Economic implications of the war on Ukraine`s regional dynamics: A sectoral view

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2. Review of the macroeconomic situation
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1. Introduction

**Background:**

- Russia`s invasion of Ukraine has caused immense humanitarian and social suffering, as well as significant economic damages
- Its impact is visible both on the national, regional as well as sectoral levels
- However, the sectoral development differs across different regions (oblasts) of Ukraine
- This distinction is important, and must be taken into account when the reconstruction process is programmed

**Purpose of this Policy Briefing:**

- Short review of the current macroeconomic situation
- Analysis of the key sectoral developments in Ukraine`s oblasts
- Providing recommendations for the reconstruction process
2. Review of the macroeconomic situation (1/3)

- Ukraine had experienced an average of 3.1% real growth since 2017, except for 2020 (COVID) and had almost doubled nominal GDP (USD) during that time.
- Ukraine`s economy was consumption driven (75% of 2021 GDP), while investment was rather low.
- The share of industry had gradually declined (ca. 4pp since 2017), facing challenges of old technologies.
- Agricultural sector played an increasing role before the war.
- Also, ICT and financial services had increased their economic contribution.

➢ Before the war, declining share of industry, while stronger sectoral contributions of agriculture and financial/ICT sectors.

Supply side of the economy


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2. Review of the macroeconomic situation (2/3)

- Russia`s invasion has a dramatic impact on the economy
  - Occupied territories where active hostilities take place
  - Households were displaced or lost their incomes
  - Exports decline due to blocked / destroyed infrastructure
- Consumption decline caused by the war is forecast to explain 2/3 of GDP fall in 2022

➢ Forecasts currently range between ca. 30% - 45% GDP decline
➢ But: uncertainty is very high; outcome depends on the further duration and intensity of the war

Sources: respective institution, own forecast
Currently, ca. 20% of Ukraine`s territory are occupied (incl. Crimea and territories occupied before 24-Feb in Donetsk and Luhansk Oblast)

Infrastructure damage is currently estimated at **USD 104 bn** (KSE, as of 8 June)
- 40% are public logistic infrastructure
- 38% are residential buildings
- 11% are industrial objects
- 11% others

Besides the destruction, Russia blocks seaports which account for >60% of exports (in value)

Appr. **6.5 m people left Ukraine** and ca. **8 m people are internally displaced (IDPs)**

IDPs are from Kyiv region (37% City + Oblast), Kharkiv (21%), Donetsk/Luhansk (20%)

Dnipro, Kyiv Oblast and Lviv are most important target regions for IDPs (May, Ministry of Reg. Dev.)
3. Regional economic trends: GDP

- The lion’s share of the GDP is concentrated in the Kyiv region (29% of 2019 GDP in City and Oblast)
- Between 2017 and 2019 the economy has grown by 3% p.a. in real terms
- The most dynamic regions included the West of the country and the Kyiv region, while the East is diverging
- Luhansk and Donetsk experienced even negative growth rates before the war

➢ While economic substance was concentrated in the Kyiv region, the Western part had grown steadily before the invasion

Source: Ukrcstat, own display, GDP share (2019), excludes temp. occupied territory of Crimea, Sevastopol and of the Donetsk and Luhansk region
3. Regional economic trends: Employment

- Employment is concentrated in regions with largest cities: Dnipro, Kyiv, Kharkiv, Lviv and Odesa.
- The mentioned regions also displayed the lowest unemployment rates between 6.1% and 8.8% while average in other regions 12% and country average 10% in Sep-21.
- Donetsk and Luhansk are clear outlier driven by missing data collection and migration.

➢ Employment will be negatively affected by the war and by internal and external migration.

Source: Ukrstat as of Sep-21, excludes temporarily occupied territory of Crimea, Sevastopol and of the Donetsk and Luhansk region.
3. Regional economic trends: Wages

- In Ukraine, average annual wage ca. USD 4,800 in 2020
- Wages in Kyiv City and Oblast are 30% resp. 10% above average
- Metallurgy and mining industry regions of Dnipro and Donetsk also experience above-average wages
- High correlation (0.77) between wages and share of large companies in the regional economy

➢ Above-average wages in regions where large companies account for more than 50% of wages
➢ Steep recession will put pressure on wages
3. Regional economic trends: FDI

- FDI stock of USD 62 bn is mainly concentrated in Kyiv City
- Industry-related FDI drives share in Dnipro (70% of FDI in industry) and Donetsk (80%)
- Dnipro and Poltava have benefited from recent FDI inflows

- FDI inflows will be important for reconstruction phase, but security situation will be a challenge
- Political risk insurance will gain in importance
Ukraine`s industrial sector:

- Industry, particularly mining and metallurgy, contributed 14.5% to national GVA in 2021, 3.5pp less than 2017
- Still, minerals and metallurgy account for 36% of goods exports

Regional distribution:

- Main hubs are in Dnipro and Donetsk with >29% of production
- Mining is important in the Eastern oblasts where >80% of employment was concentrated in a few towns in the Luhansk, Donetsk and Dnipropetrovsk oblast in 2019

➢ Sector requires focus on green transformation as part of reconstruction
➢ Export focus will support this path

Source: Ukrrstat, 2021, excludes temporarily occupied territory of Crimea, Sevastopol and of the Donetsk and Luhansk region

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Currently, damaged industrial assets are estimated at USD 11.5 bn; while the main industrial objects affected are located in the Eastern regions

Heavy damage and occupation of base metal infrastructure in Mariupol (24% of goods exports in 2021) impede future export development

Need for reconstruction and sectoral export reorientation
4. 2. Regional sectoral indicators: Energy (1/2)

Regional distribution fossil fuel production locations

- Recent ENTSO-E emergency **integration** of Ukrainian and European systems despite invasion, reduced electricity demand in Ukraine provides space for export within ENTSO-E
- **Gas production** is less affected, but close to areas where hostilities take place
- Ukraine will have to **reconsider development** of energy sector given large consumers, fossil fuel producers and infrastructure is damaged or destroyed as well as to diversify energy supply away from RUS/BLR

➢ **RES** is a solution to replace coal-fired TPPs, including green hydrogen production/transportation

*Source: own analysis*
RES capacities in Ukraine as of 2021

• Ukraine has vast potential for wind and solar energy as part of Southern Eastern Europe (SEE) region
• As of Dec-21, Ukraine had **8.4 GW** (excluding small RES and large hydro) of RES installed **capacity (14% of total)** and electricity production in 2021 amounted to **8% of total** production
• Significant part of installed capacity (35%, 2.9 GW) is located in the southern regions, which are now occupied or affected by ongoing hostilities

➢ Green transformation will become an essential pillar of the reconstruction process

Sources: NEURC data on installed RES capacity as of 31.12.2021, own illustration, IRENA research 2017

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4. 3. Regional sectoral indicators: Agriculture

Ukraine`s agri-food sector
- Sector`s share is 10% in national GVA
- Sector accounted for 25% of goods exports to the EU and 35% (18% cereals) to the world driven by record grain harvest of 81 mt in 2021
- Now, blocked/destroyed seaports impede exports and war limits new harvest: current forecast ca. 50 m t (-40% yoy, Ministry, 2022)
  - Corn: -43%, wheat: -40%, sunflower seed: -40%
  - Production declines mainly located in the Eastern regions

Regional development
- Main agriculture production in the central and southern parts of the country
- Production is dominated by large enterprises
- Destroyed planted area, export infrastructure require regional focus for reconstruction

➢ Export strength reveals international comparative advantage
4. 4. Regional sectoral indicators: Transport

- Ukraine has an extensive transport infrastructure, including railroads, roads, airports, seaports, riverports
- Sea transport infrastructure is developed through the Dnipro river as well as on the South coasts of Donetsk oblast (Mariupol, Berdyansk) and Odesa oblast
- Seaports are export-oriented accounted for >60% exports and imports, in value, esp. agriculture and metals

➢ Main transport infrastructure is damaged / blocked by Russia
➢ Reconstruction effort to be focused on high-standard transport to account for its export importance
➢ Diversification of transport ways and adjustment to EU-standards (e.g. to rail) important as part of reconstruction

Source: National transport institute Kyiv
4. 5. Regional sectoral indicators: ICT-sector

Ukraine`s ICT-sector

- ICT accounts for 5% (3% IT) of GVA; strong growth over past few years
- Paying above-average wages, IT sector has matured from simpler outsourcing to complex products
- Positive trade balance: sector contributes 5% to total exports and is second important service export sector

Regional ICT employment and cluster

- Highest employment share in Kyiv City/Oblast with 9% and more than 110k employed
- Followed by Lviv and Kharkiv with ~2% ICT-share of employment and strong clusters
  - Sector has been growing driven by strong clusters in Lviv, Kharkiv and Kyiv
  - COVID has accelerated positive dynamics
  - Sector has been supporting government and financial services also during the war
4. 6. Regional sectoral indicators: Domestic trade

Regional share of retail and wholesale trade turnover

Source: Ukrstat, 2021, excludes temporarily occupied territory of Crimea, Sevastopol and of the Donetsk and Luhansk region

- Domestic trade sector accounts for 13% of Ukraine`s GVA with wholesale and retail trade concentrated in Kyiv region with a share of >50% of turnover
- Eastern regions and oblasts without large cities play only a marginal role

➢ Domestic trade is concentrated in Kyiv city which is another sign of centralisation of economic activities in the capital
4. 7. Regional sectoral indicators: Real estate

Real estate development (2020)

New construction in the region

- In 2020, regions with the largest **housing stocks** were Kyiv oblast, Dnipro oblast, Kharkiv oblast, Lviv oblast and Kyiv city
- Ukrainian **average housing stock growth** was 0.4% yoy
- The largest **construction growth** was in Kyiv city and Kyiv region (+1% yoy, respectively)

➢ Urban centres have significant experience with housing construction
➢ Reconstruction of regional housing has to start as soon as possible to ensure housing during winter season

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**Source:** Ukrstat, excludes temporarily occupied territory of Crimea, Sevastopol and of the Donetsk and Luhansk region

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4. 8. Regional sectoral indicators: Financial activities

Operating banking units by regions

Source: NBU, Nov-2021, excludes temporarily occupied territory of Crimea, Sevastopol and of the Donetsk and Luhansk region

- High concentration of financial activities in Kyiv City, Dnipro, Kharkiv, Odesa, Poltava and Zaporizhzhia, also FDI is mainly concentrated in Kyiv City (USD 4.6 bn)

- Population in regions without large cities faces lower density of financial activities and thus less access

- During war, sector showed its resilience, caused by wise reaction by the NBU, its advanced digitalisation and important past reforms → no bank-runs have occurred

➢ Sector maintains stability and keeps supporting operation of companies
➢ Concentration of services rather in large cities
5. Preliminary thoughts on reconstruction: Sequencing

### List of ongoing emergency projects

<table>
<thead>
<tr>
<th>Agency</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>EU / Stand up for Ukraine</td>
<td>Global fundraising campaign (total sum is ca. EUR 9 bn, EUR 1 bn is pledged by EC). Aim: needs of internally displaced people in Ukraine</td>
</tr>
<tr>
<td>UN</td>
<td>Targeted financial support to IDPs in Ukraine (UAH 2200 per person or UAH 6600 per family)</td>
</tr>
<tr>
<td>US</td>
<td>US agreed to allocate USD 8 bn to Ukraine for military assistance and humanitarian aid.</td>
</tr>
<tr>
<td>GIZ</td>
<td>EU4Business - support to SMEs in the military time. Urgent support to Ukrainian hromadas: generators, water tanks, tents. TA – consultancy on repairment, urgent reconstruction, etc</td>
</tr>
<tr>
<td>USAID</td>
<td>Disaster Assistance Response (energy security, countering disinformation, cybersecurity support)</td>
</tr>
<tr>
<td>KfW</td>
<td>EUR 150 m loan to support “5-7-9” programme</td>
</tr>
<tr>
<td>Certain counties</td>
<td>40+ countries are providing humanitarian support like clothes, food, medicine, special vehicles, fuel and other necessary goods</td>
</tr>
</tbody>
</table>

Sources: respective institution, *list of initiatives could be inexhaustible

### Current key priorities

- Humanitarian/emergency support
- Emergency repairs of critical infrastructure

### Reconstruction stages:

- Reconstruction is a long process which needs preparation already at current stage 0 as the war still continues
- It requires domestic and international coordination, framework, programming, institutional capacity building
- Ultimately, Ukraine requires preparation to follow the long-term path to EU membership and green economic transformation

Source: Becker et al. 2022, A Blueprint for the reconstruction of Ukraine, own illustration

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5. Preliminary thoughts on reconstruction: National level

Current macro-financial / fiscal support
- UA currently runs a budget deficit of ca. USD 5 bn per month (!), which needs to be covered externally.
- Grants are preferred, as loans give rise to debt sustainability concerns.
- Macro-financial support of USD 6.7 bn was already disbursed to cover budget deficit, and more pledged.

Reconstruction plans
- EU leaders agree to set up a reconstruction fund and smaller donor funded initiatives exist for SMEs, and different sectors.
- Ukrainian authorities also design recovery plans and manage small-size crowd-funded funds.

List of initiatives for UA reconstruction

<table>
<thead>
<tr>
<th>Party</th>
<th>Description of activities</th>
</tr>
</thead>
<tbody>
<tr>
<td>EU/RebuildUkraine</td>
<td>• EU is working on the reconstruction platform to recover after the war, approved the Reconstruction plan.</td>
</tr>
<tr>
<td></td>
<td>• The programme to be jointly managed by UA and EU</td>
</tr>
<tr>
<td>UA government</td>
<td>• Prime minister said UA after-war reconstruction plan to be presented on July, 4-5th.</td>
</tr>
<tr>
<td></td>
<td>• National council recovery was established in April</td>
</tr>
<tr>
<td>G7</td>
<td>The G7 is preparing a USD 15 bn package of economic support to Ukraine to cover Ukraine’s budget deficit</td>
</tr>
<tr>
<td>World Bank</td>
<td>• WB is providing more than USD 4 bn for support package. World Bank also developed roadmap for Ukraine support.</td>
</tr>
<tr>
<td></td>
<td>• It consists short, medium and long-term support actions.</td>
</tr>
<tr>
<td>IFC</td>
<td>Ukraine’s PM proposed IFC to establish financing platform based on IFC to finance reconstruction of Ukrainian housing stock, social and transport infrastructure</td>
</tr>
<tr>
<td>EBRD</td>
<td>EBRD envisages a reconstruction program that is going to start when the situation becomes more stable.</td>
</tr>
</tbody>
</table>

Sources: respective institution, *list of initiatives could be inexhaustible,
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5. Preliminary thoughts on reconstruction: Regional level

- Regional projects are more **complex**
- **Grants** are a faster way to support regional authorities.
- It is a **more targeted** instrument to address urgent needs (housing, IDPs, reconstruction of critical infrastructure) but they require clear supervision.
- Currently several programme exist (for example, Lviv received modular houses for IDPs; USAID and GIZ procure equipment for municipalities and utilities)
- **Investment projects** (PPPs) are a better option for the **next stages** of the reconstruction process

Source: *ntu.edu.ua*

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6. Summary and conclusion

General situation:

- The current economic situation is very challenging, as:
  - GDP will decline by around 30% this year,
  - Infrastructure damage of USD 104 bn caused by the war, and counting,
  - ca. 20% of Ukraine`s territory is occupied,
  - More than 14 m Ukrainians are internally or externally displaced.

Regional view:

- Economic substance is concentrated in the Kyiv region, but the Western part had grown steadily before the invasion
- The war and the damages affect the industrial sector, which is dominated by production and employment in the East
- The agricultural sector is concentrated in the Central and Southern regions, but is currently affected by blocked / destroyed important transport infrastructure (e.g. seaports)
- The ICT sector is very mobile and highly adaptable with clusters in Kyiv, Kharkiv and Lviv

Recovery and Reconstruction:

- Beyond humanitarian emergency aid, Ukraine currently needs massive fiscal support by international partners and IFIs; grants are preferred over loans
- Reconstruction can start in full only once a ceasefire is in place; EU accession perspective and green recovery aspects should guide the discussion (incl. institutional aspects); “Build Back Better”
## 6. Summary and conclusion

<table>
<thead>
<tr>
<th>Sector</th>
<th>Top-5 regions</th>
<th>Sectors affected by war</th>
<th>Reconstruction focus</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transport</td>
<td>*Donetsk, Odesa, Kherson, Kyiv, Dnipro</td>
<td>Seaports occupied in Donetsk and Kherson / blocked in Odesa</td>
<td>Reconstruction of transport infrastructure, reorientation to rail infrastructure</td>
</tr>
</tbody>
</table>

Source: own illustration, *no ordering possible
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About the German Economic Team

Financed by the Federal Ministry for Economic Affairs and Climate Action, the German Economic Team (GET) advises the governments of Ukraine, Belarus*, Moldova, Kosovo, Armenia, Georgia and Uzbekistan on economic policy matters. Berlin Economics has been commissioned with the implementation of the consultancy.

*Advisory activities in Belarus are currently suspended.

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