure, machinery and activity following the war.

- **Develop debt and equity markets to provide domestic financing for investments.** New and existing firms are likely to look to a mix of debt and equity financing. To support access to credit, a public credit guarantee fund may be implemented for innovative start-ups. Access to equity financing will be especially important for the success of young firms operating in sectors heavy in intangible assets, such as in the digital economy (Demmou, Franco and Stefanescu, 2020[20]). For equity, a tax incentive for equity investments may be implemented. Developing Ukraine's equity markets, ensuring that the tax system does not discourage equity financing, and developing venture capital and other alternative sources of financing can expand access to financing.

- **Alternative sources of finance complement bank-based financing, and can be effective in supporting SMEs and start-ups.** Aligning regulations and supervisory practices with other European countries, such as the Baltic countries with their well-developed alternative finance system, can help Ukrainian investors tap finance willing to support innovative and digital investments.

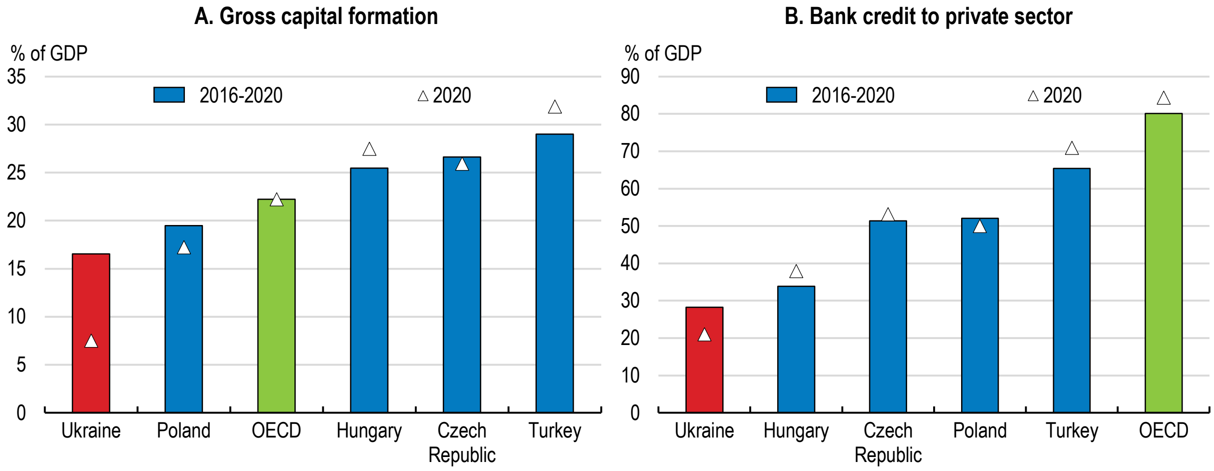
Box 2: Building better housing for Ukraine's recovery

As the economy recovers, some of the 8.3 million people displaced by the war may shift longer-term to new locations, adding to on housing supply pressures already generated by the destruction of housing. In addition to the 45 million m^2 of housing so far destroyed by the war, 80% of the pre-war existing housing stock was considered to be low quality and energy-inefficient Soviet-era constructions. Housing was responsible for one-third of total energy consumption and its quality was poor, with one-third and one-half of the population respectively without access to drinking or waste water systems.

The reconstruction effort offers an opportunity to upgrade the quality of housing in Ukraine. Financing this effort on a sufficient scale, when households' finances will be depleted by the lost income and higher costs of the war, while the financial system will be stretched, will require innovative approaches. Developing a special-purpose instrument can help channel the necessary investment, including for renovation of the existing housing stock (OECD, 2020[21]):

- Undertaking a comprehensive assessment of the housing needs and quality of the stock would gauge the construction, maintenance and renovation needs and investment required.
- A revolving fund to support new housing construction and renovation of damaged and poor quality housing could borrow at commercial and concessional rates to provide cheap long-term financing for the construction of new rental housing where it is most needed. Setting rents at affordable rates, updated periodically, would support households rebuilding their financial assets while build the fund's capital over time.
- Data collected by the fund on housing availability and costs could be used to calibrate housing policy over time and inform a balanced housing market that meet the needs of a diversified new economy.

Figure 8. Ukraine's low investment in part reflects limited financing from banks



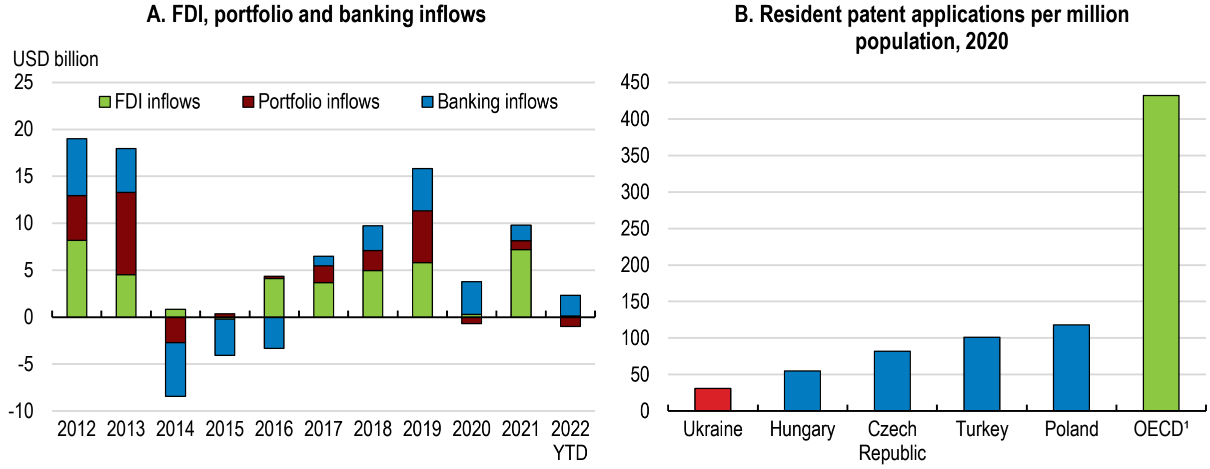
Source: World Bank; and OECD calculations.

Improving the framework conditions for innovation

Despite its historic technical expertise, patenting and innovation activity was low in Ukraine prior to the war and much activity was low skill (Figure 9, Panel B)**.** Raising research and development (R&D) activity would enable Ukrainian firms to adapt frontier technologies for domestic activities, and would help attract back Ukraine's skilled diaspora. The manifesto of the platform Industry4Ukraine outlines five conditions for Ukraine to develop the Fourth Industrial Revolution, and provides an structure for policies for innovation: (i) creating a favourable business climate; (ii) priority attention to medium- and high-tech sectors of industry; (iii) inclusiveness and coordination of actions of public authorities; (iv) mass and rapid digitalization of industry sectors; (v) supporting and developing of innovative industrial ecosystems.

- **Restore Ukraine's research and development activities:** To retain and repatriate Ukrainian R&D workers, short-term support can include reduced payroll taxes and social security contributions, to boost the competitiveness of local wages for these high-skilled workers. As the situation normalises, wage subsidies for R&D workers should be phased out.
- **Connect Ukraine's diaspora of scientists and researchers back to Ukraine.** Reinforcing existing and develop new networks of Ukrainian scientists, building on previous efforts of the Forum of Ukrainian Research Diaspora of the National Academy of Sciences of Ukraine, and conferences organized by the International Institute for Education, Culture and Co-operation with Diaspora. Encourage the diaspora to present their work to domestic audience, to boost morale and create a positive perspective for those who considering leaving the country. For those who have left, create joint scientific research and financing programmes between the diaspora and homeland, similar to Croatia's successful Unity through Knowledge Fund (ukf.hr) programme. Provide opportunities for diaspora scientists to spend a sabbatical year in a Ukrainian laboratory or institute, and ensure that arrangements are flexible and attractive for diaspora wishing to return, such as recognising foreign experience and flexible contracts that allow for time to be split.
- **In the immediate post-war period and into the medium-term, support demand for R&D activities rather than subsidising R&D.** These measures can start by public procurement for the reconstruction focusing on functional needs rather than technical specifications, so as to encourage bidders to innovate. The government can support this through dialogue in the tender process, such as consulting on potential innovative solutions, designing tender to allow for innovative solutions, while maintaining transparent conditions for all potential suppliers. Tenders can require innovation.
- **Use "innovative start-up acts" to provide co-ordinated policy support for the entry and growth of innovative new businesses**. Targeting works best when it is based on objective predictors of innovative potential, with a mix of attributes such as the firm's age, its legal status, level of R&D, and the qualifications of its employees. Eligible firms can choose from a menu of policy interventions that support the complex interaction of inputs, skills, and finance that underlie innovation. Policymakers have limited knowledge of each innovative firm mean innovative start-ups are based placed to choose from a wide, multi-pronged and co-ordinated set of incentives, such as those to support access to finance or reduced administrative and regulatory burdens.
- **Promote policies that foster business-academia linkages.** Measures can be modest, such as organising events, prizes and competitions where academia and business can meet. Measures such as innovation vouchers, where the government subsidises much of the cost of a small innovative project, can be readily applied with minimal administration. For larger projects, matching grants based on technological and market merit, can be co-financed by industry and government.
- **Adapt policies to support R&D and innovation as Ukraine's recovery progresses.** Benchmarking good practices for technology extension services and technology spin-offs from research institutes and universities, would indicate future directions for Ukraine's innovation policy.

Figure 9. Stronger investment inflows can fund Ukrainian research and innovation



Note: Panel A: Data relate to Ukraine. Panel B: 1. No available data for Estonia, Ireland, Iceland, Lithuania, Luxembourg, Latvia and Slovenia. Simple average of OECD countries for which there were available data.
Source: OECD Monthly Capital Flow Dataset; World Intellectual Property Organisation; and OECD calculations.

Box 3: Reskilling and investing to strengthen the agricultural sector in Ukraine and food security globally

The agricultural sector made a substantial contribution to activity, employment and exports prior to the war, building on Ukraine's rich natural endowment and traditional expertise. Ukraine is a leading producer and exporter of agricultural commodities. It is the world's largest producer of sunflower seeds and the largest exporter of sunflower oil, the third largest exporter of maize and rapeseed, the fourth largest exporter of barley, and the fifth largest exporter of wheat. The Russian aggression against Ukraine is undermining Ukraine's capacity to harvest crops, resulting in significant and potentially longer-lasting implications for producers and consumers. Exports have been affected by closures of ports and oilseed crushing operations, rising energy and fertiliser prices are translating into higher production costs, and the large number of displaced Ukrainian people is raising significant food security concerns inside the country. The war is also likely to affect Ukraine's ability to control pests and animal diseases, notably the African swine fever (ASF), significantly increasing the risk of disease proliferation domestically and in neighbouring countries. Indirect losses to Ukrainian agriculture due to decreased production, higher production costs, logistics disruptions and lower prices for export-oriented commodities have been estimated at USD 23.3 billion as of June 2022 (Kyiv School of Economics, 2022[22]).

Reforms were underway prior to the war to improve the framework conditions for agriculture. Still, Ukraine's agricultural production could be substantially higher – grain production could be as much as 50% more – through investing in machinery and infrastructure, skills and services (OECD, 2015[23]).

- **In the short-term, efforts should focus on providing logistical support to Ukraine to enable agricultural exports.** Domestic infrastructure needs to be maintained and repaired from the war damages. Maintaining international trade in food and fertiliser would enable the necessary trade adjustments and prevent the war from amplifying global food insecurity. Initiatives to strengthen market transparency and policy dialogue, such as the Agricultural Market Information System (AMIS), play a key role when agricultural markets are under uncertainty and need to adjust to shocks affecting supply and demand. Measures that aim to increase the supply or reduce the demand for agricultural products should also be considered but are likely to be more effective in the medium-term.
- **Land market reform underway can boost investment and improve productivity.** The opening of the land market, together with implementation of the Ukrainian Government's Irrigation and Drainage Strategy Until 2030 plan, should encourage farmers to invest in irrigation and drainage. The land market law still prohibits foreigners from buying land at this point and limits the amount of land Ukrainian nationals can purchase, although this restriction may be reviewed through a future national referendum.
- **Investing in extension services and workers skills would boost productivity.** Focusing vocational education on in-demand skills, such as agronomists, would help farmers raise their efficiency. Public support for extension services and research and development would help farmers adopt new technologies as they rebuild their equipment post-war.
- **Better environmental protection and management would improve the sector's resilience longer-term.** Soil erosion, already affecting 60% of land, is degrading Ukraine's valuable natural wealth. Improving crop cultivation practices and land management can reduce the effects, such as by upgrading agricultural machinery. Anticipating to the effects of climate change will become vital for the sector into the longer-term.

Annex A. Ukraine: Key indicators

Numbers in parentheses refer to the OECD average

LAND, PEOPLE AND ELECTORAL CYCLE					
Population (million, 2020)	44.1		Population density per km² (2020)	77.4	(38.7)
Under 15 (%, 2020)	16	(17.8)	Life expectancy at birth (years, 2020)	71.2	(79.7)
Over 65 (%, 2020)	17	(17.4)	Men (2020)	66.4	(77.0)
International migrant stock (% of pop, 2019)	11.3	(13.2)	Women (2020)	76.2	(82.5)
Latest 5-year average growth (%, 2020)	-0.5	(0.6)	Latest general election (5-year term)	2019	
ECONOMY					
Headline inflation (y-o-y % change, April 2022)	16.4	(9.2)	Monetary policy rate (%, June 2022)	25	
Gross domestic product (GDP)			Value added shares (%, 2020)		
In current prices (billion USD; 2020)	155.5		Agriculture, forestry and fishing	10.8	(2.7)
In current prices (billion LCU; 2020)	4191.9		Industry including construction	24.3	(26.2)
Per capita (thousand USD PPP, 2020)	13.1	(46.2)	Services	64.9	(71.1)
GENERAL GOVERNMENT					
Per cent of GDP					
Expenditure (OECD: 2020)	47.1	(48.5)	Gross financial debt (OECD: 2020)	60.7	(133.6)
Revenue (OECD: 2020)	40.9	(38.1)			
EXTERNAL ACCOUNTS					
Exchange rate (LCU per USD)	26.9		Main exports (% of total merchandise exports, 2019)		
PPP exchange rate (USA = 1)	7.5		Iron and steel	17.8	
In per cent of GDP			Cereals	16.9	
Exports of goods and services (2020)	39.1	(54.6)	Animal or vegetable fats and oils	8.5	
Imports of goods and services (2020)	40.1	(51.2)	Main imports (% of total merchandise imports, 2018)		
Current account balance (2020)	3.4	(0.1)	Crude or refined hydrocarbons	15.3	
Net international investment position	-16.3		Machinery and appliances	12.1	
			Electrical machinery and equipment	10.5	
LABOUR MARKET, SKILLS AND INNOVATION					
Employment rate (aged 15 and over, %, 2020)	48	(55.1)	Unemployment rate, Labour Force Survey (aged 15 and over, %, 2020)	9.5	(7.1)
Men (2019)	59	(65.6)	Youth (aged 15-24, %, 2020)	19.3	(12.8)
Women (2019)	43	(49.9)	Long-term unemployed (1 year and over, %, OECD: 2020)	2	(1.3)
Participation rate (aged 15 and over, %, 2020)	52	(60.3)	Tertiary educational attainment (aged 25-64, %, 2017, OECD: 2020)	49.9	(39.0)
			Gross domestic expenditure on R&D (% of GDP, 2018)	0.5	(2.6)
ENVIRONMENT					
Total primary energy supply per capita (toe, 2018, OECD: 2020)	2.1	(3.7)	CO_2 emissions from fuel combustion per capita (tonnes, 2015, OECD: 2019)	4.5	(8.3)
Renewables (%, 2017, OECD: 2020)	4.0	(11.9)	Renewable internal freshwater resources per capita (1 000 m³, 2018)	1.2	
SOCIETY					
Income inequality (Gini coeff.t, 2019, OECD: 2019)	0.266	(0.317)	Education outcomes (PISA score, 2018):		
Relative poverty rate (%, 2019, OECD: 2018)	23	(11.7)	Reading (2015, OECD: 2018)	466	(485)
Public and private spending (% of GDP)			Mathematics	453	(487)
Health care (2018, OECD: 2019)	7.7	(8.8)	Science	469	(487)
Education (% of GNI, 2019, OECD: 2020)	4.9	(4.6)	Share of women in parliament (%)	21	(32.4)

Sources: International Energy Agency, International Monetary Fund, IRENA, Ukrstat, United Nations, World Bank, International Labour Organisation, and OECD calculations.

Further reading

2015 OECD Recommendation on Good Statistical Practice

References

Amici, M. et al. (2015), "Red tape reduction and firm entry: evidence from an Italian reform", *Questioni di Economia e Finanza*, No. 285, Bank of Italy, Rome, https://www.bancaditalia.it/pubblicazioni/qef/2015-0285/QEF_285.pdf?language_id=1 (accessed on 18 June 2022). [16]

Becker, T. et al. (2022), "A Blueprint for the Reconstruction of Ukraine", *Rapaid Response Economics*, No. 1, CEPR, London, https://cepr.org/sites/default/files/news/BlueprintReconstructionUkraine.pdf (accessed on 17 June 2022). [2]

Calvino, F. et al. (2022), "Closing the Italian digital gap: The role of skills, intangibles and policies", *OECD Science, Technology and Industry Policy Papers*, No. 126, OECD Publishing, Paris, https://doi.org/10.1787/e33c281e-en. [9]

Demmou, L. and G. Franco (2021), "From hibernation to reallocation: Loan guarantees and their implications for post-COVID-19 productivity", *OECD Economics Department Working Papers*, No. 1687, OECD Publishing, Paris, https://doi.org/10.1787/2f4a4c20-en. [3]

Demmou, L., G. Franco and I. Stefanescu (2020), "Productivity and finance: the intangible assets channel - a firm level analysis", *OECD Economics Department Working Papers*, No. 1596, OECD Publishing, Paris, https://doi.org/10.1787/d13a21b0-en. [20]

European Training Foundation (2022), *Assessment of the Effectiveness of Active Labour Market Policies In Crisis and Post-Crisis Situations*, European Training Foundation, https://www.etf.europa.eu/sites/default/files/2022-02/almps_effectiveness_0.pdf (accessed on 24 June 2022). [6]

Financial Times (2022), *FDI Markets: the in-depth crossborder investment monitor from the Financial Times*, https://www.fdimarkets.com/. [14]

Kuczera, M. (2017), "Incentives for apprenticeship", *OECD Education Working Papers*, No. 152, OECD Publishing, Paris, https://doi.org/10.1787/55bb556d-en. [8]

Kyiv School of Economics (2022), *Agricultural War Damages Review. Ukraine*, https://kse.ua/agricultural-war-damages-review/. [22]

Kyiv School of Economics (2022), *Russia Will Pay project*, https://kse.ua/russia-will-pay/. [1]

OECD (2022), *Anti-Corruption Reforms in Ukraine: Pilot 5th Round of Monitoring Under the Istanbul Anti-Corruption Action Plan*, OECD Publishing, Paris, https://doi.org/10.1787/b1901b8c-en. [11]

OECD (2022), *Enhancing the business environment in Romania through industrial and manufacturing licensing simplification*, OECD Publishing, https://www.oecd.org/economy/surveys/enhancing-the-business-environment-in-romania-through-industrial-and-manufacturing-licensing-simplification.pdf. [17]

OECD (2022), *FDI Qualities Policy Toolkit*, OECD Publishing, Paris, https://doi.org/10.1787/7ba74100-en. [19]

OECD (2020), *Investment Promotion in Eurasia: A Mapping of Investment Promotion Agencies*, OECD Publishing, Paris, https://www.oecd.org/eurasia/competitiveness-programme/Investment-Promotion-in-Eurasia-A-Mapping-of-Investment-Promotion-Agencies-ENG.pdf. [18]

OECD (2020), *Policy Actions for Affordable Housing in Latvia*, OECD Publishing, Paris, https://read.oecd-ilibrary.org/view/?ref=137_137572-i6cxds8act&title=Policy-Actions-for-Affordable-Housing-in-Latvia. [21]

OECD (2018), *Good Jobs for All in a Changing World of Work: The OECD Jobs Strategy*, OECD Publishing, Paris, https://doi.org/10.1787/9789264308817-en. [26]

OECD (2018), *Mapping of Investment Promotion Agencies in OECD Countries*, http://www.oecd.org/investment/Mapping-of-Investment-Promotion-Agencies-in-OECD-Countries.pdf. [24]

OECD (2016), "No Country for Young Firms?"*, STI Policy Note*, OECD, Paris, https://www.oecd.org/sti/ind/Policy-Note-No-Country-For-Young-Firms.pdf (accessed on 18 June 2022). [15]

OECD (2016), *OECD Investment Policy Reviews: Ukraine 2016*, OECD Investment Policy Reviews, OECD Publishing, Paris, https://doi.org/10.1787/9789264257368-en. [10]

OECD (2016), *OECD Investment Policy Reviews: Ukraine 2016*, OECD Publishing, Paris, https://doi.org/10.1787/9789264257368-en. [13]

OECD (2016), *OECD Reviews of Competition Law and Policy, Ukraine*, https://www.oecd.org/daf/competition/UKRAINE-OECD-Reviews-of-Competition-Law-and-Policy_WEBENG.pdf. [12]

OECD (2015), *Identifying and Addressing Skills Gaps in Ukraine*, OECD, https://www.oecd.org/eurasia/competitiveness-programme/eastern-partners/Skills_Gap_Assessment_Ukraine_ENG.pdf. [7]

OECD (2015), *Review of Agricultural Investment Policies of Ukraine*, OECD, Paris, https://www.oecd.org/eurasia/competitiveness-programme/eastern-partners/Agricultural_Investment_Policies_Ukraine_ENG.pdf (accessed on 30 June 2022). [23]

OECD (2014), "The crisis and its aftermath: A stress test for societies and for social policies", in *Society at a Glance 2014: OECD Social Indicators*, OECD Publishing, Paris, https://doi.org/10.1787/soc_glance-2014-5-en. [25]

OECD (2010), *OECD Employment Outlook 2010: Moving beyond the Jobs Crisis*, OECD Publishing, Paris, https://doi.org/10.1787/empl_outlook-2010-en. [27]

OECD et al. (2020), *Ukraine: Small Business Act country profile*, OECD Publishing, Paris, https://doi.org/10.1787/d5c2705e-en. [5]

PEFA Secretariat (2019), *2019 Public Expenditure and Financial Accountability (PEFA) Performance Assessment Report Ukraine*, World Bank, Washington, https://www.pefa.org/sites/pefa/files/2022-05/UA-Nov19-PFMPR-Public%20with%20PEFA%20Check_EN.pdf (accessed on 23 June 2022). [4]
