Ukraine Economy of the Future (UEF)

Sectoral Strategy

Alleviating sector-specific growth constraints for faster growth convergence

February 2026

NOTE THAT THIS PRESENTATION CONTAINS SUBSTANTIAL INPUTS FROM UKRAINE'S FDI STRATEGY AND WB ANALYTICS FOR INDUSTRIAL STRATEGY.

OUTLINE

1. **Why do we care about sectors?** *Accelerating Ukraine's fundamental growth drivers requires horizontal and vertical policy levers.*

2. **Which economic sectors should we focus on?** *Some sectors are more likely than others to generate productivity gains and attract investment, including those with high FDI potential.*

3. **What are the essential horizontal/cross-cutting reforms to support these sectors?** *Conducive reforms can help these sectors attract investment, including FDI, and double productivity to support the "high growth" trajectory.*

4. **What vertical/sector-specific interventions and reforms are needed?** *Overview of key trends, opportunities, sector-specific challenges and reforms.*

SUMMARY MESSAGES

1. **Why do we care about sectors?**
   - EU convergence within 15 years is possible if Ukraine accelerates its fundamental growth drivers: productivity, labor and capital. **Both horizontal and vertical/sectoral policies are critical for increasing productivity.**
   - Ukraine's economy has traditionally been dominated by agriculture and heavy industries, but comparative advantages have changed since 2014. **How can Ukraine take advantage of new sectoral opportunities?**

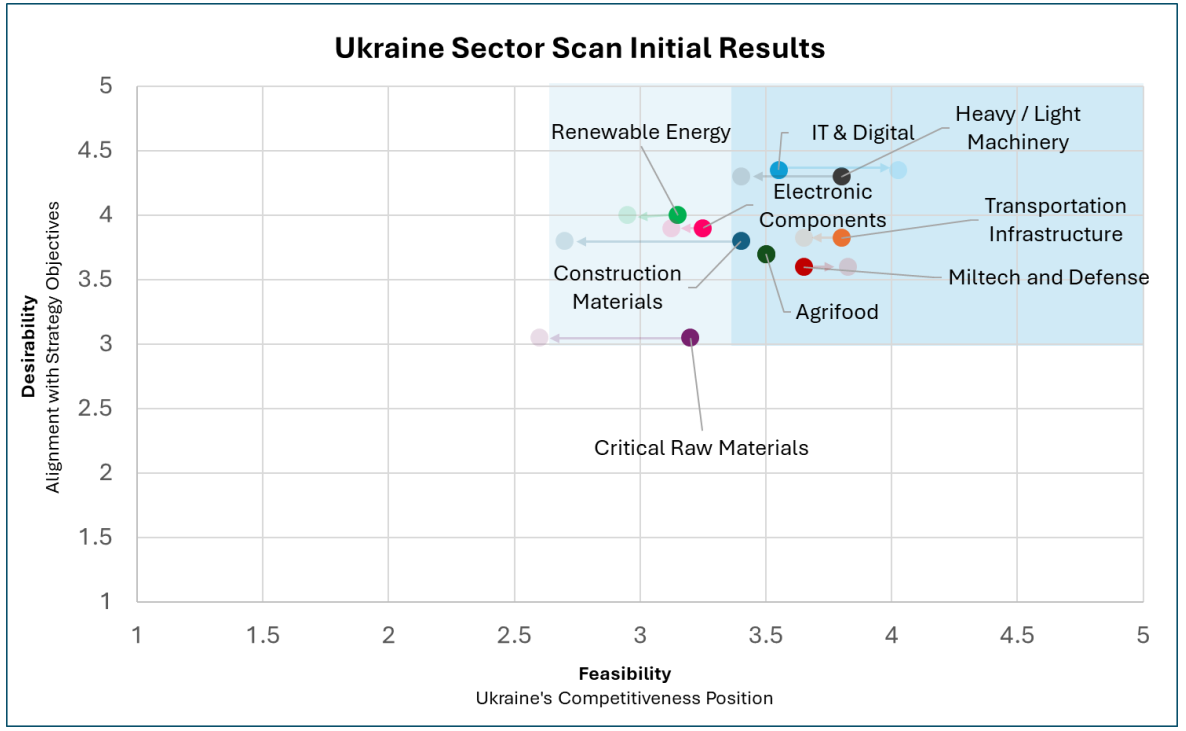
2. **Which economic sectors should we focus on?**
   - Not all sectors are equal - some account for more employment or productivity than others……**and some have shown more promising performance over time.**
   - Sectors also differ in their **input-output linkages and export potential**
   - **Sectors with high FDI potential are attractive as they attract foreign capital, accelerate technology transfers and innovation and support global value chain integration**

The World Bank Group's FDI Sector Scan identified 9 sectors with high foreign direct investment (FDI) potential

- **Ready-to-promote:**
  1. **Transportation Infrastructure,**
  2. **IT & Digital Services**
  3. **Heavy machinery**
  4. **Agrifood/Agribusiness**
  5. **Miltech/Defense**
  6. **Construction Materials**
- **Aspirational:**
  7. **Electronic Components**
  8. **Renewable Energy**
  9. **Critical Raw Materials**

- **Construction materials, critical raw materials, and heavy machinery** are expected to be most **adversely affected** if war risk exposure increases.
- **Miltech and defense, and IT and digital services** will likely **increase feasibility** in the case of higher war risks.

On an aggregate level, econometric modeling suggests that (i) de-risking **can increase the FDI stock by 7% and (ii) de-risking and high effort structural reforms by 92% or $37bn to $45bn by 2030.**



Source: World Bank Group. Note: Darker-colored dots show sector scores in a scenario without heightened war risks; lighter dots show scores under current conditions. Arrows indicate the shift caused by war risk exposure.

SUMMARY MESSAGES

3. What are the essential horizontal/cross-cutting reforms to support these sectors?

- **By moving to the efficiency level reported in EU countries, Ukraine has the potential to increase productivity by more than 50% across all sectors**
- **Realizing this potential requires overcoming a structural lack of business dynamism, a heavy state footprint and uneven playing field, and the adverse impacts of the full-scale invasion.**
- **Addressing key cross-cutting issues are essential to unlock productivity and private-sector-led growth across sectors:**
  - **Improving the business environment and increasing foreign and domestic competition across all sectors is key**
  - **Free trade agreements** offer opportunities to anchor reforms beyond market access: sanitary and phytosanitary regulations, competition, procurement, intellectual property
  - Trade agreements complemented by **investment climate reforms** would enable much larger gains from FDI: exports, production, and employment
  - **Investments in multimodal and integrated transportation services** would increase competitiveness of export sectors
  - **Increasing energy supply** by improving efficiency, addressing distortive pricing mechanisms and increasing investments is critical for all sectors
  - **Improving access to finance** by addressing structural issues in the Banking sector would support large firms and SMEs
  - **Addressing labor shortages and skills mismatches** is key for over 50% of firms who report lack of personnel

4. What vertical/sector-specific interventions and reforms are needed? *See next slides*

Sector Specific Reforms

Transport Infrastructure

- **EU-Aligned Market Opening and Regulation.** Advance alignment with EU acquis by adopting and implementing railway and aviation legislation, establishing independent safety and market regulators, and opening rail, aviation, and port markets to competition under transparent, non-discriminatory access rules.
- **Reform Transport SOEs to Restore Financial Sustainability and Investability.** Strengthen governance of state-owned transport enterprises by separating commercial and public service obligations (PSO), reforming tariff and compensation systems for rail transport, and corporatizing airports, air navigation services, and ports to improve accountability, efficiency, and investor confidence.
- **Mobilize Private Investment through PPPs and Concessions.** Operationalize the new PPP and concession framework through transparent tendering, standardized contracts, and effective risk-sharing mechanisms, enabling private participation in rail-related assets, airports, ports, and logistics infrastructure.
- **Restore and Strengthen Strategic Connectivity and Trade Corridors.** Protect and rehabilitate critical transport infrastructure to maintain passenger and freight services, restore air connectivity post-war, and strengthen resilient corridors—including Danube logistics chains—to support trade, export competitiveness, and economic recovery.
- **Embed Resilience and Sustainability Standards in Infrastructure.** Integrate climate resilience and green design standards into transport planning and investment to align with EU and international financing requirements, reduce lifecycle risks, and unlock concessional and climate finance

Heavy machinery

- **Simplify administrative procedures and reduce regulatory barriers** for businesses, especially SMEs, by streamlining licensing, customs, and tax compliance.
- **Strengthen EU Standards and Certification Alignment:** Accelerate harmonization of technical standards with the EU, including railway interoperability, energy equipment certification, and EASA-compliant aerospace approvals to enable supply chain integration.
- **Promote digitalization and innovation policies**, including incentives for R&D, adoption of Industry 4.0 solutions in manufacturing development of joint industry-university labs, and investing in modern testing facilities to reverse the decline in innovation and retain engineering talent.
- **Upgrade Industrial Infrastructure and Energy Reliability:** Invest in resilient industrial zones with stable energy supply and logistics connections to EU markets, enabling relocation of production from high-risk eastern regions.

Sector Specific Reforms

IT & Digital Services

- **Enable sovereign digital infrastructure:** Launch PPPs or targeted programs to support Tier III/IV data centers and cloud services hosted in Ukraine, with compliance to EU cybersecurity and data residency standards.
- **Clarify export control processes for IT services:** Streamline licensing and approval procedures for cross-border delivery of IT and digital services, reducing delays in areas like cybersecurity, fintech, or dual-use applications.
- **Develop targeted digital skills programs:** Support industry-led training in product management, UX, and leadership; create pathways for diaspora professionals to re-enter the domestic ICT workforce.
- **Strengthen IP enforcement:** Operationalize the High IP Court, expand use of arbitration, and improve prosecutorial and judicial capacity to handle digital IP disputes, supported by clearer coordination between the IP office, customs, and courts.
- **Align IP frameworks with international standards:** Ratify and implement remaining WIPO treaties, harmonize with EU directives, and ensure Diia City contracts and protections are fully interoperable with global IP regimes.
- **Facilitate capital mobility for IT exporters**: Simplify FX conversion and dividend repatriation through published timelines and transparent procedures, providing predictability for cross-border operations in accordance with the phased roadmap for easing currency restrictions.

MilTech and Defense

- **Clarify and streamline dual-use export and certification regimes:** Introduce transparent licensing timelines and align testing and certification with NATO and EU standards to facilitate integration into allied value chains. Relax general export restrictions as conditions allow.
- **Modernize industrial and testing facilities:** Establish defense investment zones or PPPs to upgrade Soviet-era plants and create internationally certified testing and conformity assessment centers.
- **Develop Defense & Dual-Use Skills Pipelines**: Support an education and training ecosystem covering engineering, IT, design, and vocational skills to strengthen the talent base for defense and dual-use industries.
- **Stabilize critical workforce availability:** Publish clear rules for mobilization exemptions or rotations for defense engineers and technicians, combined with targeted training in systems integration and program management.
- **Expand tailored risk-mitigation instruments:** Work with IFIs to provide political risk insurance, guarantees, and blended finance facilities designed for defense and dual-use investors.
- **Adjust capital mobility rules for defense ventures:** Under martial law, adopt transparent procedures for dividend repatriation and capital flows in joint ventures, while ensuring compliance with security requirements.

Sector Specific Reforms

Agribusiness

- **EU Accession Readiness.** Align agricultural legislation, public institutions (Paying Agency, food safety and SPS bodies) with EU requirements, and build the capacity of private agri-food operators to comply. Negotiate transitional EU trade arrangements to expand agricultural market access during the accession process.
- **Accelerate Land Market Reform.** Complete land cadaster digitization and streamline land transactions to strengthen land market transparency, security, and efficiency, creating a solid foundation for agricultural investment and productivity growth.
- **Finance and Investment Support.** Continue providing affordable short-term financing for agri-food producers (credit guarantees, concessional lending) to support recovery, while developing EU-aligned investment support (e.g., matching grants) for farm modernization, production upgrading, and the development of agro-processing and agro-industrial clusters.
- **Climate-Smart Agriculture and Irrigation.** Promote soil restoration, precision agriculture, and water efficiency. Finalize and implement the National Irrigation and Drainage Investment Plan.
- **Logistics and Trade Infrastructure for Export Competitiveness.** Rebuild and modernize storage, terminals, and multimodal transport corridors (road, rail, Danube routes, and Black Sea ports when secure) to reduce trade costs and restore agricultural export competitiveness.
- **Support for Small Farms and Value Chain Development.** Enabling small farms to achieve commercial viability is essential for job creation, poverty reduction, and improved global food security. Strengthening value chains within the agri-food sector will empower farmers to diversify production, access new markets, and enhance post-harvest handling, logistics, and value addition. The objectives are consistent with EU and governmental strategies and complement the World Bank / IFC AgriConnect initiative.

Construction materials

- **Regulatory modernization**: Continue modernizing regulations and standards across the construction value chain in line with the EU acquis, including for innovative and sustainable materials, and strengthening the policy framework on building energy efficiency.
- **Access to financing:** Developing green finance is a relatively unexplored avenue to foster investment in the production of sustainable construction materials.
- **Boosting demand:** Embedding sustainability criteria in the selection of public investment projects could help stimulate demand for innovative and sustainable construction materials and reduce costs. Green mortgages and demand-incentivizing programs can stimulate consumers' interest in sustainable buildings and help bridge the affordability gap.
- **Perceptions and market readiness:** Awareness raising and evidence-based trust building targeting both the supply and demand sides of the industry are critical to ensure market entry and scaling success for new products.
- **Skills and knowhow:** Lack of skilled workforce and required expertise is a significant risk when attempting to introduce new or lesser-known materials and solutions, requiring adapted (re)training initiatives and vocational education programs.

Sector Specific Reforms

Electronic components

- **Strengthen sector infrastructure:** Accelerate development of industrial and eco-industrial parks with reliable power, logistics, and broadband capacity in western Ukraine, leveraging public-private partnerships.
- **Integrate ESG and green compliance:** Align the sector with EU sustainability and circular economy requirements to improve competitiveness in supplying components for green technologies.
- **Develop talent and training programs:** Expand technical and vocational education (TVET), university partnerships and partner with industry to build skills in electronics assembly, testing, quality assurance, and ESG-compliant production, aligned with the needs of EMS/ODM and component suppliers.

Critical Raw Materials

- **Streamline licensing and permitting**: Accelerate the implementation of the amended Subsoil Code by simplifying administrative procedures, improving predictability in land and mining rights, and adopting internationally recognized reporting and exploration standards (e.g., CRIRSCO).
- **Improve geological data access and transparency**: Expedite the digitalization of Ukraine's geological data archives, ensure data is translated into English, and (to the extent possible) progressively declassify information on critical deposits while aligning survey and data-management practices with EU CRM Act requirements and international best practice.
- **Strengthen ESG and circularity frameworks**: Fully transpose EU regulations on sustainable mining, extractive waste management, and circular economy principles, and promote higher recovery, recycling, and reprocessing of CRM-bearing waste and tailings to enhance Ukraine's position as a responsible and reliable CRM supplier to the EU.
- **Invest in skills and institutions**: Develop national innovation and certification capacities and upgrade workforce training through universities, TVETs, and industry partnerships to support advanced mining, processing, environmental management, and ESG-compliance skills.

Sector Specific Reforms

Renewable Energy

- **Gradually align tariffs with cost recovery while safeguarding vulnerable groups:** Adjust electricity, gas, and heating tariffs to reflect actual production and delivery costs, while protecting low-income households through targeted social support.
- **Resolve FiT arrears to restore investor confidence**: Repay legacy feed-in tariff debts, implement transparent dispute-resolution mechanisms, and accelerate the transition to competitive support schemes.
- **Establish a transparent Contracts-for-Difference (CfD) framework:** Introduce an auction-based mechanism that provides long-term tariff stability, predictable revenue streams, and alignment with EU market design principles.
- **Facilitate corporate and cross-border PPAs (cPPAs):** Enable long-term renewable electricity sales to industry through legislative amendments, standard contracts, and rules supporting ENTSO-E-aligned cross-border trading.
- **Invest in grid modernization and regional balancing:** Upgrade transmission and distribution, expand storage and balancing capacity, and accelerate EU interconnections to enable large-scale renewable integration.
- **EU electricity market integration**: Advance EU market integration by completing alignment with EU energy directives, securing mutual recognition of guarantees of origin, and preparing for full market coupling to unlock long-term export opportunities.
- **Strengthen risk-mitigation tools:** Scale up war-risk insurance, blended finance, other derisking mechanisms and guarantees (through IFIs, EU, DFC, MIGA) to mobilize private investment into both reconstruction-linked and long-term renewable projects.
- **Develop local value chains:** Support renewable equipment manufacturing and leverage critical mineral reserves to integrate into EU clean-tech supply chains.
- **Address labor and skills shortages:** Launch targeted training and retraining programs to rebuild the renewable energy workforce and fill gaps in engineering and installation.
- **Improve governance and business climate:** Safeguard the independence of the National Energy and Utilities Regulatory Commission (NEURC), streamline permitting for construction and environmental approvals, and strengthen anti-corruption and contract enforcement to enhance investor confidence.
- **Ensure gender equality and social inclusion in the green transition**: Adopt measures to increase participation of women and war veterans in renewable energy jobs, decision-making, and technical training.

1 EU convergence within 15 years is possible if Ukraine accelerates its fundamental growth drivers: productivity, labor and capital

Ukraine's previous growth is insufficient for rapid EU convergence:

- Ukraine's GDP p.c. growth (2016-2021, constant USD): **2.5% p.a.**
- EU's GDP p.c. growth (2016-2021, constant USD): **1.5% p.a.**
- Ukraine's GDP p.c. in 2024: **12.5% of EU average**

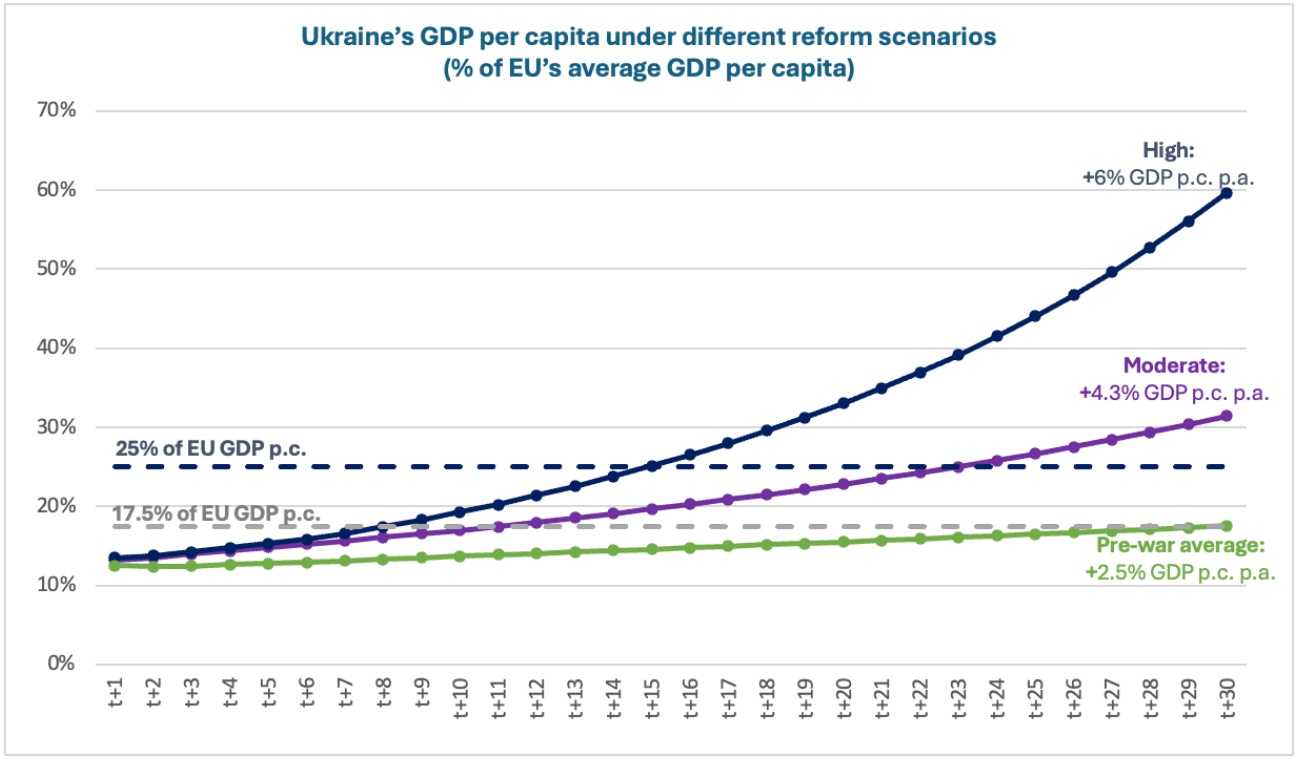
➢ **Reaching 25% of EU average (Poland in 2004) would take 30 years**

Faster convergence (23 years with moderate and 15 years with high reform effort) requires a *strong* improvement in growth drivers

1. **Significantly faster annual productivity (TFP) growth:** Gradual convergence from 1.3% pre-war average to 3.3% (more than 2x) in the moderate-reform scenario and 5% (more than 3x) in the high-reform scenario.
2. **Conducive labor dynamics: Positive net migration** (1.9 million in the moderate-reform, 3.1 million in the high-reform scenario), **lower unemployment, increased labor force participation, and improved demographic dynamics.**
3. **Significant increase in annual investment (particularly private)** from 16% of GDP (pre-war average) to just below 30% during reconstruction, converging to a steady state of 19% in the moderate-reform scenario and 24% in the high-reform scenario.

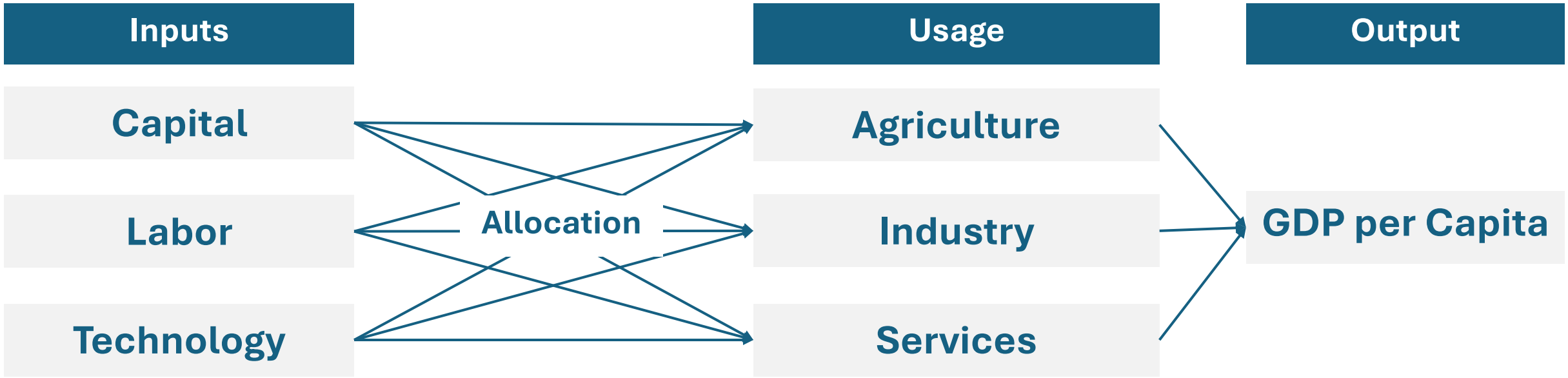
Average growth rates from t+1 to t+15 in constant USD:

- **Moderate:** GDP grows **3.8%** p.a., GDP per capita grows **4.3%** p.a.
- **High:** GDP grows **5.9%** p.a., GDP per capita grows **6%** p.a.
- **Pre-war:** GDP grows **1.9%** p.a., GDP per capita grows **2.5%** p.a.



Note: The growth figures are in constant USD and assume 5% deflator growth and 5% depreciation per year.

1 From Inputs to Outputs: Both Horizontal and Vertical Policies are critical for increasing Productivity



Horizontal Policies:

- **Input Deepening:** Help the economy overall attract more capital, labor, and technologies.

Horizontal Policies:

- **Increase economy-wide productivity through allocative efficiency:** Help the economy allocate inputs to the most **productive sectors**, **activities and firms** (e.g., competition policy).

Vertical/Sectoral Policies:

- **Increase sector productivity** by alleviating **Sector-Specific Constraints (**regulatory constraints that only affect some sectors) and **Targeted Support** to help high-potential sectors increase exports, adopt technologies, etc.

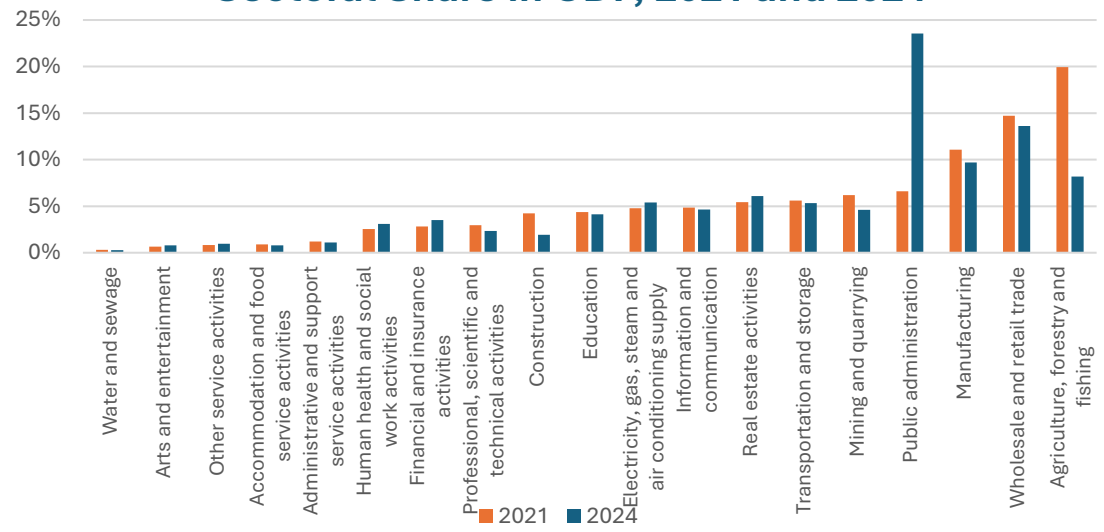
1 Ukraine's economy has traditionally been dominated by agriculture and heavy industries, but comparative advantages have changed since 2014

- Ukraine's economy has traditionally been dominated by **agriculture** and **heavy industries (mining/manufacturing).**
- Before 2013, Ukraine's exports enjoyed a **revealed comparative advantage (RCA)*** in both areas.
- Since then, the comparative advantage in heavy industries was lost, leaving Ukraine currently with a sole comparative export advantage in **agricultural production**.
- The loss of the comparative advantage was **driven by fundamentals**: loss of former export markets in CIS states, increasing energy costs, higher transport costs.
- Today, **export complexity** is lower in 2013. It gradually declined as Ukraine shifted towards Western markets, reflecting a move away from integrated industrial linkages to more basic, resource-driven exports.
- At the same time, new demand has arisen since 2022, from the **public sector** (which partially captures payments for defense like army salaries) **and increasing integration with the EU market** driving an impetus for new sectoral growth.

This Presentation: How can Ukraine take advantage of new sectoral opportunities?

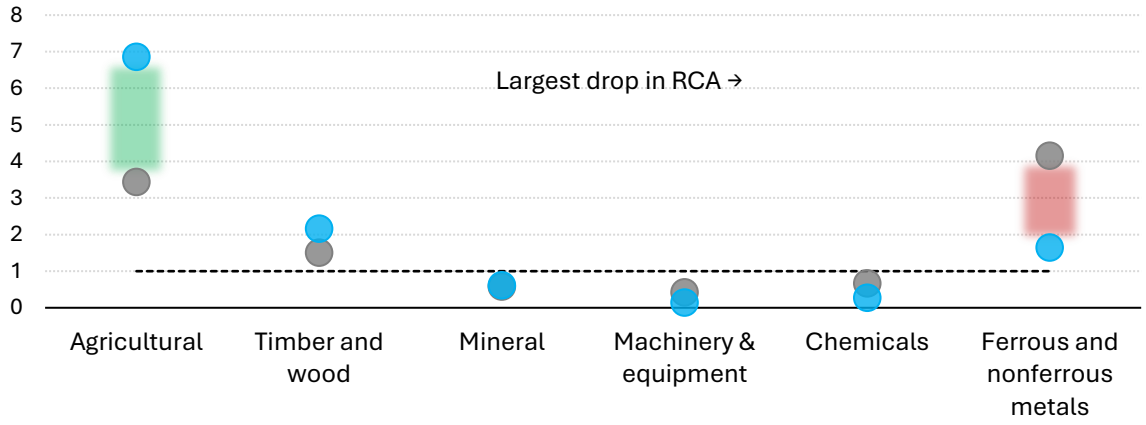
*RCA is a relative measure, showing the share of a given product in a country's export basket compared with the same share for the average across countries (larger than 1 implies the country exports comparatively more). As public administration isn't exported, the increased production doesn't affect RCA.

Sectoral Share in GDP, 2021 and 2024



Source: Ukrstat.

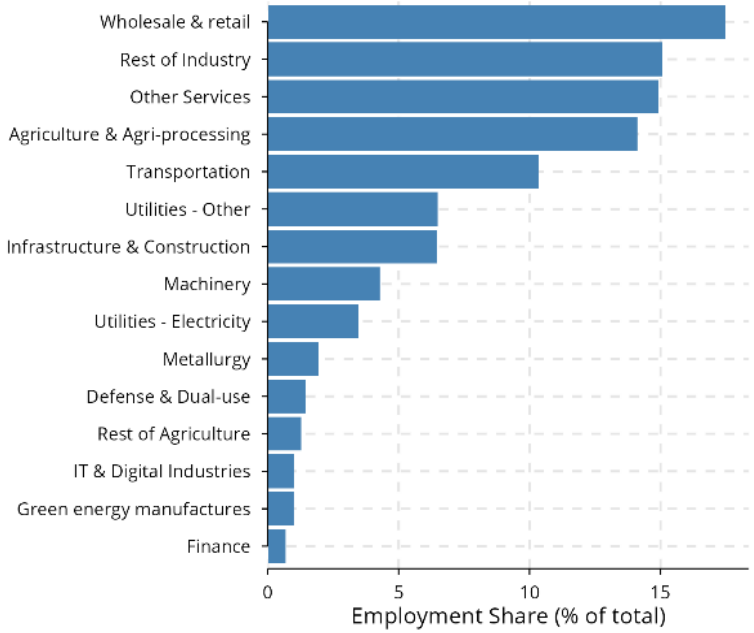
Change in Revealed Comparative Advantage (2023 vs. 2013)



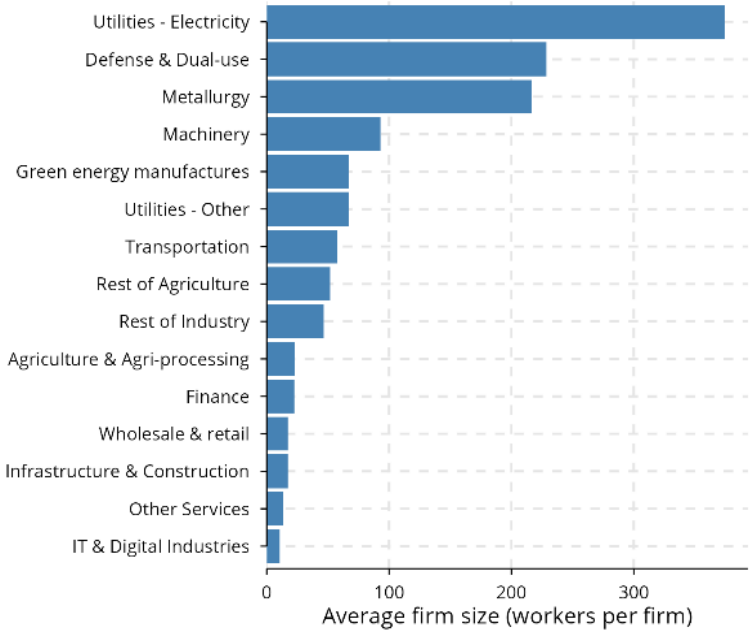
2 Not all sectors are equal - some account for more employment or productivity than others...

Metallurgy, IT & Digital Industries are among the most productive sectors, while Agriculture & Agro-processing is among the largest employers.

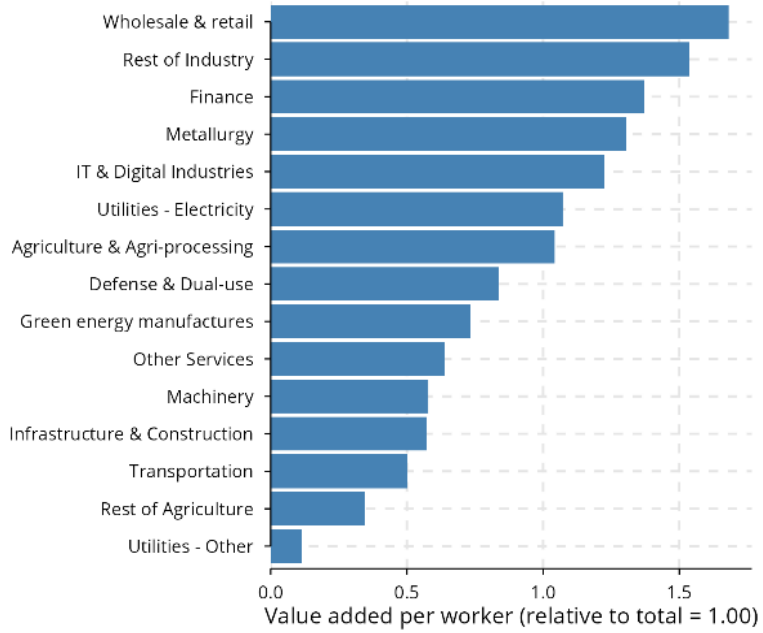
Employment share (% of total)



Average firm size (workers per firm)



Value added per worker relative to total (=1)



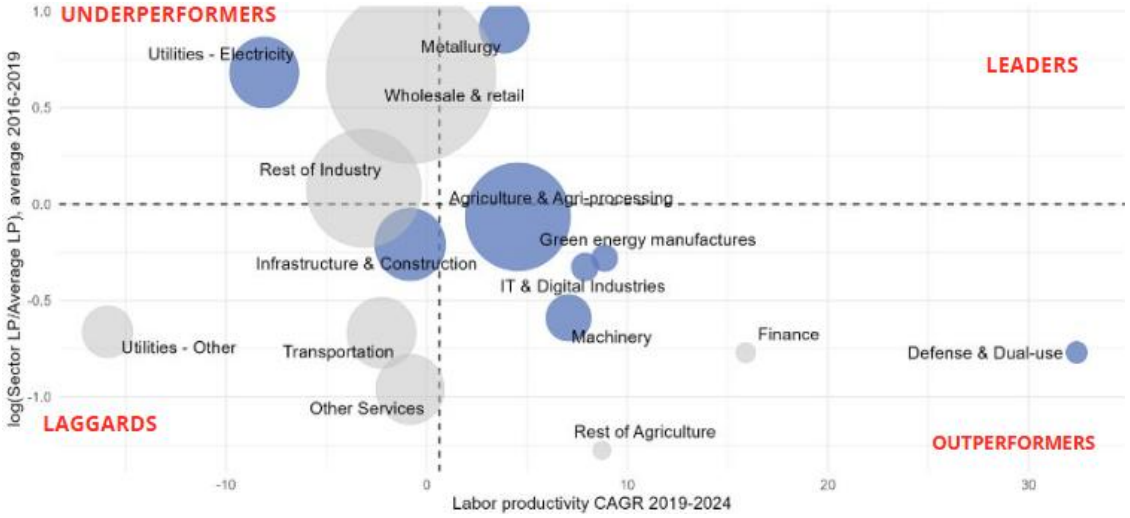
Note: Figure displays share of employment in the economy, average firm size, and value added per worker, by sector.
Source: World Bank elaboration using ORBIS and FIN data for the Industrial Strategy Analysis

2 …and some have shown more promising performance over time.

- Comparing pre-invasion productivity levels (2016-2019) and latest performance (2019-2024), there are key sectors with large potential to drive productivity and growth in Ukraine including:
  - ***Outperforming sectors: D*efense and dual-use technologies, Machinery, IT & digital industries, Manufacturers of equipment for green energy, and Agri-processing businesses**. These sectors had below-average labor economy in the past but have grown significantly in the last 5 years.
  - ***Leader sectors: M*etallurgy** manufacturing. These sectors were already performing above the average in the economy but have further increased labor productivity in the last years.
  - Key enabling sectors such as **Energy, Infrastructure and Transportation remain underperforming/laggards** in terms of labor productivity, which might slow the potential for outperforming sectors.

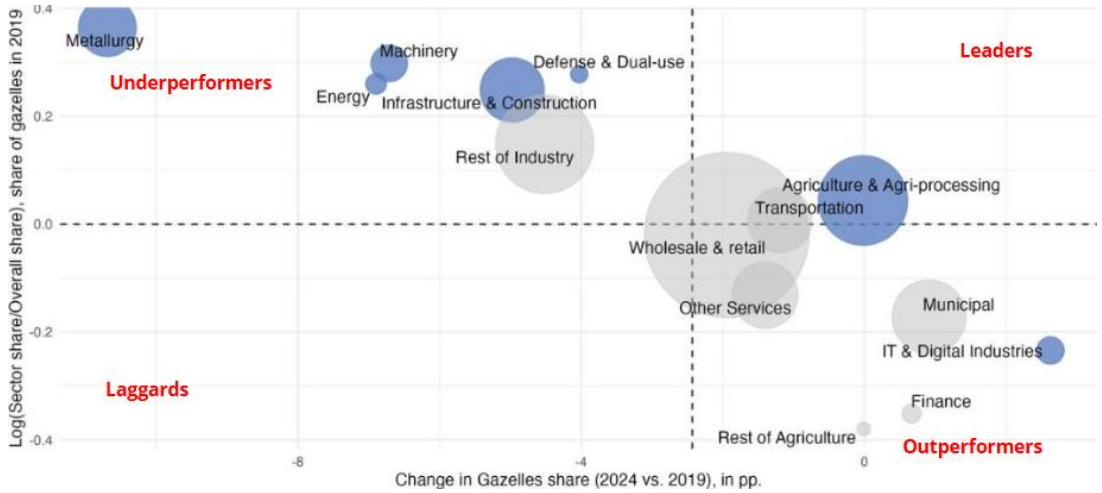
- **Agri-processing, IT & digital industries** are among the sectors with more **fast-growing companies** (i.e., gazelles) that grew 20%+ in terms employment over the last 5 years.

Ukraine's labor productivity performance pre- and post invasion



Source: World Bank elaboration using ORBIS and FIN data for the Industrial Strategy Analysis

Share of fast-growing firms (i.e., gazelles) pre- and post-invasion



2 Sectors also differ in their input-output linkages and export potential

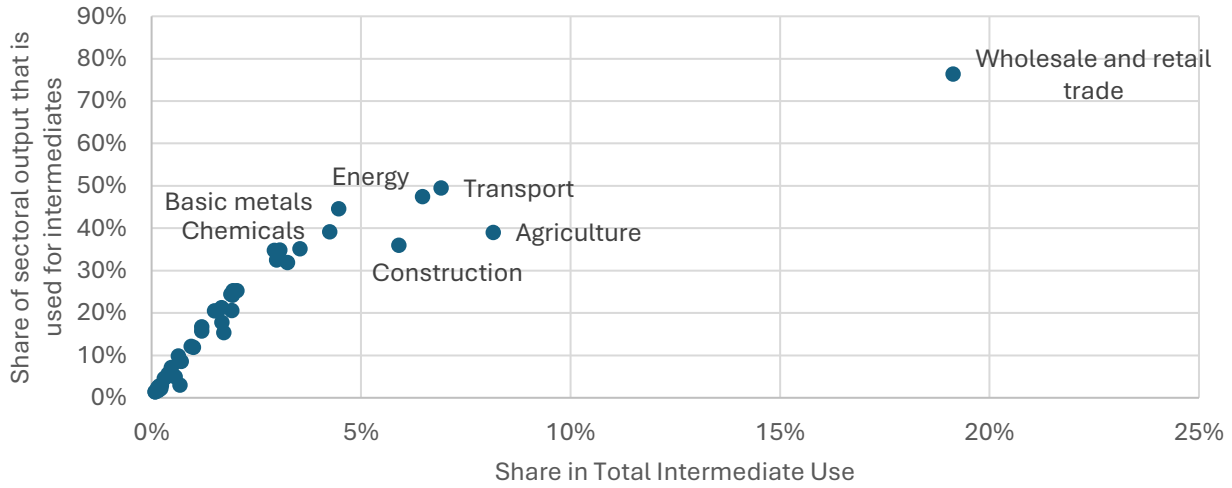
Improvements in upstream sectors generate spillovers across the economy.

- Recent evidence suggests that lowering costs in upstream sectors can also help connected downstream sectors (Liu, 2019).
- Input-Output tables give an indication on suitable sectors by identifying those that contribute significantly to intermediate inputs and for which a large share of output is used in intermediate production.
- For Ukraine, **Wholesale and Retail Trade, Energy, Transport, Agriculture, Construction, Basic Metals, and Chemicals** have significant linkages.

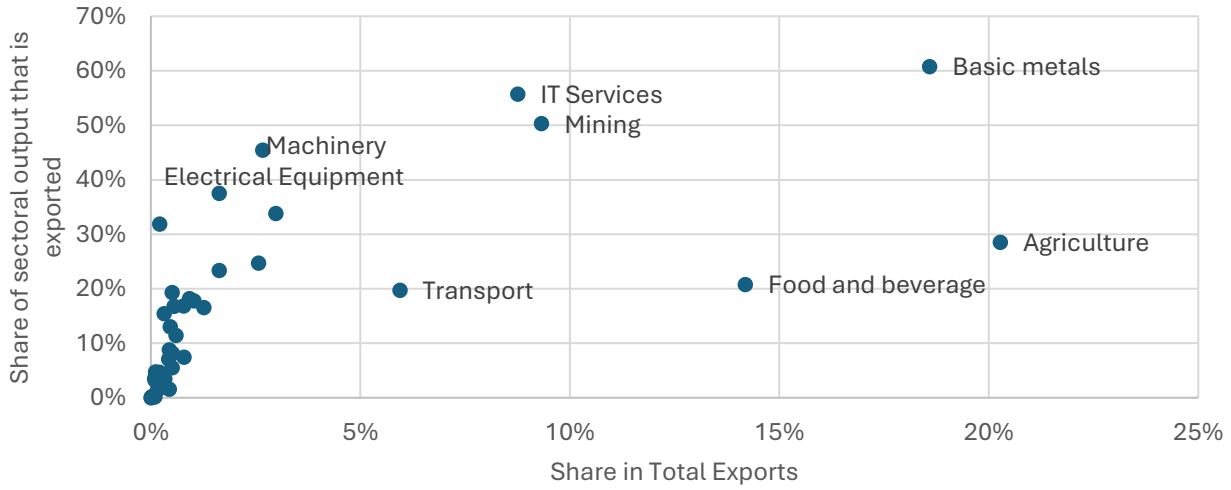
Sectors with a large export focus are also potential growth drivers.

- Sectors for who a large share of output is exported, but who aren't (yet) sufficiently large to drive aggregate exports: **Electrical equipment, Machinery.**
- Sectors with a large share in total exports but only partial export of output: **Transport, Food, Agriculture.**
- Exports with large export share (both in total exports and in sectoral output): **IT Services, Mining.**

Use of sectoral outputs for intermediary consumption (2021)



Export intensity of different sectors (2021)



Source: World Bank staff calculations based on 2021 Input-Output tables by Ukrstat.

2 Sectors with high FDI potential are attractive as they attract foreign capital, accelerate technology transfers and innovation and support global value chain integration (1/2)

Why focus on sectors with high FDI potential?

- ***Source of capital:*** **Ukraine's investment needs exceed its domestic capacity. Foreign direct investment complements domestic capital.**
- ***Technology transfer:*** **FDI comes with knowledge and technologies that help Ukrainian firms become more productive.**
- ***Global value chain integration:*** **FDI is investment into an international supply chain element, thereby improving access to markets.**

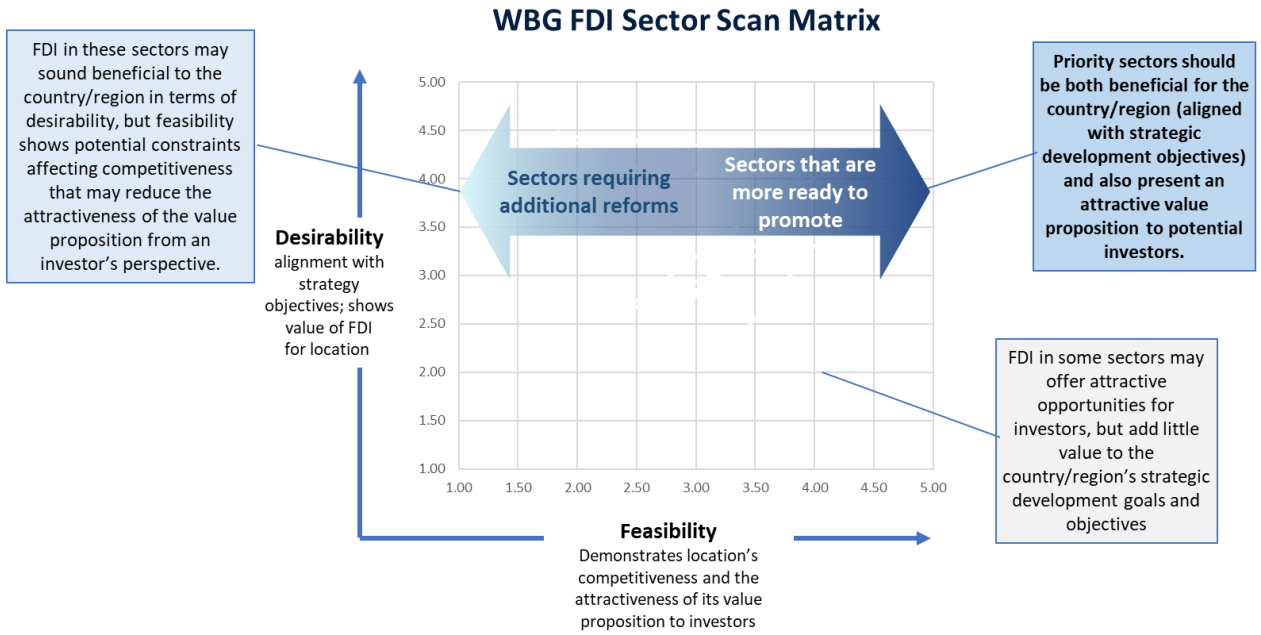
The World Bank Group's FDI Sector Scan methodology identifies sectors with the **highest potential for FDI attraction and development impact**. In Ukraine, it also considers sectors' resilience and exposure to war-related risks.

Sectors are assessed along two dimensions:

- **Feasibility:** Ukraine's competitiveness as a destination for FDI based on key dimensions typically considered by multinational companies (MNCs) in global site selection (e.g. underlying endowments, skills, infrastructure, broader business environment).
- **Desirability:** Expected contribution to development objectives(e.g., productivity and technology upgrading, integration into global value chains (GVCs), job creation, sustainable growth)

...and grouped into two categories:

1. **Ready-to-promote:** Sectors with high desirability and competitiveness even under current conditions, which can be promoted more actively in the short term.
2. **Aspirational:** Highly desirable, but require significant policy reforms and de-risking to enable the full potential to materialize.



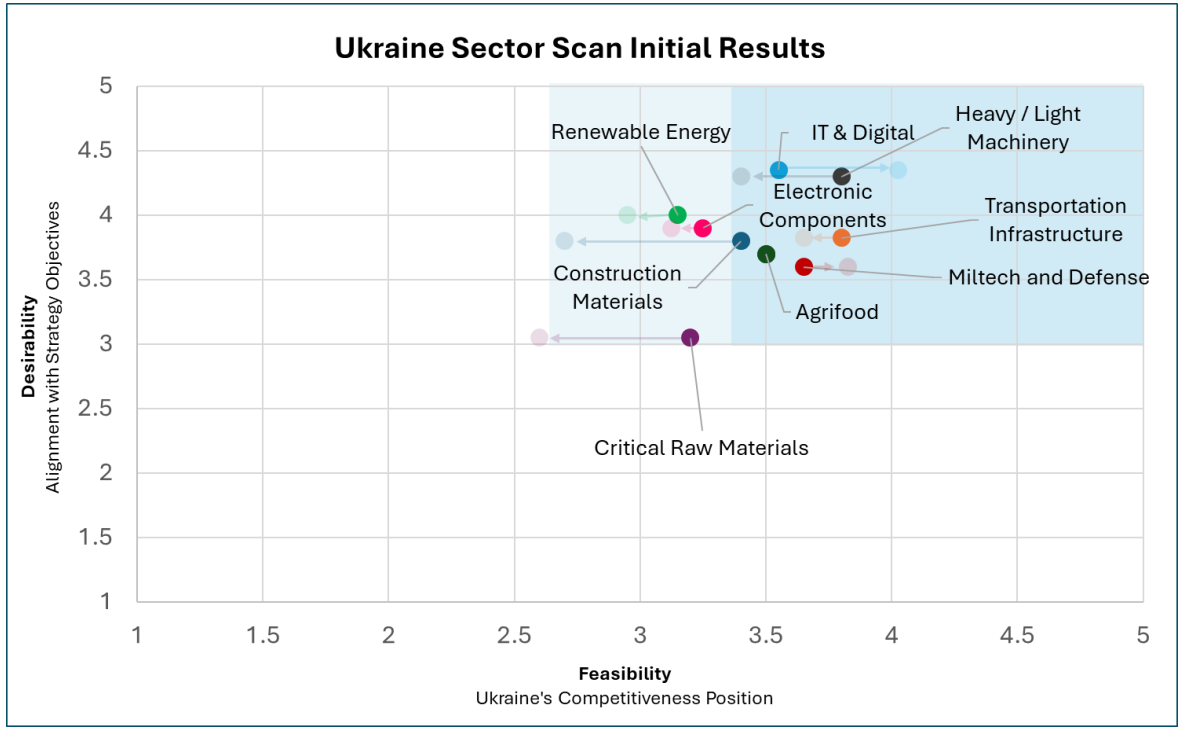
Source: World Bank Group.

2 Sectors with high FDI potential are attractive as they attract foreign capital, accelerate technology transfers and innovation and support global value chain integration (2/2)

- Ready-to-promote:
  1. Transportation Infrastructure,
  2. IT & Digital Services
  3. Heavy machinery
  4. Agrifood/Agribusiness
  5. Miltech/Defense
  6. Construction Materials
- Aspirational:
  7. Electronic Components
  8. Renewable Energy
  9. Critical Raw Materials

- **Construction materials, critical raw materials, and heavy machinery** are expected to be most **adversely affected** if war risk exposure increases.
- **Miltech and defense, and IT and digital services** will likely **increase feasibility** in the case of higher war risks.

On an aggregate level, econometric modeling suggests that (i) de-risking **can increase the FDI stock by 7% and (ii) de-risking and high effort structural reforms by 92% or $37bn to $45bn by 2030.**

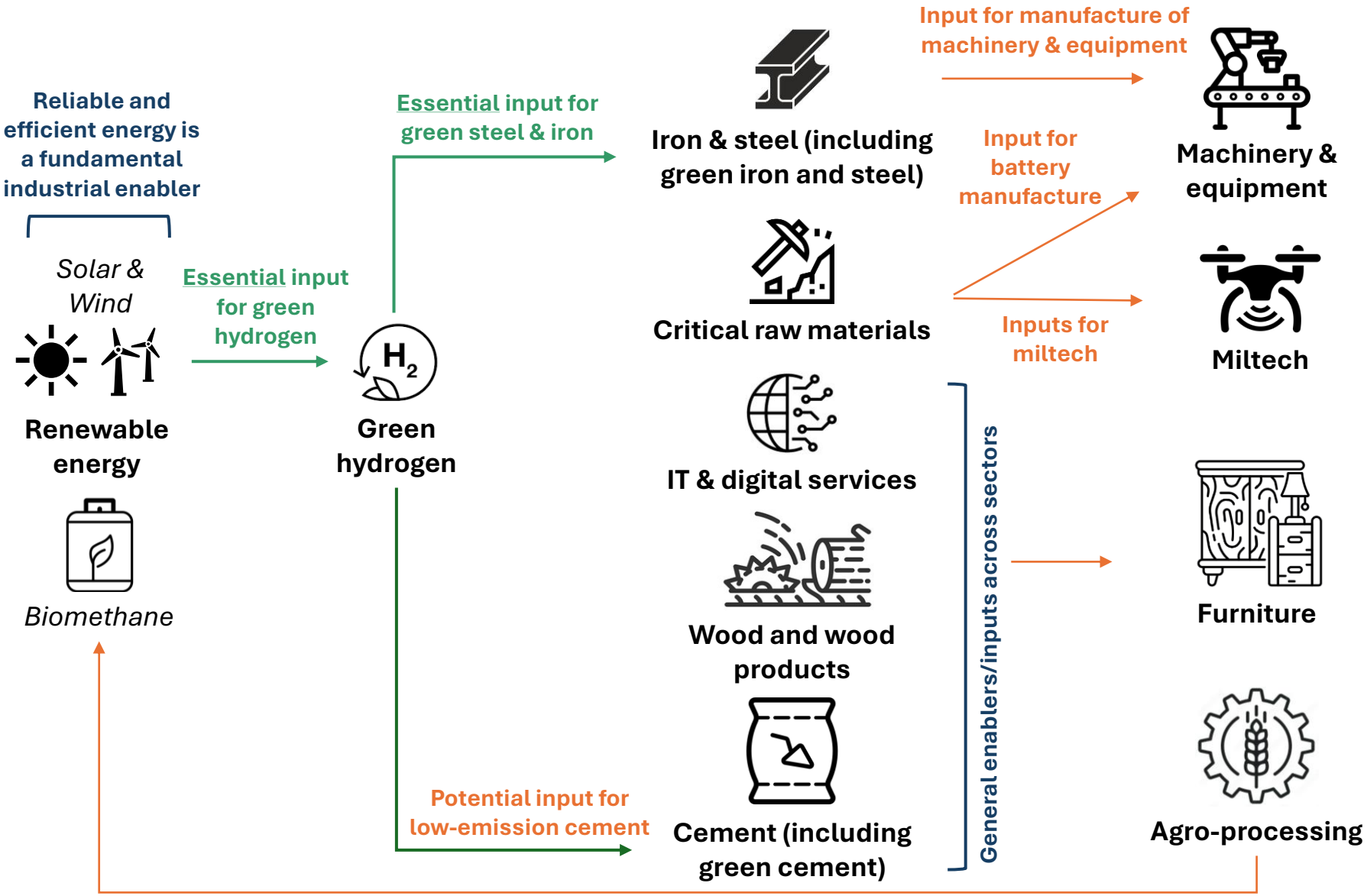


Source: World Bank Group. Note: Darker-colored dots show sector scores in a scenario without heightened war risks; lighter dots show scores under current conditions. Arrows indicate the shift caused by war risk exposure.

2 The World Bank Group's FDI Sector Scan identified 9 sectors with high foreign direct investment (FDI) potential

Sector	Agribusiness	Heavy Machinery	IT & Digital Services	Miltech / Defense	Transport Infrastructure	Construction Materials*	Electronic Components	Renewable Energy	Critical Raw Materials
Value Chains	▪ Plant-based processed foods (oilseeds, flours and starches)	▪ Rolling stock Legacy bases/ potential: ▪ Aero engines ▪ Energy Equipment	▪ Computer programming/ consultancy ▪ Cybersecurity defense tech, and govtech	▪ UAVs / Drones ▪ Precision Munitions ▪ Defense Electronics & C2 ▪ Demining Tech	▪ Rail ▪ Road ▪ Airports	▪ Green cement ▪ Float glass ▪ Plastics and composite panels	▪ Electronics manufacturing service ▪ Tier 1 & 2 suppliers ▪ R&D	▪ Solar ▪ Wind ▪ Biomethane	▪ Natural graphite anode material ▪ Lithium & graphite refining
Competitiveness	▪ Strong land and production endowments ▪ Growing domestic market ▪ Proximity to EU market / potential beyond	▪ Skills (large tech labor force) ▪ Manufacturing legacy ▪ Strong local / EU demand ▪ Reconstruction demand	▪ Strong and cost advantageous human capital ▪ EU proximity / potential for export scaling ▪ Operational resilience	▪ Cost effective innovation ▪ Field / validation advantage ▪ EU/NATO Proximity ▪ Innovation ecosystem	▪ US $78 billion needed for reconstruction ▪ Strategic location and EU integration ▪ New PPP & concession legal framework	▪ Strong local market demand / substantial LT potential ▪ Raw materials ▪ Large technical labor force)	▪ STEM education base (technical labor force) ▪ EU Proximity ▪ Raw material endowments	▪ High solar and wind potential ▪ Strong local demand (energy security, green transition) ▪ EU export opps	▪ Vast untapped reserves of titanium, lithium, and rare earths ▪ EU proximity ▪ Strong market interest (US, EU)
	Challenge: Logistics bottlenecks, limited processing, SPS compliance gaps	**Challenge:** War damage, outdated R&D, export logistics constraints	**Challenge:** regulatory and IP bottlenecks limit FDI scale-up	**Challenge:** Export restrictions, conscription risks, regulatory uncertainty	**Challenge:** Heavy reliance on public spending, PPP use limited	**Challenge:** energy-intensive / vulnerable to location risks	**Challenge:** high energy intensity and ESG/supply chain challenges limit ST competitiveness	**Challenge:** locations affected by security risks, grid capacity	**Challenge:** long development timelines, regulatory gaps, incomplete geological data
Investor Types	▪ Corporate strategic (MNE) ▪ Private Equity / Agribusiness Funds ▪ Venture capital	▪ Corporate strategic (MNE) ▪ Strategic SOEs	▪ Corporate strategic (MNE) ▪ Private equity ▪ Venture capital	▪ Corporate strategic (MNE) ▪ Strategic SOEs & SWFs	▪ Strategic SOEs & SWFs (EU, Turkey, MENA) ▪ MDBs & DFIs ▪ Public Pension Fund	▪ Corporate strategic (MNE) ▪ Private Equity & Industrial Investment Funds	▪ Corporate strategic (MNE)	▪ Corporate strategic (MNE) ▪ PE & Infra funds, ▪ DFIs ▪ Private Pension Funds	▪ Corporate strategic (MNE) ▪ Strategic SOEs & SWFs

2 These sectors don't exist in isolation but interact and generate positive feedback loops

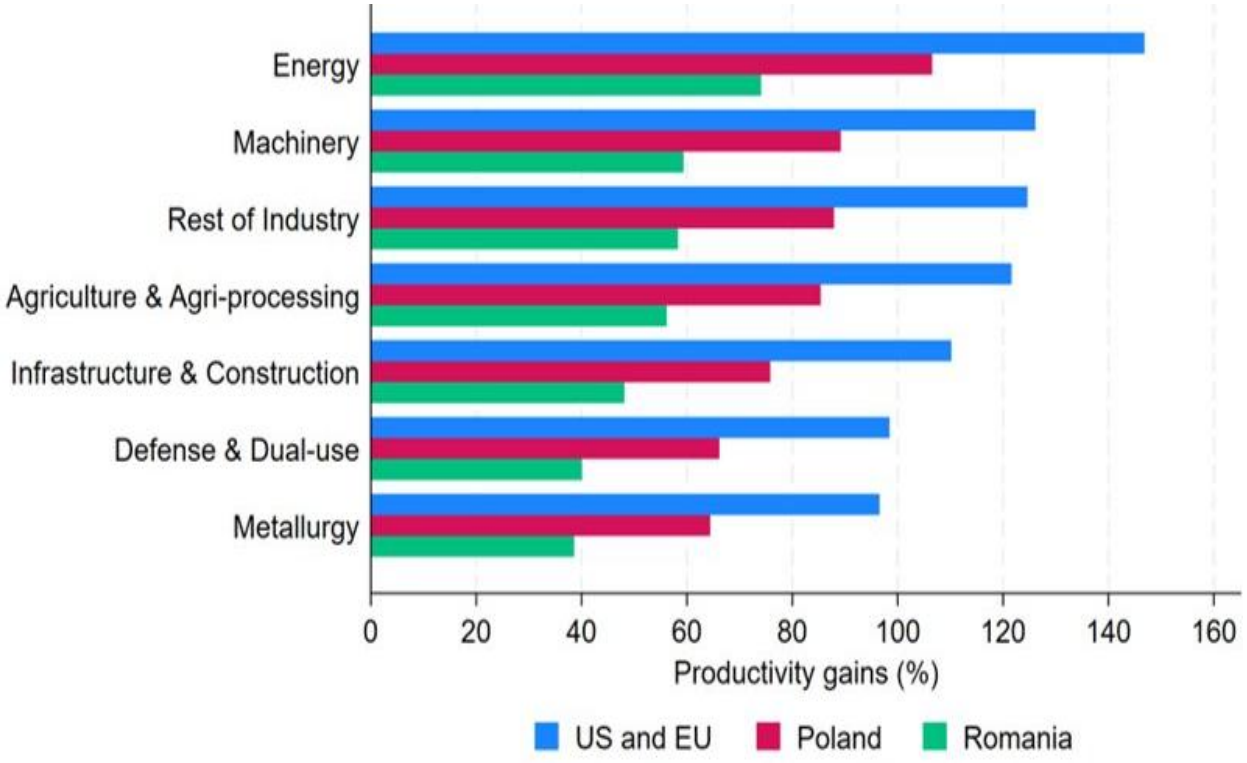


Source: FCI World Bank elaboration for the Ukraine's Industrial Strategy

3 By moving to the efficiency level reported in EU countries, Ukraine has the potential to increase productivity by more than 50% across all sectors

- **Energy and machinery** have the greatest potential to boost growth, with productivity possibly doubling compared to 2019 levels.
- To achieve this, it is essential to pursue a **comprehensive reform agenda** that simultaneously addresses cross-cutting issues to ensure well-functioning of key enabling sectors, market rules that guarantee efficient allocation of resources among viable and productive firms, and market rules that mitigate market distortions and promote a level playing field.
- **Some measures to unlock this potential include:**
  - **Regulatory reforms** that enable fair competition, a level playing field and dynamic business environment (see next slide).
  - **Reforms to improve credit access** and efficient allocation among viable and productive firms.
  - **Labor market regulations, trade liberalization, and market access reforms** including in key enabling sectors to reduce high transportation and energy costs.

Potential labor productivity gains from moving to the efficiency level of different economies (2016-2019)



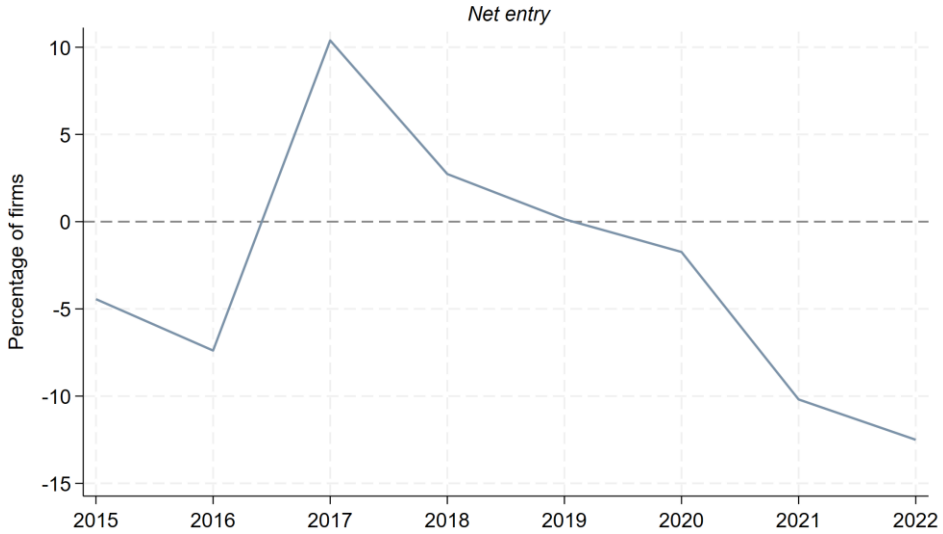
Source: FCI World Bank elaboration based on ORBIS and Ukraine FIN data, prepared for the Industrial Strategy

Notes: Average estimates based on Hsieh and Klenow (2009) and Cusolito, Fattal-Jaef, Mare, and Singh (2024). Only manufacturing firms are considered. Productivity gains are reported relative to the gains that would come up in the US and EU economies (including Austria, Estonia, France, Finland, Germany, Italy, Norway, and Spain), Poland and Romania from removing misallocation following Hsieh and Klenow (2009).

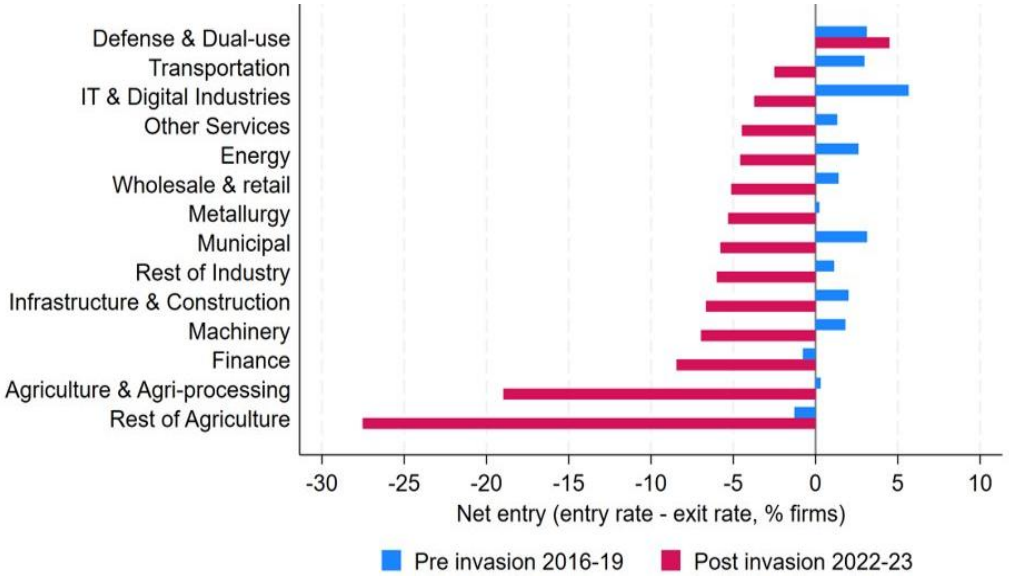
3 Realizing this potential requires overcoming a structural lack of business dynamism...

- **Declining entry rates and exit of productive firms have been exacerbated by the war**. Negative entry rates reported since 2020 reached the lowest point (-12%) in 2022.
- **With the exception of Defense and Dual-Use sector, all sectors in the economy have experienced a decline in the entry rates** impacting agriculture, finance, infrastructure and construction as well as manufacturing industries such as machinery, and metallurgy.
- The lack of business dynamism is linked to **lower productivity and limited growth potential** (Akcigit et. al., 2025).

Net entry of firms in Ukraine pre- and post-invasion (all sectors)



Net entry of firms in Ukraine pre- and post-invasion by sector



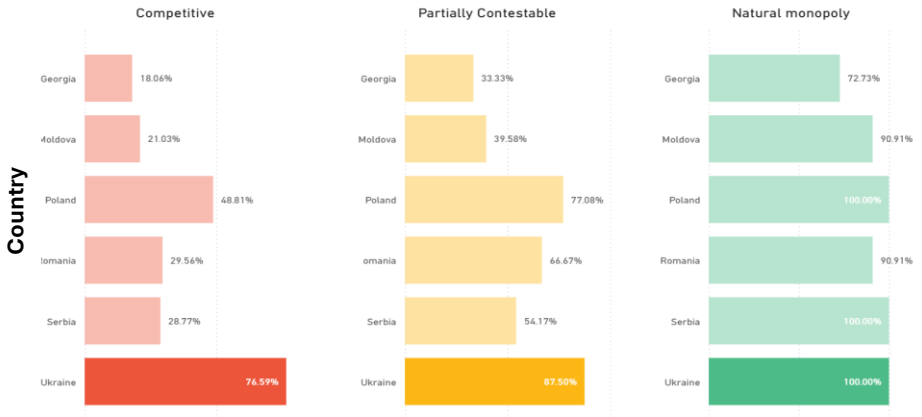
Notes: Entry is defined as firms observed in t and not observed in t-1 and t-2. Exit is defined as firms observed in t but not observed in t+1 and t+2. Rates are calculated as number of entries/exits divided by the population of firms. Net entry is calculated as entry minus exit and turnover is calculated as entry plus exit.

Source of all figures: FCI World Bank elaboration based on ORBIS and Ukraine FIN data, prepared for the Industrial Strategy.

3 ...and a heavy state footprint and uneven playing field...

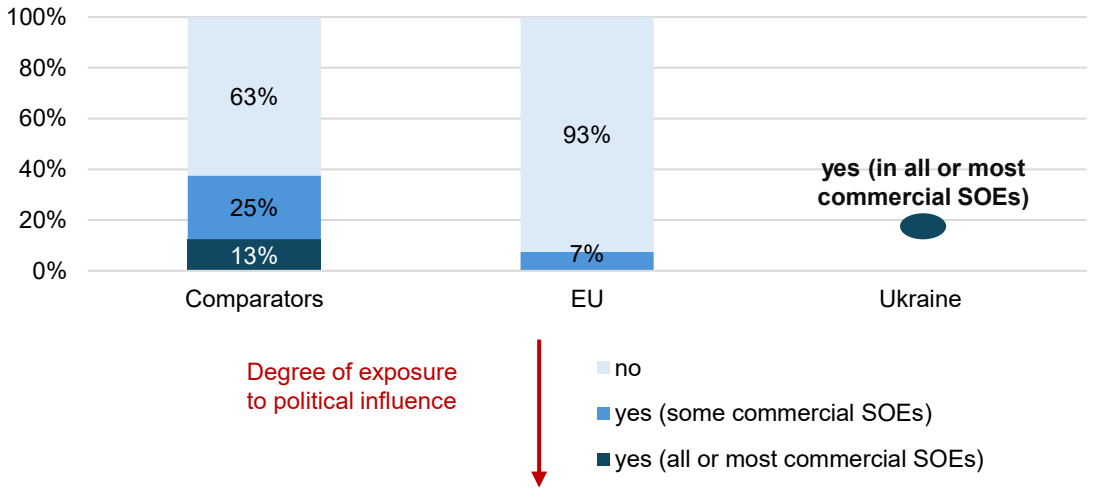
- **More than half of the markets in Ukraine remain highly concentrated (HHI index above 1,800)** even in industries that should be prone to more competitive pressure and there is large entrenchment among the largest 4 top-firms. Yet, markets that appear more concentrated are not necessarily the most productive ones.
- **The state is present in more than 78% of markets.** This is predominantly in competitive activities such as manufacturing of food or growing of grains that can be viable for the private sector. Markets with higher state presence appear to be more concentrated and less productive.
- **Market rules do not necessarily ensure competitive neutrality between SOEs and private peers**. While SOEs are subject to the same market rules in terms of competition law, public procurement, and taxes, they still benefit from preferential treatment for accessing financial support and public land in better conditions than those available to competing private firms (OECD-WBG, PMR, 2025). Furthermore, there are risks of conflict of interest as SOEs often have a dual role as commercial operators and regulators of the sector, in which they can also set tariffs and rules for entry of potential competitors.

Share of markets with presence of state operator by sector-type.



Source: WB Business of the State (BOS)

Share of countries where SOEs benefit from preferential financial support.

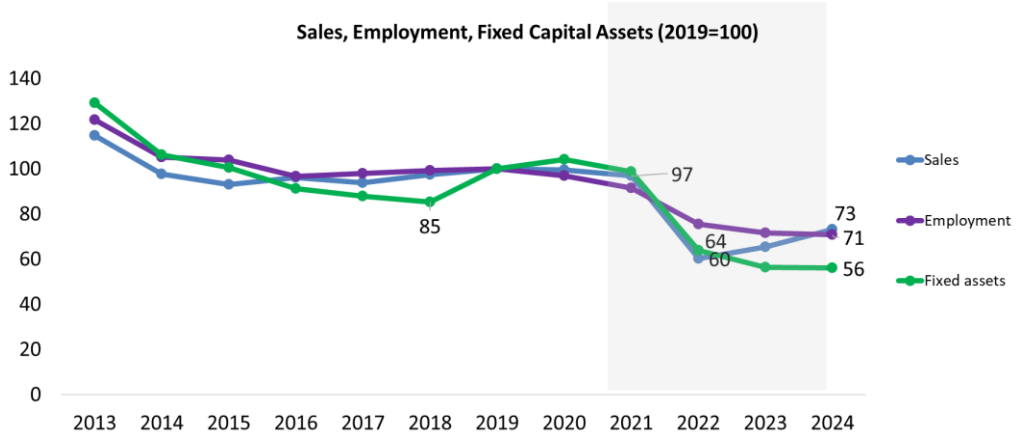


Source: WBG-OECD **Product Market Regulation** (2018-2024). Data for Ukraine collected during 2025, subject to final validation.

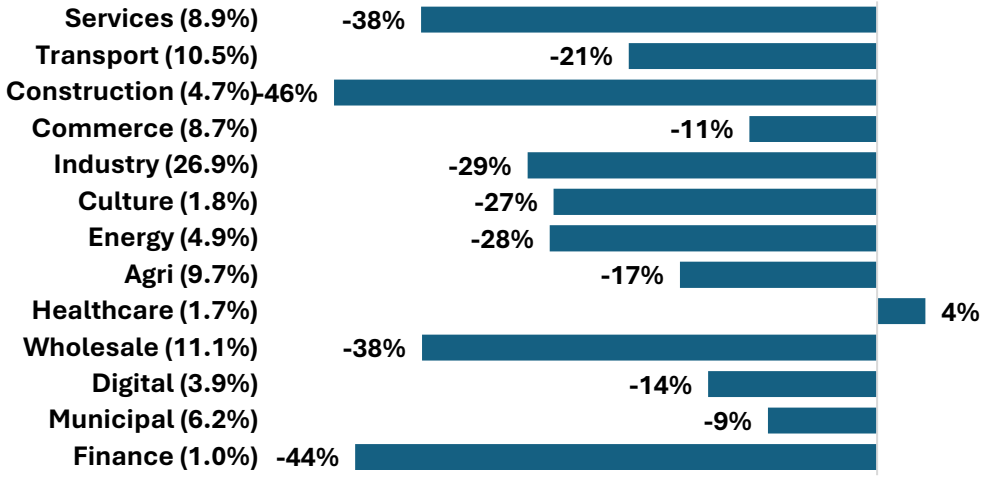
3 ...and the adverse impacts of the full-scale invasion.

- **More than 50% of the productive assets have been destroyed and sales and employment remain about 35-40% lower than pre-war levels.**
- **Sharp drop in sales has impacted construction, finance, wholesale and retail services the most**. The industrial sector has declined about 30% in terms of sales and more than 25% in investment in fixed capital between 2021-2024.
- **Investment on fixed capital assets has declined by more than 38% in transport and construction and more than 50% in services.**

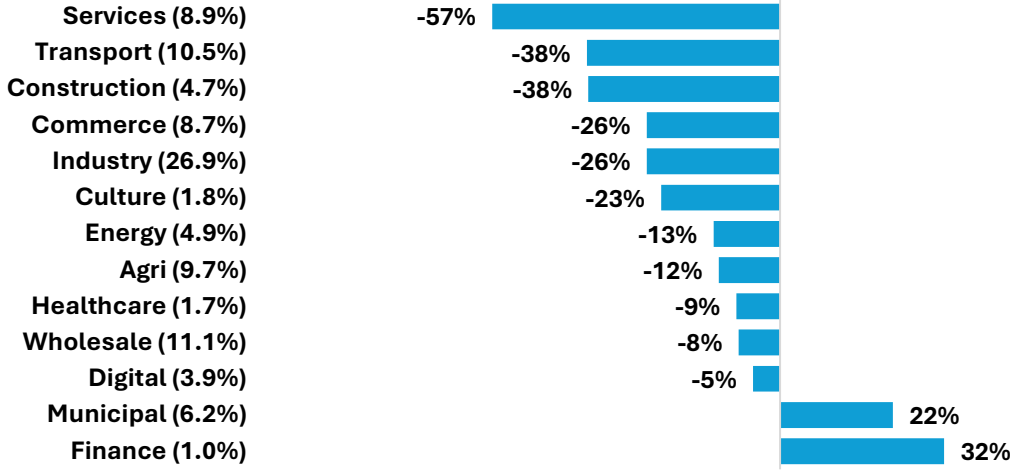
Real Sales, Fixed Capital Assets and Inputs and Employment (2019=100)



Percentage change in yearly sales, 2021 vs. 2024



Percentage change in fixed capital investment, 2021 vs. 2024



Source for all figures: FCI World Bank elaboration based on ORBIS and Ukraine FIN data, prepared for the Industrial Strategy.

3 Addressing key cross-cutting issues are essential to unlock productivity and private-sector-led growth across sectors*

1. Investment climate, Competition and Regulatory Environment	2. Market Access and compliance with high quality standards	3. Infrastructure for competitive industries: Transport, logistics, energy	4. Access to Finance	5. Human capital and innovation
Business enabling regulatory framework and streamlined procedures for entrepreneurs.	Deeper trade agreements accompanied by streamlined and expedited custom procedures.	Multimodal and integrated transportation systems	Better protecting creditors and simplifying listing processes	Affordable and skilled labor to both domestic and foreign private companies
Dynamic and contestable markets that reward performance and productivity and ensure a level playing field and enforcement of market rules.	Strong quality infrastructure to meet international standards, and ensure traceability chains	Reviewed public service obligations in energy and railway transportation toward competitive and cost-recovery tariffs.	Strengthened corporate insolvency and judicial systems	Innovations in educational technologies and new formats of development in the economy (e.g., digital economy)
Reduced state footprint in markets, particularly in competitive markets viable for private provision.	Enhanced and Sanitary and phytosanitary (SPS) measures aligned to international standards	Modernization of infrastructure, review of legal monopolies and unbundling to promote entry of the private sector in competitive segments	Improved financial intermediation	

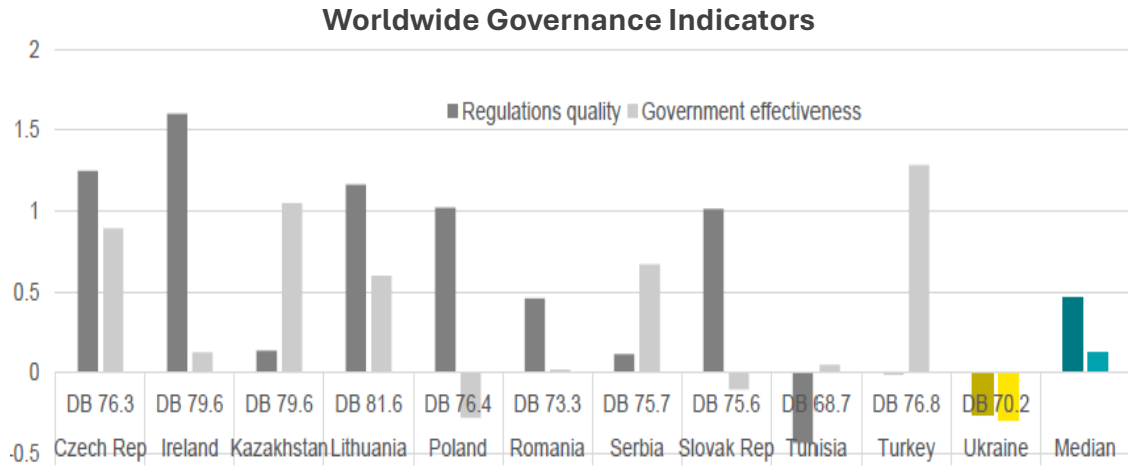
***Sector Specific Reforms are included in the Sectoral Deep Dives in Section 4**

Source: FDI and Industrial Strategies.

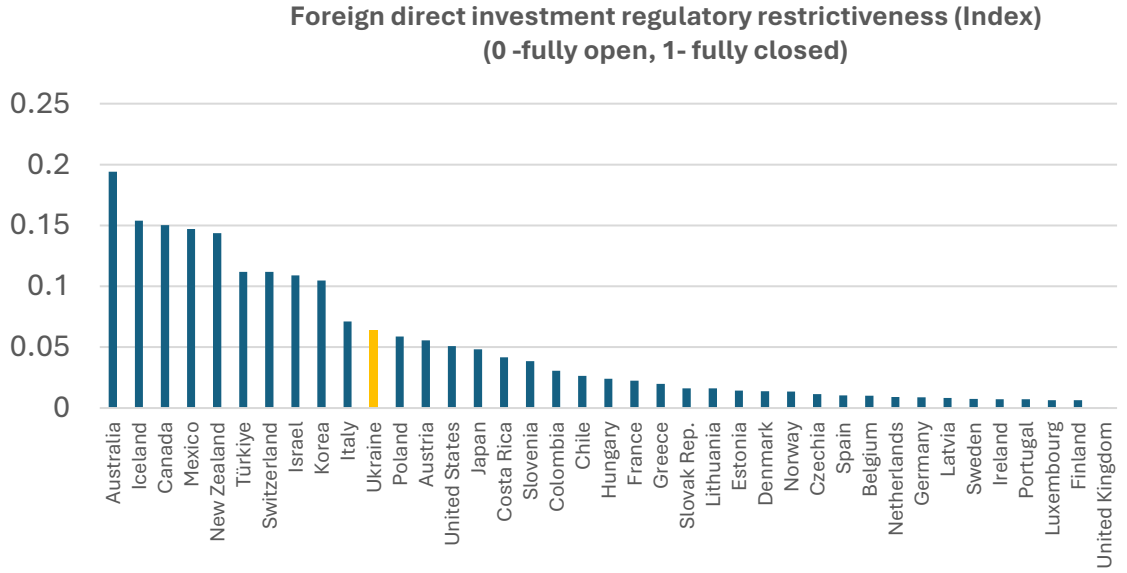
3 Improving the business environment and increasing foreign and domestic competition across all sectors is key

Opportunities remain to improve the quality of regulations and market rules regarding:

- **Improving independence from political pressure**, quality of policy formulation and implementation, and perception of quality of the public services and government effectiveness is below peers (WGI, 2024).
- **Reducing administrative burden for entrepreneurs and promoting reforms on regulations that are not conductive to FDI.** Risk-proportionate licenses and permits are needed at the local level (PMR, 2025), and pro-competitive reforms are key to enable fair foreign competition by removing measures that currently impose foreign equity limits, discriminatory screening or restrictions to foreign operations in key sectors such as agriculture, media, and real state (OECD, FDI restrictiveness, 2024).
- **Strengthen enforcement of market regulations including reinforcing the role of the competition authority and regulators** to identify, prevent and sanction anti-competitive practices. For instance, cartel fines are significantly lower when compared to EU and OECD countries and might not be a deterrent factor for potential cartel members.



Source: EY & USAID (2024)



Source: OECD (2023) FDI restrictiveness.

3 Free trade agreements offer opportunities to anchor reforms beyond market access: sanitary and phytosanitary regulations, competition, procurement, intellectual property

Ukraine has already liberalized more than 90% of its tariffs. However, more areas to deepen trade agreements with its trading partners include:

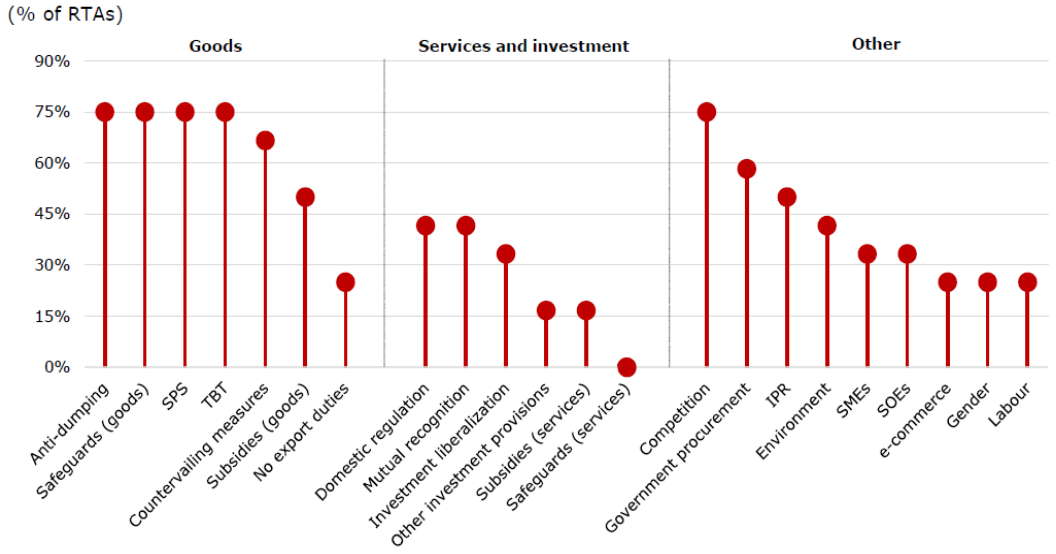
- Improve **Sanitary and Phytosanitary** regulations (required by 75% of regional trade agreements (RTAs) signed by Ukraine),
- **Strengthen competition environment** (**75%** of RTAs)
- Improve **government procurement (60%** of RTAs), **intellectual property rights (47% of RTA**), **investment liberalization** for services (**30%** of RTA).

With the expiration of the Autonomous Trade Measures in June 2025, and concluded negotiations of the Deep and Comprehensive Free Trade Area (DCFTA), Ukraine has a unique opportunity through:

- **A more permanent, predictable trade regime**
- **Broadened market access compared to the original DCFTA**
- **Better alignment with Ukraine's status as EU candidate country**
- **An opportunity to gradually transition and integrate into the EU single market**

To capitalize on these opportunities, **Ukraine should strengthen its ability to comply with sanitary and phytosanitary regulations, facilitate custom processing, and ensure full compliance with WTO transparency obligations.**

Content of selected RTAs concluded in Ukraine



Note: The calculations are based on information for 12 agreements (Canada, EFTA, the European Union, Georgia, GUAM (Azerbaijan, Georgia, Republic of Moldova), CIS (Commonwealth of Independent States, including certain associate and former member States), Azerbaijan, Israel, Montenegro, North Macedonia, Turkmenistan, and the United Kingdom).

Source: WTO (2025) Secretariat based on the Regional Trade Agreements (RTA) database

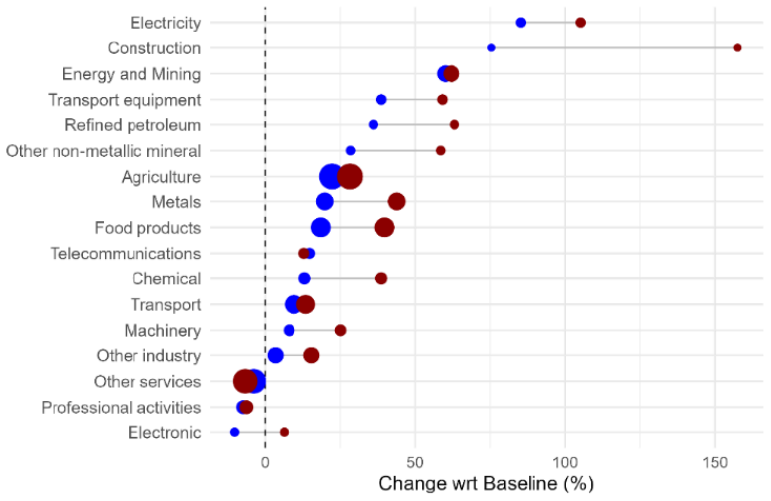
3 Trade agreements complemented by investment climate reforms would enable much larger gains from FDI: exports, production, and employment

A new quantitative trade model using OECD data on activities of multinational enterprises considers two scenarios:

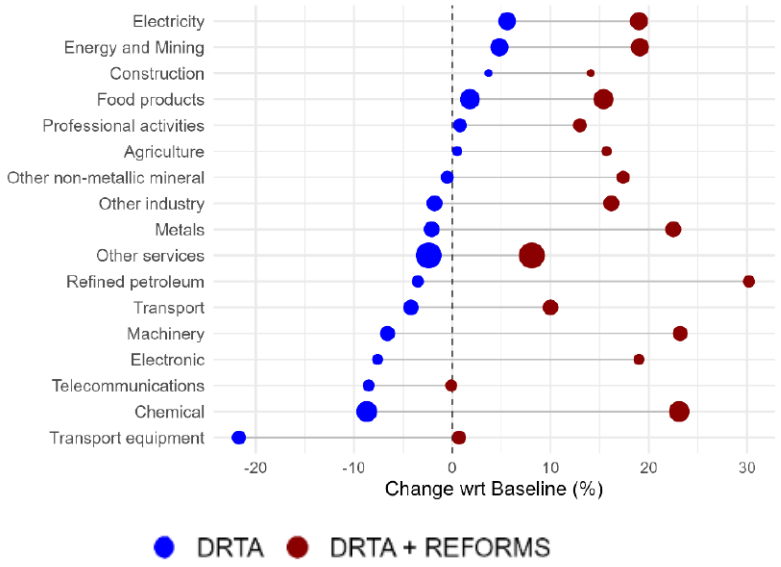
- **Adoption of a Deep Regional Trade Agreement (DRTA) with the EU** → GDP would increase by 2.4% and exports by 15%, driven by large sectors (**energy and mining, food products, agriculture**), but with minimum gains in sectors requiring foreign investment or advanced technology. Multinational production in such sector may even decrease if European MNCs prefer to concentrate production at home for economies of scale and export to Ukraine, benefiting from lower trade costs.
- **DRTA + investment climate reforms:** Investment climate reforms would enable much larger gains from FDI, both in traditional sectors and in more advanced ones (**chemicals, machinery, transport equipment**).

Projected change under the two scenarios (relative to baseline)

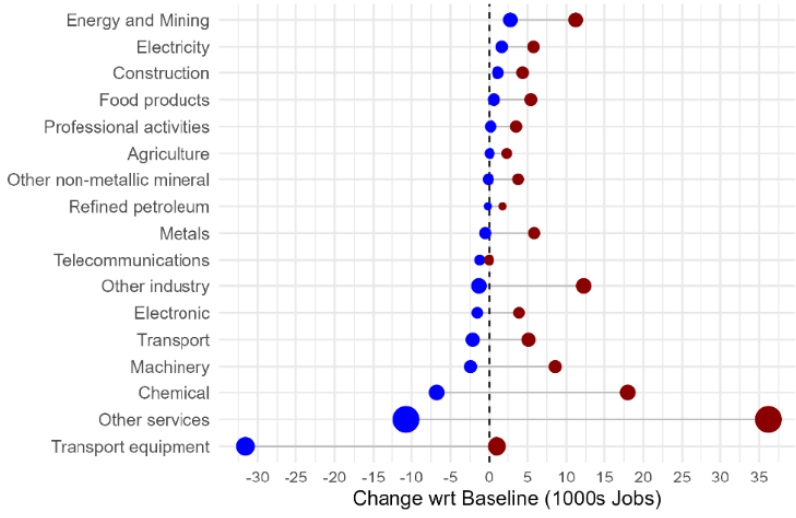
Exports



Multinational Production in Ukraine



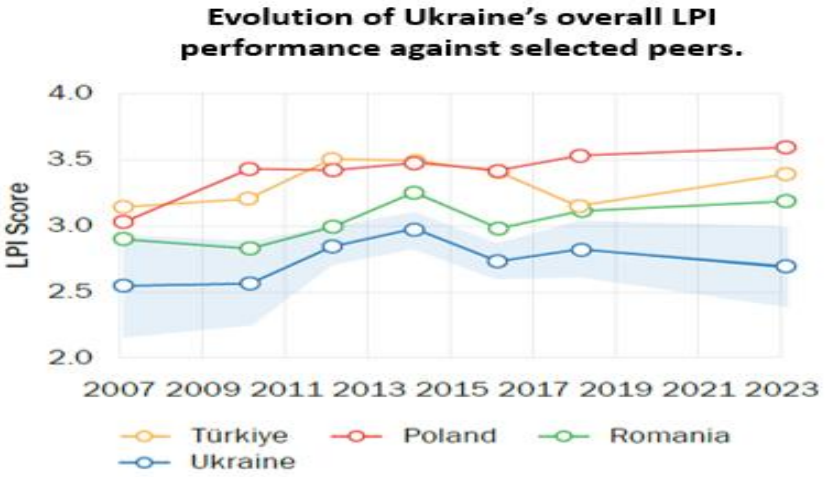
Employment



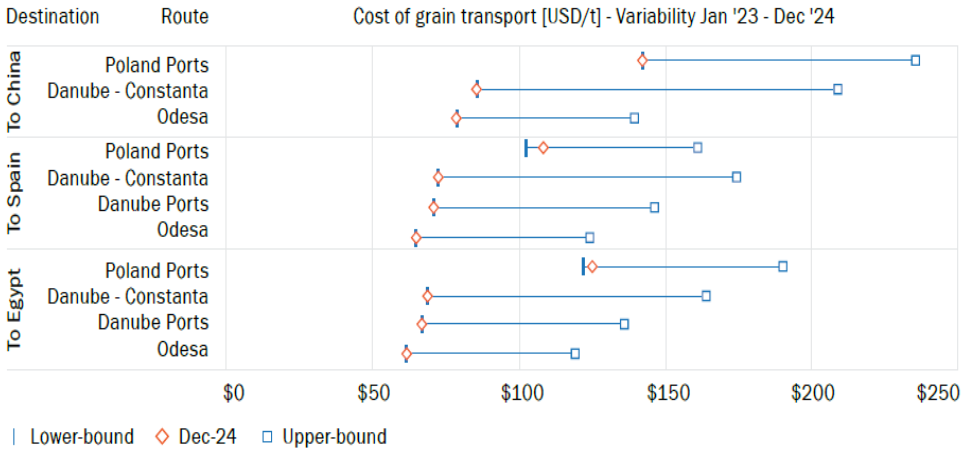
Notes: the size of the bubble is proportional to the size of the sector
Source: World Bank FDI Sectoral Analysis

3 Investments in multimodal and integrated transportation services would increase competitiveness of export sectors

- **Logistics performance in Ukraine remains low and relative stagnant since 2014** compared to peers. This is mainly driven by challenges in terms of infrastructure and custom procedures. This was evidenced even before the full-scale invasion.
- After housing, the **transport and logistic sector is the second sector most affected by the war with estimated damages above US 36.7 billion (RDNA4**) with national and local roads and rail sector representing 83 percent of the damage.
- **The competitiveness of Ukrainian exports depends on access to low-cost bulk transportation by sea and rail.**
- Over 90% of exports and 75% of value are transported by rail and sea.
- Minerals, grains, and metals constituted 83% of Ukraine's exports by weight and 18% of the GDP, which are low-margin commodities and very sensitive to transport costs.
- There is a **large variability in the transportation costs** that can increase between 30-60% the minimum cost, mainly linked to the costs of transportation in Ukrzaliznytsia (UZ)'s wagons, and freight rates along the Danube.



Source: World Bank staff elaboration based on World Bank LPI
Note: Ukraine's scores shown with confidence intervals (shaded)



Sources: World Bank staff estimates based on the Bank's regional transport model. Model inputs are based on information from State Customs Service, UZ, UGA and own research

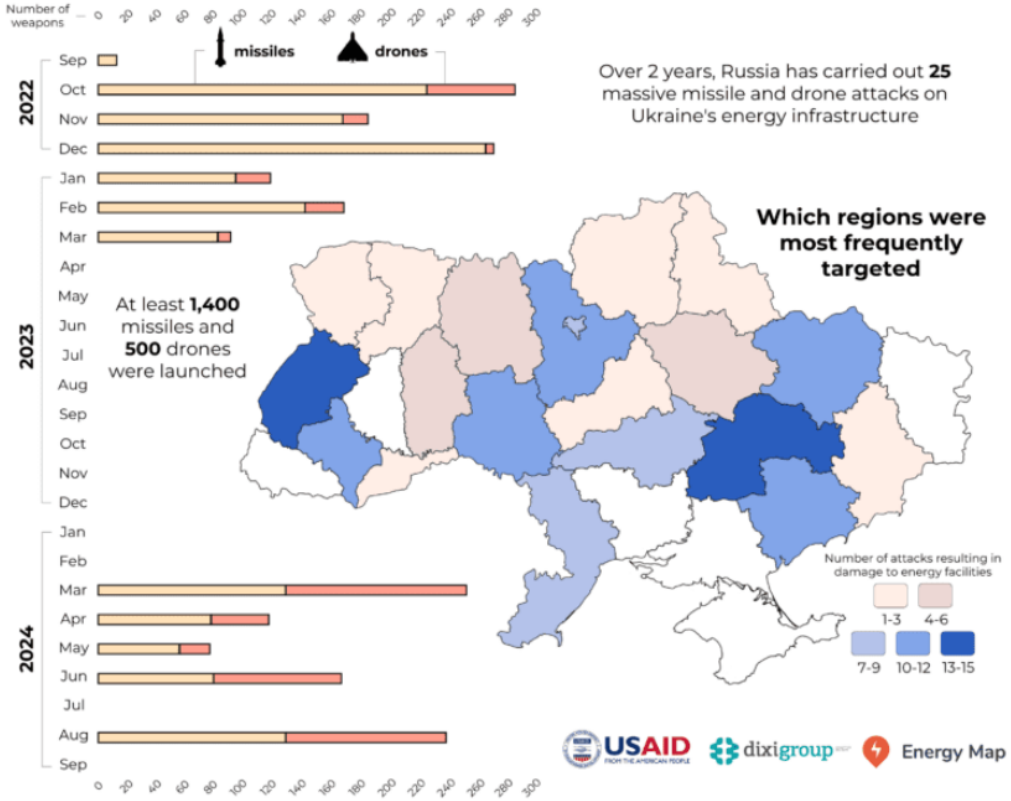
Source: FCI World Bank for the Industrial Strategy Analysis

3 Increasing energy supply by improving efficiency, addressing distortive pricing mechanisms and increasing investments is critical for all sectors

- **Ukraine's economy is about 2-3 times more energy intensive than peers.** More than a third of the energy consumption is sourced from gas, and less than 10% from renewable energy.
- Disruptions to electricity, gas and heating supply have been now exacerbated by the war, further impacting productivity and industrial output. **As of 2024, 70% of Ukraine's pre-war power generation had been destroyed, damaged or occupied**.
- There is a **lack of accurate price signals**, linked to government-mandated price subsidies that hamper incentives to modernize infrastructure, integrate renewable energy, and encourage energy efficiencies. This is also linked to Public Service Obligations (PSOs).
- In some energy sub-sectors, **SOEs and privately-owned** firms do not compete on an equal footing (OECD, 2021).

Source: FCI World Bank for the Industrial Strategy Analysis

Attacks to Ukraine's energy infrastructure



Source: Brookings (2025) from DiXi Group.

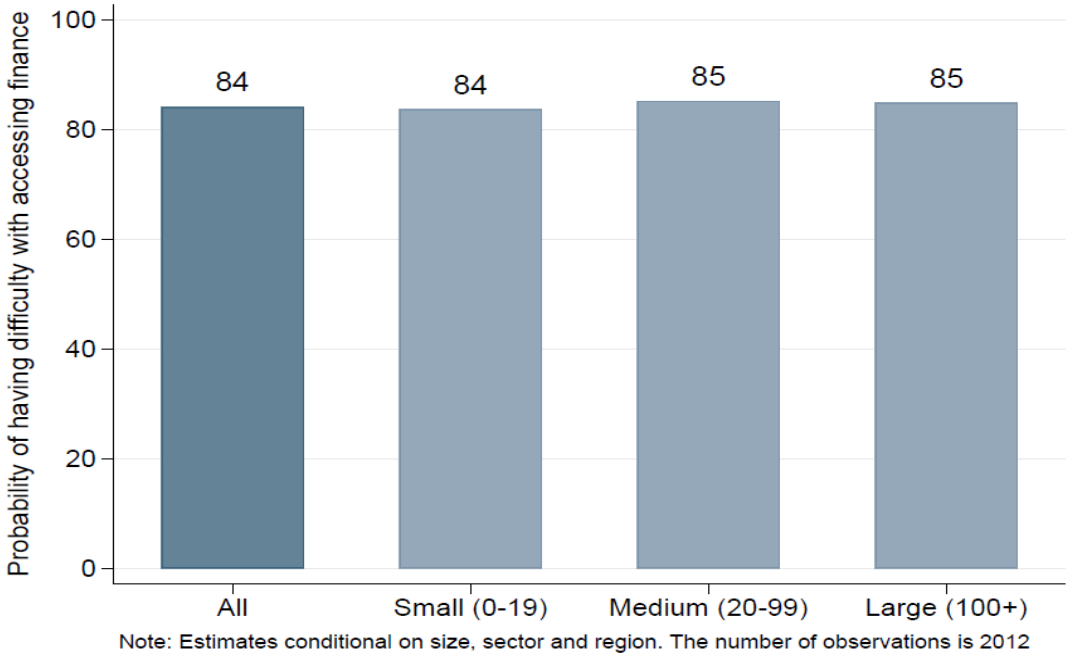
3 Improving access to finance by addressing structural issues in the Banking sector would support large firms and SMEs

- **Large firms, hospitality businesses, and firms located in the East especially reported difficulties with accessing finance.**
- On average more than 50% of firms are (or expect to be) in arrears, with larger firms at highest risk.
- The primary difficulties in accessing finance included high interest rates, VAT invoice blocking, and heightened repayment risks.
- **SMEs face significant financing constraints** due to high interest rates, collateral requirements, and elevated war-related risk premiums.

Some structural issues in the Banking sector include:

- **A large state-owned banking sector**, representing more than half of total banking assets and NPLs.
- **A high share of non-performing loans (NPLs),** which peaked at 54.5% of total loans in 2017.
- **Weak corporate insolvency and judicial systems**, identified as major impediments to resolving NPLs.
- **Non-bank financial institutions remain underdeveloped**, with a poor regulatory framework and weak institutions.

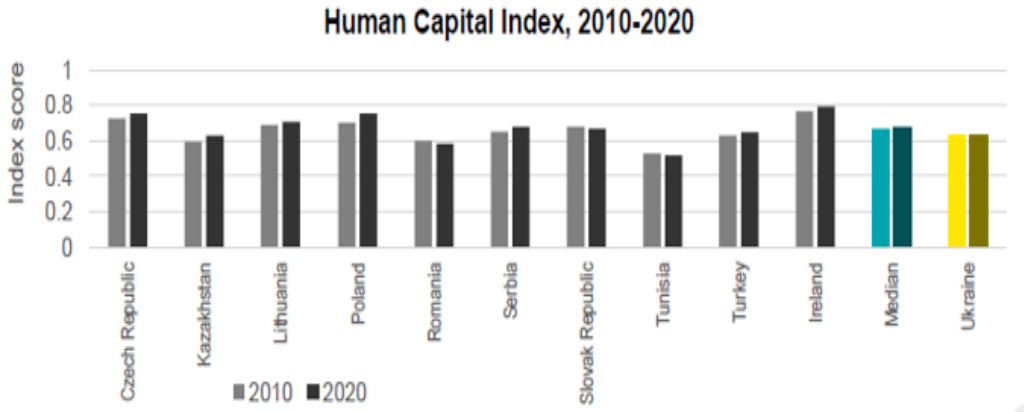
Share of firms facing constraints to access to finance



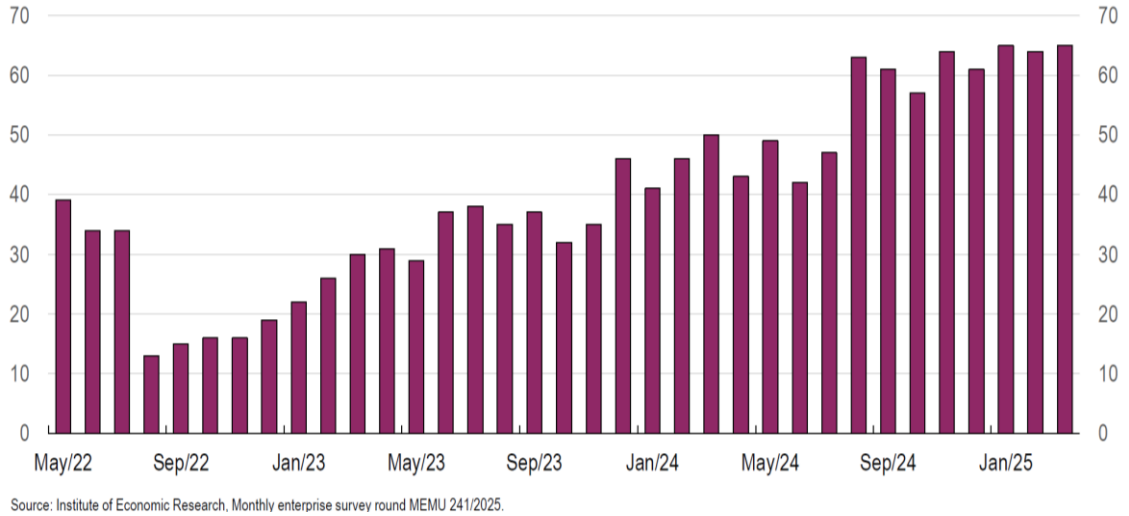
Source: WBG (2023) Global Lessons on SME and Entrepreneurship Policies: a Dialogue with Ukraine

3 Addressing labor shortages and skills mismatches is key for over 50% of firms who report lack of personnel

- **As of 2020, Ukraine had a well-educated pool of labor force that could serve as a positive determinant for driving FDI.**
- **Human capital index in Ukraine was high in terms of affordability and availability of skilled labor** and one of the most competitive among selected peers with a minimum of 11.3 years of schooling as of 2018 and more than 80% of enrollment in tertiary education.
- **The war has caused large outmigration and widespread internal displacement.**
- **Labor shortages and skill mismatches are the top constraint for the private sector to growth as of 2025.**



Share of respondent firms reporting lack of personnel due to conscription and migration.



Source: Institute of Economic Research, Monthly enterprise survey round MEMU 241/2025.

OECD UA Economic Survey (2025)

4 Sector Deep Dives

For each priority sector, overview of:

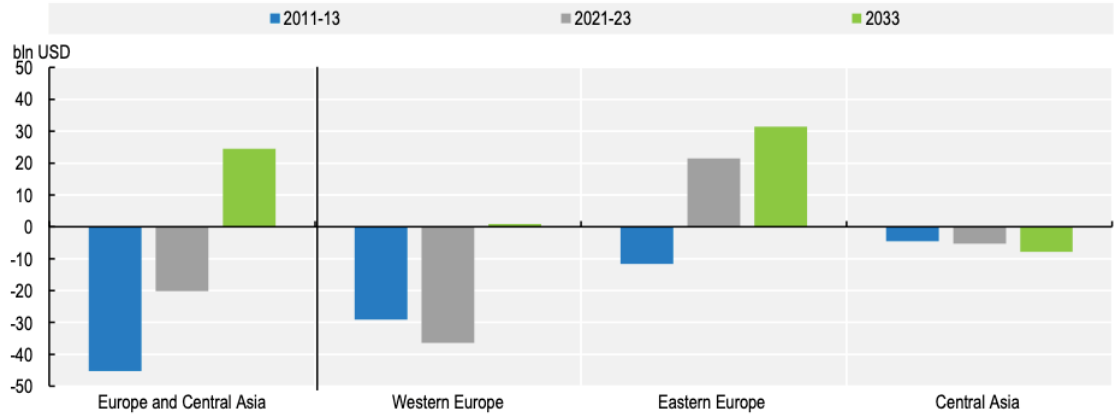
- Trends
- Opportunities
- Challenges
- Specific reforms and policy interventions

NB: This section draws on the FDI strategy that is currently under development.

Agribusiness

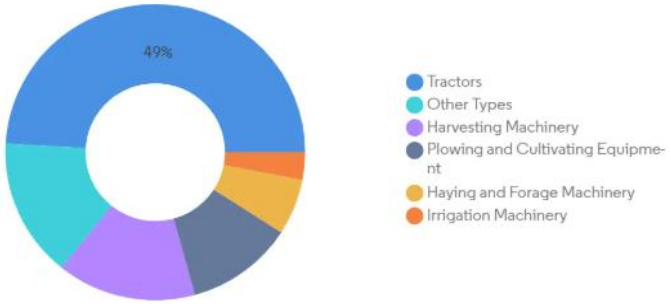
- **Ukraine remains a regional leader in agricultural potential**, with vast fertile lands — with 41.5 million hectares of agricultural land covering 70 percent of the country and about 25 percent of the world's reserves of black soil.
- **Growing shift toward convenience, nutraceutical, and packaged goods**, especially in Central/Eastern Europe as part of EU modernization efforts.
- **The Europe Agricultural Machinery Market is projected to grow** from USD 46.86 billion in 2024 to USD 67.68 billion by 2030, at a CAGR of 4.17%, driven by rising farm mechanization, labor shortages, and growing adoption of precision agriculture.

Net exports of agriculture and fish products (including processed products)



Source: OECD-FAO

Europe Agricultural Machinery Market: Market Share by Type Segment (2024)



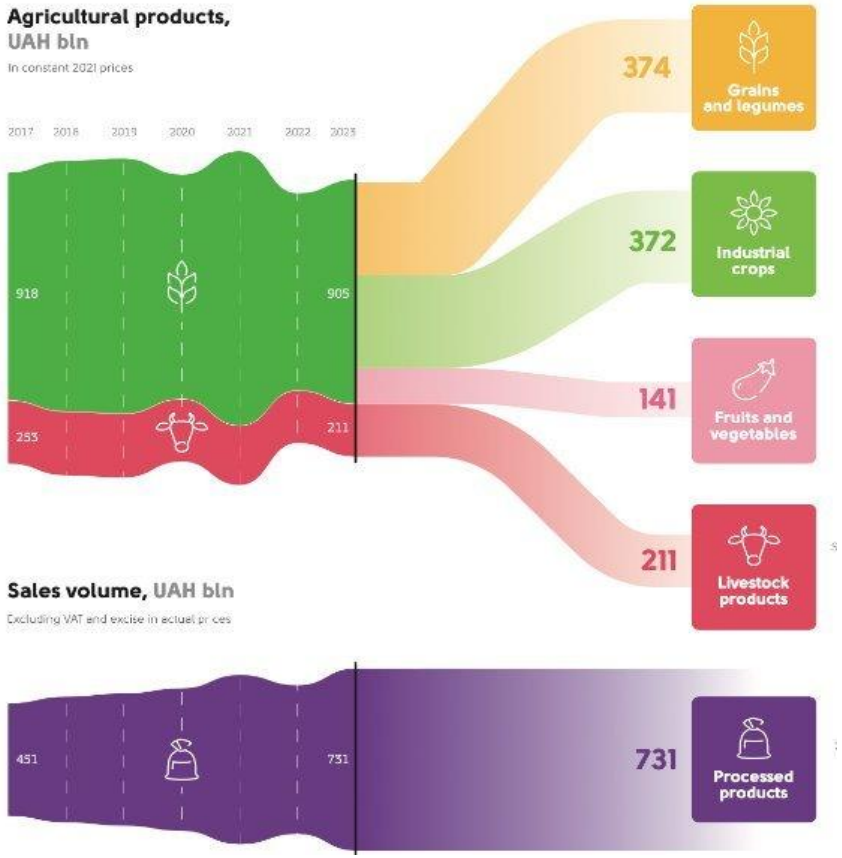
Source: Mordor Intelligence

4 Ukraine Trends Overview

Agribusiness

- **The agricultural sector** is a key pillar of Ukraine's economy, contributing **59.3% ($24.7 billion) of exports in 2024.**
- **Ukraine is strategically shifting** towards the development and expansion of its domestic food processing industry **to increase the production of higher-value-added (HVA) products.**
- **Ukraine relies heavily on imported agricultural machinery,** with Germany as the main supplier of tractors and harvesters, the US leading irrigation equipment while there are growing imports from the US, Poland, and Romania.

Production Of The Main Types Of Agricultural Products



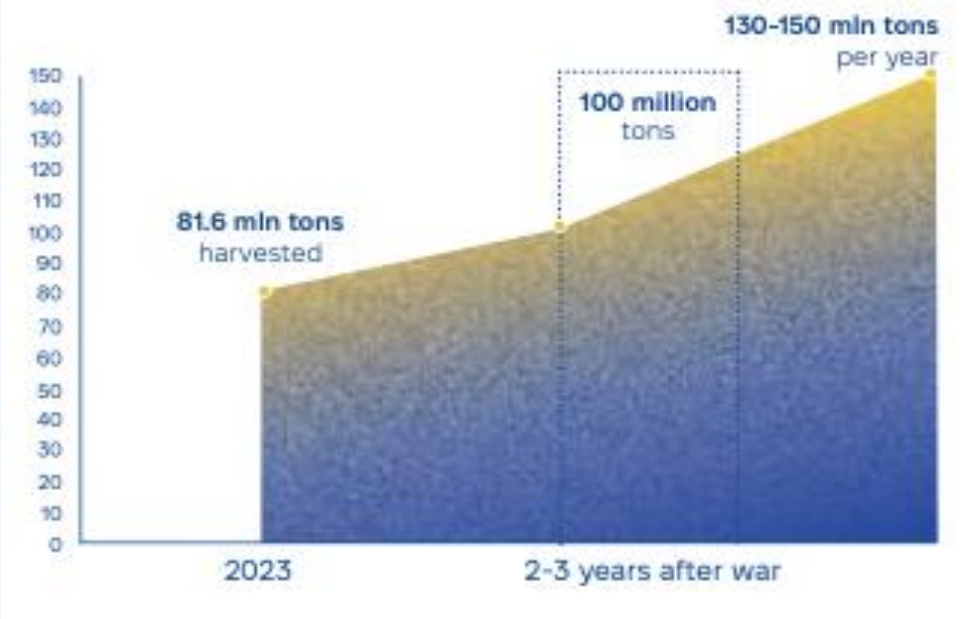
Source: Infographic Report – Agribusiness in Ukraine 2023/2024

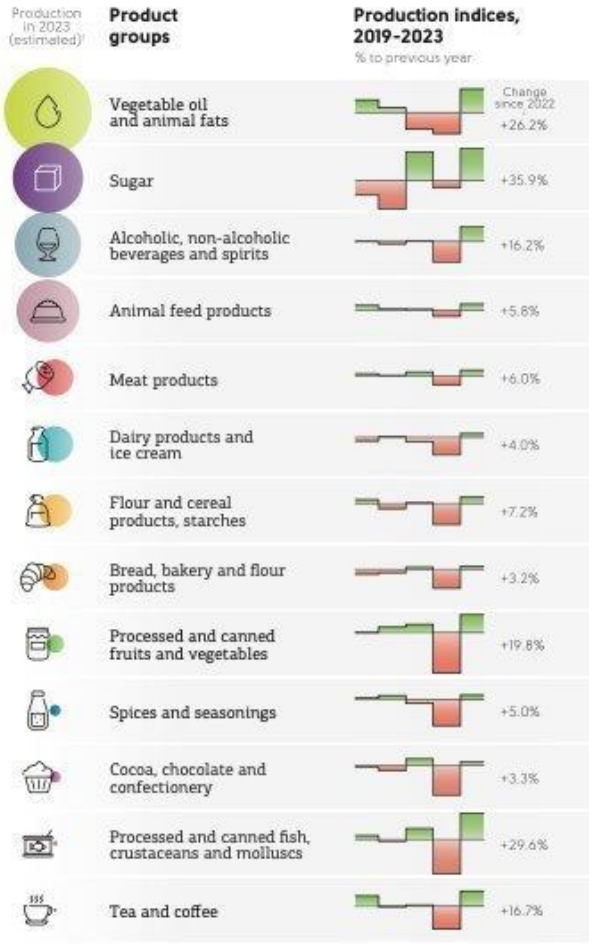
4 Ukraine Trends Overview

Agribusiness

- **There is a growing emphasis on processing and higher value addition, particularly for staple grains like wheat and corn, to reduce reliance on raw exports and boost revenue through processed higher-value products.**

Development of Food Processing Industry





Source: Infographic Report – Agribusiness in Ukraine 2023/2024

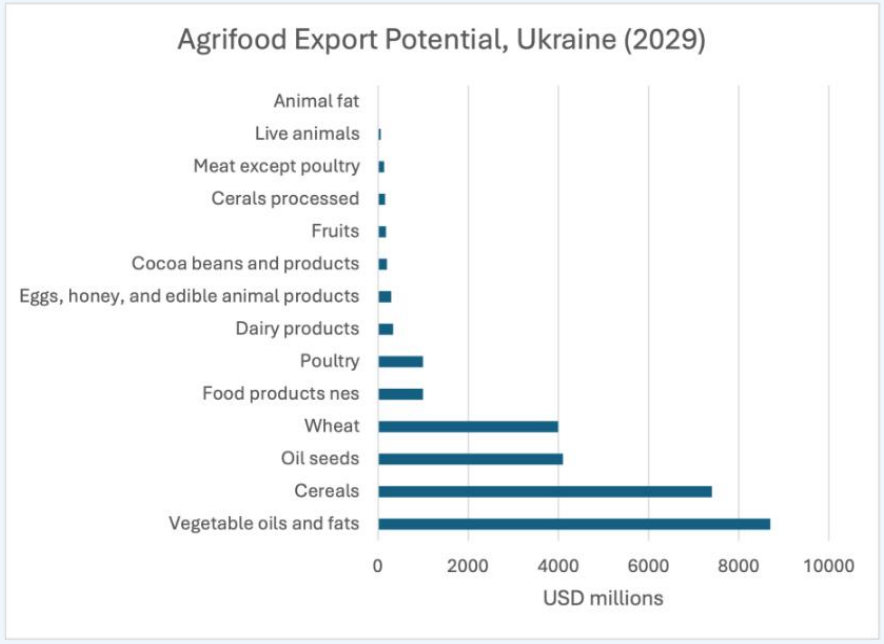
4 Key Competitiveness Drivers

Agribusiness

Strong Land and Production Endowments	✓ Ukraine holds about one-third of the world's fertile black soil (chernozem), covering over half its arable land that supports agricultural production. ✓ Extensive arable land at low cost enables cost-effective production in comparison to global competitors.
Strong Export Market Access	✓ Ukraine's location offers direct access to EU and neighboring markets, with Black Sea ports (when fully operational) enabling efficient grain exports to Middle East and North Africa. ✓ The European market plays a key role in Ukraine's agri-food exports, reflecting strong trade integration and growing importance. ✓ Ukraine is a top global exporter of corn, wheat, barley, and sunflower oil, with 59% of exports in 2024 coming from agriculture.
Value-added Food Manufacturing	✓ Ukraine's agricultural sector holds strong potential for value addition, with growing capabilities in processing and food manufacturing. ✓ Growing food processing capabilities present an opportunity to enhance supply chain efficiency and accelerate the adoption of modern agri-tech solutions

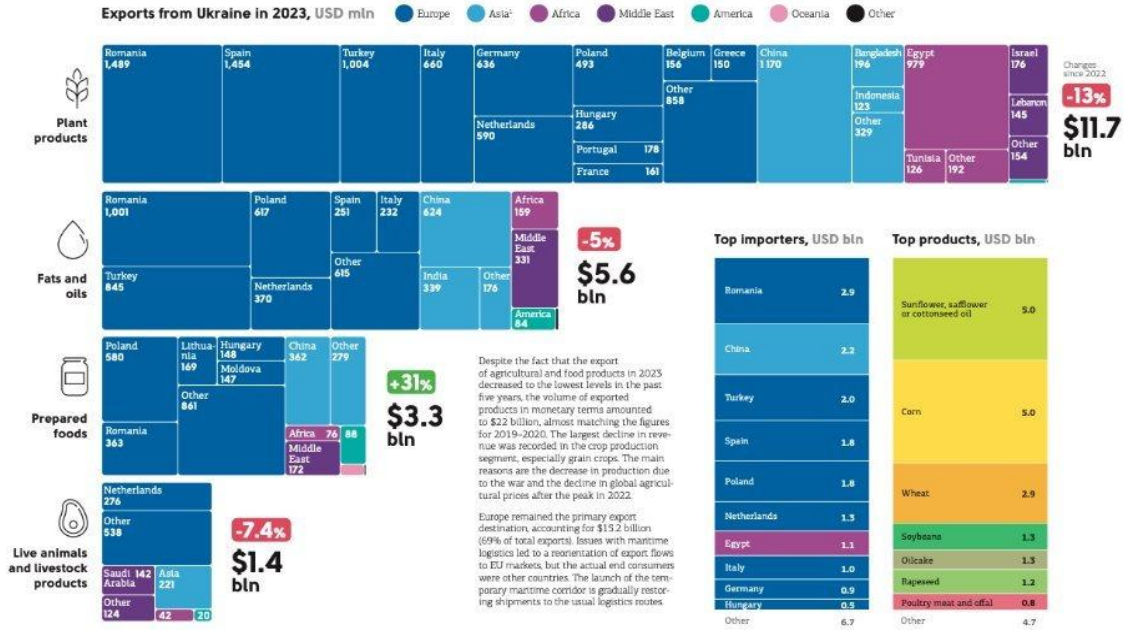
- **Ukraine's export potential remains substantial through increased value-added processing and deeper integration into international supply chains, particularly with the EU. Strategic diversification and localization of agricultural inputs can fuel further grow.**

Agribusiness Export Potential



Source: ITC

Selected Ukrainian agricultural exports 2023



Source: Infographic Report – Agribusiness in Ukraine 2023/2024

4 Challenges

Agribusiness

- **Extensive war-related destruction has severely impacted Ukraine's agricultural sector. The conflict has caused major direct damage to land, infrastructure, machinery, and storage facilities. Indirect losses from disrupted operations have further weakened the sector's capacity and productivity.**

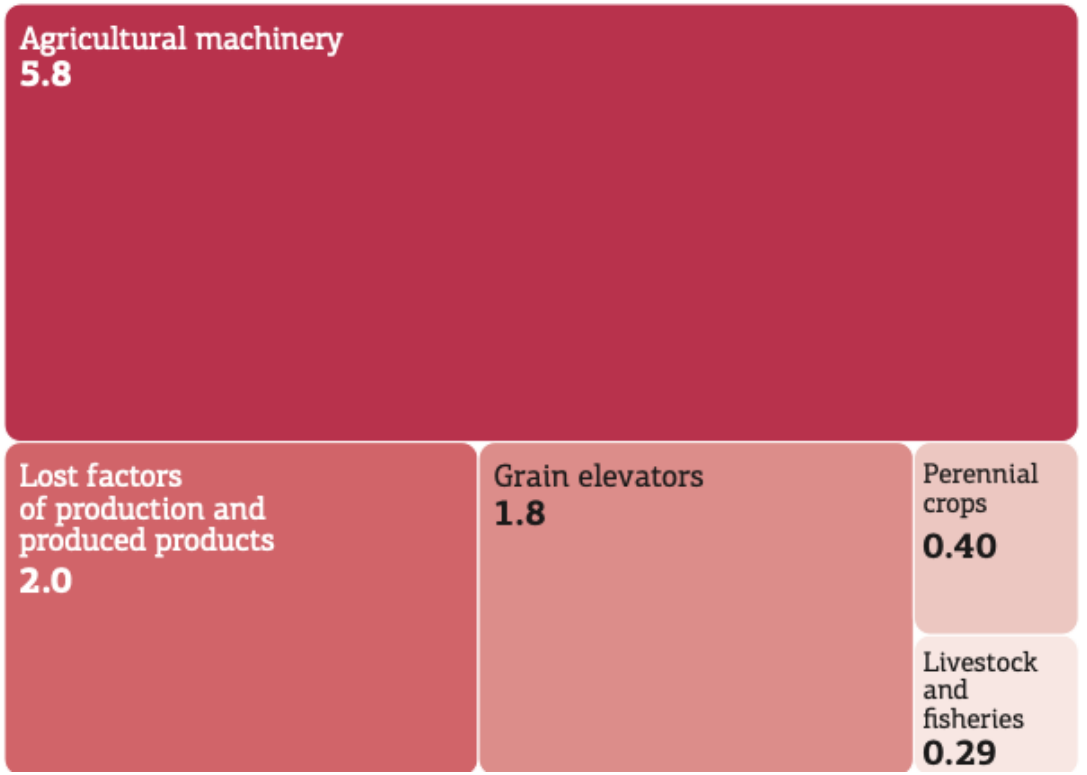
Agribusiness Sector Needs and Private Financing ($ bln, 2023)

	2023-2026	2027-2033	2023-2033
RDNA2 needs	**10.2**	**19.5**	**29.7**
Private sector financing for reconstruction—Non-reform scenario	**8.0**	**16.2**	**24.2**
Addressing needs identified in RDNA2	8.0	16.2	24.2
Private sector financing as share of RDNA2 needs (%)	78.4	83.1	81.5
Other investment opportunities identified	0.0	0.0	0.0
Private sector financing for reconstruction—Reform and intervention scenario	**10.4**	**24.2**	**34.6**
Addressing needs identified in RDNA2	10.2	19.5	29.7
Private sector financing as share of RDNA2 needs (%)	100.0	100.0	100.0
Other investment opportunities identified	0.2	4.7	4.9

Source: RDNA2 and IFC, WB estimates.
Note: Both scenarios assume that the government will pay for select public goods, discussed in the text, to crowd in the private sector financing included in the table. Under the no reform scenario, contributions from the public sector are estimated at $5.6 billion ($2.23 billion in 2023-2026 and $3.34 billion in 2027-2033). Under the reform and intervention scenario, contributions from the public sector rise to an estimated $6.7 billion ($2.7 billion in 2023-2026 and $4 billion in 2027-2033).

Source: World Bank

Amount of losses in 2022–2023, USD bln



Source: Infographic report - Agribusiness in Ukraine 2023/2024

4 Competitiveness Challenges

Agribusiness

Logistics Disruptions and War Damage	Major destruction of storage, rail, road, and port assets limits export flows. Black Sea ports remain vulnerable while western border bottlenecks constrain trade. Vast agricultural lands are mined. lack Sea ports remain highly vulnerable to blockades and missile strikes, creating persistent uncertainty for maritime shipments.
Low Value-Addition and Technology Uptake	Agribusiness remains heavily reliant on raw commodity exports, with limited processing, packaging, and agri-tech adoption, such as precision farming, digital monitoring, and advanced irrigation, constraining diversification and investor opportunities in higher-margin segments. Untapped potential exists in areas such as organic farming, dairy, meat processing, but these remain underdeveloped due to financing gaps and high perceived risk.
Limited Access to Finance	SMEs face significant financing constraints due to high interest rates, collateral requirements, and elevated war-related risk premiums. Agricultural insurance markets remain underdeveloped, leaving producers highly vulnerable to climate shocks, price volatility, and conflict-related losses. Limited availability of credit guarantees and risk-sharing instruments further discourages investment in modernization and value-added activities.
EU Standards Compliance Gaps	Ukraine's progress toward EU integration is hampered by gaps in compliance with sanitary, phytosanitary, and food safety standards. Institutional capacity for certification, testing, and traceability remains limited, slowing alignment with EU regulations and reducing competitiveness in high-value export markets.

4 Feasibility Assessment

Agribusiness

Key Strengths

Ukraine's agricultural sector is inherently strong, thanks to rich black soil, a favorable climate, and a strategic location with access to key European, Middle Eastern, and African markets via Black Sea ports and transport links. These advantages offer strong potential for high-value agriculture and diversified export growth.

Potential Shortcomings

The sector struggles with war-related damage, logistical issues, and landmines, reducing competitiveness. Conflict-driven labor shortages hurt productivity, despite a skilled workforce. Reforms and incentives exist, but governance challenges still hinder investment.

Market Attractiveness: Despite strong long-term appeal, Ukraine's agriculture market faces elevated risks due to conflict and capital constraints.

Competitive Endowments: Ukraine offers strong agri-investment potential with significant endowments, though current disruptions present major operational challenges and constraints.

Competitive Infrastructure: Ukraine's agricultural infrastructure shows strong recovery efforts and digital capabilities, but ongoing disruptions and physical damage continue to challenge operational efficiency and reliability.

Competitive Skills: Ongoing conflict has strained Ukraine's agri workforce, disrupted education, and limited access to finance and technical support.

Business Environment: Ukraine's agribusiness environment is supported by active EU-driven reforms and resilience, but ongoing instability creates significant governance challenges and uncertainty.

Resilience to War Risks: Ukraine's agricultural sector demonstrates strong resilience and adaptability, but physical damage, logistics issues, labor shortages, and input risks limit stable long-term investment prospects.

Initial Scoring Assessment	3.5	4	2.5	4	3	3.5
	Market Attractiveness	Competitive Endowments	Competitive Infrastructure	Competitive Skills	Business Environment	Resilience to War Risks

Criteria	Data source	Score
Market Attractiveness	*Global CAGR*	2.0
	Domestic CAGR	2.0
	Export potential	5.0
	FDI local trends: How the total estimated capital expenditure (capex) in each sector has shifted between 2019-2021 and 2022-2024 in Ukraine	2.0
	FDI global trends: How the total estimated capital expenditure (capex) in each sector has shifted between 2019-2021 and 2022-2025 on a global level	2.0
	Qualitative assessment	4.00
Competitive Endowments	*Qualitative assessment*	4.00
Competitive Infrastructure	*Quality and capacity of roads, railways, ports, and airports used by the sector*	3.0
	Logistics performance indicator	3.0
	Qualitative assessment	2.0
Competitive Skills	*SKILLS - Size of the sector-relevant labor force as percentage of total*	5.0
	Qualitative assessment	3.0
Business Environment	*Corruption perception index*	3.00
	World Governance Indicators (govt effectiveness, regulatory quality, rule of law, control of corruption)	2.0
	Qualitative assessment	3.2
Resilience to War Risks	*Qualitative assessment*	3.5

4 Desirability Assessment

Agribusiness

Key Opportunities

Reconstruction and potential EU accession offer key opportunities to boost productivity through advanced technologies, digitalization, and sustainability. These efforts can create jobs by supporting small farms and diverse labor, while increasing exports through local processing, market diversification, and higher-value goods.

Potential Shortcomings

Ukraine's agricultural sector faces major challenges, including war-related damage, labor shortages from conflict and displacement, and ongoing export disruptions. Its reliance on raw commodity exports and limited processing capacity also hinder integration into global value chains and the production of higher-value goods.

Productivity & Technology: Ukraine's agrifood sector shows strong investment and AgriTech potential, but ongoing damages and constraints hinder recovery and growth.

Job Creation: Score reflects strong job and return potential from EU-driven investments and small farms, but significant disruptions, labor shortages, and economic uncertainty slow further progress.

GVC Integration: New investments can boost local value addition and EU integration, backed by Ukraine's strong agri-base, policy focus, and sector resilience.

Reconstruction & Recovery: Despite ongoing challenges, the agrifood sector's strengths and EU-focused strategy make it a key driver for investment, recovery, and sustainable growth.

Green & Sustainable: Agrifood investment supports Ukraine's green transition via different supporting programs, but the scale of the sector and existing resource-heavy practices pose major constraints.

Initial Scoring Assessment	3.5	3.5	4	4	3
	Productivity & Technology	Job Creation	GVC Integration	Reconstruction & Recovery	Green & Sustainable

Criteria	Data source	Score
Productivity & Technology	***NEW TECH/INNOVATION*** *- Sector R&D intensity (Sector expenditure on R&D as % of Gross Value Added)*	1.5
	PRODUCTIVITY *- Average growth rate of value added per hour worked across all OECD countries over the last 10 years*	5.0
	Qualitative assessment	3.8
Job Creation	***JOBS*** - Jobs per Unit of Investment on global level (A ratio of estimated jobs created / Estimated USD invested using FDI markets data)	4.0
	RETURN- *Average accrued wage per hour per full-time employee and sector in Ukraine*	2.7
	RETURN *- Percentage of high skill workers in sector out of total workers in sector*	1.0
	Qualitative assessment	4.0
GVC Integration	***GVCs*** *- Sector demand in EU nearshoring destinations (FDI markets analysis to see which are the main sectors for outward EU FDI in typical near shoring destinations)*	5.0
	GVCs *- Export potential*	5.0
	LOCAL VALUE ADDITION *- Amount of exports of finished product of raw materials for further processing*	3.0
	Qualitative assessment	4.0
Reconstruction & Recovery	***ECONOMIC ACTIVITY*** *- Determine how severely the sector was affected by the war: Percentage contribution of sector to gross value added before the war and after the war*	4.0
	Qualitative assessment	4.0
Green Transition	*Greenhouse gas emissions or carbon intensity by sector*	2.5
	Qualitative assessment	3.5

4 Sector Specific Reforms

Agribusiness

- **EU Accession Readiness.** Align agricultural legislation, public institutions (Paying Agency, food safety and SPS bodies) with EU requirements, and build the capacity of private agri-food operators to comply. Negotiate transitional EU trade arrangements to expand agricultural market access during the accession process.
- **Accelerate Land Market Reform.** Complete land cadaster digitization and streamline land transactions to strengthen land market transparency, security, and efficiency, creating a solid foundation for agricultural investment and productivity growth.
- **Finance and Investment Support.** Continue providing affordable short-term financing for agri-food producers (credit guarantees, concessional lending) to support recovery, while developing EU-aligned investment support (e.g., matching grants) for farm modernization, production upgrading, and the development of agro-processing and agro-industrial clusters.
- **Climate-Smart Agriculture and Irrigation.** Promote soil restoration, precision agriculture, and water efficiency. Finalize and implement the National Irrigation and Drainage Investment Plan.
- **Logistics and Trade Infrastructure for Export Competitiveness.** Rebuild and modernize storage, terminals, and multimodal transport corridors (road, rail, Danube routes, and Black Sea ports when secure) to reduce trade costs and restore agricultural export competitiveness.
- **Support for Small Farms and Value Chain Development.** Enabling small farms to achieve commercial viability is essential for job creation, poverty reduction, and improved global food security. Strengthening value chains within the agri-food sector will empower farmers to diversify production, access new markets, and enhance post-harvest handling, logistics, and value addition. The objectives are consistent with EU and governmental strategies and complement the World Bank / IFC AgriConnect initiative.

Construction materials

Performance in Ukraine (pre-war)

- Construction and Building Materials Workforce: The Construction and Building Materials Industry employed **approximately 130,000 individuals**, excluding sole proprietors.
- Market Value: Between 2016 and 2021, the Ukrainian construction materials market achieved a compound **annual growth rate (CAGR) of 20%**, indicating a period of considerable growth. The sheer destruction of buildings suggests even higher growth in demand for the foreseeable future.
- GDP Contribution: Prior to the war, the construction sector represented **around 3% of Ukraine's GDP**. Post-war projections suggest **this could rise to up to 10%** with effective reconstruction efforts. Specifically, the construction materials industry was valued at **$16 billion in 2021** (manufacturer prices).

4 Feasibility Assessment

Construction materials

Key Strengths

Ukraine has notable strengths in **endowments**, with availability of many relevant inputs, proximity to EU markets and relevant trade agreements. **Skills** could also be a strength, as Ukraine has a strong STEM education base with high quality universities and had a large technical labor force.

- **Market Attractiveness:** The construction materials sector in Ukraine demonstrates substantial long-term potential, driven by reconstruction requirements exceeding USD 105 billion and a pre-war industry valuation of USD 16 billion. Nevertheless, immediate investment is limited due to subdued demand, financial deficiencies, and elevated wartime risks.
- **Competitive Endowments:** Ukraine benefits from abundant raw materials, a varied production base, and skilled labor, particularly in the western regions which remain operational. However, war-related infrastructure damage and power outages significantly impair efficiency and output.

Potential Weaknesses

Ukraine has shortcomings related to **infrastructure** and logistics as a result of the war, regulatory quality may also be an issue. There is also the question as to the extent to which the labor force with relevant skills is still present in the country.

- **Skills & Support Services:** Large technical labor force through dual education system (before the war).
- **Business Environment:** Investment is currently hampered by regulatory complexities, outdated standards, and restricted access to financing, despite ongoing reform efforts. Emerging donor-backed insurance and risk mitigation tools offer some support, yet legal uncertainties persist as a major obstacle.
- **Resilience to War Risks/Infrastructure:** Utilization dropped to 20–35% of pre-war levels due to war effects. Western regions remain viable and connected. But risks remain from power grid vulnerability and investor security perceptions.

Criteria	Data source	Score
Market Attractiveness	*Global CAGR*	2,0
	Domestic CAGR	5,0
	Export potential	2,0
	FDI local trends: How the total estimated capital expenditure (capex) in each sector has shifted between 2019-2021 and 2022-2024 in Ukraine	5,0
	FDI global trends: How the total estimated capital expenditure (capex) in each sector has shifted between 2019-2021 and 2022-2025 on a global level	3,0
	Qualitative assessment	5,0
Competitive Endowments	*Qualitative assessment*	4,0
Competitive Infrastructure	*Quality and capacity of roads, railways, ports, and airports used by the sector*	3,0
	Logistics performance indicator	3,0
	Qualitative assessment	2,0
Competitive Skills	*SKILLS - Size of the sector-relevant labor force as percentage of total*	2,0
	Qualitative assessment	4,0
Business Environment	*Corruption perception index*	3,0
	World Governance Indicators (govt effectiveness, regulatory quality, rule of law, control of corruption)	2,0
	Qualitative assessment	3,0
Resilience to War Risks	*Qualitative assessment*	2,0

Initial Scoring Assessment

5	4	2	4	2,8	2
Market Attractiveness	Competitive Endowments	Competitive Infrastructure	Competitive Skills	Business Environment	Resilience to War Risks

4 Desirability Assessment

Construction materials

Key Opportunities

Construction materials have one of the highest potentials among all sectors. With **fundamental demand for the reconstruction** of dwellings the market opportunity is significant. A high share of public/donor financing in reconstruction creates a solid basis for investment decisions and calculations.

Potential Shortcomings

The production of construction materials is **among the highest emitters of GHG** limiting the potential for sustainability investment. The **reliance on** dense **energy** sources like natural gas, coal or oil for industrial heat make this sector relatively sensitive to war risks.

- **Productivity & Technology:** Just a few products are currently not available from domestic production like float glass for windows. The reconstruction induced demand for construction materials will create a highly attractive investment opportunity for foreign and domestic investors with clear gaps in the product space to be filled with FDI.
- **Job Creation:** More than 100.000 jobs are expected to be created in the sector creating a solid outlook for returning segments of the population.
- **GVC Integration:** With a limited depth value chain of construction materials, an integration into global value chains is limited.
- **Reconstruction & Recovery:** The construction material sector is essential for the reconstruction of Ukraine, especially since it is estimated that 90% of all materials needed could be manufactured domestically supporting a high speed in supply of materials.
- **Green Economy:** While some of the construction materials can be highly sustainable (like timber products), most construction materials are highly energy intense in their production and continue to be one of the biggest GHG emitting product groups.

Initial Scoring Assessment	3,8	4	2,7	5	2
	Productivity & Technology	Job Creation	GVC Integration	Reconstruction & Recovery	Green & Sustainable

Criteria	Data source	Score
Productivity & Technology	*NEW TECH/INNOVATION - Sector R&D intensity (Sector expenditure on R&D as % of Gross Value Added)*	3,0
	PRODUCTIVITY - Average growth rate of value added per hour worked across all OECD countries over the last 10 years	4,0
	Qualitative assessment	4,0
Job Creation	*JOBS - Jobs per Unit of Investment on global level (A ratio of estimated jobs created / Estimated USD invested using FDI markets data)*	3,0
	RETURN- Average accrued wage per hour per full-time employee and sector in Ukraine	4,0
	RETURN - Percentage of high skill workers in sector out of total workers in sector	3,0
	Qualitative assessment	4,0
GVC Integration	*GVCs - Sector demand in EU nearshoring destinations (FDI markets analysis to see which are the main sectors for outward EU FDI in typical near shoring destinations)*	2,0
	GVCs - Export potential	2,0
	LOCAL VALUE ADDITION - Amount of exports of finished product of raw materials for further processing	3,0
	Qualitative assessment	3,0
Reconstruction & Recovery	*ECONOMIC ACTIVITY - Determine how severely the sector was affected by the war: Percentage contribution of sector to gross value added before the war and after the war*	4,0
	Qualitative assessment	5,0
Green Transition	*Greenhouse gas emissions or carbon intensity by sector*	2,0
	Qualitative assessment	2,0

4 Key Competitiveness Drivers

Construction materials

Massive Reconstruction Demand	✓ Significant demand is expected due to reconstruction efforts, making Ukraine one of the prime potential markets. Destruction worth over $150 to 170 billion creates multi-year demand for cement, concrete, glass, insulation, and prefabricated materials.
Raw Material Endowments	✓ Up to 90% of required materials could be supplied domestically if energy and finance are stable (cement, concrete, prefabricated elements, insulation).
Strong Industry Base	✓ Strong pre-war base: $16 bn market value in 2021, 130,000 employees, established large foreign investors.

Key Decision Drivers

- Due to the high domestic demand for construction materials stemming from Ukraine's extensive reconstruction efforts, investments in this sector are anticipated to primarily focus on satisfying local market needs. The magnitude and urgency of rebuilding homes, infrastructure, and public facilities suggest that domestic consumption will prevail for the foreseeable future.
- Consequently, exports are unlikely to serve as the main driver for new investments during this period. Additionally, while there is an increasing global focus on sustainable and low-carbon construction materials, Ukraine's immediate priorities are centered around swift and cost-effective reconstruction. The transition to more sustainable production practices—such as energy-efficient manufacturing and low-carbon cement—will require time to implement.
- Therefore, although the environmental impact of materials is a significant consideration for the future, it may not greatly affect investment choices in the short to medium term. This situation limits the immediate significance of sustainability-focused exports and could diminish the appeal of pursuing international markets, particularly those with strict environmental standards, as a key element of investment strategy.

4 Opportunities

Construction materials

Global

- Market Size: USD 1.2 trillion in 2022
- Forecast: USD 1.7 trillion by 2032
- CAGR (2023–2032): 3.8%

Europe

- Market Value (2023): USD 48.86 billion
- Market Value (2028): USD 54.97 billion
- CAGR (2023–2028): 2.4% with a CAGR of 4.1% for Eastern Europe

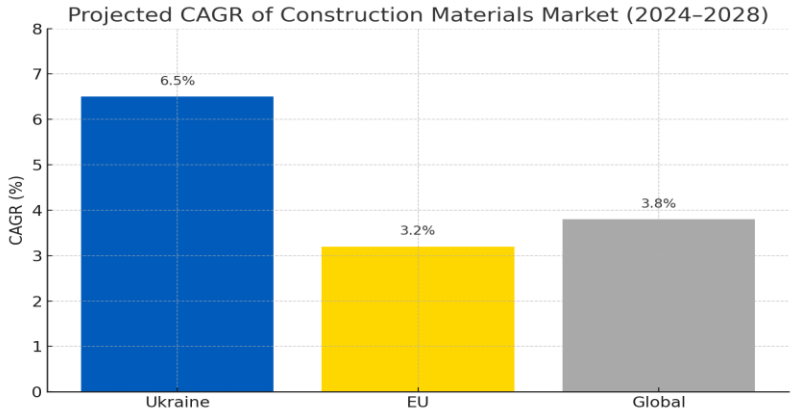
CAGR for Ukraine

While no specific standalone CAGR for Ukraine can be derived from industry assessments, given Ukraine's expected post-war reconstruction boom, CAGR is estimated to exceed regional average:

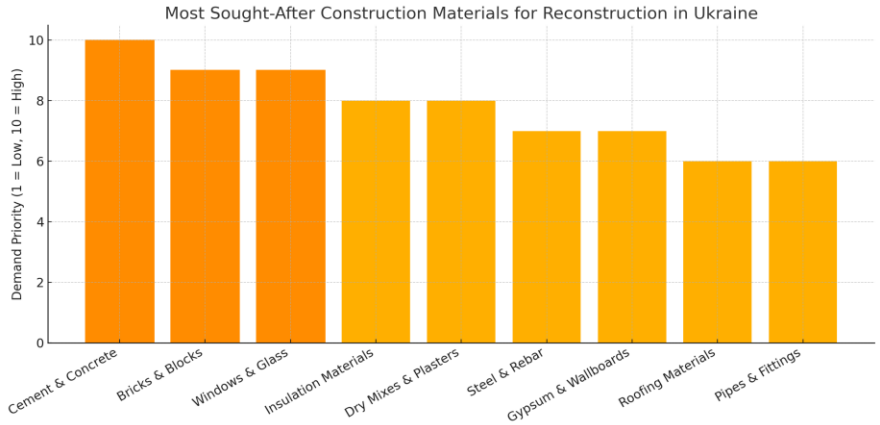
Indicative CAGR Estimate for Ukraine: **5% to 7%,** particularly in the cement, concrete, and prefabricated material segments, with very high infrastructure and general (re)construction demand.

Subsector Opportunities

Demand for materials needed for reconstruction is the key driver for targeting subsectors for investment attraction. Investments thus should be focused on the manufacture of product groups of cement, bricks and glass.



Sources for: Ukraine: KSE 2024, ERA Reconstruction Report; EU: MarketLine 2024; Global: Allied Market Research 2024.



Source: WBG estimates derived from the USAID Ukraine ERA Reconstruction Capacity Report (2022–2023), KSE Damage Assessment Report (2024), IFC–McKinsey MAS Sector Analysis (2024), and the WeBuildUkraine Think Tank White Paper (2025).

Strategic Gap for Reconstruction – Float Glass Production

Ukraine's construction materials sector is largely diverse, but it faces a notable constraint in float glass production. Local manufacturers provide 90% of reconstruction materials, yet glass remains a gap. Currently, there are no functioning facilities for float glass production, crucial for windows and facades, presenting a potential opportunity for foreign direct investment (FDI).

Domicile	Company name	HQ	Company description	Revenue globally[1] USD bn	Revenue in Ukraine[2], USD mn	Strategic & Ukraine ambitions
International with footprint in Ukraine	SAINT-GOBAIN	FR	Producer of construction materials offering a diverse range of products including glass windows, plaster products, and piping systems, predominantly serving the European market	54 715	8[2]	• Focus on sustainable solutions (72% of sales) and expansion in high growth regions (e.g., Africa, India) • Has sales office in Kyiv but no factories present in Ukraine
	verallia	FR	Manufacturer of glass containers for the food and beverage industries	3 582	55	• Seeks value-accretive acquisitions or new greenfield/brownfield projects • Has plant in western Ukraine which sells half of its products locally[3]
	EUROGLAS	PL	Producer of glass products for architecture and automotive industries, offering items like basic/float glass, thermal insulation, and safety glass	381	0	• Shift to cullet (recycled glass) in the production processes • Had a plant in Bakhmut "LineWood Artjomowks", acquired in 2008
International without footprint in Ukraine	ŞİŞECAM	TR	Holding company specializing in glass products, chemicals, and glass packaging, primarily known for its flat glass and glassware segments	5 816		• Bought glass plant near Kharkiv[4] in 2011 but abandoned it in 2015
	BA	PT	Manufacturer of glass containers intended for food and beverage industries	1 554		• Invested €60m in its Bulgaria container glass production site in 2022; acquired majority stake in Mexican Vidrio Formas
	AGC INTERPANE	DE	Supplier of flat glass and related products, catering to photovoltaic, solar thermal, and various glass applications	623		• N/A
	SEMCO	DE	Manufacturer specializing in home furnishing products for residential and commercial sectors, providing float glass, coatings, sliding doors, and wall coverings	265		• Targets renewable energy business with target of 65% of sales by 2027 (35% from Oil & Gas business)
	SCHOLL GLAS	DE	Global manufacturer of flat glass products for insulation and safety, operating 13 locations, known for infection protection solutions	256		• N/A

Source: IFC & McKinsey 2024

Situation since 2022

- Most construction material producers operate at **20–35% capacity** due to low wartime demand, power outages, and investment barriers (USAID 2022 Ukraine-ERA).
- Some critical materials, such as **sheet glass**, are not produced domestically, leading to shortages.
- Despite these challenges, **up to 90% of materials** required for reconstruction could be supplied domestically if stable energy and financing are ensured.

Estimated destroyed objects

Sector	Number of objects	Destroyed
Residential buildings	203 200	93,700,000 sq.m.
Public and private enterprises	440	38 024 145 sq.m.
Education	3 809	3 105 741 sq.m.
Health	1 284	1 467 941 sq.m.
Administrative buildings	630	686 385 sq.m.
Objects of trade	2 931	656 517 sq.m.
Airports	19	585 200 sq.m.
Road infrastructure:		
Roads and railways		25,750 ml
Bridges and bridge crossings	344	87,500 m.
Energy facilities:		
CHP/TPP	25	*N/A
Boiler houses and heating points	1 119	239 140 sq.m.

Source: KSE 2024: Structural changes and challenges in the construction industry of Ukraine: Analysis and forecasts,

4 Sector Specific Reforms

Construction materials

- **Regulatory modernization**: Continue modernizing regulations and standards across the construction value chain in line with the EU acquis, including for innovative and sustainable materials, and strengthening the policy framework on building energy efficiency.
- **Access to financing:** Developing green finance is a relatively unexplored avenue to foster investment in the production of sustainable construction materials.
- **Boosting demand:** Embedding sustainability criteria in the selection of public investment projects could help stimulate demand for innovative and sustainable construction materials and reduce costs. Green mortgages and demand-incentivizing programs can stimulate consumers' interest in sustainable buildings and help bridge the affordability gap.
- **Perceptions and market readiness:** Awareness raising and evidence-based trust building targeting both the supply and demand sides of the industry are critical to ensure market entry and scaling success for new products.
- **Skills and knowhow:** Lack of skilled workforce and required expertise is a significant risk when attempting to introduce new or lesser-known materials and solutions, requiring adapted (re)training initiatives and vocational education programs.

Critical Raw Materials

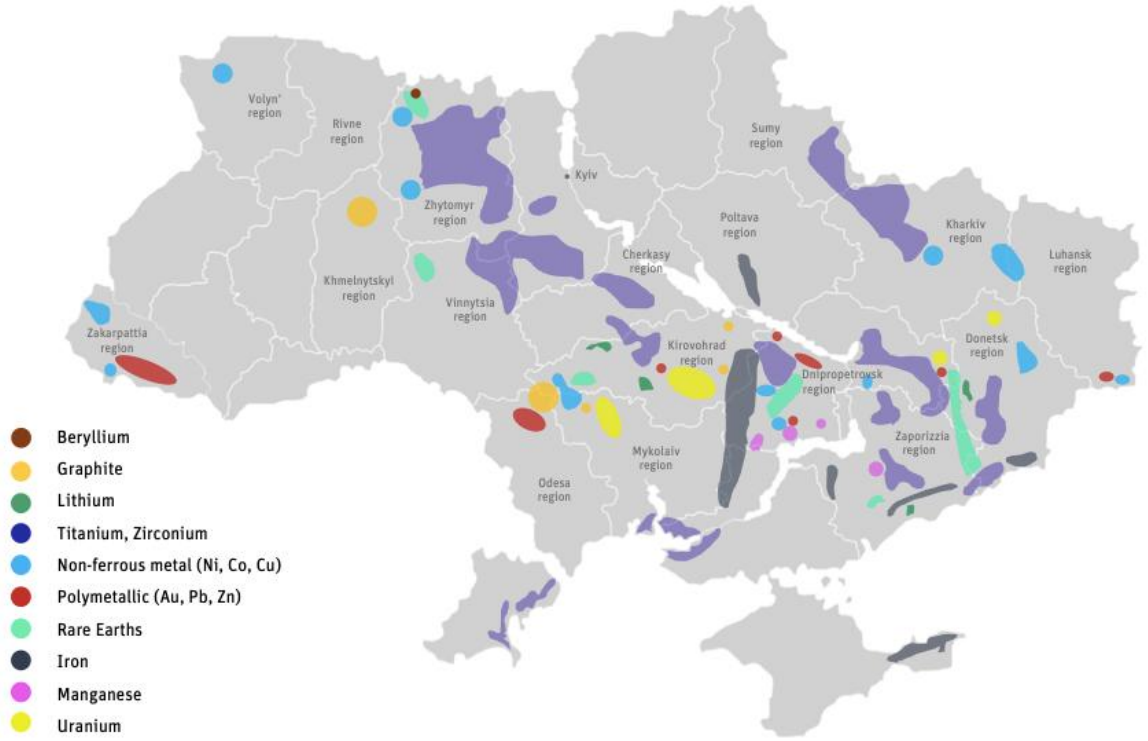
Critical raw materials of Ukraine

- Ukraine accounts for approximately **5%** of the world's mineral reserves
- **Some** of Ukraine's mineral resources are **under Russian control**
- EU identifies Ukraine as a **potential supplier for over 20 critical raw materials**

Ukraine's global position in key mineral reserves

Titanium	Manganese	Iron	Uranium
6th	8th	10th	10th

- **7%** of the world's titanium reserves
- **Among the leading countries in Europe** for lithium reserves



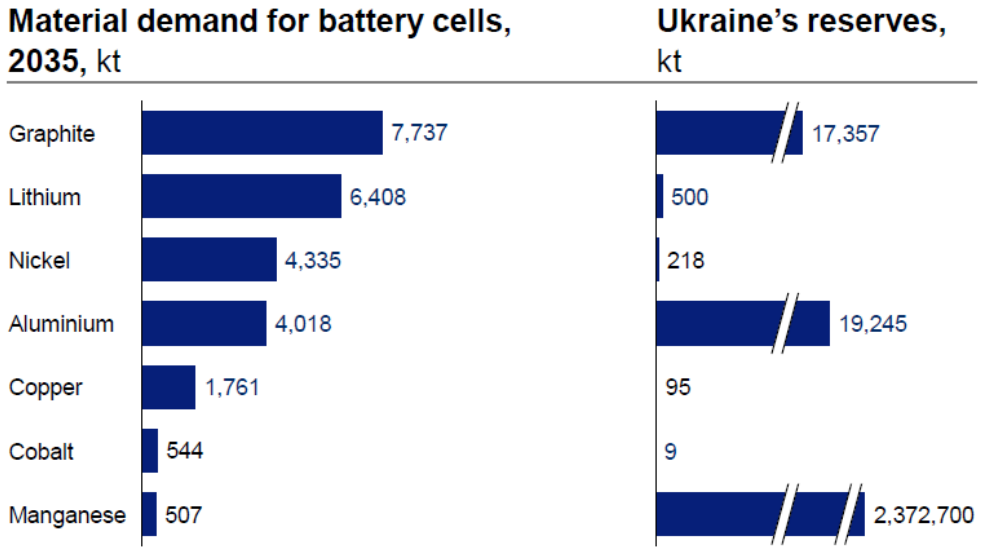
Key applications of critical minerals

- Electric vehicles
- Wind turbines
- Computers
- Semiconductors
- Medical devices
- Solar panels
- Mobile phones
- Fiber-optic cables
- Defense industry
- Rechargeable batteries

Source: Ukraine Geological Survey. UkraineInvest.

Sector Performance in Ukraine

- **Strong Endowment**: Deposits of 22 out of the EU's 34 critical minerals are concentrated in Ukraine, including Europe's largest untapped lithium deposits, large titanium reserves, and significant rare earth elements.
- **Export-Oriented Base**: Ukraine has historically been a top-10 global exporter of titanium raw materials and has potential to scale production of lithium and graphite. However, most materials are exported unprocessed, limiting value addition.
- **Underdeveloped Value Chain**: As of 2022, no large-scale commercial lithium extraction has begun, and downstream processing facilities are minimal. Efforts to build refining and processing capabilities are in nascent stages.
- **Private Sector Activity**: Companies such as European Lithium, Petro-Consulting, and donor partnered initiatives have expressed interest in Ukraine's CRM sector, though many projects are still at feasibility or early licensing stages.



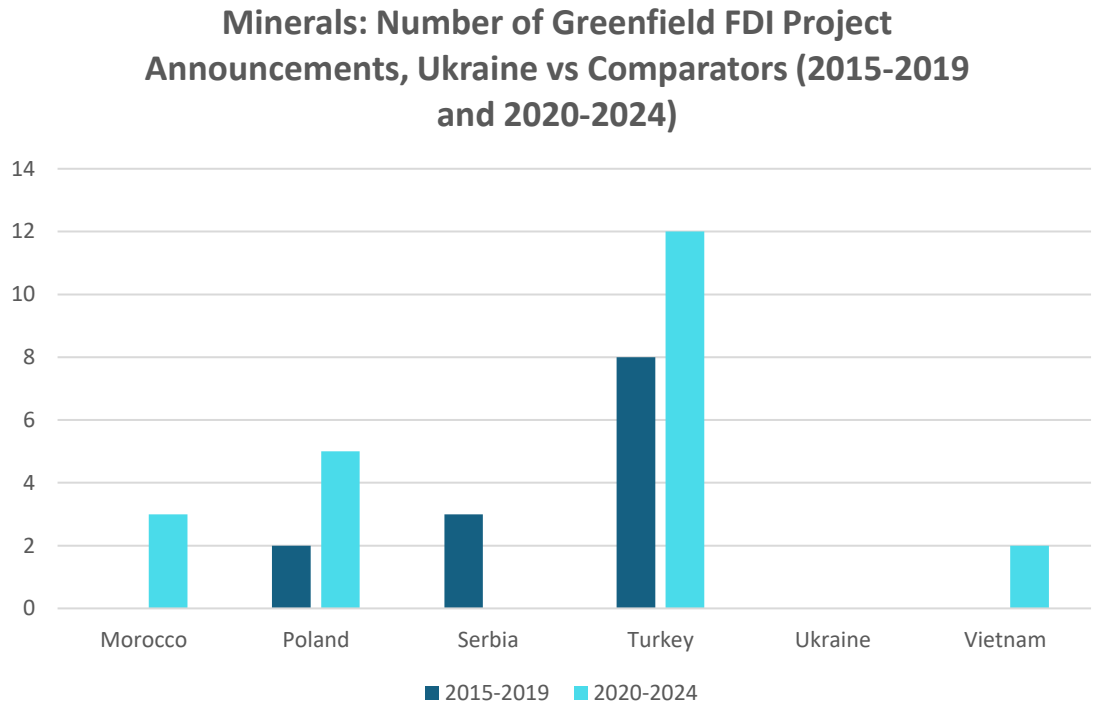
EV growth will drive **demand for non-ferrous and precious metals**

Ukraine has **large reserves of manganese, aluminum, lithium** and other metals used in manufacturing of batteries

Source: IFC & McKinsey 2024

Post-2022 Developments

- **EU-Ukraine Strategic Partnership on CRMs:** Under the EU's CRM strategy, Ukraine is identified as a "priority partner", with funding for geological surveys, ESG standards, and capacity building. Ukraine's graphite project is in the list of the 13 Strategic Projects of the EU approved in June 2025.
- **U.S.-Ukraine Critical Minerals Deal:** Signed to promote joint investment and exploration. The U.S. and international partners have pledged technical support and financing mechanisms for CRM development. In June 2025 the GoU started the pre-tender process aimed to allow the private sector to participate in the exploration of state-owned lithium deposits (Dobra site).
- **Reform Momentum:** Ukraine has committed to streamline mining permits, improve geological data transparency, and align licensing with EU standards (e.g., OECD-backed roadmap for mining law reform). In February 2025 Ukraine has amended the Subsoil Code and the Subsoil Development plan to 2030 that meets the requirements defined in the Ukraine Facility Plan.
- Support is ongoing for capacity-building, sector diagnostics, and investment pipeline development through the Ukraine Reconstruction and Modernization Facility.



Source: WBG calculations based on fDi Markets.

4 Key Competitiveness Drivers

Critical Raw Materials

Unique endowments	✓ Deposits of 22 of the EU's 34 critical minerals, including Europe's largest untapped lithium reserves, significant titanium, graphite, and rare earth elements. ✓ Strong history as a global exporter of titanium raw materials; natural alignment with EU strategic sourcing needs.
Future growth potential	✓ Rising global demand for CRMs driven by clean energy, EVs, semiconductors, and defense; lithium demand projected to grow fourfold by 2040. ✓ Strategic partnerships with the EU and U.S. provide access to financing, technology, and preferential market positioning. ✓ The US-Ukraine Reconstruction Fund provides opportunities to develop and attract FDI in this sector (and adjacent infrastructure sectors) at scale.
Strategic location	✓ Proximity to EU markets reduces supply risk and transport costs; Ukraine identified as a "priority partner" under the EU CRM Act. ✓ Opportunity to position as a nearshoring hub for processing and refining under EU diversification and resilience goals.

4 Enablers

Critical Raw Materials

Revised Subsoil Code & Development Plan	The revised Subsoil Code and the Subsoil Development Plan to 2030 came into force in January 2025. In alignment with the EU Critical Raw Materials Act the Subsoil Code contains a revised definition of the strategic / critical raw materials. Both the Subsoil Code and the Subsoil Development plan prioritize a transition towards higher added value and innovative production in Ukraine, strengthening international cooperation with the strategic partners to acquire technologies and to better integrate into the global supply chains.
Additional Strategic Partnerships	The Subsoil Development Plan to 2030 widens the scope of strategic partners to include the US, Canada, and Great Britain among others. The Plan also envisages creation of national innovation centers, certification laboratories, upskilling of labor force. Ukraine aims to attract financing to the sector largely due to private investments.
IFI Support for Digitalization	With support of the international financial institutions (EBRD) Ukraine continues to digitalize geological data (and their translation into English) that should facilitate an access for the international investors to information on critical raw materials deposits.
Ukraine Plan includes key CRM Reforms	The Ukraine Facility Plan includes a section on the critical raw materials comprising of 3 reforms and 6 indicators aimed to facilitate strategic investments, to streamline administrative procedures to increase transparency, predictability, and to support ESG reporting for the sector (including the “do not significant harm” principle).
Renewable Energy Synergies	In a longer term, a cross-sectoral synergy with developing RE technologies in Ukraine (components, processing, recovery, recycling) would provide additional incentive for refining and processing critical raw materials for export and for increasing domestic use.
High Security and Location Risk	Many of Ukraine’s richest CRM deposits (e.g., lithium in Donetsk/Dnipro basins, titanium in Zhytomyr and Dnipropetrovsk) are located close to frontlines or in contested regions, limiting immediate feasibility for investment and raising project risk profiles.

Sources for the Subsoil Code and the Subsoil Development Plan to 2030 (in Ukrainian):
Legal analysis, Sayenko Kharenko
Ukrainian Geological Survey

Digitalizing geological data, EBRD financed project:
Press Release by the Ministry of Environnent
(June 2025, in Ukrainian)

4 Opportunities for forward integration with Key Sectors

Critical Raw Materials

Ukraine hosts a broad range of CRMs essential for strategic technologies

- **Key energy transition inputs:**
  - **Batteries & EVs:** lithium, nickel, cobalt, natural graphite, manganese.
  - **Renewables:** vanadium (wind, solar), titanium (wind, solar, hydrogen), molybdenum.
  - **Hydrogen & electrolysers:** nickel, cobalt, titanium.
- **Digital & defense technologies:** rare metals like germanium, gallium, niobium, and tantalum support semiconductors, sensors, robotics, and satellites.
- **Established mining base:** Some CRMs (e.g., titanium, manganese, natural graphite) are already mined, while others remain in reserve form.
- **Strategic alignment:** Ukraine's resource base directly supports **EU clean energy, digital, and defense supply chain needs**.

Material	Li-ion Batteries	Fuel Cell	Electro-lysers	Wind Turbines	Traction Motor	Solar PV	Heat Pumps	H2 DRI	Data Networks	Servers	Tablets	AM	Robotics	Drones	Satellites
■ **Beryllium**										x	x				x
Chromium		x	x	x	x		x	x		x	x	x	x	x	x
■ **Cobalt**	x	x	x						x		x	x	x	x	
■ **Copper**	x	x	x	x	x	x	x		x	x	x	x	x	x	x
Gold			x				x		x	x	x		x	x	x
Lead				x		x			x		x		x	x	x
Limestone			x					x					x	x	
■ **Lithium**	x								x		x		x	x	x
Magnesite								x							
Molybdenum			x	x	x	x	x		x		x	x	x	x	x
Nickel	x	x	x	x		x	x	x	x	x	x	x	x	x	x
■ **Niobium**			x	x					x			x		x	x
■ **Phosphate R.**									x						
■ **Scandium**			x							x		x			
Strontium		x	x						x		x				
■ **Tantalum**			x						x		x			x	x
Tin			x			x			x	x	x		x	x	
■ **Vanadium**		x	x					x	x			x	x	x	x
Zinc			x	x		x	x		x	x	x		x	x	x
▲ **Feldspar**		x												x	
▲ **Gallium**						x			x	x	x		x	x	x
▲ **Germanium**						x			x	x	x				x
Gypsum									x						
Iron ore		x	x	x	x	x	x	x	x	x	x	x	x	x	x
Kaolin															
▲ **Manganese**	x	x	x	x			x	x	x	x	x	x	x	x	x
▲ **N. Graphite**	x	x	x					x	x		x		x	x	
Sulphur															x
▲ **Titanium**											x	x	x	x	x
Zirconium		x	x					x	x			x			x

○ Raw materials already mined ■ CRM Reserves ▲ CRM Mined

Note: No reserve information is available for specific types of PMGs, LREEs, and HREEs in Ukraine.
Coking coal is not used in any of the assessed technologies.
Source: EU JRC; Ukrainian Geological Survey; World Mining Data.

Source: : Gourevich, Isabella; Zarate, Pablo (2025) : Strategic raw materials in Ukraine: Opportunities for strengthening EU supply chains?, EconPol Policy Brief, No. 72, CESifo GmbH, Munich

4 Competitiveness Challenges

Critical Raw Materials

Underdeveloped Processing and Value-Addition Capacity	While Ukraine is a top exporter of titanium raw materials, most CRMs are exported unprocessed. There is limited refining, separation, and downstream processing capacity (e.g., for battery-grade lithium or rare earth separation), constraining Ukraine's ability to capture higher value in EU and global supply chains.
Delays in Geological Data Modernization	Progress on digitalizing and declassifying geological data has been slow, while compliance with the EU Critical Raw Materials Act standards is only ~70% transposed. This creates uncertainty for exploration investors.
Complex and Evolving Regulatory Environment	Mining permits and licensing have historically been opaque and time-consuming. Reforms are underway to streamline procedures and reform the Subsoil Code to align with EU/OECD standards but investors still face uncertainty on permitting, land use rights, and environmental/social safeguards.
Limited Track Record and Financing Gaps	Despite strong endowments, Ukraine has no large-scale commercial lithium extraction underway and only a handful of early-stage private projects. High upfront capital requirements combined with war-risk premiums make financing difficult without blended finance or donor/IFI support.
Long Project Development Timelines	Industrial-scale mining projects typically require 16–18 years from discovery to production, meaning Ukraine's full CRM potential will only be realized post-2035. This limits short-term FDI opportunities unless paired with strong policy de-risking and donor support.
Infrastructure and Energy Intensity Constraints	CRM extraction and processing are highly energy-intensive. Ukraine's damaged energy grid and logistics bottlenecks (ports, rail) increase operating costs and undermine investor confidence in large-scale mining and processing projects.
High Security and Location Risk	Many of Ukraine's richest CRM deposits (e.g., lithium in Donetsk/Dnipro basins, titanium in Zhytomyr and Dnipropetrovsk) are located close to frontlines or in contested regions, limiting immediate feasibility for investment and raising project risk profiles.

4 Feasibility Assessment

Critical Raw Materials

Key Strengths	Potential Weaknesses
Attractive global market, vast competitive endowments, alignment with Europe's supply chain needs.	Underdeveloped processing, slow data modernization, regulatory uncertainty, and high security risks constrain investment potential

- **Market Attractiveness:** The global market for critical raw materials (CRMs) is experiencing significant growth. For instance, lithium demand rose by nearly 30% in 2024. Yet, prices for many CRMs have declined recently due to oversupply.
- **Competitive Endowments:** Ukraine has vast untapped reserves of titanium, lithium, and rare earths, and is ideally positioned to supply the EU, though extraction is underdeveloped.
- **Infrastructure:** Ukraine faces bottlenecks in logistics, industrial infrastructure, and power stability—especially in conflict-affected and remote mining regions.
- **Business Environment:** Although reforms are progressing, legacy issues remain.

- **BE contin:** issues in permitting, land access, and regulatory enforcement; transparency is improving but uneven. Information on some critical raw materials remains classified. Despite significant progress more needs to be done to expedite digitalization of existing data and to comply with the international reporting standards CRIRSCO.
- **Resilience to War Risks:** Mining operations can potentially continue with local power backup and flexible staffing, but transport and energy disruptions remain a concern and the geographical concentration of resources limits resilience: many key mineral assets are either under Russian occupation or in eastern/southern Ukraine close to frontlines.

Initial Scoring Assessment	4	4	2	4	2.75	2
	Market Attractiveness	Competitive Endowments	Competitive Infrastructure	Competitive Skills	Business Environment	Resilience to War Risks

Criteria	Data source	Score
Market Attractiveness	*Global CAGR*	3.0
	Domestic CAGR	3.5
	Export potential	5.0
	FDI local trends: How the total estimated capital expenditure (capex) in each sector has shifted between 2019-2021 and 2022-2024 in Ukraine	1.0
	FDI global trends: How the total estimated capital expenditure (capex) in each sector has shifted between 2019-2021 and 2022-2025 on a global level	5.0
	Qualitative assessment	4.00
Competitive Endowments	*Qualitative assessment*	4.00
Competitive Infrastructure	*Quality and capacity of roads, railways, ports, and airports used by the sector*	3.0
	Logistics performance indicator	3.0
	Qualitative assessment	1.5
Competitive Skills	*SKILLS - Size of the sector-relevant labor force as percentage of total*	3.0
	Qualitative assessment	4.5
Business Environment	*Corruption perception index*	3.00
	World Governance Indicators (govt effectiveness, regulatory quality, rule of law, control of corruption)	2.0
	Qualitative assessment	2.75
Resilience to War Risks	*Qualitative assessment*	2

4 Desirability Assessment

Critical Raw Materials

Key Opportunities	Potential Shortcomings
Strategically aligned with advanced technology supply chains, aligned with EU demand, potential for job creation.	Not contributing directly to green and sustainable objectives within Ukraine, will not have significant reconstruction impacts over the short-term.

- **Productivity & Technology:** The sector is capital-intensive and not typically associated with high R&D or productivity spillovers; linkages to advanced supply chains exist but remain largely unrealized.
- **Job Creation:** The mining sector is labor-intensive in Ukraine, particularly in upstream mining and metallurgy operations. CRM mining is less labor-intensive than traditional metallurgy, offering fewer direct jobs, though large upstream operations still support significant employment.
- **GVC Integration:** Strong EU demand and Ukraine's proximity to European markets position it as a nearshoring hub for critical raw materials under new EU strategic sourcing initiatives.
- **Reconstruction & Recovery:** Ukraine's post-war reconstruction strategy identifies mining and mineral processing as foundational sectors, with long-term potential to support industrial rebuilding, though short-term reconstruction impact will be limited.
- **Green & Sustainable:** Critical raw materials are essential for clean energy technologies and qualify as green under the EU taxonomy *if* produced sustainably, but environmental impacts of mining and gaps in ESG compliance pose challenges.

Criteria	Data source	Score
Productivity & Technology	***NEW TECH/INNOVATION -*** *Sector R&D intensity (Sector expenditure on R&D as % of Gross Value Added)*	2.0
	PRODUCTIVITY - *Average growth rate of value added per hour worked across all OECD countries over the last 10 years*	1.0
	Qualitative assessment	2.5
Job Creation	***JOBS -*** *Jobs per Unit of Investment on global level (A ratio of estimated jobs created / Estimated USD invested using FDI markets data)*	3.0
	RETURN- *Average accrued wage per hour per full-time employee and sector in Ukraine*	4.3
	RETURN - *Percentage of high skill workers in sector out of total workers in sector*	3.0
	Qualitative assessment	2
GVC Integration	***GVCs*** *- Sector demand in EU nearshoring destinations (FDI markets analysis to see which are the main sectors for outward EU FDI in typical near shoring destinations)*	1.0
	GVCs *- Export potential*	5.0
	LOCAL VALUE ADDITION *- Amount of exports of finished product of raw materials for further processing*	4.0
	Qualitative assessment	4.5
Reconstruction & Recovery	***ECONOMIC ACTIVITY -*** *Determine how severely the sector was affected by the war: Percentage contribution of sector to gross value added before the war and after the war*	4.0
	Qualitative assessment	3
Green Transition	*Greenhouse gas emissions or carbon intensity by sector*	2.0
	Qualitative assessment	3.0

Initial Scoring Assessment	2	2.75	4.5	3	3
	Productivity & Technology	Job Creation	GVC Integration	Reconstruction & Recovery	Green & Sustainable

4 Sector Specific Reforms

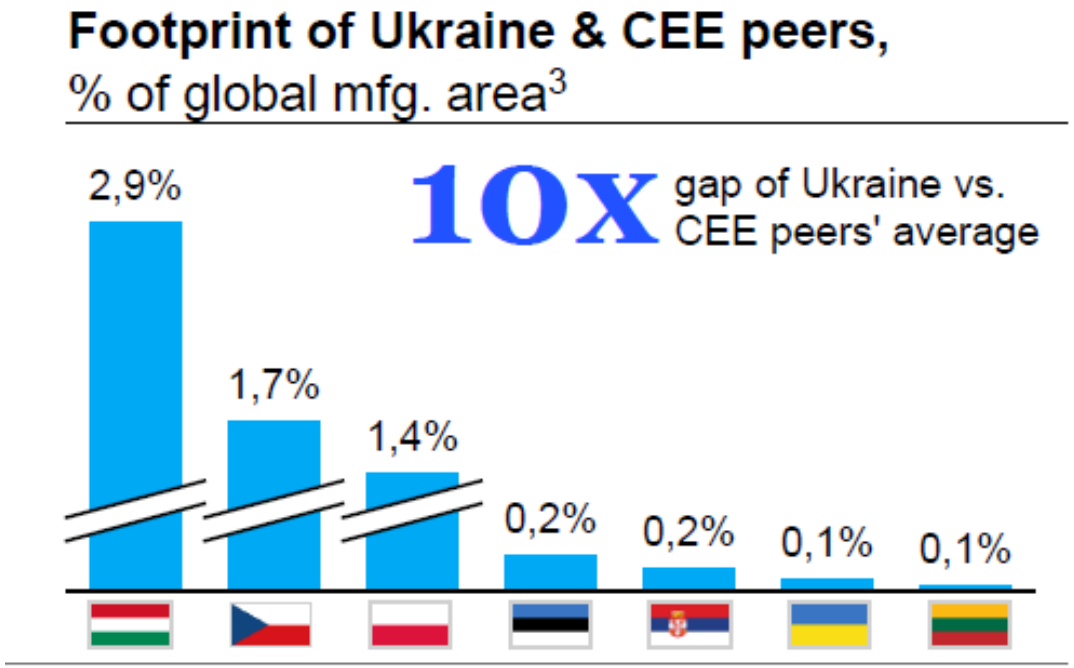
Critical Raw Materials

- **Streamline licensing and permitting**: Accelerate the implementation of the amended Subsoil Code by simplifying administrative procedures, improving predictability in land and mining rights, and adopting internationally recognized reporting and exploration standards (e.g., CRIRSCO).
- **Improve geological data access and transparency**: Expedite the digitalization of Ukraine's geological data archives, ensure data is translated into English, and (to the extent possible) progressively declassify information on critical deposits while aligning survey and data-management practices with EU CRM Act requirements and international best practice.
- **Strengthen ESG and circularity frameworks**: Fully transpose EU regulations on sustainable mining, extractive waste management, and circular economy principles, and promote higher recovery, recycling, and reprocessing of CRM-bearing waste and tailings to enhance Ukraine's position as a responsible and reliable CRM supplier to the EU.
- **Invest in skills and institutions**: Develop national innovation and certification capacities and upgrade workforce training through universities, TVETs, and industry partnerships to support advanced mining, processing, environmental management, and ESG-compliance skills.

Electronic components

Performance in Ukraine

- Ukraine currently accounts for just 0.1% of the global manufacturing area for EMS/ODM, compared to Poland's 2.9%, Romania's 1.7%, and Hungary's
- Ukraine's electronics output is estimated to be just one-tenth of the average among CEE peers, largely due to limited scale, infrastructure challenges, and war-related risks.
- **Post-2022 Developments:** Some EMS operations (e.g., Jabil, Leoni) resumed or expanded production, although capacity remains constrained.



Source: IFC & McKinsey 2024

4 Competitiveness Drivers

Electronic components

Skilled workforce and cost advantages	✓ Strong STEM education base and large pool of technical labor ✓ Competitive wages compared to CEE peers, with underemployment in western regions potentially enabling fast scale-up
Proximity to EU industrial hubs	✓ Geographic closeness to EU automotive and electronics clusters supports nearshoring and supplier integration ✓ Existing trade agreements (DCFTA) facilitate market access and export potential
Growth potential and specialization	✓ Global sector growing at ~9% CAGR through 2032; Ukraine already has revealed comparative advantage in wiring harnesses, insulated wires, and related components ✓ Opportunities in EMS, Tier 1 and Tier 2 suppliers, and applied R&D to deepen GVC participation

4 Competitiveness challenges

Electronic components

Weak FDI Track Record and Market Position	Ukraine accounts for only 0.1% of global EMS/ODM manufacturing, far below Poland (2.9%) or Romania (1.7%). Greenfield FDI announcements and capex are among the lowest in Eastern Europe, limiting investor confidence in Ukraine as an electronics hub.
Infrastructure and Energy Vulnerabilities	Industrial parks, broadband, and logistics capacity remain underdeveloped relative to regional peers, and war-related damage to logistics and energy systems disrupts production reliability. Just-in-time supply models, which are essential for EMS and Tier 1 suppliers, are difficult to sustain under conditions of grid instability, transport bottlenecks, and high security risk.
Regulatory, IP, and ESG Compliance Gaps	While Ukraine has advanced digital permitting tools (Diia, ePermit), IP protection, contract enforcement, and ESG compliance frameworks remain underdeveloped. For higher-value electronic components (semiconductors, PCB design), the absence of robust IP frameworks deters knowledge-intensive FDI. Electronics supply chains are increasingly driven by EU due diligence, CBAM, and sustainability requirements, which Ukraine is not yet fully aligned with.
Limited Scale and Value-Added Capabilities	Ukraine's electronics output is estimated to be only one-tenth of the CEE average, concentrated mainly in wire harnesses and low-value assembly. Higher-value segments (PCB assembly, semiconductors, advanced sensors) lack local ecosystems, R&D hubs, or supplier networks.
War-Related Supply Chain Risks	Even western regions, though relatively safer, face investor caution due to power grid vulnerability and proximity to active conflict zones. Reputational and insurance barriers continue to raise project costs and deter large-scale commitments.

4 Feasibility Assessment

Electronic components

Note: This preliminary assessment provides only a summary of more in-depth research, not all of which can be provided on the slide.

Key Strengths

Ukraine has notable strengths in **endowments**, with availability of many relevant inputs, proximity to EU markets and relevant trade agreements. **Skills** could also be a strength, as Ukraine has a strong STEM education base with high quality universities and had a large technical labor force.

- **Market Attractiveness:** Ukraine has a moderate FDI track record in wiring harnesses. Still limited in high-value components. Expected domestic growth rates in this sector have been low, along with the potential for additional exports. Ukraine's limited FDI track record in the sector in terms of announced projects is also not particularly positive. However, globally, this sector has seen a large increase in estimated capex in recent years (2022-2025 compared to 2019-2021).
- **Competitive Endowments:** Rich in titanium, lithium, graphite, and neon gas; plus proximity to EU markets and trade agreements like the DCFTA.

Potential Weaknesses

Ukraine has shortcomings related to **infrastructure** and logistics as a result of the war, regulatory quality may also be an issue. There is also the question as to the extent to which the labor force with relevant skills is still present in the country.

- **Infrastructure:** War has disrupted logistics and energy systems. Industrial parks and broadband are limited but improving with new public-private support.
- **Skills & Support Services:** Strong STEM education base, with high-quality universities and a large technical labor force.
- **Business Environment:** Ongoing reforms in digitization and permitting (e.g., Diia, ePermit). Advancements in IP protection are also needed for higher-tech EC investments.
- **Resilience to War Risks:** Western regions remain viable and connected. But risks remain from power grid vulnerability and investor security perceptions.

Initial Scoring Assessment	4	3.75	2	3.5	2.75	3
	Market Attractiveness	Competitive Endowments	Competitive Infrastructure	Competitive Skills	Business Environment	Resilience to War Risks

Criteria	Data source	Score
Market Attractiveness	*Global CAGR*	3.0
	Domestic CAGR	2.0
	Export potential	2.0
	FDI local trends: How the total estimated capital expenditure (capex) in each sector has shifted between 2019-2021 and 2022-2024 in Ukraine	1.0
	FDI global trends: How the total estimated capital expenditure (capex) in each sector has shifted between 2019-2021 and 2022-2025 on a global level	5.0
	Qualitative assessment	4
Competitive Endowments	*Qualitative assessment*	3.75
Competitive Infrastructure	*Quality and capacity of roads, railways, ports, and airports used by the sector*	3.0
	Logistics performance indicator	3.0
	Qualitative assessment	1.5
Competitive Skills	*SKILLS - Size of the sector-relevant labor force as percentage of total*	2.0
	Qualitative assessment	3.8
Business Environment	*Corruption perception index*	3.00
	World Governance Indicators (govt effectiveness, regulatory quality, rule of law, control of corruption)	2.0
	Qualitative assessment	3.0
Resilience to War Risks	*Qualitative assessment*	3.0

4 Desirability Assessment

Electronic components

Note: This preliminary assessment provides only a summary of more in-depth research, not all of which can be provided on the slide.

Key Opportunities

The Electronic Components sector has strong potential for supporting Ukraine with gains in **productivity, job creation, and GVC integration**. It would also support the recovery of economic activity and industrial exports.

- **Productivity & Technology:** The Electronic Components sector is classified by OECD as "high-tech manufacturing." FDI can bring advanced automation and precision assembly to Ukraine.
- **Job Creation:** Labor-intensive assembly offers high employment per dollar invested. Global benchmarks suggesting 50–100 jobs per USD 10M FDI. Ukraine has a skilled industrial workforce and diaspora, with underemployment in key regions enhancing job absorption capacity.
- **GVC Integration:** Ukraine already exports to EU automotive and electronics hubs. Nearshoring opportunities can deepen local value-add via supplier networks.

Potential Shortcomings

The Electronic Components sector is not a green sector and has a moderate environmental footprint. Other sectors may have stronger potential impacts for reconstruction and recovery.

- **Reconstruction & Recovery:** While not directly tied to infrastructure, the sector supports economic recovery and industrial export rebuilding. The sector was also severely affected by the war, so FDI in this sector would strongly support the recovery of economic activity in Ukraine.
- **Green Economy:** The sector is not classified as green under the EU taxonomy and poses environmental challenges (e.g., material use, energy intensity). Moderate environmental footprint with opportunities to improve ESG compliance and produce green-tech components.

Criteria	Data source	Score
Productivity & Technology	***NEW TECH/INNOVATION*** *- Sector R&D intensity (Sector expenditure on R&D as % of Gross Value Added)*	5,0
	PRODUCTIVITY *- Average growth rate of value added per hour worked across all OECD countries over the last 10 years*	4,0
	Qualitative assessment	4,5
Job Creation	***JOBS*** *- Jobs per Unit of Investment on global level (A ratio of estimated jobs created / Estimated USD invested using FDI markets data)*	4,0
	RETURN *- Average accrued wage per hour per full-time employee and sector in Ukraine*	3,5
	RETURN *- Percentage of high skill workers in sector out of total workers in sector*	3,0
	Qualitative assessment	4,5
GVC Integration	***GVCs*** *- Sector demand in EU nearshoring destinations (FDI markets analysis to see which are the main sectors for outward EU FDI in typical near shoring destinations)*	3,0
	GVCs *- Export potential*	2,0
	LOCAL VALUE ADDITION *- Amount of exports of finished product of raw materials for further processing*	5,0
	Qualitative assessment	4,0
Reconstruction & Recovery	***ECONOMIC ACTIVITY*** *- Determine how severely the sector was affected by the war: Percentage contribution of sector to gross value added before the war and after the war*	5,0
	Qualitative assessment	3,3
Green Transition	*Greenhouse gas emissions or carbon intensity by sector*	3,0
	Qualitative assessment	2,0

Initial Scoring Assessment	4.5	4.5	4	3.5	2.5
	Productivity & Technology	Job Creation	GVC Integration	Reconstruction & Recovery	Green & Sustainable

4 Sector Specific Reforms

Electronic components

- **Strengthen sector infrastructure:** Accelerate development of industrial and eco-industrial parks with reliable power, logistics, and broadband capacity in western Ukraine, leveraging public-private partnerships.
- **Integrate ESG and green compliance:** Align the sector with EU sustainability and circular economy requirements to improve competitiveness in supplying components for green technologies.
- **Develop talent and training programs:** Expand technical and vocational education (TVET), university partnerships and partner with industry to build skills in electronics assembly, testing, quality assurance, and ESG-compliant production, aligned with the needs of EMS/ODM and component suppliers.

Heavy machinery

4 Sector trends

Heavy machinery

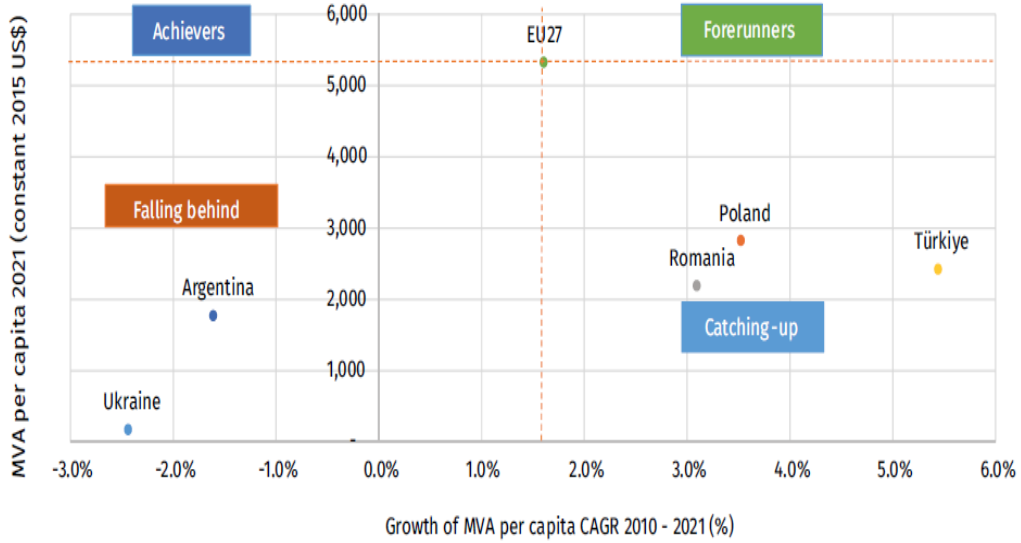
•**Global:** On a global scale, the **industry sector is projected to grow** at a compound annual growth rate of approximately **3.5–4%**, based on long-term projections from international institutions such as UNIDO and the World Bank. This growth reflects structural shifts toward green energy, digitalization, and demand recovery in emerging markets.

•**Eastern Europe:** The industry sector across **Eastern Europe** has demonstrated moderate yet consistent growth, with recent trend data indicating an estimated **CAGR of approximately 4–5%** over the past several years. This growth is driven by EU-funded infrastructure programs, regional supply chain restructuring, and gradual modernization of industrial capacity.

•**Ukraine**

•Ukraine's **industry sector**, encompassing manufacturing, construction, utilities, and extractives, achieved a **compound annual growth rate (CAGR) of 11.7% between 2020 and 2024**. This robust performance is attributed to a combination of post-COVID recovery, reconstruction-driven investment, and adaptive shifts in production following wartime disruptions. Still, relatively, **even before the invasion Ukraine could not fully leverage its solid manufacturing basis**, even in contrast to near peers.

Industrial capacity growth, Ukraine and comparators, 2010-2021



Note: CAGR = compound annual growth rate; MVA = manufacturing value added.

Source: WDI database, UNIDO 2023 visualization

4 Sector trends

Heavy machinery

- **Industry accounted for about 23% of GDP**, and manufacturing comprised the majority of that.
- Prior to the full-scale Russian invasion in February 2022, Ukraine had a **diverse and moderately advanced manufacturing sector**, with notable strengths in **Metallurgy and basic metals** (notably steel) and **Machinery and transport equipment**, including railcars, engines, and aerospace components.
- In the years prior to the invasion, there was a **notable decline in manufacturing** as a share in GDP, with a much sharper downturn after the invasion.
- With the historically strong manufacturing base, Ukraine could rebound quickly and increase manufacturing contributions to the economic reconstruction drastically.

Situation in Ukraine since 2022

The war caused severe disruptions:

Industrial production declined in 15 of 24 subsectors in 2022, with the largest drops in:

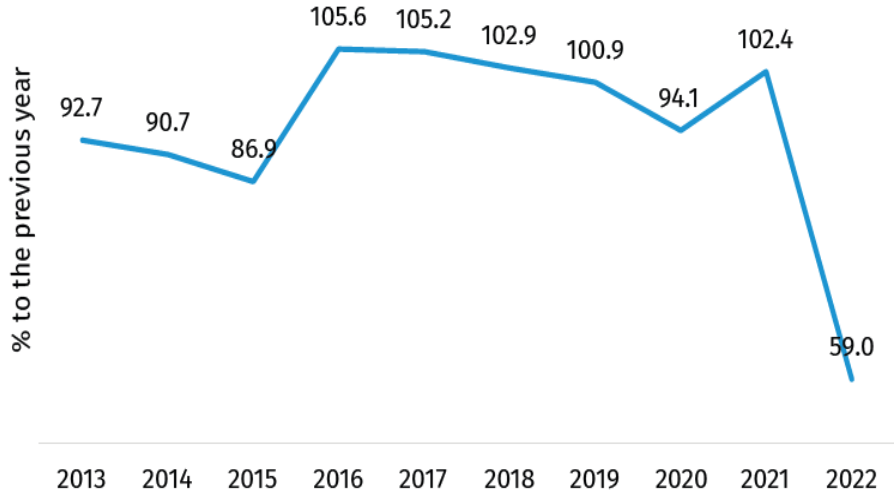
- Machinery and equipment (-38%)
- Non-metallic minerals (-34%)
- Basic metals (-29%)

Production indices fell over 60% in sectors such as basic metals, coke, and petroleum refining.

Frontline regions (Donetsk, Kharkiv, Zaporizhzhia) faced export losses up to **95% in Donetsk**. Total **goods exports decreased 18.8%** and imports dropped 13.3% from 2019-2021 levels. Non-EU export declines were severe, while EU trade increased due to redirected supply chains.

Business sentiment and investment expectations worsened, with 90% of investors citing financing and demand constraints. Despite these challenges, **some resilience showed**, with backline regions maintaining or expanding exports (+21%).

Ukraine‘s manufacturing industrial production index, 2013–2022



Source: UNIDO, 2024: Ukraine – Industrial Country Diagnostic 2023

4 Competitiveness Drivers

Heavy machinery

Large, Skilled, and Cost-Competitive Workforce	✓ Ukraine produces ~130,000 engineering graduates annually, providing a skilled workforce. ✓ Labor costs remain 40–60% lower than in CEE peers, making Ukraine cost-competitive in both labor-intensive and high-skill subsectors.
Diverse Industrial Base with Strong Legacy Players	✓ Ukraine's machinery sector is highly diversified: with established capabilities in aircraft and spacecraft, rail stock, agricultural machinery, electrical equipment, and general machinery. Key firms like Kryukiv Railcar, Motor Sich, and Turboatom are well established. ✓ A strong metallurgy base provides essential upstream inputs for heavy machinery production.
Strategic Market Location	✓ Proximity to EU industrial clusters (Poland, Slovakia, Czech Republic, Hungary) enables just-in-time supply for auto parts and electronics. ✓ Deep and Comprehensive Free Trade Area (DCFTA) and EU accession path anchor standards harmonization
Strong Reconstruction Demand	✓ Significant demand is expected due to reconstruction efforts, especially for railcars, turbines, and energy equipment, making Ukraine one of the prime potential markets.

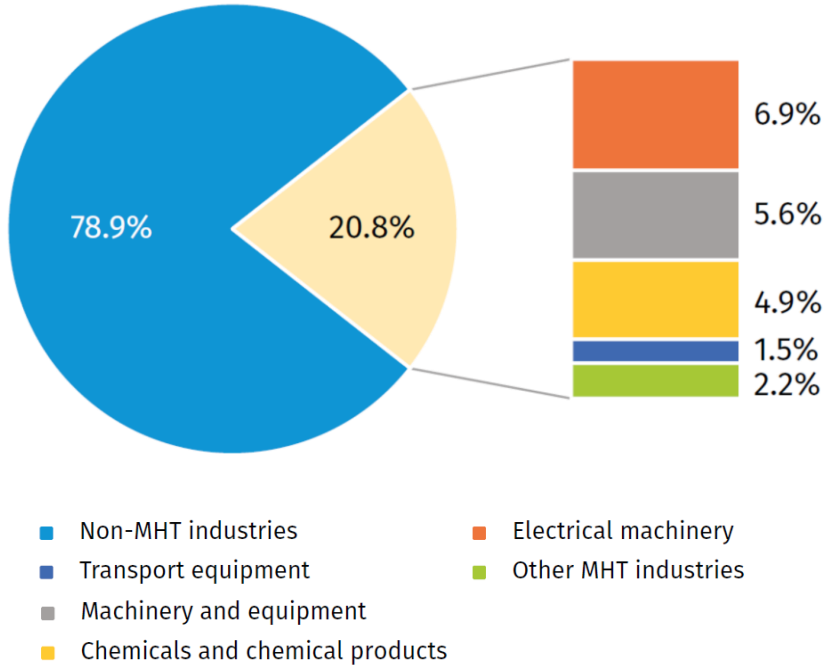
4 Opportunities

Heavy machinery

Railway rolling stock, Aerospace Engines and Energy Equipment combine reconstruction relevance and export potential with the existing competitive endowments of Ukraine

- **Rolling Stock (RCA of 7.5):** The rolling stock sector in Ukraine thrives on strong domestic production, skilled labor, and an integrated supply chain, with key players like Kryukiv Railway Car Building Works and suppliers like Interpipe. It would massively benefit from a large internal market and an adjustment to the gauge network in Europe.
- **Aerospace Engines (RCA of 1.1):** Ukraine is among the few countries capable of complete aero-engine design and production, led by companies like Motor Sich and Ivchenko-Progress. They offer significant technical know-how, and their engines are used in various aircraft and UAVs, making the sector appealing for investors seeking advanced propulsion technology and a skilled workforce aligned with aerospace standards. This also offers a significant dual-use potential.
- **Energy Equipment (RCA of 1.2):** The energy machinery industry in Ukraine is bolstered by established manufacturers such as Turboatom and Electrotyazhmash, known for producing large turbines and generators. With a skilled workforce and metallurgical capabilities, the sector is well-positioned for growth as Ukraine integrates with EU energy systems and expands its nuclear and renewable energy initiatives, presenting investment opportunities in heavy electrical machinery.

Ukraine: Share of Medium- and High-Technology Industries in Total Manufacturing Exports, 2022



Source: UNCTAD, *UN COMTRADE Database* through World Bank, *World Integrated Trade Solutions* database (accessed September 2023).

Rolling Stock

Short-term: Moderate. Current exports include components such as rail wheels and axles, with around **$221 million in 2024** exports. Full vehicle exports are limited due to production constraints and ongoing disruptions.

Long-term: High. As Ukraine integrates with EU transport corridors and expands links with 1520 mm gauge markets like the Caucasus and Central Asia, it may become a **regional manufacturing and export hub**, especially for components and specialized freight cars.

Aerospace Engines

Short-term: Low to moderate. Full aircraft engine exports are constrained by infrastructure damage and certification barriers. Niche exports of small UAV engines and spare parts continue modestly.

Long-term: Very high. Ukraine's unique engine intellectual property, skilled workforce, and defense partnerships could position it to become a **global supplier of UAV, regional jet, and auxiliary turbine engines**, particularly in NATO-aligned countries and emerging markets.

Energy Equipment

Short-term: Low. Most production capacity is currently focused on **domestic reconstruction** needs (turbines, generators, transformers), which limits export capacity.

Long-term: High. Ukraine has the expertise and industrial base to export large-scale equipment, such as steam turbines and marine gas turbines, to **Eastern Europe, South Asia, and MENA**, particularly as neighboring countries modernize Soviet-era infrastructure.

4 Competitiveness Challenges

Heavy machinery

War Damage and Logistics Constraints	Machinery production in frontline regions (Donetsk, Kharkiv, Zaporizhzhia) has collapsed by up to 95% export loss, while blocked sea routes and congested western borders increase costs for surviving plants.
Innovation and Certification Gaps	R&D spending was only 0.4% of GDP in 2020; brain drain of ~10% of researchers since 2022 exacerbates the gap. EU integration and standards alignment gaps highlight the need for upgrades in testing/certification capacity.
Governance and Regulatory Barriers	Persistent issues with transparency, licensing, and weak enforcement of industrial standards slow investment and value-chain integration. EU compliance for rolling stock (gauge adjustment, safety standards) and aerospace (EASA certification) remains incomplete.
Capital and Energy Intensity	Production of rolling stock, turbines, and aerospace engines is highly energy- and capital-intensive. Grid instability, high upfront costs, and limited financing availability reduce the sector's resilience and bankability.

4 Feasibility Assessment

Heavy machinery

Key Strengths

Ukraine has notable strengths in **endowments**, with availability of many relevant inputs, proximity to EU markets and relevant trade agreements. **Skills** are a strength, as Ukraine has a strong STEM education base with high quality universities and had a large technical labor force.

- **Market Attractiveness:** Investment opportunities in Ukraine's industrial sectors are promising due to rising EU infrastructure demand (in rail), global nearshoring trends, and trade integration with the EU, but mostly for the high demand within Ukraine for reconstruction.
- **Competitive Endowments:** Ukraine boasts competitive advantages such as advanced manufacturing legacy, a skilled workforce, and essential raw materials. Despite wartime damage, valuable industrial infrastructure remains, particularly in central and western regions, bolstered by donor-backed reconstruction. Additionally, as strong metallurgy base would support higher value addition for upstream sectors.
- .

Potential Weaknesses

Ukraine has shortcomings related to **skills** and **manufacturing infrastructure** as a result of the war. There is also the question as to the extent to which the labor force with relevant skills is still present in the country.

- **Infrastructure:** War has disrupted logistics and energy systems. Industrial parks and broadband are limited but improving with new public-private support.
- **Skills & Support Services:** Strong STEM education base, with high-quality universities and a large technical labor force. Mid-Term growth limitation through human loss in the war, creating gaps in the labor market.
- **Resilience to War Risks:** Resilience varies regionally, with western areas adapting better than frontline regions, aided by relocation, donor support, and export diversification. Many of the supply chains (metallurgy) are heavily energy intense and thus prone to be less resilient to unreliable infrastructure.
- .

Criteria	Data source	Score
Market Attractiveness	*Global CAGR*	4,0
	Domestic CAGR	2,0
	Export potential	4,0
	FDI local trends: How the total estimated capital expenditure (capex) in each sector has shifted between 2019-2021 and 2022-2024 in Ukraine	5,0
	FDI global trends: How the total estimated capital expenditure (capex) in each sector has shifted between 2019-2021 and 2022-2025 on a global level	4,0
	Qualitative assessment	5,0
Competitive Endowments	*Qualitative assessment*	4,0
Competitive Infrastructure	*Quality and capacity of roads, railways, ports, and airports used by the sector*	3,0
	Logistics performance indicator	3,0
	Qualitative assessment	3,0
Competitive Skills	*SKILLS - Size of the sector-relevant labor force as percentage of total*	2,0
	Qualitative assessment	4,0
Business Environment	*Corruption perception index*	3,0
	World Governance Indicators (govt effectiveness, regulatory quality, rule of law, control of corruption)	2,0
	Qualitative assessment	3,0
Resilience to War Risks	*Qualitative assessment*	3,0

Initial Scoring Assessment	5	4	3	4	2,8	3
	Market Attractiveness	Competitive Endowments	Competitive Infrastructure	Competitive Skills	Business Environment	Resilience to War Risks

4 Desirability Assessment

Heavy machinery

Key Opportunities

The heavy manufacturing sector has strong potential for supporting Ukraine with gains in **productivity, job creation, and GVC integration**. It would also support the recovery of economic activity and industrial exports.

•**Productivity & Technology:** New investments aimed at Ukraine's reconstruction and EU integration will enhance productivity and technology access, particularly in energy equipment, aerospace, and rail as these are essential for the fundamental and economic development.

•**Job Creation:** The sector and these sub-sectors hold the potential for employment creation for high-skilled jobs (R&D heavy like aerospace engines or turbines/generators) and significant number of skilled jobs for metal-based production processes for rolling stock and energy equipment.

•**GVC Integration:** By enhancing production capabilities, modernizing equipment, and aligning with EU standards, these investments will facilitate Ukrainian firms' transition from low-margin, raw material exports to higher-value manufacturing and component supply.

Potential Shortcomings

Manufacturing has a strong **potential to contribute to employment** and state revenue with limited downsides, apart from potential impact on GHG.

•**Reconstruction & Recovery:** These sectors provide essential equipment, components, and technical capabilities necessary for the reconstruction of transport networks, energy systems, and industrial facilities. In the longer-term rolling stock, aerospace engines, and energy equipment offer high to very high export potential which in the case of rolling stock can be further enhanced by integrating into the EU standard gauge system.

•**Green Economy:** Depending on the subsector, the overall impact on GHG emissions varies between very positive (rolling stock, electric equipment) and neutral (aerospace engines) which with technological advancements will reduce its emissions. In combination with the export potential and the network effects of rail and energy related manufacturing, the positive effect could be significant.

Initial Scoring Assessment	4	3,5	5	5	3
	Productivity & Technology	Job Creation	GVC Integration	Reconstruction & Recovery	Green & Sustainable

Criteria	Data source	Score
Productivity & Technology	***NEW TECH/INNOVATION*** *- Sector R&D intensity (Sector expenditure on R&D as % of Gross Value Added)*	4,0
	PRODUCTIVITY *- Average growth rate of value added per hour worked across all OECD countries over the last 10 years*	4,0
	Qualitative assessment	4,0
Job Creation	***JOBS*** *- Jobs per Unit of Investment on global level (A ratio of estimated jobs created / Estimated USD invested using FDI markets data)*	5,0
	RETURN *- Average accrued wage per hour per full-time employee and sector in Ukraine*	3,0
	RETURN *- Percentage of high skill workers in sector out of total workers in sector*	3,0
	Qualitative assessment	3,0
GVC Integration	***GVCs*** *- Sector demand in EU nearshoring destinations (FDI markets analysis to see which are the main sectors for outward EU FDI in typical near shoring destinations)*	5,0
	GVCs *- Export potential*	4,0
	LOCAL VALUE ADDITION *- Amount of exports of finished product of raw materials for further processing*	5,0
	Qualitative assessment	5,0
Reconstruction & Recovery	***ECONOMIC ACTIVITY*** *- Determine how severely the sector was affected by the war: Percentage contribution of sector to gross value added before the war and after the war*	5,0
	Qualitative assessment	5,0
Green Transition	*Greenhouse gas emissions or carbon intensity by sector*	3,0
	Qualitative assessment	3,0

4 Sector Specific Reforms

Heavy machinery

- **Simplify administrative procedures and reduce regulatory barriers** for businesses, especially SMEs, by streamlining licensing, customs, and tax compliance.
- **Strengthen EU Standards and Certification Alignment:** Accelerate harmonization of technical standards with the EU, including railway interoperability, energy equipment certification, and EASA-compliant aerospace approvals to enable supply chain integration.
- **Promote digitalization and innovation policies**, including incentives for R&D, adoption of Industry 4.0 solutions in manufacturing development of joint industry-university labs, and investing in modern testing facilities to reverse the decline in innovation and retain engineering talent.
- **Upgrade Industrial Infrastructure and Energy Reliability:** Invest in resilient industrial zones with stable energy supply and logistics connections to EU markets, enabling relocation of production from high-risk eastern regions.

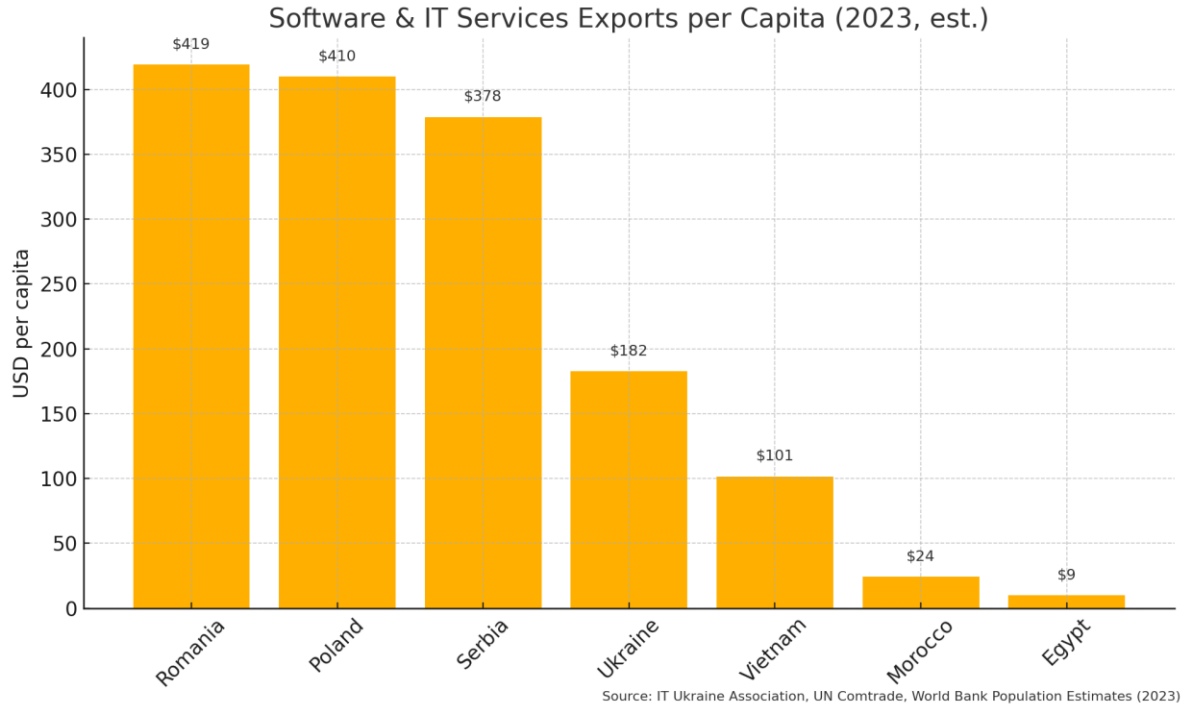
IT & Digital Services

4 Sector Trends

IT & Digital Services

Strong export growth and emerging strengths, but Ukraine trails regional leaders in FDI volumes

- **Ukraine's performance:** IT exports reached $6.7B in 2023—41% of Ukraine's total service exports, second only to agriculture—with primary destinations in the U.S. and EU.
- **Continuity under pressure:** ~90% of IT companies maintained operations through relocation, cloud migration, and hybrid hubs in western Ukraine or the EU.
- **Benchmarking:** Ukraine ranks mid-tier in per capita IT service exports—outperforming Egypt, Morocco, and Vietnam, but trailing Poland, Romania, and Serbia—highlighting strong sector resilience with room to scale higher-value exports.
- **Ukraine's IT workforce grew 7% in 2023 to ~308,000 specialists**, highlighting ongoing talent expansion even during wartime.
- **Digital leadership:** Diia City and e-governance reforms signal modernization and policy innovation to improve legal and digital infrastructure.



4 Key Competitiveness Drivers

IT & Digital Services

Skilled, Cost-Competitive Workforce	✓ ~308k ICT professionals; 35k+ STEM graduates annually ✓ Strong EU/US cultural alignment and English proficiency ✓ Cost advantage of 40–60% compared to Poland and Romania
Export Scale with Value Chain Upgrading	✓ $6.7B in IT exports in 2023 (41% of service exports) ✓ Firms moving beyond outsourcing into SaaS, cybersecurity, and product development ✓ Deep integration with EU/US clients and GVCs
Operational Resilience and Reform Momentum	✓ Majority of firms stayed operational during the war via relocation, cloud, and distributed teams ✓ Diia City regime offers EU-aligned IP protection, digital contracts, and tax incentives ✓ Global IT services demand (~7.3% CAGR) and nearshoring to Eastern Europe reinforce investor pull

4 Target Segment Potential

IT & Digital Services

Ukraine's IT sector spans a range of service segments, with strong capabilities in software development and emerging potential in SaaS and digital platforms, while segments like BPO and managed services face lower global demand.

Stages	Target Segment Potential
Platform-based IT Services	**High Priority**: Fast-growing global demand for SaaS, GovTech, and PaaS. Ukraine's emerging digital product ecosystem and tech startups offer strong potential, especially for mid-size investors. Needs support in scaling and IP protection.
IT Consulting & System Integration	**Moderate Priority**: Strategic value in supporting EU digital transformation efforts. Ukraine could attract FDI in pre-sales, integration, and project management support but requires strengthening leadership and advisory capabilities.
Custom Software Development & Engineering	**High Priority**: Ukraine's strongest segment. Continues to attract demand for full-cycle engineering, cybersecurity, and AI/ML. FDI efforts should emphasize proven delivery capacity and distributed team models.
IT Infrastructure Services (Managed Services)	**Low Priority**: Global demand for managed services is consolidating around large cloud players (AWS, Google). Ukraine's limited domestic data center footprint makes this a less strategic FDI segment for now. Future potential hinges on digital sovereignty infrastructure buildout.
Business Process Outsourcing (BPO/ITO)	**Low Priority**: Well-established but declining global demand due to AI automation. Limited upside for generic BPO, though niche, compliance-heavy segments (e.g., fintech, legaltech) may hold some value.

4 Competitiveness Challenges

IT & Digital Services

Low FDI Volumes vs. Regional Peers	Despite strong exports, Ukraine attracts far fewer IT and Digital Services projects than Poland or Romania; investor caution persists after the 2022–24 decline.
Infrastructure Fragility and Data Sovereignty Gaps	Power outages, cyber threats, and reliance on foreign data centers constrain sensitive verticals (e.g., fintech, govtech).
Skills Gaps in Higher-Value Roles	Shortages in product management, UX design, and digital leadership limit the shift from outsourcing to SaaS and platform-based services.
Business Environment Risks	Weak contract enforcement, IP rights protection, restrictive FX/capital controls, and corruption perceptions increase investor risk and slow deal cycles.

4 Feasibility Assessment

IT & Digital Services

Key Strengths

Ukraine's IT sector benefits from a large, skilled, and cost-competitive workforce, strong export performance, and proximity to the EU market. High operational resilience, active urban tech clusters, and digital infrastructure underpin service continuity. Regulatory reforms such as Diia City enhance legal certainty, while nearshoring demand and EU alignment reinforce investor appeal.

- **Market Attractiveness:** Global CAGR ~7.3%; $6.7B exports (2023); FDI volumes low vs. Poland/Romania; high potential in cybersecurity.
- **Competitive Endowments:** Large, cost-effective, and EU-aligned workforce with strong geographic proximity to key markets, but investor confidence is affected by draft-related uncertainty in retaining mid- and senior-level male specialists.
- **Infrastructure:** High internet penetration; urban tech parks (e.g., UNIT.City); but power/logistics disrupted in war zones; cloud-led resilience. Lack of onshore data centers limit digital sovereignty and constrain sensitive FDI (e.g., govtech, fintech).

Potential Weaknesses

Gaps in mid-senior tech talent, draft-related workforce disruptions, and limited domestic demand constrain growth. The absence of sovereign data centers limits digital sovereignty and EU compliance. Infrastructure damage in war-affected areas and persistent business climate barriers, especially FX controls and contract enforcement, remain key FDI deterrents.

- **Skills & Support Services:** Strong tech base, particularly in software engineering, data science, QA, and DevOps; gaps in project leadership, UX, product skills; upskilling efforts ongoing but need scaling.
- **Business Environment:** Diia City offers a modern, EU-aligned legal regime with IP protection and tax incentives. Still, weak contract enforcement, corruption risks, opaque procurement, and restrictive FX/capital rules remain key investor barriers.
- **Resilience to War Risks:** Majority of firms remained operational through cloud migration, remote work, and geographic decentralization. Proactive use of Starlink, backup power, and distributed teams ensured continuity, though reliance on foreign data centers highlights a vulnerability in sovereign digital infrastructure.

Criteria	Data source	Score
Market Attractiveness	*Global CAGR*	5.0
	Domestic CAGR	4.0
	Export potential	N/A
	FDI local trends: How the total estimated capital expenditure (capex) in each sector has shifted between 2019-2021 and 2022-2024 in Ukraine	2.0
	FDI global trends: How the total estimated capital expenditure (capex) in each sector has shifted between 2019-2021 and 2022-2025 on a global level	3.0
	Qualitative assessment	3.0
Competitive Endowments	*Qualitative assessment*	4.0
Competitive Infrastructure	*Quality and capacity of roads, railways, ports, and airports used by the sector*	3.0
	Logistics performance indicator	3.0
	Qualitative assessment	3.0
Competitive Skills	*SKILLS - Size of the sector-relevant labor force as percentage of total*	2.0
	Qualitative assessment	4.0
Business Environment	*Corruption perception index*	3.00
	World Governance Indicators (govt effectiveness, regulatory quality, rule of law, control of corruption)	2.0
	Qualitative assessment	2.0
Resilience to War Risks	*Qualitative assessment*	4.5

Initial Scoring Assessment	3.25	4	3	3	2.25	4.5
	Market Attractiveness	Competitive Endowments	Competitive Infrastructure	Competitive Skills	Business Environment	Resilience to War Risks

4 Desirability Assessment

IT & Digital Services

Key Opportunities

The sector scores high on desirability due to its knowledge-intensive profile, consistent export growth, and strong employment potential, especially for youth and returning diaspora. The sector is also a key enabler of Ukraine's digital recovery and modernization, with growing capabilities in high-value services such as AI, cybersecurity, and SaaS.

- **Productivity & Technology:** High R&D intensity; competitive in AI, cybersecurity, and proprietary R&D; export-led digital specialization supported by resilient infrastructure; Classified as a Knowledge-Intensive Service (Eurostat).
- **Job Creation:** High-quality jobs; above national average wages; diaspora reintegration and youth training programs active; strong labor intensity with local spillovers and active diaspora reintegration.
- **GVC Integration:** Deep linkages to EU/US markets; majority output exported; high-value services growing (e.g., full-cycle dev); Diia City supports IP protection and cross-border digital trade, facilitating further integration with EU standards.

Potential Shortcomings

The sector is not green under the EU taxonomy and remains dependent on energy-intensive cloud infrastructure hosted abroad. Recovery spillovers are digital, not physical. Sovereign digital infrastructure is lacking, and green certifications, energy accountability, and broader decarbonization efforts remain underleveraged.

- **Reconstruction & Recovery:** Enabled continuity of public/private digital services (govtech, edtech, logistics); 90% operational resilience via relocation, distributed teams, and cloud migration. IT firms have also supported recovery in logistics, public administration, and digital infrastructure..
- **Green Economy:** Not green per EU taxonomy but enables decarbonization in other sectors (through smart logistics, grid optimization, and efficiency solutions. However, most infrastructure is hosted abroad, and green certification, energy transparency, and eco-design remain underdeveloped.

Initial Scoring Assessment	4	5	5	4	3.5
	Productivity & Technology	Job Creation	GVC Integration	Reconstruction & Recovery	Green & Sustainable

Criteria	Data source	Score
Productivity & Technology	***NEW TECH/INNOVATION*** *- Sector R&D intensity (Sector expenditure on R&D as % of Gross Value Added)*	4.0
	PRODUCTIVITY *- Average growth rate of value added per hour worked across all OECD countries over the last 10 years*	4.0
	Qualitative assessment	4.0
Job Creation	***JOBS*** *- Jobs per Unit of Investment on global level (A ratio of estimated jobs created / Estimated USD invested using FDI markets data)*	5.0
	RETURN- *Average accrued wage per hour per full-time employee and sector in Ukraine*	5.0
	RETURN *- Percentage of high skill workers in sector out of total workers in sector*	5.0
	Qualitative assessment	5.0
GVC Integration	***GVCs*** *- Sector demand in EU nearshoring destinations (FDI markets analysis to see which are the main sectors for outward EU FDI in typical near shoring destinations)*	5.0
	GVCs *- Export potential*	N/A
	LOCAL VALUE ADDITION *- Amount of exports of finished product of raw materials for further processing*	5.0
	Qualitative assessment	5.0
Reconstruction & Recovery	***ECONOMIC ACTIVITY*** *- Determine how severely the sector was affected by the war: Percentage contribution of sector to gross value added before the war and after the war*	4.0
	Qualitative assessment	4.0
Green Transition	*Greenhouse gas emissions or carbon intensity by sector*	4.0
	Qualitative assessment	3.0

- **Enable sovereign digital infrastructure:** Launch PPPs or targeted programs to support Tier III/IV data centers and cloud services hosted in Ukraine, with compliance to EU cybersecurity and data residency standards.
- **Clarify export control processes for IT services:** Streamline licensing and approval procedures for cross-border delivery of IT and digital services, reducing delays in areas like cybersecurity, fintech, or dual-use applications.
- **Develop targeted digital skills programs:** Support industry-led training in product management, UX, and leadership; create pathways for diaspora professionals to re-enter the domestic ICT workforce.
- **Strengthen IP enforcement:** Operationalize the High IP Court, expand use of arbitration, and improve prosecutorial and judicial capacity to handle digital IP disputes, supported by clearer coordination between the IP office, customs, and courts.
- **Align IP frameworks with international standards:** Ratify and implement remaining WIPO treaties, harmonize with EU directives, and ensure Diia City contracts and protections are fully interoperable with global IP regimes.
- **Facilitate capital mobility for IT exporters**: Simplify FX conversion and dividend repatriation through published timelines and transparent procedures, providing predictability for cross-border operations in accordance with the phased roadmap for easing currency restrictions.

Military Technology and Defense

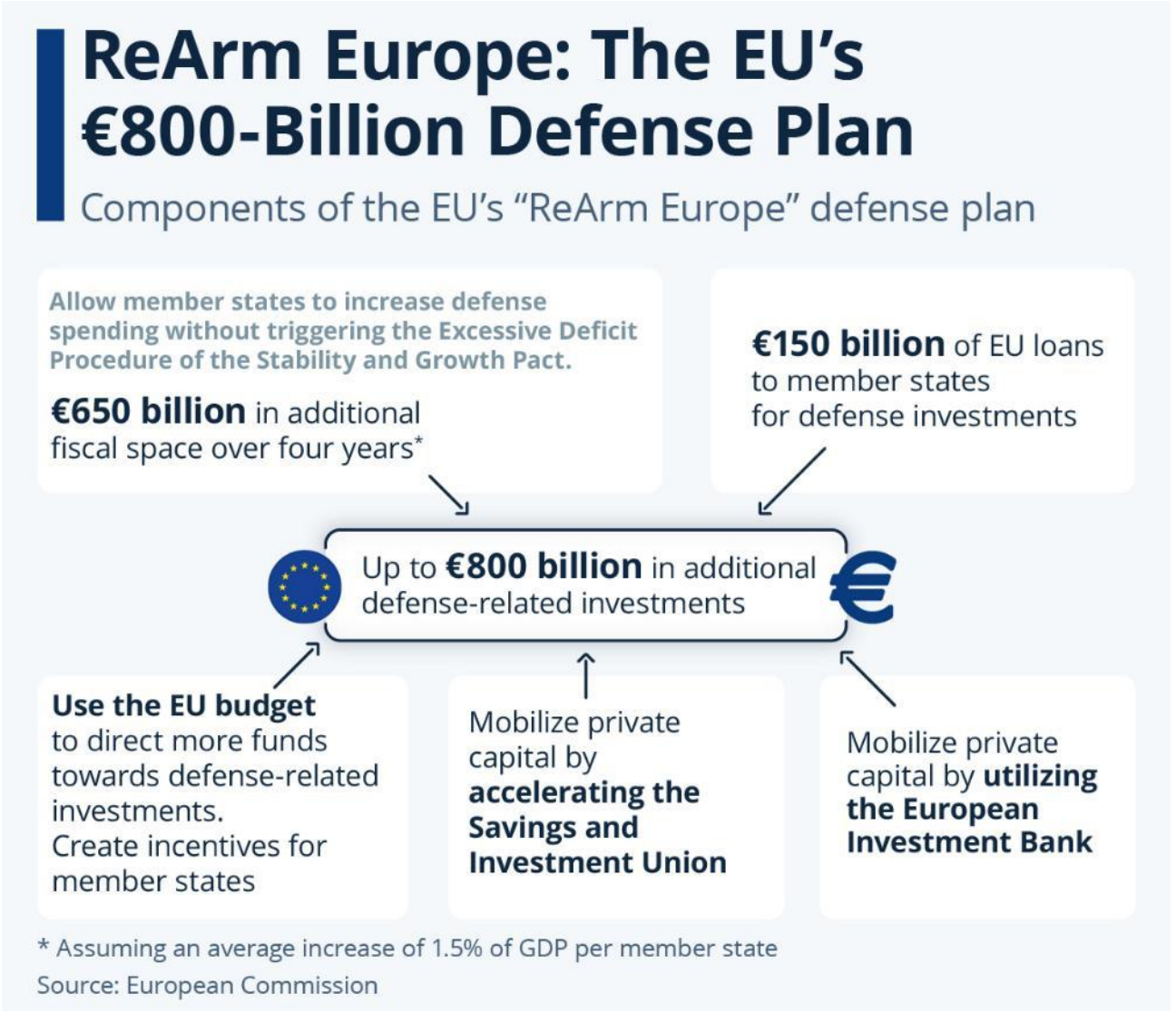
Regional and Ukraine sector trends

Regional Trends in Defense Spending and Investment

- EU is investing under the **Readiness 2030 plan** with an estimated **€800 billion commitment by 2033**.
- Eastern Europe's defense sector is rapidly growing, led by Ukraine and Poland. **Poland now spends 4.2% of GDP on defense,** Europe's highest share, driving robust local supplier ecosystems.
- Europe's defense VC funding surged **24% to $5.2 billion in 2024**, focused on dual-use technologies like AI, drones, and cybersecurity.

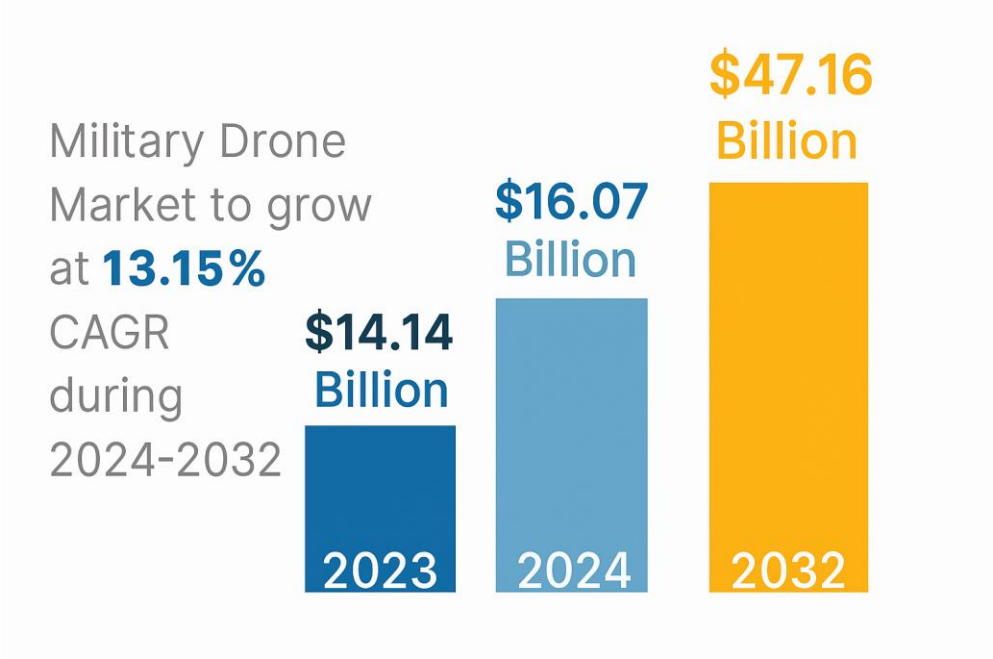
Ukraine:

- Defense sector now viewed as strategic priority.
- Operational resilience (90%+ of firms remained active post-2022).
- Strong export capabilities in dual-use services (e.g. drones, cyber).
- Limited greenfield FDI to date due to wartime risk.



Defense Technology Trends

- **AI, Autonomy & Digital Transformation:** Global defense AI spending reached $9.3 bn in 2024 and is accelerating, with militaries integrating AI into logistics, targeting systems, and autonomous vehicles through large-scale procurement contracts (e.g., US DoD to award $200m+ to global players).
- **Unmanned Systems (UAVs/UAS)**: The global military drone market is projected to more than triple from $14.1 bn in 2023 to over $47 bn by 2032, driven by combat-tested use cases and rapid innovation in strike and ISR platforms.
- **Cybersecurity & Quantum Communication**: NATO and allied countries are field-testing quantum-secure communications and AI-enabled sensor networks to protect command-and-control infrastructure and ensure battlefield resilience.



4 Key Competitiveness Drivers

MilTech and Defense

Battlefield-Driven Innovation and Cost Advantage	✓ Active conflict provides real-world testing and rapid prototyping for drones, cyber defense, and AI systems ✓ Large, cost-effective STEM workforce with deep engineering capabilities ✓ Access to critical materials (steel, titanium, explosives) supports onshore production
Whole-of-Society Dual-Use Innovation Ecosystem	✓ Startups, incumbents, and universities collaborating in platforms like Brave1 ✓ Proven battlefield solutions adapted for civilian use (agriculture, demining, disaster response) ✓ Strong culture of agile, low-cost innovation attractive to both primes and dual-use investors
Integration Potential with Allied Supply Chains	✓ Growing alignment with NATO/EU procurement and certification standards ✓ Co-production initiatives (e.g., Danish model) embedding Ukraine into regional defense value chains ✓ Interest from global primes in UAVs, battlefield engineering, and secure communications, reinforced by investments announced during the invasion, which provide a strong signaling effect to other potential investors

4 Strategic Case for Defense and Dual-Use Investment in Ukraine

MilTech and Defense

Recent stakeholder discussions highlight strong strategic opportunities in Ukraine's defense sector, but targeted action on enabling conditions, such as coordination, regulatory reform, and ecosystem support, is essential to realize FDI potential.

Strategic Opportunities

Ukraine offers viable FDI opportunities in dual-use technologies with commercial returns.

Battlefield innovation enables rapid prototyping and validation of scalable tech.

Investment potential is highest in product and process innovation segments.

Spillover effects extend to civilian sectors like cybersecurity and digital infrastructure.

Enabling Conditions and Considerations

Defense is a government-designated priority for recovery and long-term competitiveness.

Strong alignment with EU and NATO modernization needs enhances market relevance.

Reform momentum supports improvements in procurement, IP, and regulatory frameworks.

Key constraints (capital controls, export rules, military mobility) can be mitigated through targeted tools.

4 Value Proposition Insights

MilTech and Defense

Accelerated innovation and field validation: Ukraine's proximity to active conflict enables rapid prototyping, real-time feedback, and deployment cycles unmatched by traditional defense markets.

Cost-effective scalability: Manufacturing or co-developing in Ukraine offers significant cost advantages compared to Western Europe.

Platform for validation and export: Ukraine serves as a proving ground for dual-use technologies that can be adapted and scaled for allied markets; effective policy frameworks can support IP repatriation.

Whole-of-society innovation ecosystem: Engineers, startups, and technologists collaborate in an integrated environment that enables co-investment and capability development.

Strong onshore access to critical materials: Steel, titanium, and explosives inputs reduce supply chain risk and enables faster, cost-effective production of defense and dual-use systems.

Source: Stakeholder consultations

4 Competitiveness Challenges

MilTech and Defense

High Perceived Risk and Limited Investor De-Risking Tools	Ongoing conflict, infrastructure vulnerability, and weak insurance instruments deter large-scale FDI relative to Poland or other regional defence hubs.
Regulatory Barriers and Export Restrictions	Restrictions on military exports17, martial law capital controls, and partial misalignment with NATO/EU standards constrain integration and reduce investor flexibility.
Workforce Volatility	Conscription uncertainty disrupts workforce planning; skilled engineers and technicians are diverted to military service, creating gaps in program management and systems integration.
Legacy Industrial Constraints	Ukraine's electronics output is estimated to be only one-tenth of the CEE average, concentrated mainly in wire harnesses and low-value assembly. Higher-value segments (PCB assembly, semiconductors, advanced sensors) lack local ecosystems, R&D hubs, or supplier networks.
War-Related Supply Chain Risks	Soviet-era facilities remain outdated, with limited certified testing and R&D infrastructure. This hampers scaling advanced systems and onboarding foreign primes seeking compliance-ready production.

Constraints to FDI

The following are the primary barriers to FDI in Ukraine's military technology and defense sector, prioritized by their impact on investor decision-making:

Constraint	Summary
1. Capital Controls	Ongoing martial law imposes restrictions on profit repatriation and foreign exchange, creating uncertainty for foreign investors.
2. Export Controls & IP Frameworks	Limited harmonization with EU/NATO standards on export licensing and intellectual property complicates cross-border commercialization.
3. Military Mobility	Infrastructure and regulatory bottlenecks at border crossings hinder timely movement of personnel, equipment, and inputs.
4. Digital Infrastructure Gaps	Widespread damage to mobile networks and limited in-country data centers hinder deployment of dual-use technologies like ISR, AI, and drone systems. Reliance on external services (e.g., Starlink) introduces cybersecurity and continuity risks, undermining operational resilience and investor confidence.
5. Perceived Security Risk & Insurance Gaps	The absence of acceptable risk insurance instruments constrains large-scale capital deployment.
6. Ecosystem Fragmentation	Innovative firms lack coordinated support structures, reducing scalability and investor visibility.
7. Procurement Path Dependency	Legacy procurement models favor primes who are slow to adapt, limiting market access for new, cost-effective solutions.

4 Feasibility Assessment

MilTech and Defense

Key Strengths

Ukraine presents a strong case for foreign investment in miltech and defense, with rising announced greenfield FDI and rapid tech integration on the frontline. It benefits from domestic access to key materials like steel, a skilled tech workforce, and a strategic location near the EU for logistics and NATO cooperation.

Potential Weaknesses

Key weaknesses for foreign investment include workforce instability due to widespread mobilization, with personnel eligible for conscription any time. Military exports are effectively banned and dual-use tech faces restrictions. Infrastructure is partially outdated or damaged. Focus on mass production leaves little room for R&D.

- **Market Attractiveness:** Announced greenfield FDI in Ukraine's miltech and defense sector has risen in recent years, reflecting a global trend. Positioned on the frontline, Ukraine has to rapidly integrate and deploy new technologies in real-world conditions. Government priority and support of partnerships between foreign investors and the domestic private sector, enabling co-development and scaling of advanced defense solutions.
- **Competitive Endowments:** Ukraine offers strong competitive endowments for the miltech and defense sector, including access to essential raw materials like domestically sourced steel. Its strategic location, bordering the EU and situated at the heart of Eastern Europe, provides key logistical advantages for manufacturing, distribution, and cooperation with NATO-aligned partners.
- **Infrastructure:** Mix of legacy Soviet-era facilities and ongoing modernization efforts. Some assets are outdated or impacted by conflict.
- **Skills & Support Services:** Significant workforce constraints due to ongoing mobilization. Ukraine still offers strong technical capabilities, driven by a highly experienced IT and engineering base.
- **Business Environment:** Restricted by de facto ban on military exports and limited dual-use options. Focus on mass production over R&D reflects urgent military needs, limiting space for innovation. Limited alignment with EU/NATO standards on export. Martial law imposes capital control.
- **Resilience to War Risks:** Manufacturers continue operating under threat. However, risks remain high due to ongoing attacks and limited infrastructure protection. Limited risk insurance.

Initial Scoring Assessment	4.25	4.00	3.00	3.00	2.25	4.00
	Market Attractiveness	Competitive Endowments	Competitive Infrastructure	Competitive Skills	Business Environment	Resilience to War Risks

Criteria	Data source	Score
Market Attractiveness	*Global CAGR*	3.0
	Domestic CAGR	2.0
	Export potential	3.0
	FDI local trends: How the total estimated capital expenditure (capex) in each sector has shifted between 2019-2021 and 2022-2024 in Ukraine	5.0
	FDI global trends: How the total estimated capital expenditure (capex) in each sector has shifted between 2019-2021 and 2022-2025 on a global level	4.0
	Qualitative assessment	5.00
Competitive Endowments	*Qualitative assessment*	4.00
Competitive Infrastructure	*Quality and capacity of roads, railways, ports, and airports used by the sector*	3.0
	Logistics performance indicator	3.0
	Qualitative assessment	3.0
Competitive Skills	*SKILLS - Size of the sector-relevant labor force as percentage of total*	3.0
	Qualitative assessment	3.0
Business Environment	*Corruption perception index*	3.00
	World Governance Indicators (govt effectiveness, regulatory quality, rule of law, control of corruption)	2.0
	Qualitative assessment	2.0
Resilience to War Risks	*Qualitative assessment*	4.0

4 Desirability Assessment

MilTech and Defense

Key Opportunities

Ukraine's defense sector offers strong FDI potential due to its battlefield-proven innovation ecosystem, rapid development cycles, and growing integration with NATO and EU value chains. Programs like the Danish Model channel foreign funding into domestic production, accelerating industrial recovery and deepening local value addition. High-skilled job creation aligns with Ukraine's STEM talent base, and dual-use innovations are expanding into civilian and green applications.

- **Productivity & Technology:** High-tech innovation ecosystem anchored in battlefield-driven R&D, Brave1 support, and rapid drone and AI system prototyping. Sector classified as high-tech with growing international co-development and deep dual-use potential.
- **Job Creation:** The defense sector is highly labor-intensive, generating jobs in engineering, production, and battlefield tech. However, conscription uncertainty has created a volatile talent pool; firms lose staff to drafting and struggle with retention, making workforce planning difficult.
- **GVC Integration:** Ukraine is becoming a co-development and production partner for NATO and EU defense firms. Initiatives like the Danish Model are integrating Ukraine into regional value chains and accelerating cross-border manufacturing.

Potential Shortcomings

Wartime conscription disrupts workforce stability, making it difficult for firms to retain skilled labor. Export restrictions limit standard trade metrics, and the sector's green contributions remain informal and under-regulated. Conflict conditions also create planning and staffing volatility, which can constrain the sector's ability to scale sustainably.

- **Reconstruction & Recovery:** Defense tech is already supporting Ukraine's recovery through drone-enabled demining, infrastructure mapping, and field-deployable energy systems. New investment in manufacturing has helped rebuild Ukraine's industrial base while meeting urgent battlefield needs. These partnerships stimulate job creation, restore metallurgical and machining capacity, and lay the foundation for long-term recovery and NATO-aligned defense integration.
- **Green Economy:** While not green by EU standards, the sector contributes indirectly to environmental goals via dual-use UAVs and mobile energy systems. Although early-stage, these innovations align with future climate resilience and green logistics trends. These spillovers remain emergent but promising.

Initial Scoring Assessment	4.00	3.75	4.00	3.50	2.00
	Productivity & Technology	Job Creation	GVC Integration	Reconstruction & Recovery	Green & Sustainable

Criteria	Data source	Score
Productivity & Technology	***NEW TECH/INNOVATION*** *- Sector R&D intensity (Sector expenditure on R&D as % of Gross Value Added)*	4.5
	PRODUCTIVITY *- Average growth rate of value added per hour worked across all OECD countries over the last 10 years*	4.0
	Qualitative assessment	4.5
Job Creation	***JOBS*** *- Jobs per Unit of Investment on global level (A ratio of estimated jobs created / Estimated USD invested using FDI markets data)*	4.0
	RETURN- *Average accrued wage per hour per full-time employee and sector in Ukraine*	3.4
	RETURN *- Percentage of high skill workers in sector out of total workers in sector*	3.0
	Qualitative assessment	4.0
GVC Integration	***GVCs*** *- Sector demand in EU nearshoring destinations (FDI markets analysis to see which are the main sectors for outward EU FDI in typical near shoring destinations)*	2.0
	GVCs *- Export potential*	3.0
	LOCAL VALUE ADDITION *- Amount of exports of finished product of raw materials for further processing*	5.0
	Qualitative assessment	4.5
Reconstruction & Recovery	***ECONOMIC ACTIVITY*** *- Determine how severely the sector was affected by the war: Percentage contribution of sector to gross value added before the war and after the war*	N/A
	Qualitative assessment	4.0
Green Transition	*Greenhouse gas emissions or carbon intensity by sector*	1.0
	Qualitative assessment	3.0

4 Sector Specific Reforms

MilTech and Defense

- **Clarify and streamline dual-use export and certification regimes:** Introduce transparent licensing timelines and align testing and certification with NATO and EU standards to facilitate integration into allied value chains. Relax general export restrictions as conditions allow.
- **Modernize industrial and testing facilities:** Establish defense investment zones or PPPs to upgrade Soviet-era plants and create internationally certified testing and conformity assessment centers.
- **Develop Defense & Dual-Use Skills Pipelines**: Support an education and training ecosystem covering engineering, IT, design, and vocational skills to strengthen the talent base for defense and dual-use industries.
- **Stabilize critical workforce availability:** Publish clear rules for mobilization exemptions or rotations for defense engineers and technicians, combined with targeted training in systems integration and program management.
- **Expand tailored risk-mitigation instruments:** Work with IFIs to provide political risk insurance, guarantees, and blended finance facilities designed for defense and dual-use investors.
- **Adjust capital mobility rules for defense ventures:** Under martial law, adopt transparent procedures for dividend repatriation and capital flows in joint ventures, while ensuring compliance with security requirements.

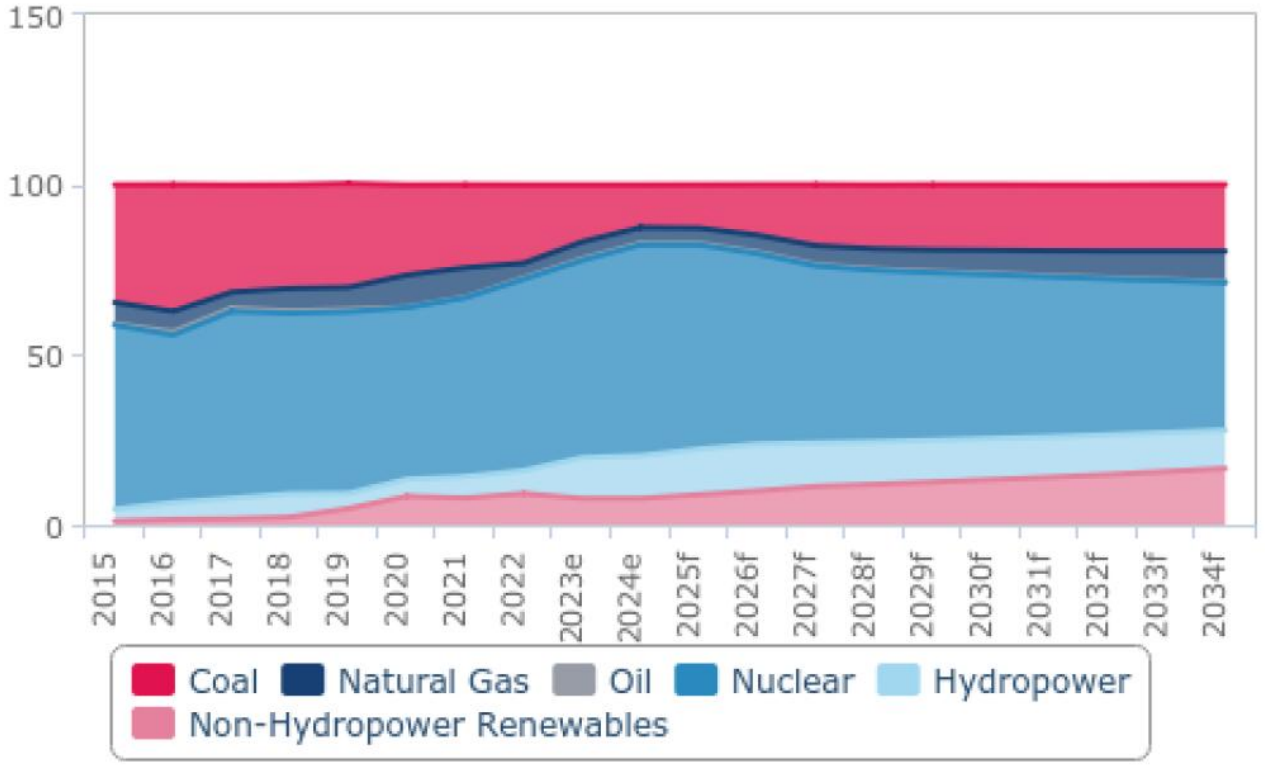
Renewable Energy

4 Sector trends

Renewable Energy

- **Rapid growth in solar and wind capacity as part of Ukraine's energy mix:** Solar capacity is projected to grow at 11.7% annually, reaching 22.5 GW by 2034; wind is expected to expand at 16.3% annually, reaching 5.7 GW driven by national targets and EU integration despite wartime constraints. Biogas and biomethane production could reach 21.8 billion m^3 of CH_4 equivalent per annum*.
- **Donor-backed recovery is accelerating clean energy deployment**: International financial institutions and EU partners have committed over €2 billion for energy infrastructure rehabilitation, prioritizing renewable energy, storage, and grid modernization as pillars of Ukraine's green reconstruction.
- IFC estimates that the **opportunities for private investments** in the energy sector could amount to $100bn, of which the power generation sector could reach $72.1bn by 2033, half of which are in renewables (wind, solar), hydro, and new renewables capacities to support Ukraine's potential of integrating into the EU hydrogen value chain.*

Ukraine -Total Electricity Generation By Type, % share of power mix (2015-2034) (BMI estimates)



BMI. 2025. Ukraine
Power & Renewables Report. Q3 2025.

4 Key Competitiveness Drivers

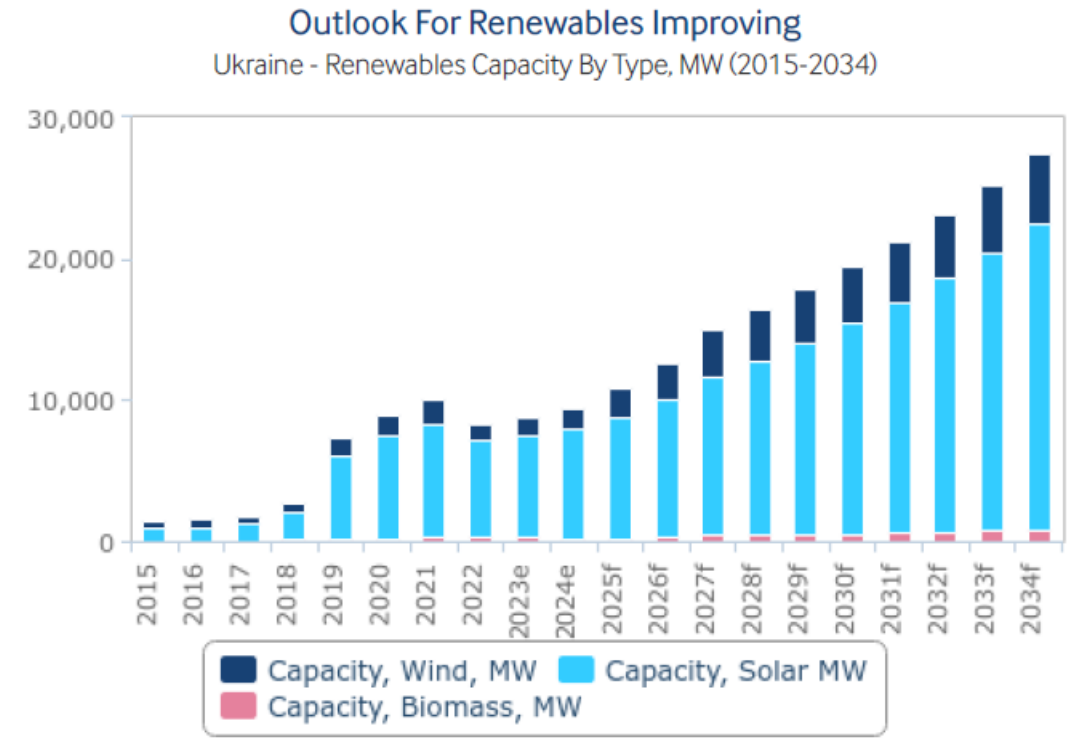
Renewable Energy

Renewable Resource Base	✓ High solar irradiation (1,200-1,400 kWh/m^2/year in central/southern regions). Western regions (Lviv, Ternopil, Khmelnytskyi) also show viable conditions for distributed and rooftop PV. ✓ Strong wind potential in coastal and western regions; long-term offshore wind potential of the Black Sea and Sea of Azov. ✓ Abundant agricultural biomass resources to support bioenergy projects. ✓ Pilot initiatives in biomethane-to-power and hydrogen-ready infrastructure are expanding, driven by donor support and EU cooperation.
Large and Growing Market Demand	✓ Significant replacement demand due to destruction of fossil-based power plants. ✓ Strong domestic demand for new capacity as part of reconstruction and energy security strategy. ✓ Export opportunities to the EU via the synchronized ENTSO-E grid, supported by accelerated EU-aligned reforms (Green Transformation Roadmap, REMIT, RED III) that prepare Ukraine for cross-border Guarantees of Origin.
Competitive Cost and Location Advantages	✓ Low land and labor costs compared to EU peers reduce project costs. ✓ Strategic location at the EU border enables electricity export. ✓ “Low land and labor costs compared to EU peers reduce project costs. ✓ Base of developers and EPC contractors as well as a growing pipeline of reconstruction-linked projects. ✓ IFI and EU financial support available to de-risk investments and crowd in private capital.

4 Potential

Renewable Energy

- **Strong potential – Solar PV and Onshore Wind**
  Fastest-growing segments with large-scale projects and strong donor backing. Solar and wind generation expected to more than double by 2034, supported by decentralization needs and EU-aligned reforms.
- **Potential – Biomethane (Power Generation)**
  Biomethane is emerging as a fast-growing segment, with first EU exports launched in 2025 and estimated annual production of 111 million m³. Strong export orientation and grid connectivity in key regions make it an attractive, though still nascent, FDI target in the gas-to-power interface.
- **Targeted opportunities – Hydropower**
  Limited to rehabilitation of existing plants with donor support. New large-scale development constrained by long timelines and territorial risks.
- **Long-term potential – Offshore Wind**
  No infrastructure or viable market conditions due to war-related constraints and geography, but may be explored over the long term as maritime security and investment conditions improve; pre-feasibility assessments identify competitive potential in the Black Sea and the Sea of Azov.



e/f = BMI estimate/forecast. Source: National sources, BMI

4 Opportunities

Renewable Energy

- **Regional decarbonization and nearshoring trends create strategic opportunities**: ongoing process of integration of Ukraine into the EU internal electricity market and the negotiations on accession to the EU ensure Ukraine's political will to align with the EU decarbonization goals and to integrate into the European clean energy supply chains (EU Clean Industrial Deal, EU Green Deal). This would attract future investment in low-carbon manufacturing and exports.
    - **Integration into the EU's internal electricity market (market coupling)** will open opportunities to trade in electricity (both import and export). As the EU prepares for significant investments into its energy infrastructure to make it future proof Ukraine can become a part of this process that would facilitate integration of renewables into grids and contributing to the pan-European energy security. **EU TEN-E Regulation** enables Ukraine to participate in the project of mutual interests aimed to accelerate critical infrastructure development. This includes the priority corridor HI East that envisages supplies of **hydrogen** from Ukraine to Slovakia, Czechia, Austria and Germany (the commissioning date is December 2029).
    - In 2023 Ukraine and the EU signed a **Memorandum of Understanding on a Strategic Partnership on Biomethane, Hydrogen, and other Synthetic Gases.** This dialogue facilitates Ukraine's engagement into the Union Data Base for biofuels that foresees engagement of integration of non-EU countries thus creating export opportunities for Ukrainian biomethane.

4 Competitiveness Challenges

Renewable Energy

High Perceived Risk and Limited De-Risking Instruments	Active conflict and targeted attacks on energy assets raise perceived risk, especially for projects located in southern and eastern Ukraine. War-risk insurance and guarantee products are limited, with most war-risk coverage concentrated in IFI-backed schemes. This constrains private capital mobilization relative to safer regional peers. The recently announced derisking mechanism by EBRD and the World Bank Group aims to mitigate country risks and address the sector's legacy issues.
Grid Bottlenecks and Transmission Vulnerability	Ukraine's transmission network is aging and highly centralized, with nodes in conflict-prone areas. Curtailment risks are highest for projects in southern regions where renewable resource potential is strongest, but grid capacity is weakest and most exposed to strikes. Western Ukraine offers safer siting but requires investment in new transmission to handle additional load.
Regulatory Uncertainty and Tariff Instability	Retroactive feed-in tariff changes and payment arrears have left a legacy of investor caution. While competitive auctions are being piloted, they are failing due to high country risks and the sector's legacy issues leading to low investor interest, and unclear long-term tariff structures complicate bankability.
Shallow Local Supply Chain and Regional Concentration	Most advanced renewable components (turbines, PV panels, inverters) are imported, with only limited domestic production of mounting systems, transformers, and ancillary equipment. Existing facilities are concentrated in industrial regions that face heightened security risks, increasing project costs and reliance on external suppliers. Opportunities for local manufacturing exist but require targeted support and stable demand to materialize.

4 Feasibility Assessment

Renewable Energy

Key Strengths

Ukraine has key strengths in **market potential and renewable energies**. Vast solar and wind endowments, alignment with EU decarbonization goals, and a strong STEM base position the country well for long-term growth despite near-term challenges.

- **Market Attractiveness:** Global and regional trends are strong; Ukraine offers long-term potential via EU integration and decarbonization, though current domestic demand and FDI remain weak due to war-related disruption, risks and unresolved legacy issues.
- **Competitive Endowments:** Ukraine holds vast solar, wind, biomethane potential and critical minerals for clean tech.
- **Competitive Skills:** Strong STEM base and cost advantages, even though there are war-related labor shortages and outmigration; retraining will help mitigate gaps over time

Potential Weaknesses

Ukraine has shortcomings related to **damaged infrastructure, labor shortages,** and an **uncertain business environment**, with grid constraints, unpaid FiT arrears, and slow auctions undermining investor confidence despite strong long-term potential.

- **Competitive Infrastructure:** Damaged grid infrastructure and limited flexibility remain short-term constraints; recent auctions and EU grid integration offer longer-term potential.
- **Resilience to War Risks:** Distributed renewables enhance wartime resilience; fuel independence and modular design support energy security and system recovery under conflict conditions. Energy system has shown resilience to date.
- .**Business Environment:** Renewable auctions have yet to take off, and investor confidence is affected by unpaid FiT arrears, weak judicial enforcement, and corruption risks. Budget constraints and wartime conditions slow implementation of NECP targets, while Ukrenergo's revised charter raises concerns over political influence.

Scoring Assessment	4	4	2	3	3	2.75
	Market Attractive	Competitive Endowments	Competitive Infrastructure	Competitive Skills	Business Environment	Resilience to War Risks

Criteria	Data source	Score
Market Attractiveness	*Global CAGR*	5.0
	Domestic CAGR	3.0
	Export potential	2.0
	FDI local trends: How the total estimated capital expenditure (capex) in each sector has shifted between 2019-2021 and 2022-2024 in Ukraine	2.0
	FDI global trends: How the total estimated capital expenditure (capex) in each sector has shifted between 2019-2021 and 2022-2025 on a global level	4.0
	Qualitative assessment	4.5
Competitive Endowments	*Qualitative assessment*	4.0
Competitive Infrastructure	*Quality and capacity of roads, railways, ports, and airports used by the sector*	3.0
	Logistics performance indicator	3.0
	Qualitative assessment	1.0
Competitive Skills	*SKILLS - Size of the sector-relevant labor force as percentage of total*	3.0
	Qualitative assessment	3.0
Business Environment	*Corruption perception index*	3.0
	World Governance Indicators (govt effectiveness, regulatory quality, rule of law, control of corruption)	2.0
	Qualitative assessment	3.5
Resilience to War Risks	*Qualitative assessment*	2.75

4 Desirability Assessment

Renewable Energy

Key Opportunities

The renewable energy sector has the potential to drive Ukraine's **recovery** and **green transition** by bringing technologies and productivity gains, enabling **resilient reconstruction with donor support**, and aligning the country with **EU climate and industrial goals**..

- **Productivity & Technology:** Brings advanced technologies and foreign expertise; boosts skills and long-term productivity; supports decentralized innovation despite low R&D intensity and short-term construction inefficiencies.
- **Reconstruction & Recovery:** Addresses urgent reconstruction needs by replacing destroyed capacity with resilient, decentralized systems; attracts donor funding; supports broader economic recovery by enabling low-carbon power for industry and alignment with EU climate standards.
- **Green & Sustainable:** Drives coal phase-out, cuts emissions, and aligns Ukraine with EU Green Deal, EU Clean Industrial Deal, and 2030–2050 climate targets.

Potential Shortcomings

The Renewable Energy sector has **long-term potential** for job creation and value chain integration, but **short-term impacts are limited** by low labor intensity and infrastructure challenges.

- **Job Creation:** While the renewable energy sector has the potential to create tens of thousands of jobs—especially in solar and rural areas—it is less labor-intensive per unit of output than traditional sectors, highlighting a potential shortcoming in its overall employment contribution.
- **GVC Integration:** While the renewable energy sector holds strong medium- to long-term potential for integration into European value chains and boosting local manufacturing, short-term export potential and value addition remain limited due to war-related infrastructure damage and current gaps in upstream equipment and service supply chains.

Scoring Assessment	4	3	3	5	5
	Productivity & Technology	Job Creation	GVC Integration	Reconstruction & Recovery	Green & Sustainable

Criteria	Data source	Score
Productivity & Technology	***NEW TECH/INNOVATION*** *- Sector R&D intensity (Sector expenditure on R&D as % of Gross Value Added)*	NA
	PRODUCTIVITY *- Average growth rate of value added per hour worked across all OECD countries over the last 10 years*	NA
	Qualitative assessment	4.0
Job Creation	***JOBS*** *- Jobs per Unit of Investment on global level (A ratio of estimated jobs created / Estimated USD invested using FDI markets data)*	2.0
	RETURN *- Average accrued wage per hour per full-time employee and sector in Ukraine*	3.5
	RETURN *- Percentage of high skill workers in sector out of total workers in sector*	4.0
	Qualitative assessment	2.8
GVC Integration	***GVCs*** *- Sector demand in EU nearshoring destinations (FDI markets analysis to see which are the main sectors for outward EU FDI in typical near shoring destinations)*	5.0
	GVCs *- Export potential*	2.5
	LOCAL VALUE ADDITION *- Amount of exports of finished product of raw materials for further processing*	NA
	Qualitative assessment	3.0
Reconstruction & Recovery	***ECONOMIC ACTIVITY*** *- Determine how severely the sector was affected by the war: Percentage contribution of sector to gross value added before the war and after the war*	3.0
	Qualitative assessment	5.0
Green Transition	*Greenhouse gas emissions or carbon intensity by sector*	5.0
	Qualitative assessment	5.0

4 Sector Specific Reforms

Renewable Energy

- **Gradually align tariffs with cost recovery while safeguarding vulnerable groups:** Adjust electricity, gas, and heating tariffs to reflect actual production and delivery costs, while protecting low-income households through targeted social support.
- **Resolve FiT arrears to restore investor confidence**: Repay legacy feed-in tariff debts, implement transparent dispute-resolution mechanisms, and accelerate the transition to competitive support schemes.
- **Establish a transparent Contracts-for-Difference (CfD) framework:** Introduce an auction-based mechanism that provides long-term tariff stability, predictable revenue streams, and alignment with EU market design principles.
- **Facilitate corporate and cross-border PPAs (cPPAs):** Enable long-term renewable electricity sales to industry through legislative amendments, standard contracts, and rules supporting ENTSO-E-aligned cross-border trading.
- **Invest in grid modernization and regional balancing:** Upgrade transmission and distribution, expand storage and balancing capacity, and accelerate EU interconnections to enable large-scale renewable integration.
- **EU electricity market integration**: Advance EU market integration by completing alignment with EU energy directives, securing mutual recognition of guarantees of origin, and preparing for full market coupling to unlock long-term export opportunities.
- **Strengthen risk-mitigation tools:** Scale up war-risk insurance, blended finance, other derisking mechanisms and guarantees (through IFIs, EU, DFC, MIGA) to mobilize private investment into both reconstruction-linked and long-term renewable projects.
- **Develop local value chains:** Support renewable equipment manufacturing and leverage critical mineral reserves to integrate into EU clean-tech supply chains.
- **Address labor and skills shortages:** Launch targeted training and retraining programs to rebuild the renewable energy workforce and fill gaps in engineering and installation.
- **Improve governance and business climate:** Safeguard the independence of the National Energy and Utilities Regulatory Commission (NEURC), streamline permitting for construction and environmental approvals, and strengthen anti-corruption and contract enforcement to enhance investor confidence.
- **Ensure gender equality and social inclusion in the green transition**: Adopt measures to increase participation of women and war veterans in renewable energy jobs, decision-making, and technical training.

Transport Infrastructure

4 Ukraine Investment Trends

Transport Infrastructure

Situation before 2022

Prior to the full-scale invasion in 2022, Ukraine's transport infrastructure was moderately developed but suffered from underfunding and regional imbalances. The country possessed an extensive network, comprising **nearly 170,000 km of roads and over 20,000 km of railways, yet much of this infrastructure was outdated, poorly maintained, and not aligned with EU standards**. **Public investment** in infrastructure was relatively low, **often below 2% of GDP**, with insufficient emphasis on asset management, project planning, and integration into European transport corridors. The rail infrastructure operated on a broader gauge than the EU, and although port and road logistics were vital for exports, particularly grain, many assets faced inefficiencies and capacity constraints**. Pre-war reforms aimed at strengthening investment planning, digitalizing systems, and modernizing select corridors with international support were underway, but implementation lagged**.

Situation since 2022

As of 2024, **the situation has significantly deteriorated due to widespread destruction caused by Russia's invasion**. Transport infrastructure has incurred **over $38.5 billion in damage**, making it the second most affected sector after housing. Key transport assets (including **over 26,000 km of roads, more than 340 bridges, and hundreds of kilometers of railway**) have been **damaged or destroyed**, severely disrupting internal mobility and trade logistics. Seaports remain blocked or partially operational, air traffic is suspended, and freight flows have been redirected westward, straining border infrastructure. Despite these setbacks, **transport has become a reconstruction priority, with an estimated €74 billion needed** to restore and modernize the sector. Reconstruction efforts aim not only to rebuild but also to reorient the system toward EU integration, climate resilience, and digital connectivity.

4 Key Competitiveness Drivers

Transport Infrastructure

Massive Reconstruction Demand and Public Funding Backing	✓ Massive war-related destruction created $74 billion in transport sector losses generating urgent demand for reconstruction. This guarantees a sustained pipeline of projects in roads, rail, bridges, and border crossings, backed by public sector and donor supported programs (World Bank, EU, EBRD).
Strategic Location and EU Integration	✓ Integration with EU transport networks (TEN-T) enhances attractiveness for investors and trade partners. Ukraine's location as a logistics hub for EU and global grain exports drives investment in roads, rail, and port corridors.
Modernized PPP and Concession Framework	✓ The government has overhauled concessions and PPPs for transport system reconstruction, adhering to EU guidelines and focusing on improved governance to attract private investments. This forms a potentially solid basis for more private sector participation in infrastructure investment.

4 Competitiveness Challenges

Transport Infrastructure

Heavy Reliance on Public Spending	Over 70% of infrastructure investment globally is public, and in Ukraine private participation is even lower. Roads and railways struggle to generate predictable user revenues, making them less attractive to private investors compared to airports and ports.
High Perceived Risk and Limited Investor Protections	Wartime damage to roads, rail, and bridges, plus heightened security risks along eastern and southern corridors, deter private FDI. War-risk insurance and guarantee schemes remain limited, leaving projects heavily reliant on donor financing.
Regulatory and Implementation Gaps in PPPs	Despite the new PPP legislation, Ukraine has limited track record in executing large concessions. Complex permitting, land acquisition, and capacity constraints slow project preparation and raise transaction costs for investors.
Governance and Corruption Risks	Historic weaknesses in procurement and asset management undermine investor confidence. Ongoing reforms are improving oversight, but international investors remain cautious without strong institutional enforcement.

4 Feasibility Assessment

Transport Infrastructure

Key Strengths

Ukraine has a highly attractive post-war reconstruction market, that is supported by many donors and ensures a sufficient level of funding for fast and sustained reconstruction projects.

- **Market Attractiveness:** Ukraine's transport infrastructure needs $74 billion for recovery, highlighting a long-term development requirement and opportunity.
- **Skills & Support Services :** The sector faces skill shortages due to war disruptions. The government is reforming vocational education to meet EU standards and retraining women for various roles.
- **Competitive Endowments:** There are no specific natural endowments, but a cluster of sectors directly supporting reconstruction like construction materials, or heavy machinery are a strong basis for transport Infrastructure rebuilding.

Potential Weaknesses

Ukraine faces challenges related to **the legal framework (PPP, Concessions, etc.),** which is key to unlocking private investment into transport infrastructure. Potential labor shortages might limit the immediately available supply of workforce.

- **Business Environment:** The government has overhauled concessions and public-private partnerships (PPPs) for transport system reconstruction, adhering to EU guidelines and focusing on improved governance to attract private investments. This forms a potentially solid basis for more private sector participation in infrastructure investment.
- **War Risk Resilience:** Ukraine's transport infrastructure has suffered over €30 billion in damages. Ongoing efforts to rebuild and address security challenges underscore the need for resilient infrastructure. While in the eastern parts, reconstruction is very difficult, the maintenance of basic infrastructure in the western parts of the country remains solid.

Criteria	Data source	Score
Market Attractiveness	*Global CAGR*	3,0
	Domestic CAGR	4,0
	Export potential	3,0
	FDI local trends: How the total estimated capital expenditure (capex) in each sector has shifted between 2019-2021 and 2022-2024 in Ukraine	5,0
	FDI global trends: How the total estimated capital expenditure (capex) in each sector has shifted between 2019-2021 and 2022-2025 on a global level	4,0
	Qualitative assessment	5,0
Competitive Endowments	*Qualitative assessment*	4,0
Competitive Infrastructure	*Quality and capacity of roads, railways, ports, and airports used by the sector*	3,0
	Logistics performance indicator	3,5
	Qualitative assessment	3,0
Competitive Skills	*SKILLS - Size of the sector-relevant labor force as percentage of total*	3,0
	Qualitative assessment	4,0
Business Environment	*Corruption perception index*	2,0
	World Governance Indicators (govt effectiveness, regulatory quality, rule of law, control of corruption)	3,0
	Qualitative assessment	4,0
Resilience to War Risks	*Qualitative assessment*	3,5

Initial Scoring Assessment	4,5	4	3	4	3,3	3,5
	Market Attractiveness	Competitive Endowments	Competitive Infrastructure	Competitive Skills	Business Environment	Resilience to War Risks

4 Desirability Assessment

Transport Infrastructure

Key Opportunities

Transport infrastructure is one of the most fundamental factors for economic development and reconstruction and an important network sector to unlock additional FDI opportunities.

- **Productivity & Technology:** New investments in transport infrastructure will boost Ukraine's productivity by easing logistical challenges and enhancing connectivity, fostering innovation aligned with EU norms.
- **Job Creation:** These projects will create substantial employment, both directly in construction and indirectly in related sectors, helping economic stabilization and potentially encouraging the return of displaced Ukrainians.
- **GVC Integration:** Improved infrastructure will cut transit times, increase reliability, and reduce business costs, enhancing the competitiveness of Ukrainian producers and supporting regional supply chains.

Potential Shortcomings

The key for unlocking this sector is less with proactive promotion and facilitation services, but more in a transparent and modern PPP framework.

- **Reconstruction & Recovery:** Reconstructing the heavily damaged transport sector is critical, with $38.5 billion in damages, to reconnect supply chains and support broader economic revitalization.
- **Green Economy:** The transport sector is vital for Ukraine's green transition, promoting cleaner transport modes and reducing emissions, supported by green procurement and international climate financing.

Criteria	Data source	Score
Productivity & Technology	***NEW TECH/INNOVATION*** *- Sector R&D intensity (Sector expenditure on R&D as % of Gross Value Added)*	1,0
	PRODUCTIVITY *- Average growth rate of value added per hour worked across all OECD countries over the last 10 years*	1,0
	Qualitative assessment	3,0
Job Creation	***JOBS*** *- Jobs per Unit of Investment on global level (A ratio of estimated jobs created / Estimated USD invested using FDI markets data)*	3,0
	RETURN- *Average accrued wage per hour per full-time employee and sector in Ukraine*	3,0
	RETURN *- Percentage of high skill workers in sector out of total workers in sector*	3,0
	Qualitative assessment	5,0
GVC Integration	***GVCs*** *- Sector demand in EU nearshoring destinations (FDI markets analysis to see which are the main sectors for outward EU FDI in typical near shoring destinations)*	2,0
	GVCs *- Export potential*	3,0
	LOCAL VALUE ADDITION *- Amount of exports of finished product of raw materials for further processing*	1,0
	Qualitative assessment	2,0
Reconstruction & Recovery	***ECONOMIC ACTIVITY*** *- Determine how severely the sector was affected by the war: Percentage contribution of sector to gross value added before the war and after the war*	4,0
	Qualitative assessment	5,0
Green Transition	*Greenhouse gas emissions or carbon intensity by sector*	2,5
	Qualitative assessment	4,0

Initial Scoring Assessment	3	4	2	4,5	3,3
	Productivity & Technology	Job Creation	GVC Integration	Reconstruction & Recovery	Green & Sustainable

4 Sector Specific Reforms

Transport Infrastructure

- **EU-Aligned Market Opening and Regulation.** Advance alignment with EU acquis by adopting and implementing railway and aviation legislation, establishing independent safety and market regulators, and opening rail, aviation, and port markets to competition under transparent, non-discriminatory access rules.
- **Reform Transport SOEs to Restore Financial Sustainability and Investability.** Strengthen governance of state-owned transport enterprises by separating commercial and public service obligations (PSO), reforming tariff and compensation systems for rail transport, and corporatizing airports, air navigation services, and ports to improve accountability, efficiency, and investor confidence.
- **Mobilize Private Investment through PPPs and Concessions.** Operationalize the new PPP and concession framework through transparent tendering, standardized contracts, and effective risk-sharing mechanisms, enabling private participation in rail-related assets, airports, ports, and logistics infrastructure.
- **Restore and Strengthen Strategic Connectivity and Trade Corridors.** Protect and rehabilitate critical transport infrastructure to maintain passenger and freight services, restore air connectivity post-war, and strengthen resilient corridors—including Danube logistics chains—to support trade, export competitiveness, and economic recovery.
- **Embed Resilience and Sustainability Standards in Infrastructure.** Integrate climate resilience and green design standards into transport planning and investment to align with EU and international financing requirements, reduce lifecycle risks, and unlock concessional and climate finance