

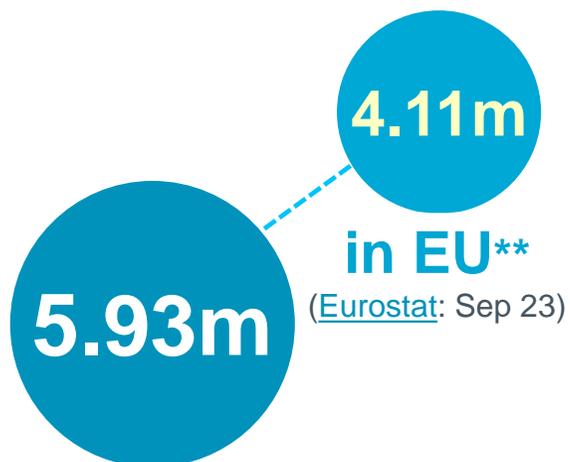
THE INVASION OF UKRAINE: THE IMPACT, IN NUMBERS

21 DECEMBER 2023

Data and analyses collected by the ETF from various sources.

The contents of this document are the sole responsibility of the source institutions and do not necessarily reflect the views of the ETF or the EU institutions.

Overview



Refugees from Ukraine recorded in Europe*

5,92 on 28/11
([UNCHR](#): 19/11/23)



Damaged or destroyed education facilities (≈12.1% of total)

3,793 on 06/09
([Ukrainian MoES](#): accessed 27/10/23)



Direct damage estimates in education infrastructure***

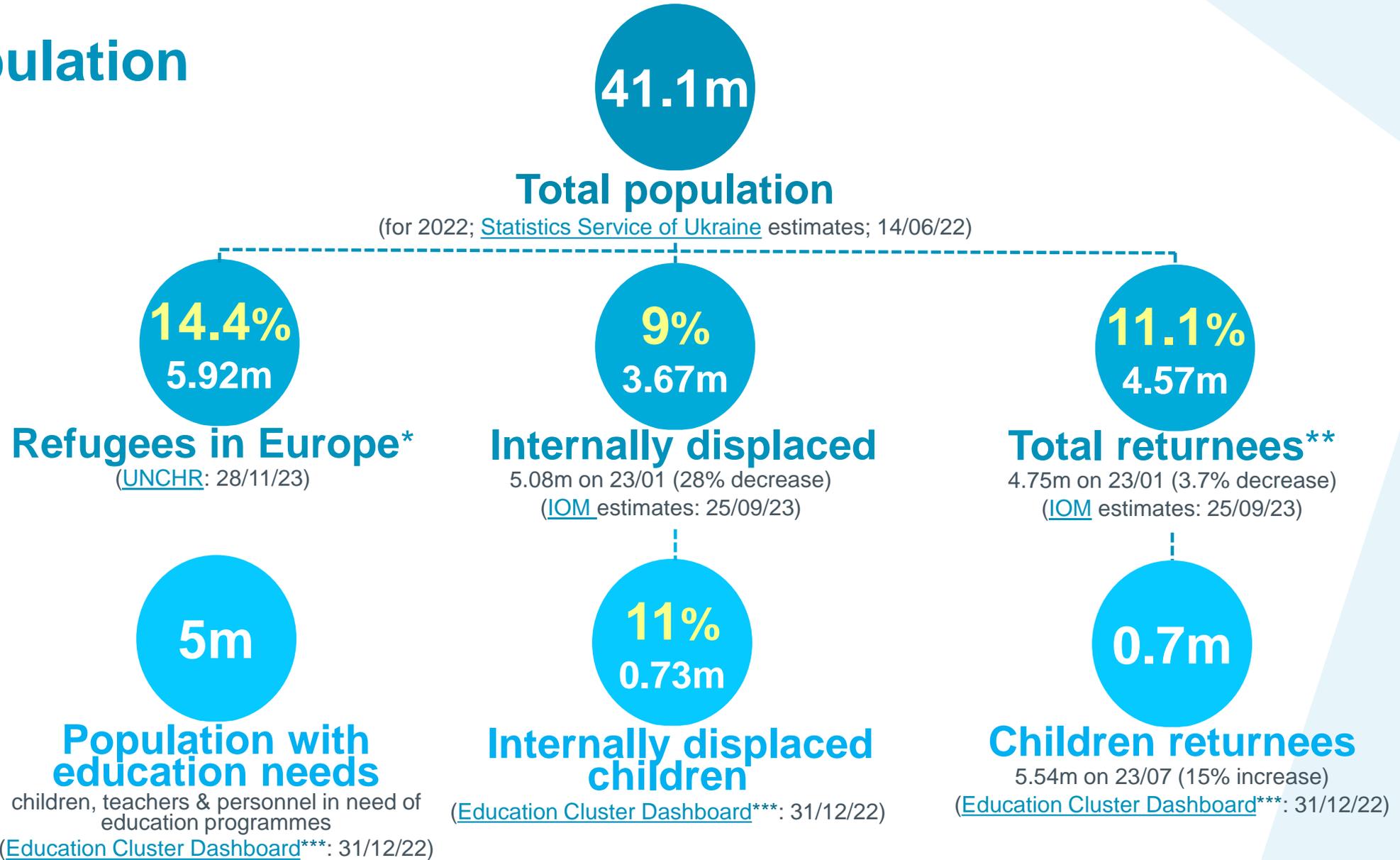
\$9.7b on 02/08
([Ukrainian MoE & KSE](#) 03/10/2023)

* Individual refugees from Ukraine recorded across European countries, see [UNCHR](#). New methodology estimates provided in June 2023 (incl. refugees from Ukraine who were granted refugee status, temporary asylum status, temporary protection, or statuses through similar national protection schemes, as well as those recorded in the country under other forms of stay) thus not comparable with previous estimates.

** Ukrainian citizens who are beneficiaries of temporary protection in EU MS, at the end of the indicated month.

*** See source for an updated note on the calculation of the estimates.

Population

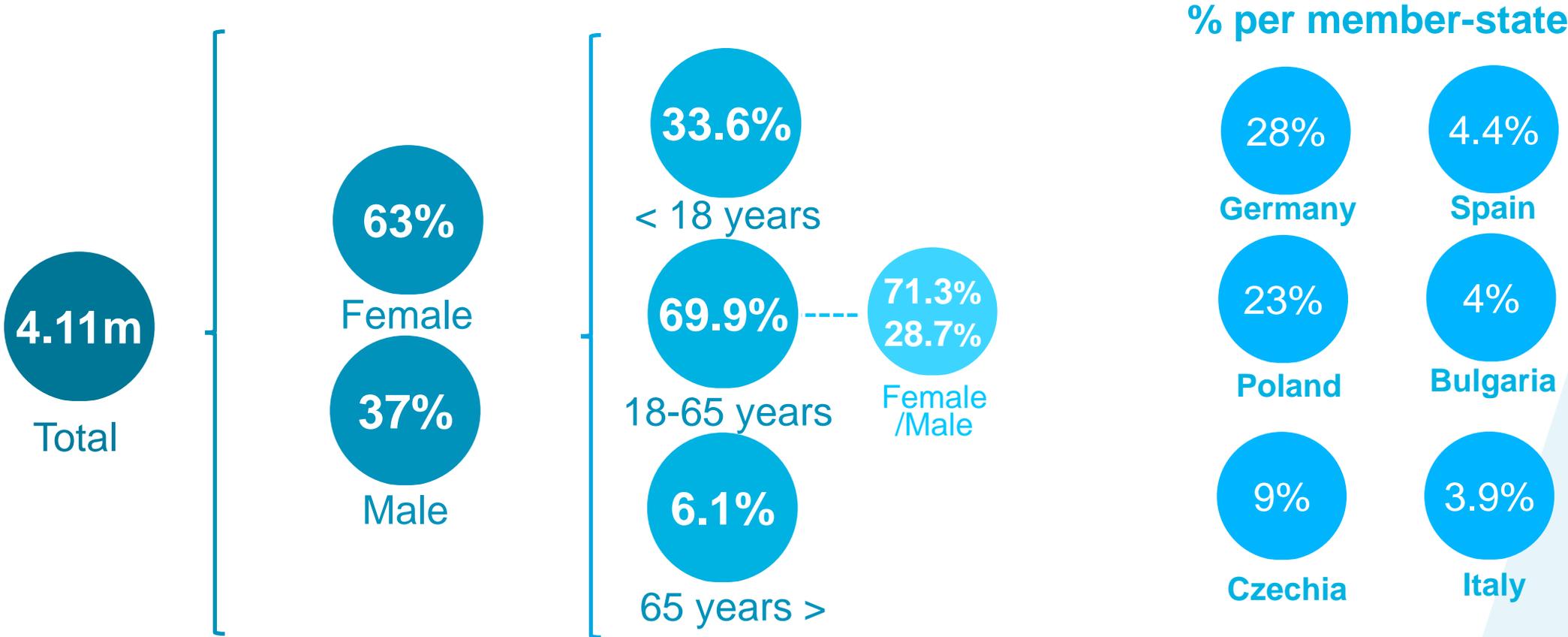


* Individual refugees from Ukraine recorded across European countries, see [UNCHR](#).

** Note: Including returns of former IDPs from other locations within Ukraine, as well as self-reported returns from abroad (16%). See p.1 of [IOM](#)

*** Analytical figures available in [OCHA](#) (Aug Revision 2022) and its [annex](#).

Ukrainian refugees in EU MS*



* Beneficiaries of temporary protection at the end of the month by citizenship, Sep 2023; see [Eurostat](#), accessed 01/12/2023

Damages, losses and reconstruction & recovery needs Feb 2022 – Feb 2023

Damages (\$b)



Total



Education



Commerce & industry

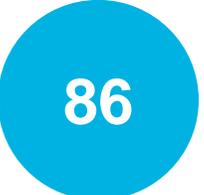
Losses (\$b)



Total



Education



Commerce & industry

Reconstruction & recovery needs (\$b)



Total



Education



Commerce & industry

Human capital & education: impact on infrastructure

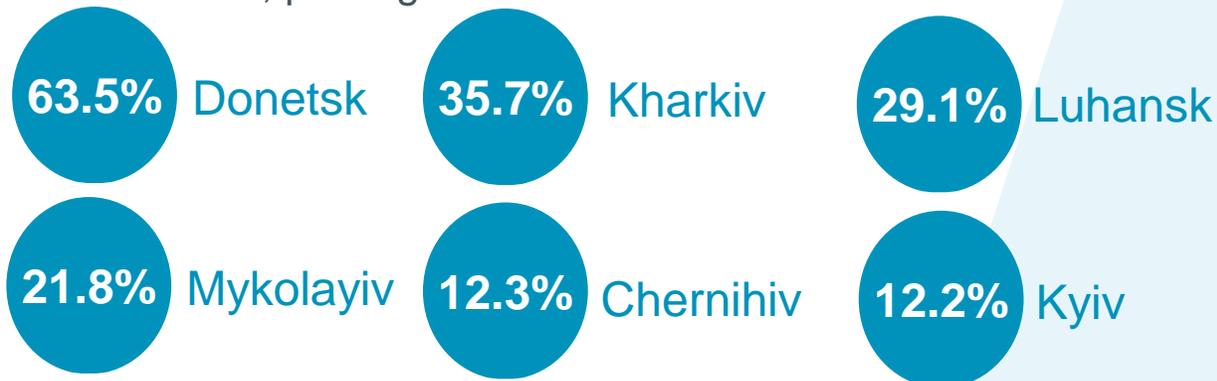
3,798 Damaged & destroyed education facilities (≈12.1% of total)*

10.1b US\$ Direct damage estimates in education infrastructure***

23 Destroyed VET schools

128 Damaged VET schools (damaged + destroyed = 18.3% of total**)

Damaged & destroyed education facilities as % of total, per region*



Damaged & destroyed VET education facilities as % of total, per region**

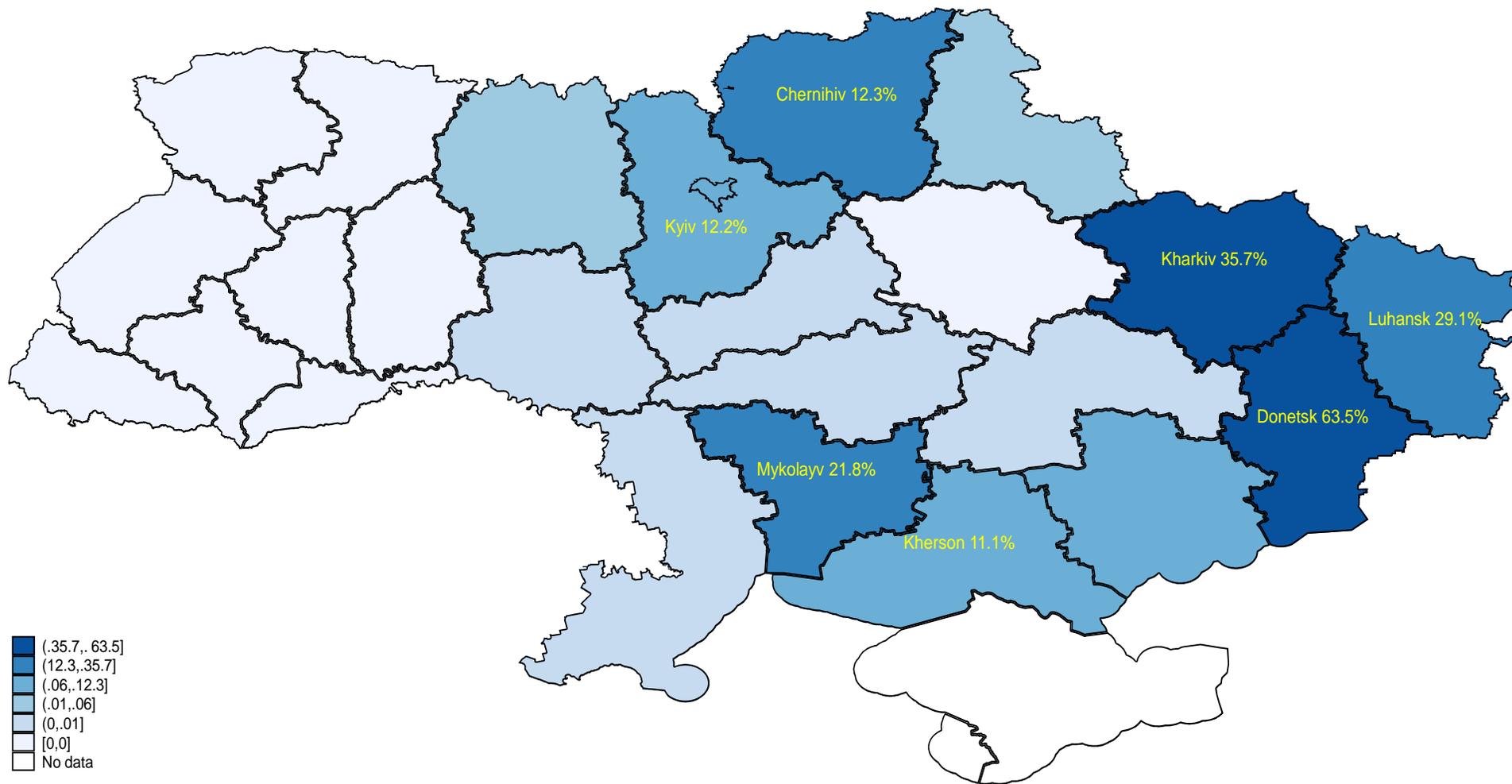


Note: * % of total education facilities; incl. pre-primary, primary, secondary, TVET and tertiary ones only;
** % of total VET education facilities.

Sources: [Ukrainian MoES](#) for the damaged & destroyed education facilities (accessed 17/11/2023); ; Statistics Service of Ukraine, [Statistical Yearbook \(2020\)](#) for the (national and regional) number of institutions; data accessed 06/10/23.

*** Note: estimates include kindergartens and secondary & higher education infrastructure. See source for an updated note on the calculation of the estimates.
Source: [Ukrainian Government & Kyiv School of Economics](#); updated 03/10/2023).

Human capital & education: impact on infrastructure damaged & destroyed education facilities (as % of total, per region)



Human capital & education: back to school

Current situation:

- **12,926 secondary schools** in the country have started the education process, where **30.5%** returned to in-class learning, **35.6%** operate in a mixed mode (in-class & remote) and **33.5%** in remote only ([MoES Jan 2023](#)).
- **85% of VET schools** started their activity, where **28%** in-class, **26%** in distance and **46%** in blended format ([MoES 30 Nov 2022](#)).
- **164,000** internally displaced learners and **>4000** education institutions are used for purposes other than education
- **25%** of teachers are involved in services other than education (humanitarian support, volunteer services, etc.)

Gaps:

- **Current conflict** makes the full reopening of schools in-person unlikely; meaning the continued heavy reliance on online learning ([OCHA](#), Aug 2022)
- **Displacement**, the **damage and destruction** of educational facilities, and a **lack of access to technology & internet** connection have seriously affected students' ability to learn ([WB](#), May 2022)
- "Schools have been targeted or used by parties, resulting in **families not feeling safe to send their children to school**" ([UNICEF](#), Aug 2022)

Impact on Opportunity to Learn & Learning Outcomes:

- **School disruptions** due to war or pandemics can have; **persistent negative effects** on learning because they impact all elements of a student's opportunity to learn:
 - i. less time spent on learning, and
 - ii. lower quality of instruction via remote/online modalities, leading to
 - iii. less content covered during instruction.

Source: ([WB](#), May 2022)

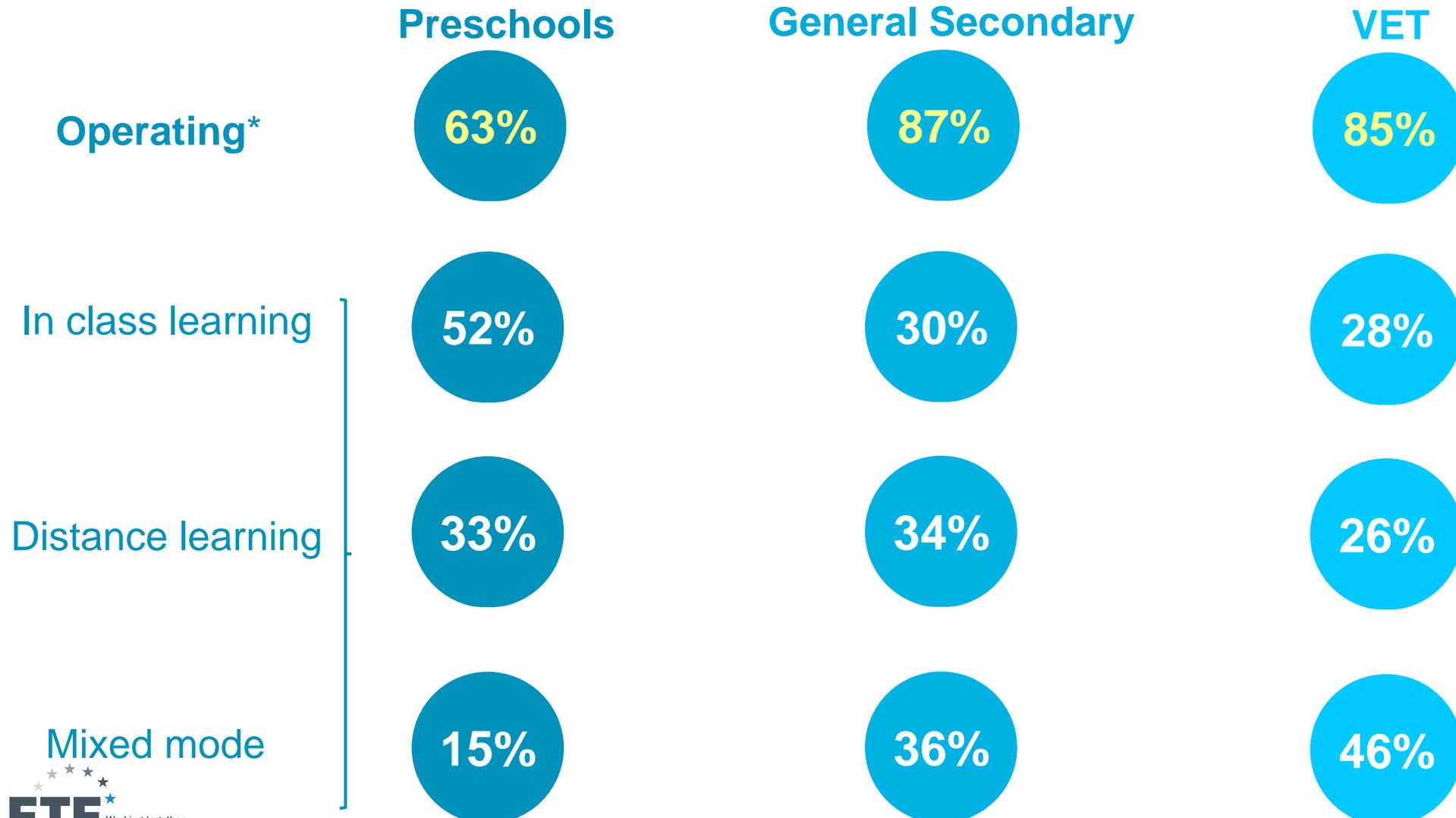
Source : [Education Rapid Needs Assessment](#)

Survey

ETF Working together
Learning for life

European Training Foundation

Human capital & education: back to school teaching modes



Human capital & education: how and where teaching is being delivered

164k

IDP learners

4,000

Education institutions used for other purposes

of Municipalities
general education

1050

5

32

Distance /
Online

In person

Mixed

Teaching Modalities
preschool

478

57

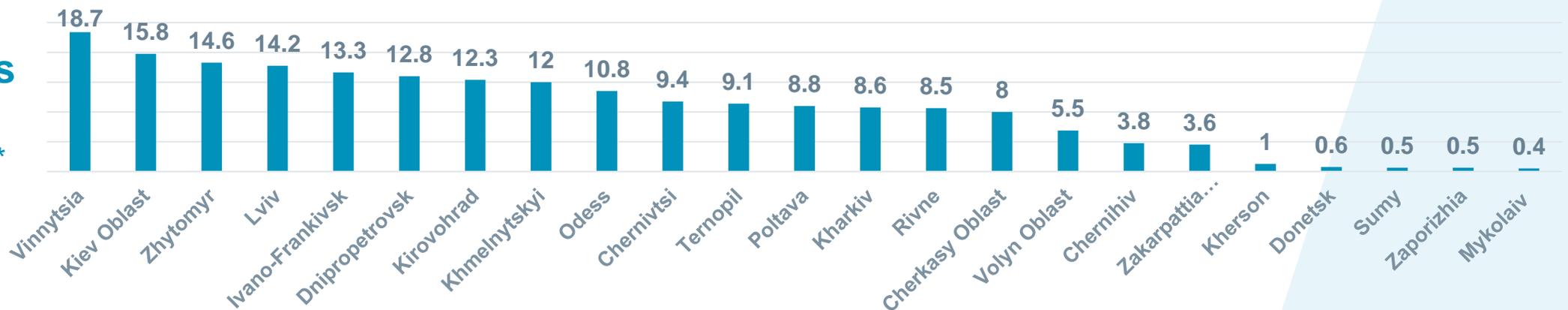
94

Distance/
Online

In person

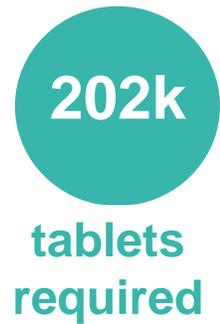
Mixed

IDP learners
per region
(in thousands)*



Human capital & education: challenges to education delivery

Needs & challenges for continuation of education services

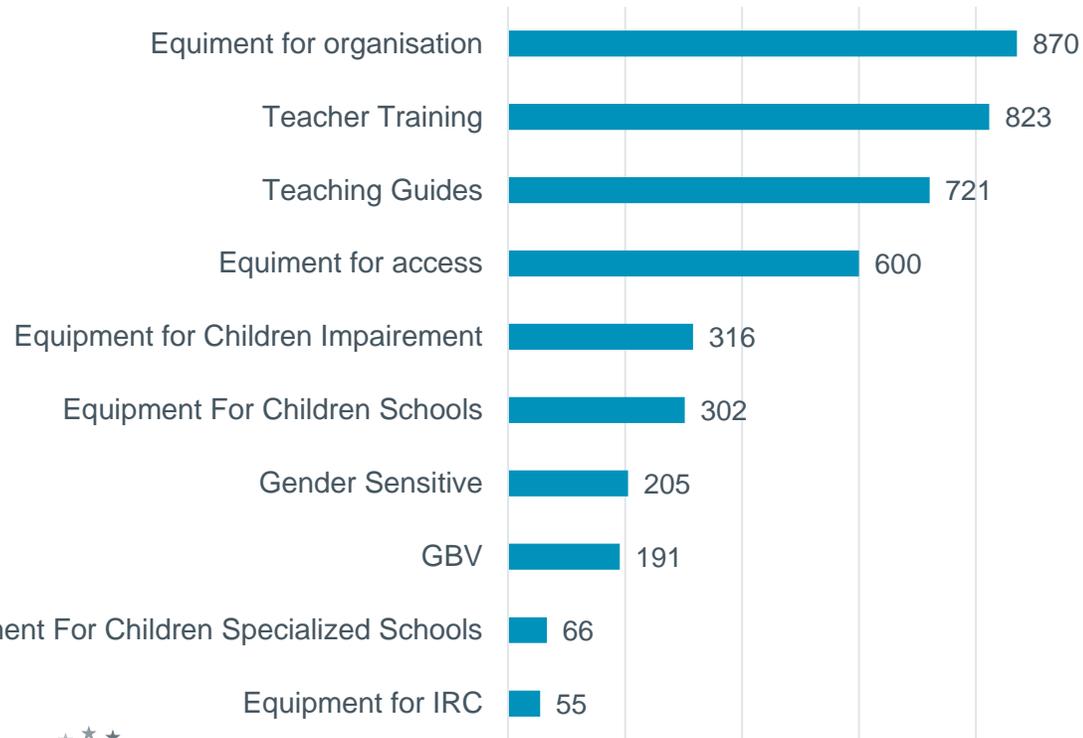


Challenges for teachers to facilitate online learning (# of municipalities)

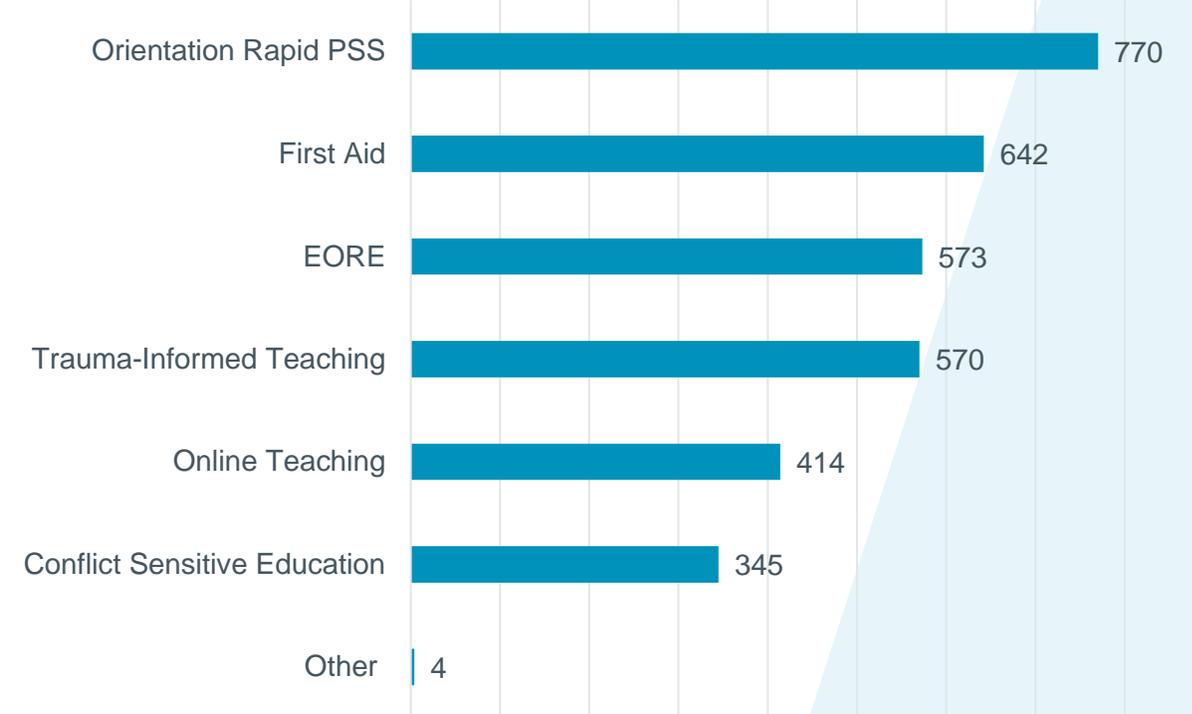


Human capital & education: understanding pupil and teacher needs

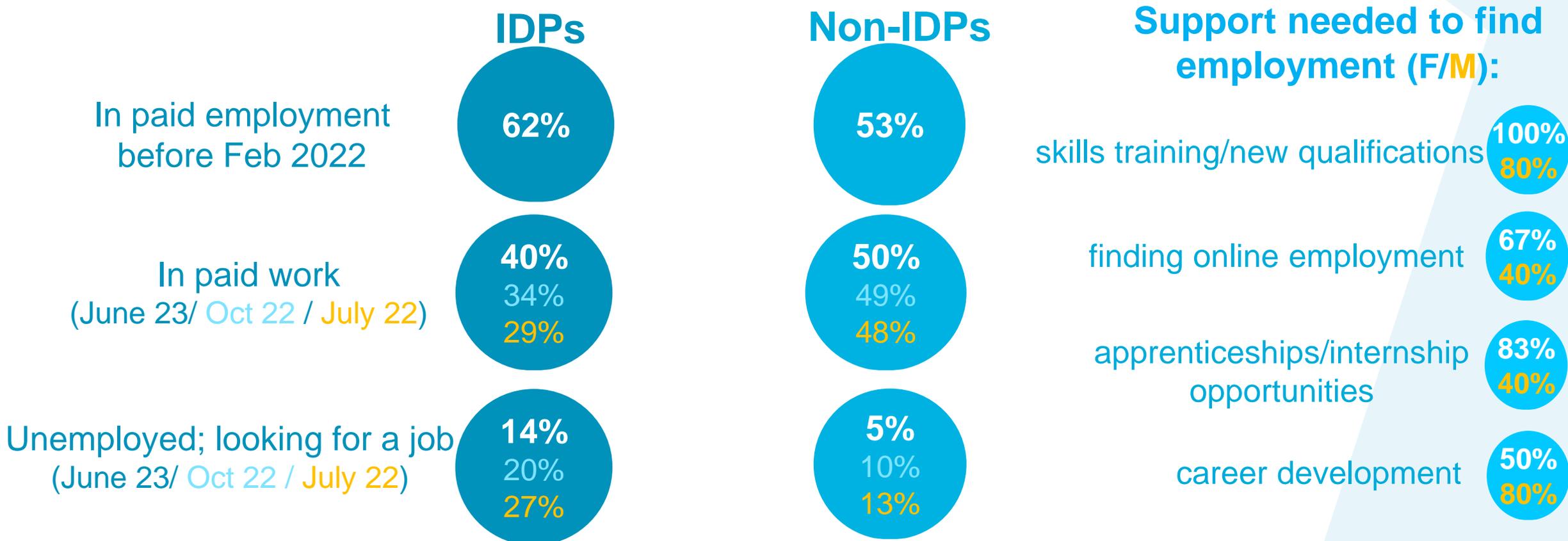
Needs for Inclusive Education



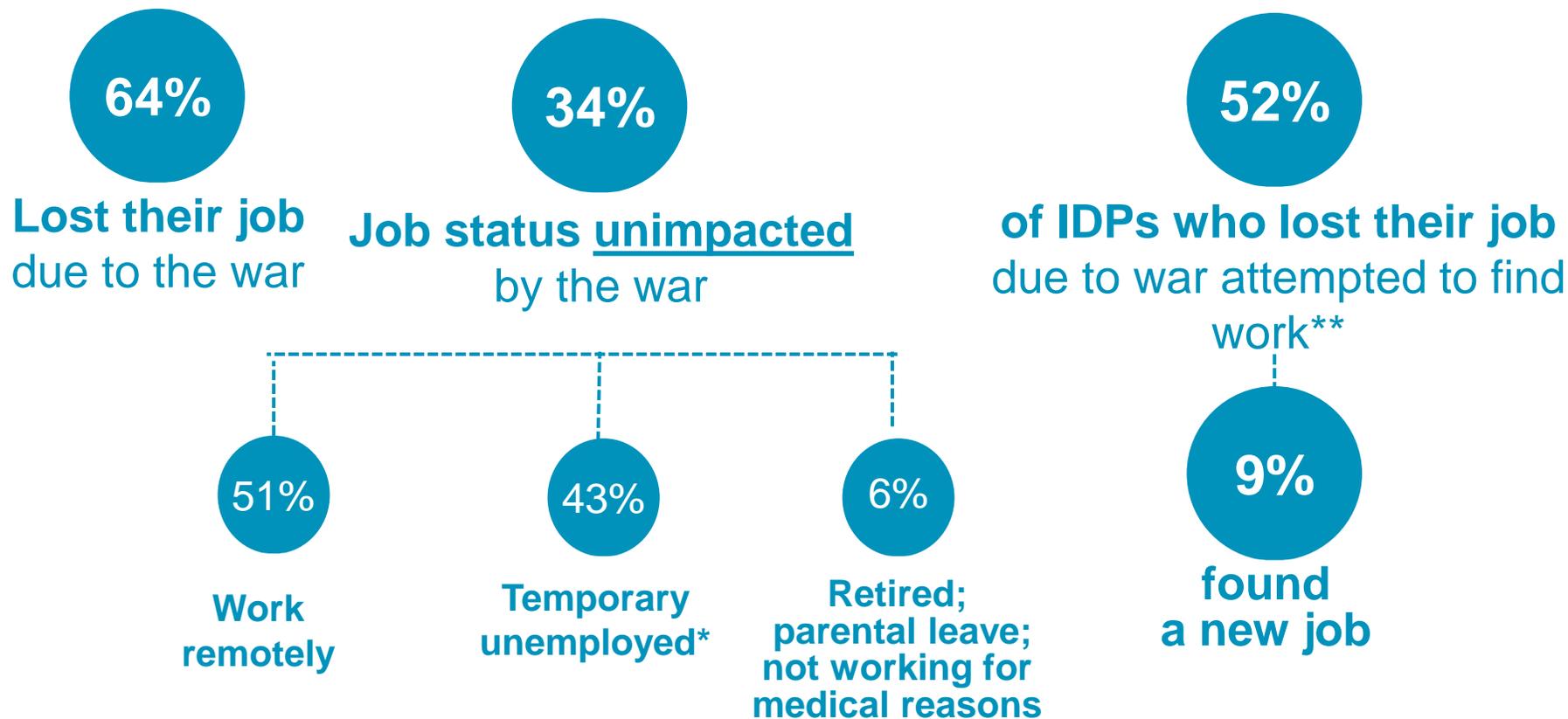
Desired Topics For Professional Development



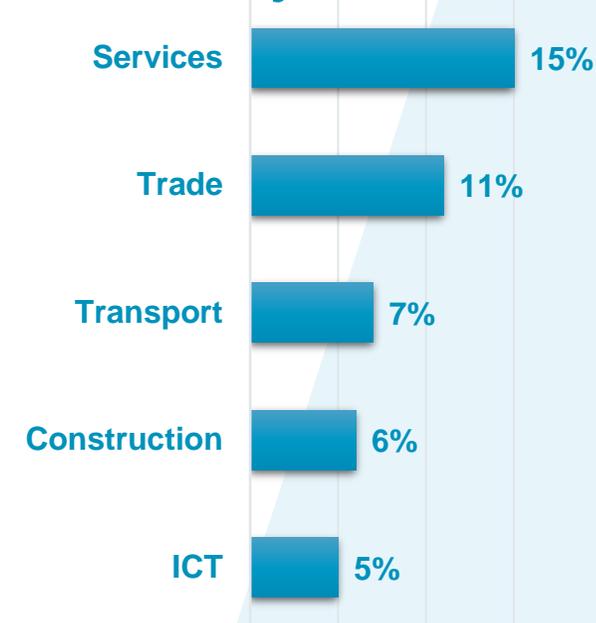
Human capital & employment: characteristics of Internally Displaced (IDPs) & Non-Internally Displaced Persons (Non-IDPs)



Human capital & employment: characteristics of Internally Displaced Persons (IDPs) **MAY 2022**



Top sectors for current & future job search***

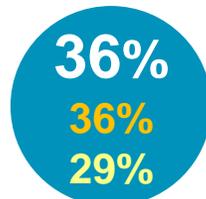


Human capital & employment: Internally Displaced Persons (IDPs)

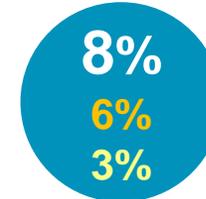
employment characteristics: **Feb 2023**, **Sept 2022** & **April 2022**



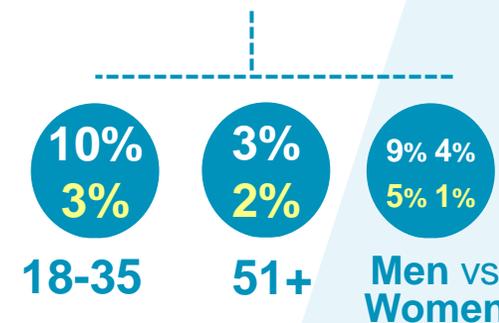
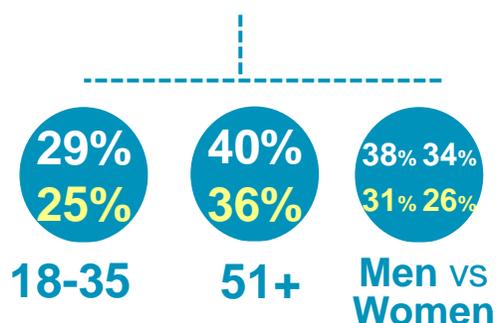
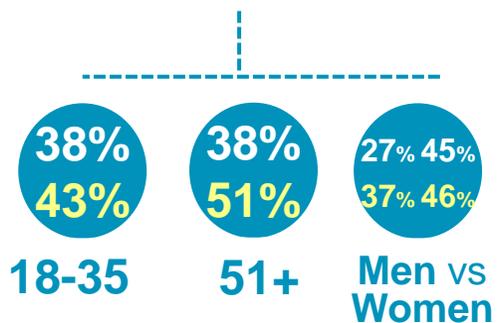
of those employed before the war **still do not have a job**



of those employed before the war **continue working**

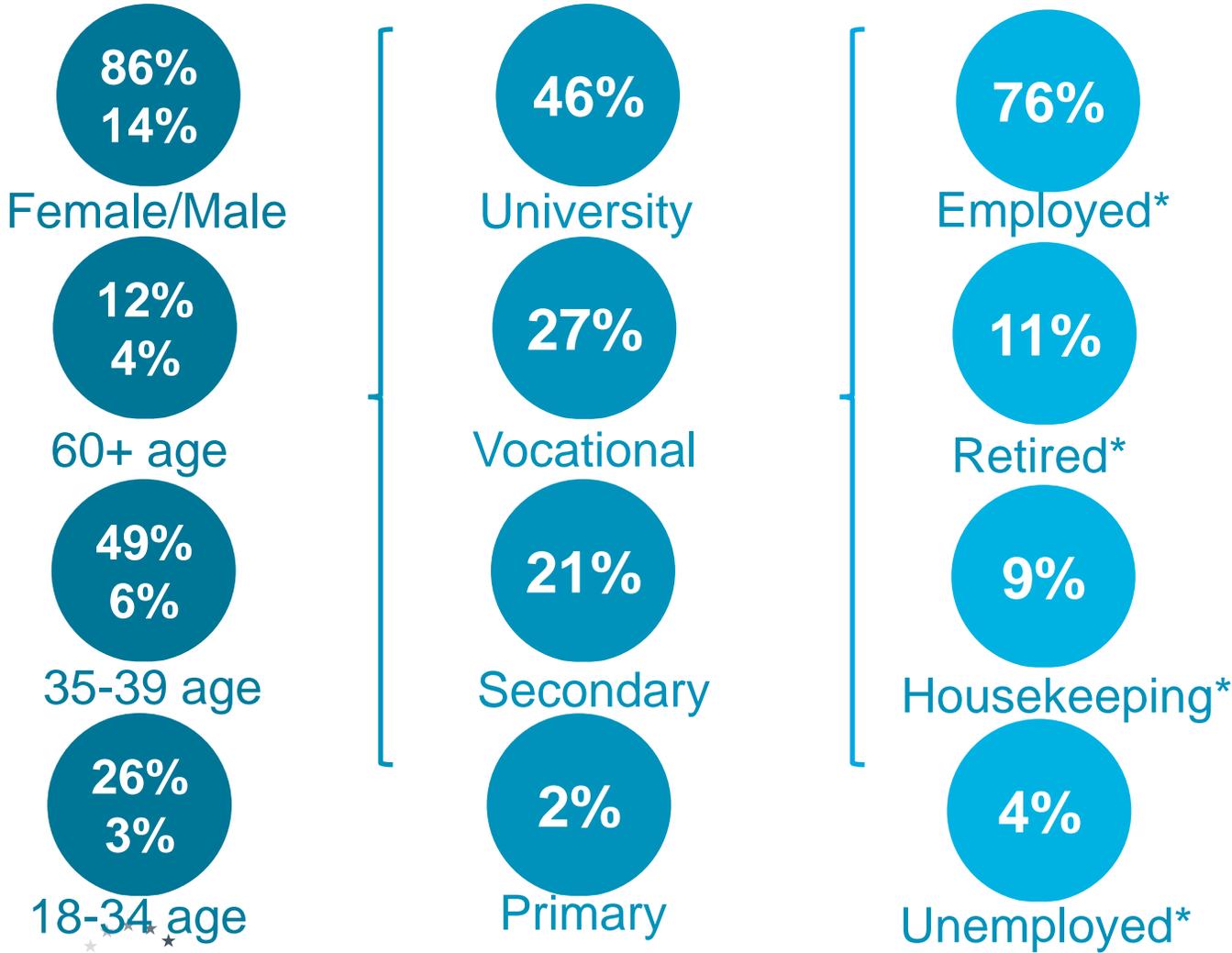


of those employed before the war **found a new job**

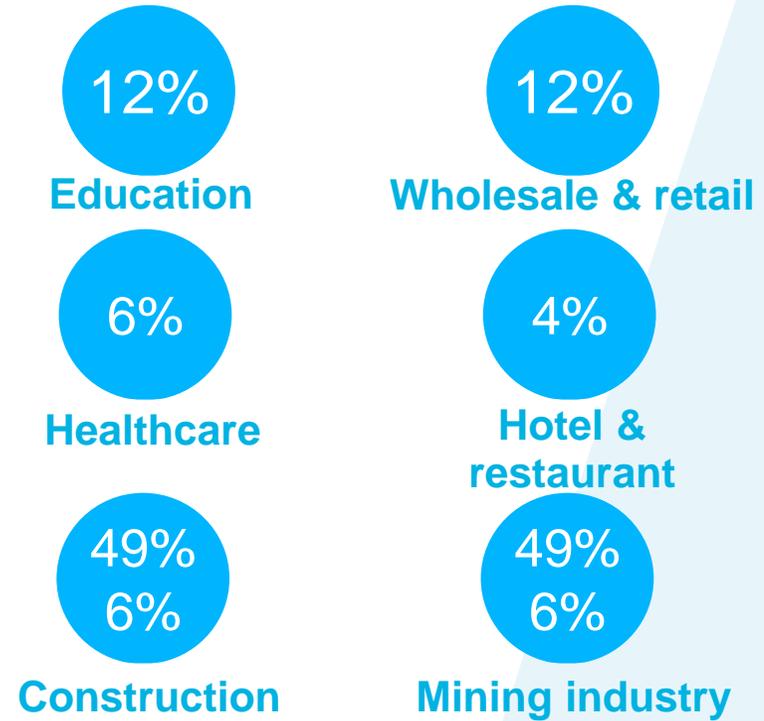


Feb 2023 **Sept 2022** **April 2022**

Human capital & employment: profiles of refugee population



Top occupations*



* Status before leaving Ukraine.
 Note: Based on 23,054 interviews contacted in Belarus, Bulgaria, Hungary, Republic of Moldova, Poland, Romania and Slovakia between May and mid-August 2022. While respondents are randomly selected to reduce bias, non-probability sampling is used and results cannot necessarily be extrapolated to the population of refugees from Ukraine as a whole.
 Source: UNCHR (Aug 2022) "[Profiles, Needs & Intentions of Refugees from Ukraine](#)"

Human capital & employment: the potential contribution of Ukrainian refugees to the labour force in European host countries

Labour market integration challenges

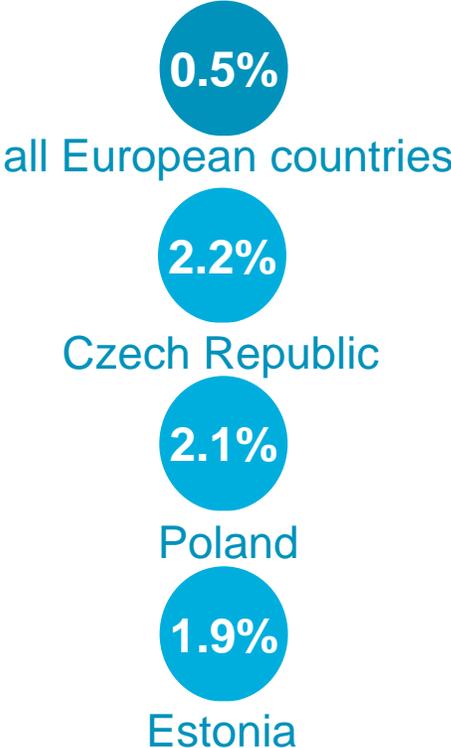
Facilitated by:

- Education profile
- Existing social networks
- Immediate access to employment

Hindered by:

- Single mothers with children and other dependents

Labour force relative change projections*



Employment relative change projections**

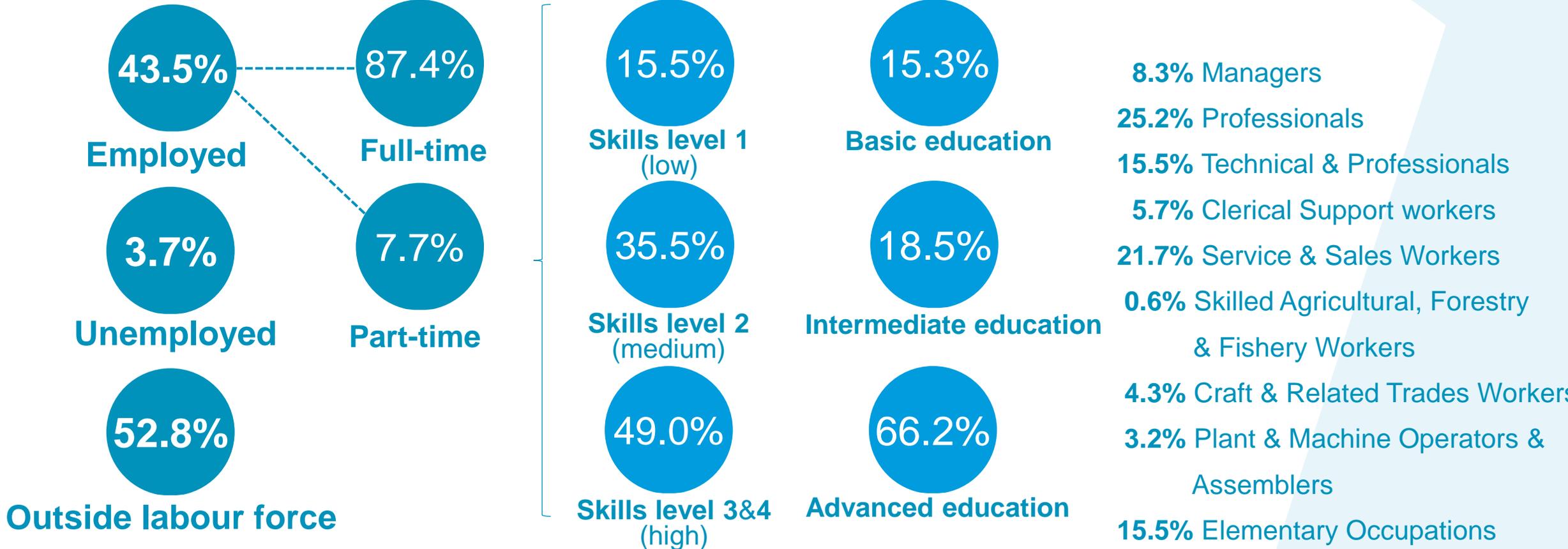


* Relative change in labour force due to inflows of Ukrainian refugees by the end of 2022; all European countries refer to all European host countries together.

** Relative change in employment due to inflows of Ukrainian refugees by the end of 2022; all European countries refer to all European host countries together; estimates for Czech Republic, Poland and Estonia refer to a change of at most 1.9%.

Source: OECD (July 2022) "[The potential contribution of Ukrainian refugees to the labour force in European host countries](#)"

Human capital & employment: characteristics of refugee population



Looking ahead: estimates of reconstruction costs & infrastructure losses

Estimates of reconstruction costs:

- **\$564b - \$600b**

(including direct and indirect losses; Ukrainian Government & [Kyiv School of Economics](#))

- **\$330b - \$550b**

(30% to 50% capital stock destroyed assumption, [CEPR](#))

- **\$200b - \$500b**

(based on previously EU funded countries for their accession, [CEPR](#))

Estimates of infrastructure losses* (Oct 2023):

- **\$151.2b** overall damage

- **\$36.6m** infrastructure

- **\$55.9 m** on housing

- **\$11.4m** assets of enterprises, industry

Source: Ukrainian Government & [Kyiv School of Economics](#)

Productive capacity estimates:

- **7.5%** of Ukraine's productive capacity has been lost since the start of the invasion (incl. **2.5%** of the primary, **3.2%** of the secondary & **1.6%** of the tertiary sector).

- This includes among others: **20% of land** unavailable for agricultural production, **40%** of the productive capacity in the **steel sector** and, **43% of the energy sector** being occupied or damaged (mainly nuclear & thermal)

Source: [Blinov & Djankov](#), Sep 2022).

Looking ahead: SMEs, business surveys & reallocation program

SMEs in war time survey:

- **42%** do not operate at all
- **31%** suspended their operations
- **27%** continue to pay full wages vs **21%** not being able to pay

Source: [EBA Unlimit Ukraine survey](#), March 2022

The Ukrainian business survey:

- **86%** of companies slowed down, reduced or stopped their operations
- **37%** of companies are transforming their business due to war (completely/partially or in the process to)
- **16%** will transform their business in the near future
- Orders (**50%**), logistics (**29%**), supplies (**21%**) and payments (**20%**) are the main difficulties faced

Source: [Kyiv School of Economics](#), March 2022

MoE reallocation program

- **761** enterprises have reallocated, from impacted regions, following the Ministry of Economy initiative (**80%** assumed operations)
- **40.2%** from wholesale and retail trade & repairs;
- **31.7%** from processing industry;
- **6.34%** from IT;
- **5.85%** professional, scientific and technical activities;
- **4.15%** from constructions

Source: [Ukrainian Ministry of Economics](#), 28/10/2022

Looking ahead: institutional forecasts

		2021	2022	2023	2024
GDP (% change)	<u>World Bank</u>	3.4%	-29.1%	2.0% ^f	
	<u>IMF</u>	3.4%	-29.1%	2.0% ^f	3.2% ^f
	<u>EBRD</u>	3.4%	-29.1%	1.0% ^f	3.0% ^f
	<u>Statistics Services of Ukraine</u>		-29.1%	QIII: 9.3%	
Employment Losses**	<u>ILO</u>		-30.2% (based on current situation) -43.5% (based on military escalation) -8.9% (based on hostilities cessation & withdrawal)		
Poverty rate***	<u>World Bank</u>	5.5%	24.1%	22.0% ^e	..
	<u>UNDP</u>	2.5%	4.2% - 28%	..	
Vulnerable population ^	<u>UNDP</u>	46.4%	49.7% - 62.5%	..	

Looking ahead: proposals

Estimates:

- **Learning losses** due to a combination of extended pandemic-related closures and the war are estimated to **be more than 1 (schooling) year**. Also, the **loss of future earnings per student** is estimated to be **more than 10%** ([Angrist, Djankov, Goldberg & Patrinos, 2022](#)).

Demographic & labor market shock

- Ukraine's population has been **ageing fast**; the (median) age was 35 in 1990, reaching 41 at the start of the war. Proposed policies include: i) incentives for Ukrainians to **return from abroad**, incl. monetary rewards to rebuilding homes and businesses, ii) priority support in the form of welfare payments for refugees who have **lost their family**, iii) **child support policies** to increase fertility rates (lower cost childcare) ([Blinov & Djankov, 2022](#))
- Set up a plan for the reconstruction of post-war Ukraine; including support measures to **encourage the return of those migrants** currently flooding out of the country ([WiiW](#), April 2022).
- In the **reconstruction process**, foreign firms with functioning supply chains and organisational capital can be utilized to address shortages of **expertise and workforce**, while encouraging the **use of local labor force** ([CEPR](#), April 2022).

Looking ahead: proposals

Long-term cost of wars on wartime children

- There is little doubt that the trauma and fear Ukrainian children are experiencing will have a tremendous effect on their **physical and mental health**, an effect that may last for life.
- A number of studies provide mounting and alarming evidence on the potential impact that the Russian invasion may have on the **human capital and physical and mental health outcomes** of the Ukrainian children who are being exposed to war and large-scale destruction.
- Findings from historical episodes underscore **the importance of policies that prioritise the child**. Such policies are essential not only to improve the wellbeing of wartime children and their children, who are also impacted by warfare, but also to facilitate peacekeeping operations (for a review see [Akbulut-Yuksel](#), May 2022)
- According to historical lessons on displacement in Europe, **refugees, and by extension their children**, will be keen to make the most of a traumatic experience. **Access to education can be a silver lining of forced migration**, allowing refugee children to invest in a brighter future (see [Becker](#), March 2022)

Looking ahead: proposals

Technology & education:

- Build back better: **R&D reversing - brain drain actions**, including the use of EU educational and research programs (Erasmus, ERC), while attracting **modern technologies and skill-intensive capital investment** ([CEPR](#), April 2022).
- Upholding **Ukraine's 'intellectual sovereignty'**: ensuring the on-going presence of the country's research and educational sector within the worldwide scientific community and, providing reach and profile to the country's intellectuals, teachers and researchers in the global community (Cooper, Brik, Shapoval, [LSE Policy Brief](#), 2022).
- Recent [OECD](#) report on **Rebuilding Ukraine** highlight the need of developed/host countries to promote genuine brain circulation and the establishment of sustainable and productive long-term partnerships with **Ukrainian scientific and education institutions**. This includes:
 - Digital tools and open access to scientific data and publications;
 - **Individual mobility and international networks** can provide the basis for productive future partnerships;
 - Policy measures for **refugee specialists and scientists** from Ukraine to ensure to maintain strong links with home, so that the current brain exodus can be rapidly reversed once the war is over;
 - The **Ukrainian scientific diaspora** should be considered as a strategic asset both for their country of origin and their country of destination, in brokering or building partnerships.