

# The Economics of Winning Hearts and Minds

Programming Recovery  
in Eastern Ukraine

Overview



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# Key Messages

- 1. Since 2014, the armed conflict in Ukraine’s eastern provinces (oblasts) of Donetsk and Luhansk has dealt a heavy blow to people’s lives.** As of 2020, more than 13,000 people had been killed, about 1.4 million Ukrainians were registered as internally displaced persons, and about 38 percent of Donbas—the combined territories of Donetsk and Luhansk Oblasts—remained outside government control, separated from the rest of Ukraine by a 457 kilometer line of contact.
- 2. The conflict has magnified the long-standing problems and created new ones.** Donbas was already suffering from a diminishing legacy growth model and rapid aging in industry, infrastructure, and demography before the conflict. Between 2004 and 2013, Donetsk and Luhansk Oblasts lost 7.1 percent and 8.3 percent of their populations, respectively, as a result of out-migration and demographic aging, and their shares of Ukraine’s gross domestic product (GDP) decreased by 2.2 and 0.7 percentage points, respectively. The conflict accelerated infrastructure depreciation by damaging strategic assets (the destruction channel) and deepened demographic aging by displacing many people, especially the young and economically active (the displacement channel). It also created many transactional frictions in a previously integrated region (the disorganization channel), including conflict-driven risks and uncertainty. Together, these three channels (the “3 Ds”) have further crippled economic prospects in Donbas.
- 3. This study shows that scaling up efforts in the government-controlled areas (GCAs) of Donbas is desirable despite the subdued productivity in the region.** This is because the productivity gaps between Ukrainian regions are small relative to interregional mobility costs; thus, labor is not sufficiently reallocated toward higher-productivity areas. However, the optimal scale and composition of such efforts—such as through investments, transfers, or mobility policies—need to be calibrated carefully. Simulations in this report show that the best policy instrument for the job varies by conflict scenario (status quo versus reintegration) and that there are trade-offs between policy objectives (for example, GDP in Donbas versus GDP in Ukraine).
- 4. Policies in Donbas should be coordinated around a unified development path.** Given the structural and conflict-driven challenges, the region needs a comprehensive and integrated strategy (a complete and contingent plan) with the following characteristics:
  - **Balanced (no silver bullet):** The strategy should explicitly weigh trade-offs between different policies. For instance, transfers are effective for boosting GDP in the GCAs but not in Ukraine overall. Thus, a “silver bullet” approach (for example, only infrastructure investments or special economic zones) will not work. A broad policy approach that balances such trade-offs is needed.

- **Nuanced (one size does not fit all):** Policies need to be recalibrated between the conflict (status quo) and peace (reintegration) scenarios. For instance, lowering mobility costs is highly effective in boosting Ukrainian GDP under the status quo, but its effect weakens under reintegration.
  - **Transformative (distortions do not fix distortions):** The region's structural problems were sustained by long-standing, policy-driven distortions. Thus, fixing market fundamentals should be a priority. Without a better business climate, rule of law, and anticorruption efforts, selective incentive schemes for attracting investors are likely to be exhausted by rent-seeking actors.
5. **This study recommends a decision tree approach to programming recovery in Donbas.** Given the looming uncertainties and scenario-sensitivity of optimal policies, the recovery strategy should distinguish “contingent policies” from “no-regret policies.” Contingent policies change between the status quo and the reintegration scenarios, and they include interventions to mitigate conflict-related risks, risk-related transfers to address skill-shortages in GCAs, and investments for a contingent infrastructure strategy. By comparison, no-regret policies are desirable regardless of the conflict dynamics. They include the reforms to eliminate regulatory burdens and corruption; policies to open up the housing market; investments to modernize education for jobs and target low-hanging fruits in infrastructure; and efforts to produce better data to address knowledge gaps.

# Overview





Since 2014, the armed conflict in Ukraine's eastern provinces (oblasts) of Donetsk and Luhansk has dealt a heavy blow to people's lives. By United Nations (UN) estimates, about 13,000 people had been killed, a quarter of them civilians, and about 30,000 had been injured in the conflict as of 2020.<sup>1</sup> The Ministry of Social Policy of Ukraine put the number of registered internally displaced persons (IDPs) at 1,420,523 in July 2020. The conflict has also torn the region's economic and social fabric in complex ways. Some of these effects (like physical destruction) are measurable. Others, including diminished social trust in key institutions, are hard to quantify despite being equally important, if not more so.

As of 2020, about 38 percent of Donbas—the combined territories of Donetsk and Luhansk Oblasts—remained outside government control (“non-government controlled areas,” or NGCAs) and are bounded by a 457 kilometer line of contact (“contact line”) with the “government-controlled areas” (GCAs). This division of previously integrated areas has introduced additional obstacles to economic activity by cutting off connectivity, public service delivery systems, and supply chains. Although recent negotiations have resulted in a significant decrease in hostilities and the partial disengagement of forces, a lasting settlement remains elusive.

In response, the Ukrainian government created the Ministry of Temporarily Occupied Territories and IDPs (MTOT) in 2016, which was renamed as the “Ministry for Reintegration of the Temporary Occupied Territories of Ukraine” in 2020. The ministry embodies the public authority to shape and implement policies on recovery and peacebuilding in conflict-affected areas and on reintegration of the NGCAs. Recently, MTOT embarked on producing a Strategy for the Economic Development of Donetsk and Luhansk Oblasts, with the approval of the concept note by the Cabinet of Ministers on December 23, 2020. The strategy is firmly grounded in President Volodymyr Zelenskyy's “winning hearts and minds” approach, and it aims to implement large-scale economic initiatives and investments “to ensure the sustainability of local communities, to create new jobs, and to fill local budgets” (Reznikov 2021). The final document, with associated bills, is expected to be prepared by summer 2021.

This World Bank study aims to analyze the economic underpinnings of future recovery in eastern Ukraine. The strength of the analysis lies in its technical approach to comparing how effectively various policy measures can fulfill different policy objectives under different conditions. This comparison can help policy makers to prioritize alternative policies and thus transform a long list of potential policy actions into a structured strategy. That is, it can help policies to have the most impact within a given resource envelope by balancing the trade-offs associated with different actions.

To this end, the report first reviews the economic and social trends in Donbas before 2014. This discussion makes clear the limitations of traditional economic dynamics that will persist even after the conflict. Next, the report studies the mechanisms through which the conflict has changed these dynamics, focusing on three main channels—destruction, displacement, and disorganization—to trace changes in economic activity, labor markets and demography, and access to public services.

Finally, to evaluate future policy options, the report employs a model-based approach. In this framework, three categories of policy actions (investments, transfers, and mobility cost reduction) are compared for outcomes regarding three different objectives: boosting gross domestic product (GDP) in the GCAs, boosting GDP in Ukraine, and boosting “inequality-adjusted average personal incomes” in Ukraine. This comparison helps to identify trade-offs associated with each policy intervention quantitatively. Given the sensitivity of economic and social outcomes to conflict dynamics, and the uncertainty surrounding the future trajectories of those dynamics, the report performs such comparisons under three conflict scenarios: status quo, intermediate, and reintegration.

The remainder of this overview presents some key results from the analysis in a nontechnical fashion. For more detailed descriptions of the methodologies behind the findings, refer to relevant sections in the main body of the report.

## Before the Conflict: A Legacy Economic Model on Life Support

The economic problems of the Donbas region did not begin with the conflict. They have deep roots in how the economy operated long before the onset of the current conflict. Such operating principles should be considered carefully because they may continue to constrain the region’s future development in the absence of mitigating policies.

Modern development of the Donbas region began in the late 19th century and continued under Soviet industrialization of the 1930s, during Nazi occupation in World War II, and throughout the postwar reconstruction years. In 1913, Donbas was producing 74 percent of the pig iron and 87 percent of the total coal output in the Russian Empire (Kohut, Nebesio, and Yurkevich 2005). The region would continue to be the largest producer of coal in the Soviet Union until the 1960s, which also gave rise to ancillary industries. Heavy engineering facilities emerged in Luhansk, Kramatorsk, and other industrial centers. Chemical industries for coking byproducts and rock salt were established in Artemivsk and Sloviansk.

Over a few decades, Donbas became the most heavily settled region of Ukraine, housing a fifth of the nation’s urban settlements. It attracted people from elsewhere in Ukraine and from other parts of the Soviet Union, including the current Russian Federation. Through large exports in energy-intensive heavy industry (largely metallurgy), the region continued to play a major role in Ukraine’s economic output, employment, and exports after the country’s independence in 1991.

After independence, there was little investment and modernization in the region’s industrial base and infrastructure. Yet the legacy model still worked relatively well in the 2000s, thanks to favorable external conditions and policy-driven domestic distortions favoring the traditional industries (table O.1).

**Table O.1** Factors Driving the Uptrend and Decline of the Legacy Economic Model in Ukraine, before and after 2009

| Factor                | Uptrend around 2003–08  | Downtrend since 2009  |
|-----------------------|---|---|
| External demand       | <i>Growth spells in trade partners (annual average GDP growth, in order of country's trade share):</i><br>Russian Federation, 7 percent; China, 10.5 percent; ASEAN, 5 percent; Turkey, 6 percent | <i>Slowdown and import substitution:</i><br>Cooling economies; installation of modern steel technologies in main export markets               |
| Commodity prices      | <i>Price boom:</i><br>Oil prices increase fourfold; iron ore, fivefold; steel, threefold  | <i>Price bust:</i><br>Prices collapse after Global Financial Crisis (2008–09) without subsequent full recovery                                |
| Input (energy) prices | <i>Implicit subsidies of oil and gas imports:<sup>a</sup></i><br>Annual average of around 8 percent of GDP; sizable domestic subsidies in coal and electricity                                    | <i>Expiration of implicit subsidies:<sup>a</sup></i><br>Sharp price hike after Russian gas dispute in 2009; most discounts eliminated by 2011 |

**Source:** Data from World Development Indicators database.

**Note:** ASEAN = Association of Southeast Asian Nations.

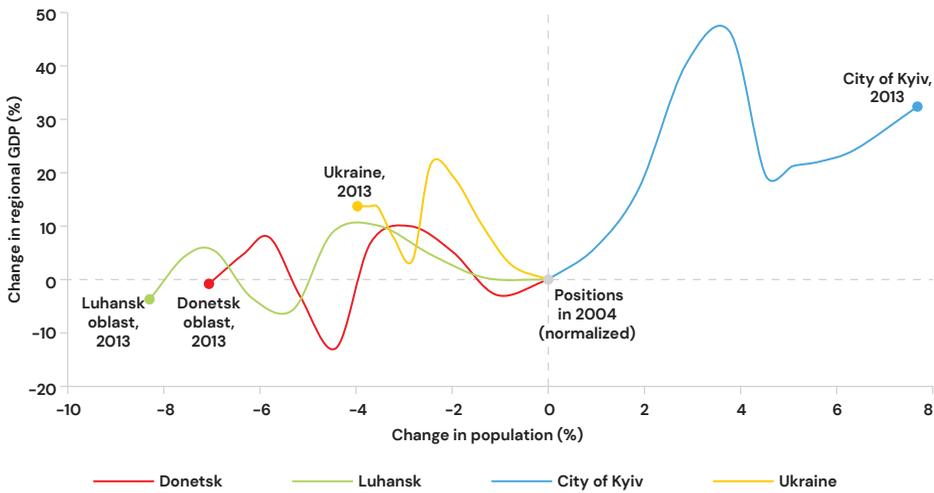
**a.** Implicit energy subsidies refer to the cost savings driven by discounted hydrocarbon imports from the Russian Federation as a share of Ukrainian GDP.

On the external side, the booming economies of major trade partners boosted demand for Ukrainian exports, especially for steel, and soaring commodity prices increased Ukraine’s export revenues while raising input costs for the country’s competitors. In addition, significant subsidies and protection afforded to domestic coal and electricity production in Ukraine, as well as the largely concessional gas and oil imports from Russia (discounts amounting to 8 percent of GDP annually), shielded Ukrainian producers from rising input costs with commodity price hikes. Together, these factors reduced incentives for innovation and investments, delaying an eventual structural transformation in the economy.

However, these favorable conditions changed after the Global Financial Crisis of 2008–09. With anemic postcrisis recovery, demand from Ukraine’s major trade partners collapsed. This process also kindled a renewed import substitution drive, and old clients of Ukraine invested in modern steel technologies themselves. On the supply side, a gas row with Russia brought subsidized imports to a halt, raising energy input prices.

Amid this demand and a supply squeeze, Donbas—at the center of the legacy growth model—was hit disproportionately. As Ukraine unrolled one of the starkest deindustrialization patterns in the world, the gravity center of domestic economic activity gradually shifted westward. Between 2004 and 2013, both Donetsk and Luhansk Oblasts lost a sizable share of their population (7.1 percent and 8.3 percent, respectively), and their economies stalled (figure O.1). As a result, Donetsk Oblast’s share of Ukrainian GDP decreased from 13 percent to 10.8 percent, and that of Luhansk Oblast decreased from 4.3 percent to 3.6 percent.

**Figure O.1** Population and Regional GDP Trends in Ukraine and Selected Regions, 2004–13



**Source:** World Bank calculations using State Statistics Service of Ukraine data.  
**Note:** Lines show the actual path followed by the two indicators: change in population and change in regional GDP. Therefore, the markers that identify 2013 values denote cumulative changes (the difference between 2013 and 2004 values).

This downward trend in economic conditions was accompanied by a broader sociodemographic deterioration. Donetsk and Luhansk Oblasts, despite having previously favorable conditions compared with other regions, had relatively low scores by 2013 on the integrated index of human development produced by the State Statistics Service of Ukraine (SSSU 2014). This decline was driven by poor performance in three index components: demographic development (for example, lower birth rates); social environment (for example, high crime rates, alcoholism, and drug abuse); and comfort of living conditions (for example, pollution from mining and industry).

As a result, Donbas—once a migration *destination*—has become a major *source* of migration, further worsening the region’s demographic aging. If not for certain obstacles that made migration more costly, like an outdated residence registration system that tied people down and underdeveloped housing and credit markets that made housing unaffordable for migrants, the demographic outflow would be even more pronounced (Koettl et al. 2014).

## Conflict Onset: Magnifying Old Problems, Creating New Ones

Before the conflict, Donbas was already suffering from diminishing prospects for its legacy growth model and from aging industry, infrastructure, and demography. With the onset of the conflict in 2014, these problems were magnified, and new problems were created.

Most directly, the conflict accelerated infrastructure depreciation by damaging strategic assets (*destruction channel*) and deepened demographic aging by displacing many people, especially the young and economically active (*displacement channel*). It also created many transactional frictions in a previously integrated region (*disorganization channel*), including conflict-driven risks and uncertainty. These frictions did not necessarily reduce the stock of productive assets directly, but they reduced the rate at which the economy uses any surviving assets.

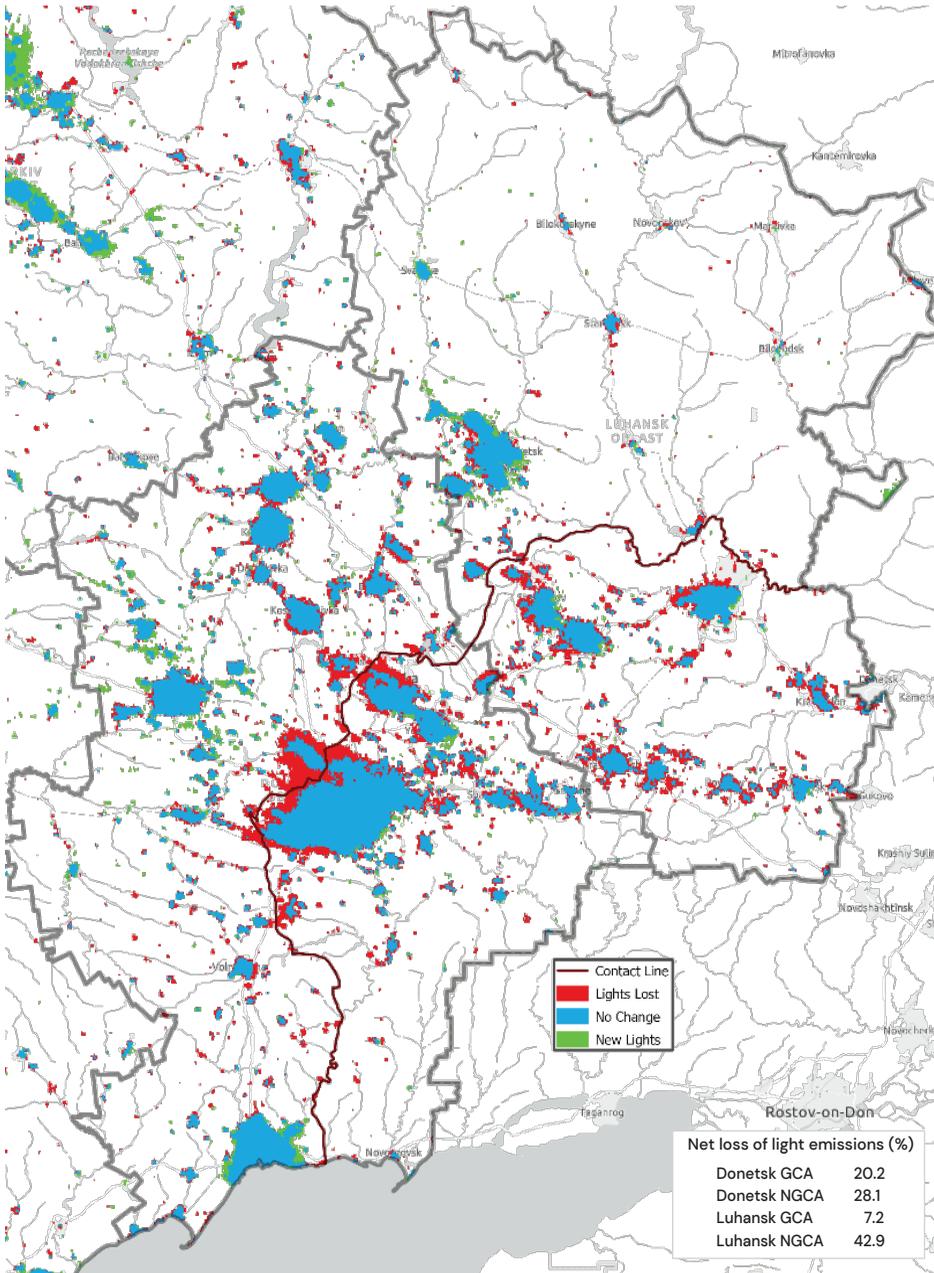
Unfortunately, given severe data constraints—also exacerbated by the conflict—it is difficult to produce a complete account of these effects. The official regional statistics cover entire oblasts until 2014 but only the GCAs since 2014. This change in geographic scope prevents a direct comparison between the periods before and after 2014. Similarly, in many areas, on-the-ground assessments (including of damages and needs) are patchy and often outdated. Finally, official demographic statistics rely on residence-based registrations, which are likely to be misleading because they do not capture de facto movements that are not reflected in residence records. Nevertheless, some useful insights can be derived from secondary sources, as summarized below by channel.

### Destruction

The conflict, especially during its initial phase (2014–15), destroyed many strategic assets, particularly in the energy, water and sanitation, and transportation sectors. In the absence of comprehensive data, we use nighttime light emissions to infer changes in infrastructure conditions. Between 2013 and 2019, light emissions decreased by 20.2 percent in the Donetsk GCA and by 28.1 percent in the NGCA (map O.1). In Luhansk Oblast, the GCA lost 7.2 percent of its light emissions, and the NGCA lost 42.9 percent.

However, many intermittent damages that were fixed before 2019 are not captured by these comparisons. For instance, during the initial phase of hostilities, several key power facilities were severely damaged. In spring 2014, about 20,000 shells put the Slovianska thermal power plant (TPP) out of service for nine months. Similarly, many essential water, sanitation, and hygiene (WASH) infrastructure facilities near the contact line were subjected to frequent attacks, causing water service losses and shortages for both GCAs and NGCAs. One of the most prominent ones, the Donetsk Filter Station, has been damaged 71 times since 2016.

**Map O.1** Changes in Nighttime Light Emissions in Donetsk and Luhansk Oblasts, 2013–20



**Source:** World Bank estimations from US National Oceanic and Atmospheric Administration (NOAA) data. ©World Bank; further permission required for reuse.

**Note:** Gray lines denote oblast boundaries. Within each oblast, the “contact line” (dark red) divides the government-controlled area (GCA) outside the line from the non-government controlled area (NGCA) inside the line.

Overall, the conflict has certainly significantly damaged the infrastructure. However, our knowledge about the true extent of this damage needs to be updated with an on-the-ground assessment.

## Displacement

The conflict also accelerated the region's demographic aging problem by displacing a significant portion of the population, especially among the younger generations. At the peak of hostilities, in 2016, about 1.7 million people were registered as IDPs, according to the Ministry of Social Policy of Ukraine. This number gradually fell to about 1.4 million people as of July 2020, about 45 percent of whom were residing in Donetsk and Luhansk Oblasts, according to the UN High Commissioner for Refugees (UNHCR).

Besides the sheer scale of the displacement problem, the age and skill composition of the displaced people is also consequential for regional economic dynamics. On average, IDPs in other regions are younger than in Donbas, according to National Monitoring System (NMS) surveys by the International Organization for Migration (IOM). Similarly, those who returned to their original locations (a relatively small group) have been older (average age 59.4 years) than the nonreturnees (37.5 years) (IOM 2019). A relatively lower share of the returnees have tertiary education, and a relatively higher share of them have vocational education.

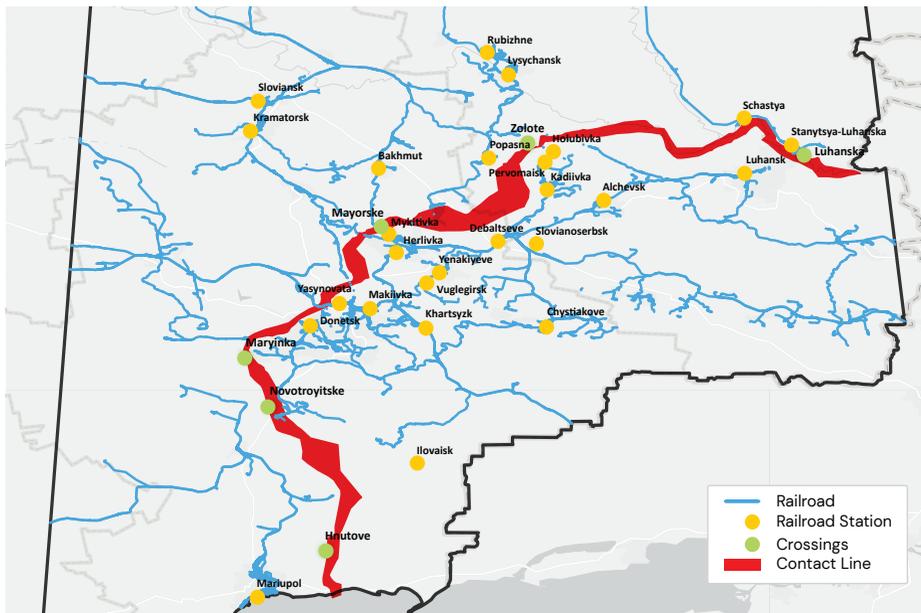
This suggests that individuals having region- or industry-specific education and skills could not find relevant jobs and sufficient pay for rented housing in their new locations. The NMS surveys find that IDPs face major challenges in finding employment because the skill composition of the population in industrialized Donbas differed from that of other locations that had relatively higher employment concentrations in services and agriculture. Similarly, with rigid market conditions and strict residency regulations, IDPs report "lack of own housing" as another major challenge.

## Disorganization

The conflict also triggered intangible effects that proved detrimental to the economy. The contact line dividing the region's economy in two brought disruptions in connectivity, coordination problems, and a weakening social cohesion that posed challenges not seen before.

**Disruptions in connectivity.** Before the conflict, Donetsk and Luhansk cities were the primary urban hubs of Donbas as well as the transportation network's centers of gravity. With the conflict, the contact line cut off this network, leading to connectivity islands and higher transportation costs, especially in railways (map O.2). The fragmentation in railroads also cut off some connections to Mariupol, the region's primary seaport, reducing its cargo turnover by half (figure O.2).

## Map O.2 Railroad Infrastructure and the Contact Line in Donbas, 2019



Source: ©World Bank; further permission required for reuse.

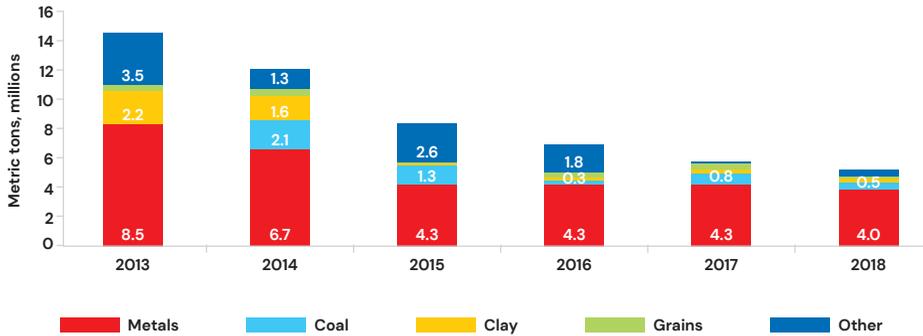
Note: The white outline denotes the area covered in the assessment. Donbas comprises the Donetsk and Luhansk Oblasts of eastern Ukraine.

Similarly, major airports in Donetsk and Luhansk cities (Donetsk Sergei Prokofiev International Airport and Luhansk International Airport, respectively) are completely destroyed. Other smaller airports in the GCAs could potentially be activated with significant rehabilitation. However, their proximity to the contact line restricts the viability of major projects as security threats continue, which would possibly increase if the airports were to be rebuilt.

**Coordination problems.** The contact line also cuts through important public service provision systems, leading to a fragile interdependency. In both Donetsk and Luhansk Oblasts, for example, the contact line crosses important pipelines, pumping stations, and filtration stations, making the GCA and NGCA water systems interdependent. Attacks on this critical infrastructure have taken place frequently, leading to service delivery disruptions. In the absence of better cooperation across the contact line, the entire system has been operating in a suboptimal mode.

Furthermore, there are deep sectoral interdependencies (for example, a water–electricity–mining nexus), and government policies determine who gets the rent. When cheaper electricity is imported, local electricity generation is unprofitable, and without demand for coal from thermal power plants (TPPs), there is excess coal supply. When electricity imports are restricted, there is excess demand for coal, which needs to be imported at a high price (because importing directly from NGCAs is prohibited). These two cases—the water systems division and the water–electricity–mining nexus—provide textbook examples of how arbitrary barriers can disrupt economic systems.

**Figure O.2** Cargo Turnover at the Port of Mariupol in Donetsk Oblast, by Cargo Type, 2013–18



Source: Donetsk Regional State Administration 2019.

**Weakening social cohesion.** The conflict has deepened mistrust and divisions in the country. The Social Cohesion and Reconciliation Index (SCORE) surveys conducted for this report by the Centre for Sustainable Peace and Democratic Development (SeeD) show a generally decreasing trend since 2015, both nationally and in the Donbas GCAs, in respondents’ exposure to other social and political perspectives.

The presidential elections in 2019 provided an uptick in trust regarding central institutions in Donbas. However, deep suspicions about reforms and acute perceptions of corruption prevail—and have even increased in certain cases. In the Donbas GCAs, half to two-thirds of the respondents considered corruption to take place “sometimes” or “always” across a wide range of activities in 2019. The mistrust of and overall lack of support for reforms correlates with low awareness about the details of announced reforms. Therefore, any future recovery programs should pay close attention to building local ownership and pursuing a careful communication strategy.

### Economic Consequences of the “3 Ds”

Together, these “3 Ds”—destruction, displacement, and disorganization—have crippled economic activity in Donbas since the onset of the conflict. Although it is not possible to pinpoint this effect exactly (before 2014, official regional GDP series cover entire oblasts, but after 2014, only the GCAs), we can approximate it by using nighttime light emissions, as noted earlier.

Confirming the loss of activity indicated by the light emissions, SSSU sector-level data show that industrial output continued to shrink in both the Luhansk and Donetsk GCAs since 2015 (figure O.3). In the Donetsk GCA, this decline was accompanied by increasing productivity, but in the Luhansk GCA, productivity decreased along with output. Agriculture provided the only bright spot, where both output and productivity increased in both GCAs. This sector, however, comprises only a small share of output and employment in these regions.

**Figure O.3** Differences in Sectoral Outputs and Productivity in Ukraine and Donetsk and Luhansk Oblasts, before and after Onset of Donbas Conflict



**Sources:** State Statistics Service of Ukraine database; World Bank calculations.

**Note:** The graphs track sectoral output and productivity in Ukraine and in Donbas (the Donetsk and Luhansk Oblasts) before and after the armed conflict began in 2014. Pre-2014 statistics include all of Donetsk and Luhansk Oblasts (to left of dashed line), whereas 2014–19 statistics exclude the non-government controlled areas (NGCAs) of Donetsk and Luhansk Oblasts (to right of dashed line). GCA = government-controlled area.

## Structural and Conflict-Driven Obstacles to Future Growth

Today, the Donbas region faces formidable obstacles against a swift recovery, and these obstacles are both structural and conflict-related. The structural problems have led to an aging industry and infrastructure that have eroded the region's competitiveness internationally. For instance, in 2019, Ukraine used 444 kilograms of coke per metric ton of pig iron production. European countries used 20 percent less, on average: 359 kilograms per metric ton.

This wedge is in part the outcome of long-standing policy distortions that reduced incentives to modernize Ukraine's industrial base. As subsidies and privileges shielded firms from competition and systematic corruption reduced the entry of unconnected businesses, firms grew accustomed to seeking rents (which does not require technological upgrading) instead of profits (which does).

### Primary Bottlenecks

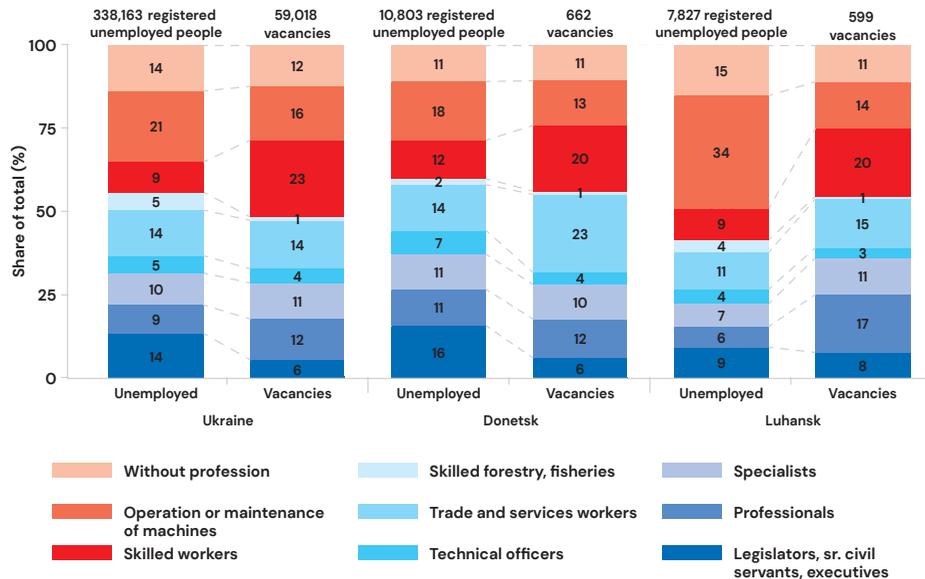
The onset of the conflict, and the subsequent increase in risks and uncertainty, have only aggravated these problems. For instance, although the conflict has reduced capacity in steel production, without improvements in competitiveness, additional capacity is deemed unnecessary. Together, the structural and conflict-driven factors have led to bottlenecks in three major areas (among others).

**Disorganization and risk.** The conflict has increased the uncertainty and risk in an already unfavorable business environment suffering from chronic corruption and regulatory burdens. With further irregularities in supply, higher costs in key inputs (such as anthracite), bottlenecks in connectivity, and unfavorable external competition, profit prospects remain low and investments suppressed. The imposition of trade restrictions by Russia; logistical bottlenecks (with all major transportation routes to Russia's southeast remaining in the NGCAs); and the Ukrainian government's ban on large-volume trade with the NGCAs have all contributed to these trends.

**Access to finance.** Enterprises in the GCAs were hit by deteriorating financial access. With sharply rising uncertainty and risks, most banks suspended operations throughout Donbas. Credit fell from 34.6 percent of regional GDP in 2014 to just 10 percent of GDP in 2018 (less than a third of the national average), according to SSSU data. For corporations, the decline in lending was particularly steep, slumping from 23 percent of regional GDP in 2014 to just 4.2 percent in 2018, underscoring the scale of the drop in activity and demand for credit.

Those who can borrow paid the equivalent of a 15 percent real interest rate as opposed to 5.6 percent nationwide, which effectively ceased credit to small and medium enterprises (SMEs). This large and widening spread attests to the heightened risks that banks perceive in the region.

**Figure O.4** Decomposition of Job Vacancies and Unemployment, by Occupation Type, in Ukraine and the Donetsk and Luhansk GCAs, December 2019



**Source:** World Bank estimates from State Employment Service of Ukraine data.  
**Note:** Regional and national data exclude the non-government controlled areas (NGCAs) of Donetsk and Luhansk Oblasts. GCAs = government-controlled areas.

**Skill mismatch.** That the conflict hit industry more than other sectors has deepened labor market imbalances. A comparison of vacancies and unemployment profiles from the State Employment Service of Ukraine reveals an oversupply of basic machine operators and maintenance workers in the GCAs, especially in the Luhansk GCA (only 14 percent of the vacancies but 34 percent of the unemployed in this group) and an undersupply of skilled workers in both GCAs (figure O.4). This situation indicates a need for upskilling existing workers and also for providing more skills-intensive training in vocational education.

## Challenges in Labor Markets and Demography

Currently, the GCAs in Luhansk and Donetsk Oblasts have the worst labor market conditions in Ukraine and the highest unemployment rates of all oblasts (table O.2). They also have the highest median age and old-age dependency ratios in Ukraine, according to SSSU data. This aging trend was already problematic before the onset of the conflict, but it has been aggravated by a disproportionate displacement of younger generations toward other places in Ukraine.

In the NMS surveys, the vast majority of IDPs report no intention to return in the near future despite facing difficulties in transferring skills and finding jobs—especially if they are young, male, live outside Donbas, and have been displaced for a long time (table O.3). This will further constrain economic growth opportunities in Donbas.

**Table O.2** Main Labor Market Indicators in Ukraine and Donetsk and Luhansk GCAs, 2018

| Area    | Old-age dependency ratio |                  | Labor force participation rate |                  | Unemployment rate |                  |
|---------|--------------------------|------------------|--------------------------------|------------------|-------------------|------------------|
|         | Value (ratio)            | Rank (out of 25) | Value (%)                      | Rank (out of 25) | Value (%)         | Rank (out of 25) |
| Donetsk | 0.325                    | 24               | 58.9                           | 24               | 13.6              | 24               |
| Luhansk | 0.331                    | 25               | 68.1                           | 1                | 13.7              | 25               |
| Ukraine | 0.254                    | n.a.             | 63.4                           | n.a.             | 8.2               | n.a.             |

**Source:** State Statistics Service of Ukraine data.

**Note:** The 25 ranked regions are all oblasts. Ukraine also includes the City of Kyiv (not ranked). Both regional and national data exclude the non-government controlled areas (NGCAs) of Donetsk and Luhansk Oblasts. GCAs = government-controlled areas; n.a. = not applicable.

**Table O.3** Intentions of Working-Age Household Heads of IDPs to Return to Place of Origin in Donbas, by Region of Current Residence, 2018

| Intention to return                 | Donetsk (GCA) | Luhansk (GCA) | Ukraine (excl Donbas) | Total |
|-------------------------------------|---------------|---------------|-----------------------|-------|
| Yes, in the near future             | 1.0           | 0.9           | 1.0                   | 1.0   |
| Yes, after end of conflict          | 33.2          | 31.4          | 18.1***               | 25.9  |
| Yes, maybe in the future            | 17.3          | 9.2***        | 13.6**                | 14.1  |
| No                                  | 29.3          | 25.8**        | 47.6***               | 37.0  |
| Difficult to answer, or no response | 19.1          | 32.7***       | 19.8                  | 22.0  |

**Source:** World Bank calculations based on National Monitoring System (NMS) survey data of the International Organization of Migration.

**Note:** Joint dataset is of IDPs from face-to-face and phone interviews (NMS rounds 9–12, weighted), based on their chosen answers to question 3.9: “Do you plan to return to the place of origin?” Information is provided only for the heads of household, excluding IDPs from Crimea, individuals older than 70 years, and those who reported that they have already returned. Donbas comprises the Donetsk and Luhansk Oblasts. GCA = government-controlled area; IDPs = internally displaced persons.

**Significance** level of difference in means between (a) Luhansk, and (b) Ukraine (excluding Donbas):

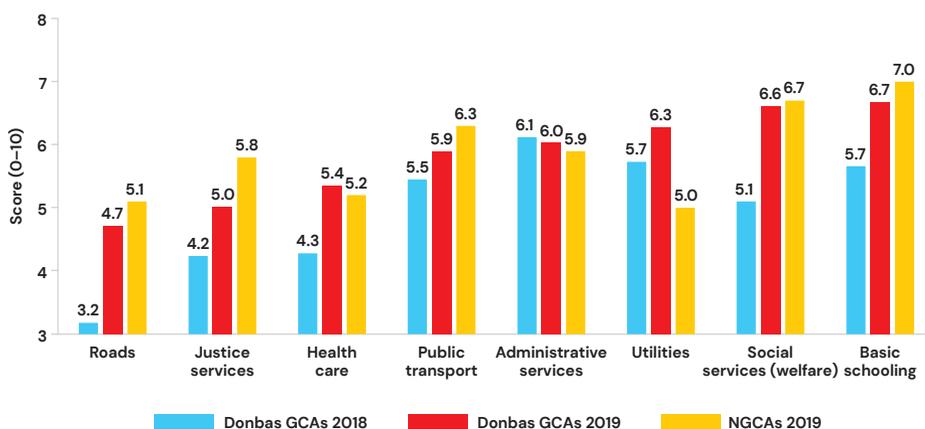
\*\*\* = 1 percent, \*\* = 5 percent, \* = 10 percent.

## Public Service Access Issues

Conflict has affected both the quantity and quality of public services. Safety remains an important challenge, with military presence, shelling, and unexploded ordnance (UXOs) being common near the contact line. Infrastructure needs major rehabilitation. Both the providers and the receivers of public services need psychosocial support.

Water and sanitation conditions remain problematic in rural areas (especially in Luhansk Oblast, where only 7 percent of rural settlements received water supply in 2018, according to SSSU data). The quality of water has historically been poor in the Donbas region, but it was worsened by the conflict. Mine closures and flooding continue to contaminate water sources.

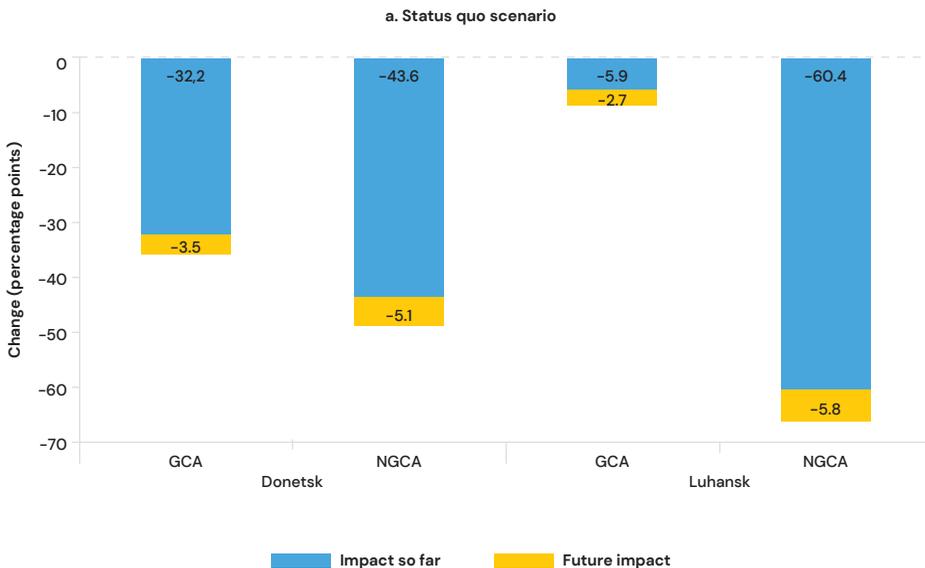
**Figure O.5** Satisfaction with Public Services in Donbas GCAs and NGCAs, 2017–19

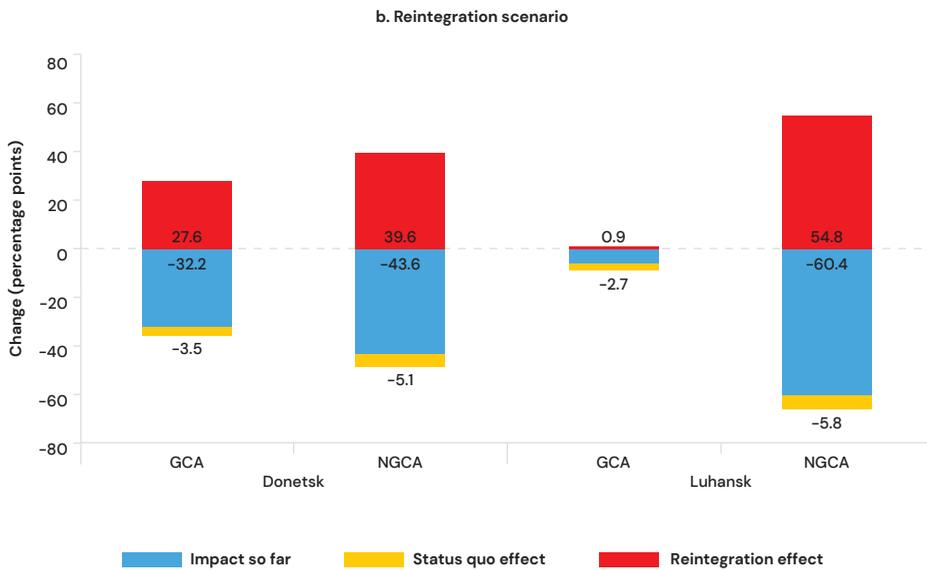


**Source:** Social Cohesion and Reconciliation Index (SCORE) surveys, Centre for Sustainable Peace and Democratic Development (SeeD).

**Note:** Values are measured on a 0–10 scale, with 0 being no satisfaction and 10 being maximum satisfaction. Donbas comprises the Donetsk and Luhansk Oblasts of eastern Ukraine, each of which is divided into a government-controlled area (GCA) and a non-government controlled area (NGCA). NGCAs were not surveyed in 2018.

**Figure O.7** Simulated Changes in Regional GDP in Donetsk and Luhansk Oblasts, by Conflict Scenario





**Source:** World Bank estimations.

**Note:** The “status quo” scenario assumes continuation of the Donbas conflict, and “reintegration,” a full postconflict recovery. GCA = government-controlled area; NGCA = non-government controlled area.

Even the central water distribution system often does not meet the safety standards: 20.6 percent of samples in the Donetsk GCA and 41.9 percent in the Luhansk GCA failed the test in 2018. Surveys detect a noticeable increase in satisfaction with publicly provided services in the Donbas GCAs between 2018 and 2019 (figure O.5); however, the absolute levels of satisfaction remain relatively low.

Overall, the region faces multifaceted challenges. As in other decision-making processes, these issues will need to be prioritized for the highest policy impact. Furthermore, many of these challenges can change quickly, depending on the future trajectory of the conflict. Thus, for future policies to be effective, policy makers must incorporate this fluidity into ex ante policy design and adapt to materialized changes as needed ex post. Next, we turn attention to these future policies.

## The Case for Scaling Up Efforts in Donbas

As the discussion has emphasized so far, the current challenges faced by Donbas stem from two distinct but related sources: structural problems and conflict-driven problems. The simulations in this report (described in box O.1) show that as the conflict continues—the status quo scenario—the Donbas region will suffer more economic losses in the absence of policy interventions. As the productivity shocks from the conflict linger, the GCAs in Donbas are expected to lose another 3 percentage points of regional GDP in the medium term (about a decade) (figure O.7, panel a).

In contrast, a reintegration can bring about a “peace dividend”—an automatic partial economic recovery led by the removal of conflict-driven distortions (figure O.7, panel b). In the GCAs, these gains average about 17 percentage points in the medium term. Unsurprisingly, reintegration is projected to be particularly beneficial for the NGCAs, which are set to lose another 5.4 percentage points of regional GDP under the status quo scenario, on average, but can gain an average of 47 percentage points with reintegration.

Note, however, that the peace dividend described here is only a partial rebound that takes place once the conditions improve under a reintegration scenario. This process, by itself, cannot alleviate the structural problems faced by the region before the conflict. In fact, it cannot even fully counter the conflict-driven effects in the medium term because some of those effects (for example, population displacement) are naturally persistent and will require active policies to mitigate.

## The Efficiency Argument for Targeting Donbas

Given the region’s low economic productivity currently, is it efficient to use financial resources to boost growth in the Donbas GCAs? A standard “efficiency argument” from spatial economics literature would suggest that investments should target the areas with the greatest economic potential. In this case, wouldn’t Kyiv City, or other areas with promising economic patterns in recent years, be better alternatives to focus on? Then, once better returns to such investments are gathered, the people in Donbas can be helped by means of other transfers (the “equity argument”).

The simulations in this report suggest otherwise. Even without reintegration, scaling up policies in Donbas is better than investing elsewhere—for GDP in both the Donbas GCAs and in Ukraine as a whole. This is because the current productivity gaps between the regions are small relative to the mobility costs between regions; thus, investments elsewhere cannot attract labor from low-productivity areas more effectively.

It is important to note that, with different productivity gaps or mobility costs between regions, these results can change. If, for example, broader policy reforms or better access to European markets increase productivity elsewhere in Ukraine, an “efficiency” argument that favors investing there can become relevant. In contrast, reintegration in Donbas can eliminate such concerns by closing the productivity gap between Donbas and the rest of Ukraine.

## Box O.1 A Simulation Approach to Future Policy Design

The forward-looking analysis in this report adopts a quantitative approach based on economic modeling. There are some good reasons for this choice:

- First, unlike descriptive case studies, the validity of this approach can be challenged by further evidence, logical or empirical.
- Second, this approach helps to ground the expectations for future trends by explicitly studying the relationship between policy actions, conflict conditions, and the behavioral responses of economic agents.
- Third, unlike simple empirical extrapolations, the model-based simulations can analyze new policies and dynamics under different shocks (for example, when past relationships change after a structural break such as conflict) by taking economic agents' preferences into consideration.

Another strength of the simulation model is its endogenous treatment of Ukraine's migration patterns. That is, rational agents respond to changes in economic opportunities and nonmonetary factors like amenities by moving to other regions when incentives are more aligned. This helps in the analysis of structural factors (for example, productivity gaps and mobility costs); conflict-driven effects (destruction, displacement, and disorganization); and the effects of policy responses.

The analysis focuses on three major groups of future policies: investments, transfers, and mobility cost reduction (figure BO.1.1). Investments (physical or human capital) increase labor productivity, transfers supplement wage income, and mobility cost reduction facilitates a better allocation of labor from low-productivity areas to high-productivity areas.

Both investments and transfers can take three sizes: (a) status quo (no change from current levels); (b) a moderate increase (about 15 percent of the preconflict investments in Donbas, annually); and (c) a large increase (about 30 percent of the preconflict investments in Donbas, annually). They can also be geographically targeted: GCA only, GCA and NGCA, and Kyiv City (for comparison purposes). Finally, given major uncertainties about the future dynamics, we adopt a scenario approach to comparing alternative future conflict trajectories: status quo, intermediate, and reintegration. Together, these amount to 864 different future paths that correspond to different combinations of these scenarios.

**Figure BO.1.1** Conflict and Policy Scenarios



**Source:** ©World Bank. Further permission required for reuse.

**Note:** In the conflict scenarios, the “status quo” assumes continuation of the Donbas conflict; “intermediate,” sufficient recovery to undo, by half, the productivity and mobility cost effects of conflict-driven shock; and “reintegration,” a full postconflict recovery. GCAs = government-controlled areas; NGCAs = non-government controlled areas.

This framework helps us to evaluate some important policy questions:

- What are the expected impacts of different policy instruments under current conditions?
- How would these effects change under different conflict conditions?
- Which policy is the most effective under each conflict scenario (considering, for example, the impact on regional GDP)?
- What are the trade-offs, if any, between promoting growth in Donbas and promoting growth in Ukraine overall?
- Which policies are less prone to such trade-offs?

Because future development policies will face budget constraints like all other policies, the answers to these questions can help prioritize policy actions to maximize development impact.

## Principles of a Comprehensive Strategy

Nuances like these highlight the importance of conducting a big push in Donbas, carefully and coherently. The region needs a comprehensive and integrated strategy (a complete and contingent plan) that can coordinate future interventions around a unified development path. Such a strategy would be, among other things,

- *Balanced: no silver bullet.* The strategy should explicitly weigh trade-offs between different policies. Some policies like transfers are effective for boosting GDP in the GCAs but not in Ukraine overall (table O.4). Similar trade-offs also hold for investments and mobility cost reduction. Thus, a “silver bullet” approach (for example, only infrastructure investments) will not work. Although mixed policies do not deliver a first-best outcome for any objective, they still provide a second-best outcome for many objectives. Thus, they can help avoid undesirable trade-offs between objectives. Overall, the region’s multifaceted problems call for a comprehensive approach.
- *Nuanced: one size does not fit all.* To be effective, policies need to differ between the conflict (status quo) and peace (reintegration) scenarios. For instance, simulations in this report show that lower mobility costs can largely boost Ukrainian GDP under the status quo by reallocating labor from low-productivity areas to high-productivity areas. However, with reintegration, regional productivity gaps shrink and this effect is weakened. Therefore, interventions need to be calibrated accordingly: what is good under the status quo is not necessarily good in reintegration, and vice versa. A comprehensive strategy should include an action plan for each case.
- *Transformative: distortions do not fix distortions.* The region’s structural problems were sustained by long-standing, policy-driven distortions. Authorities should not introduce new distortions to offset the adverse effects of the old ones. Fixing market fundamentals and removing long-standing policies that hamper market contestability can work better. Without improving the business climate, rule of law, and anticorruption efforts, selective incentive schemes for attracting investors are likely to be exhausted by rent-seeking actors. Thus, removing such barriers should be considered a priority.

Together, these principles can be used to benchmark development ideas for the region. For instance, the creation of special economic zones (SEZs) has recently been floated as a potential intervention. Although appealing theoretically, SEZs by themselves do not constitute a panacea for development—as lessons from over 300 SEZs worldwide show (Hyung-Gon 2016).

International experience shows that, to be effective, SEZs must be embedded within a greater development framework (no silver bullet). This typically involves exerting maximum effort to (a) reduce regulatory burdens and corruption; (b) provide essential infrastructure within SEZs and in their hinterlands; (c) ensure the presence of a dynamic labor force with matching skills as facilitated by reformed educational institutions; and (d) provide the broader elements of a comfortable living that can attract foreign investors. The exact configuration of these factors is determined by the broader socioeconomic factors, and the future dynamics of conflict can shape them drastically in the case of Donbas (one size does not fit all).

**Table O.4** Simulations for the GDP Impact of Policies: Policy Rank Switches between Two Scenarios in Eastern Ukraine

## a. Status quo scenario

| Policy alternative | Donetsk GCA |       | Luhansk GCA |       | Ukraine |       |
|--------------------|-------------|-------|-------------|-------|---------|-------|
|                    | Value       | Rank  | Value       | Rank  | Value   | Rank  |
| No policy          | -3.5        | **    | -2.7        | **    | 0.2     | *     |
| Investments        | 23.6        | ***** | 10.9        | ***   | 1.6     | ***** |
| Transfers          | 19.9        | ****  | 25.9        | ***** | 0.5     | **    |
| Mobility           | -12.9       | *     | -14.8       | *     | 1.3     | ****  |
| Policy mix         | 18.9        | ***   | 18.4        | ****  | 1.1     | ***   |

## b. Reintegration scenario

| Policy alternative | Donetsk GCA |       | Luhansk GCA |       | Ukraine |       |
|--------------------|-------------|-------|-------------|-------|---------|-------|
|                    | Value       | Rank  | Value       | Rank  | Value   | Rank  |
| No policy          | 24.2        | *     | -1.8        | *     | 3.8     | *     |
| Investments        | 58.7        | ***   | 11.4        | ***   | 5.6     | ***** |
| Transfers          | 78.7        | ***** | 42.2        | ***** | 4.7     | **    |
| Mobility           | 31.2        | **    | 7.5         | **    | 5.1     | ***   |
| Policy mix         | 63.0        | ****  | 23.2        | ****  | 5.2     | ****  |

**Source:** World Bank calculations.

**Note:** The table simulates, under each of two scenarios—status quo and reintegration—the percentage point change from current GDP under each policy alternative. The “status quo” scenario assumes continuation of the Donbas conflict; “Intermediate,” sufficient recovery to undo, by half, the productivity and mobility cost effects of conflict-driven shock; and “Reintegration,” a postconflict recovery. Stars denote effectiveness, from \* (least effective) to \*\*\*\*\* (most effective). GCA = government-controlled area.

Finally, when established in isolation, and without the broader framework, the incentive structures put forth by the SEZs are unlikely to attract foreign investors but instead are likely to be captured by others, with no significant effect on the region’s economic trajectory (distortions do not fix distortions).

## A Decision Tree Approach to Programming Recovery

Given the abounding uncertainties and scenario-sensitivity of optimal policies, the recovery strategy should distinguish “contingent policies” from “no-regret policies.” For some public services, the efficiency of the system relies on its scale. This depends on population size (GCAs only versus GCAs and NGCAs) on the demand side, and on whether the infrastructure in the NGCAs can be used again, on the supply side. Reconfiguring the system only for the GCAs prematurely can be costly if the NGCAs’ facilities open up, because two unlinked and redundant systems would be operating in parallel. However, delaying such reconfiguration can prolong welfare losses if reintegration does not happen.

In the end, policy decisions must weigh these two cases against each other by considering the likelihood of reintegration. If a policy is highly sensitive to such calculations, then it is a “contingent policy.” If it is not sensitive—that is, it is desirable under both the status quo and reintegration scenarios—then it is a “no-regret policy.” Separating the interventions in this way, and following a decision tree approach (figure O.8), can help open areas for making progress.

### Contingent Policies: Front-Load the Low-Hanging Fruit

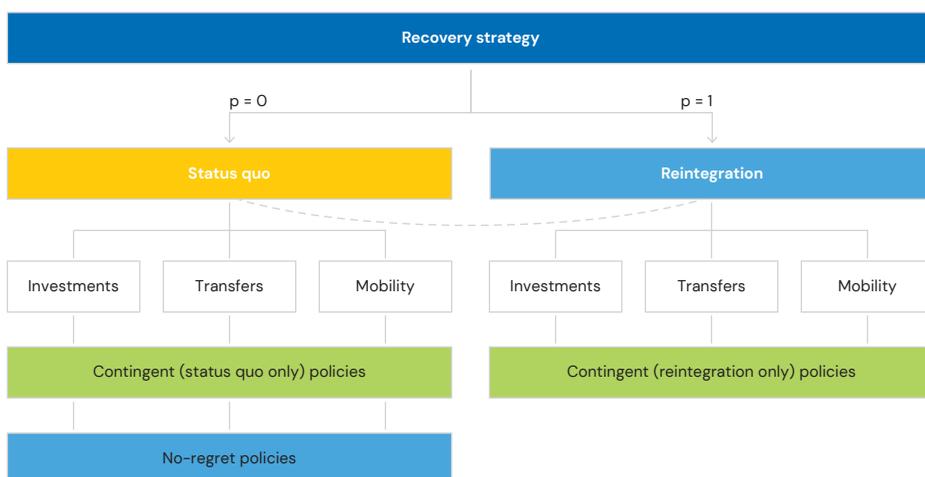
Contingent policies change between the status quo and the reintegration scenarios. But they can also change between different policy objectives. *From a Ukrainian GDP perspective*, investments in the Donbas GCAs play a more prominent role under both the status quo and reintegration scenarios. Reducing mobility costs between Donbas and the rest of Ukraine is effective in increasing Ukrainian GDP under the status quo because it helps people move to more-productive areas. But it is less important under reintegration as the productivity gaps shrink.

In contrast, *from a Donbas GCA GDP perspective*, transfers are more effective under reintegration, and investments are more effective under the status quo (especially in the Donetsk GCA). Mobility cost reduction between Donbas and the rest of Ukraine reduces GDP in the Donbas GCAs, especially under the status quo.

With these underlying mechanisms in mind, the analysis suggests several steps, described below.

**Transfers to address skill shortages in GCAs.** In addition to no-regret policies (discussed below), the “status quo-contingent” transfers can include social assistance and insurance provisions, with the possibility of a carefully ring-fenced direct transfer scheme and supplemental incomes for workers, including hazard pay and a mobility premium in conflict-affected areas. This is similar to the “insurance against conflict risks” for investors, as considered by the authorities. The difference is that the hazard pay is paid to individuals up front, and the insurance is paid to businesses in the case of risk realization. Similarly, supplemental assistance to IDPs can reflect ongoing hardships during active conflict, with additional support to gain skills for employability and access to housing.

**Figure O.8** A Decision Tree Approach to Designing an Economic Recovery Strategy for Eastern Ukraine



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**Note:** “Contingent” policies are specific to either the status quo (continued conflict) or reintegration (removal of all conflict-driven distortions) scenarios. “No-regret” policies refer to those that would be desirable under both the status quo and reintegration scenarios (for example, improvements in business climate and housing market).

**Interventions to mitigate conflict-related risks.** A safe school environment entails eliminating military presence, shelling, and UXOs at schools. Road safety and psychosocial support are also priorities. For businesses, public assistance in designing insurance mechanisms for conflict-driven risks can be considered; however, serious consideration should be given to moral hazard and monitoring problems, and alternative mechanisms (such as index insurance) should be evaluated. The authorities are currently evaluating these options and are advised to pursue them if those potential implementation issues can be addressed. In addition, public sector interventions to improve access to finance and simplify taxes (or breaks) for new SMEs are needed. (These fall into the “no-regret” category to some extent, but an active conflict may necessitate a greater, more targeted effort.)

**Investments for a contingent infrastructure strategy.** All infrastructure investments should be coordinated around a coherent infrastructure strategy aligned with economic objectives and conflict conditions for a “status quo only” reality. This process would include picking low-hanging fruit in (a) *connectivity* (railways extensions and roads) to eliminate current transportation bottlenecks; and (b) *service delivery systems* like water and sanitation services (while being mindful of possible redundancy in the case of reintegration). Attention should be paid to managing the quality of public investment projects in both the fiduciary sense and in terms of project selection rules based on economic returns and absorptive capacity constraints.

Categorically, all policies for the NGCAs are contingent on reintegration. These include both major reconstruction projects (like the two main regional airports in Donetsk and Luhansk cities) and other economic and social interventions aimed

at promoting growth. However, some reconstruction or rehabilitation projects for the GCAs will also need to be postponed until reintegration. These include major reconstruction projects (for example, Mariupol airport) that are deemed too costly in the absence of a broader service area or that risk attracting military attention.

## **No-Regret Policies: Build Foundations for Economic Transformation**

Many of the potentially most beneficial and transformative policy interventions are desirable under both the status quo and reintegration scenarios. These are essential not only to mitigate the impact of the conflict but also to eliminate the long-standing policy-driven distortions that delayed structural transformation of the region's economy before the conflict. These include, first and foremost, policies to improve the business climate.

**Reforms to eliminate regulatory burdens and corruption.** The institutional framework in Ukraine, and particularly in Donbas, provides a weak foundation for building a robust economic recovery strategy. The World Bank's current Systematic Country Diagnostic emphasizes governance, the rule of law, and anticorruption reforms as critical elements of Ukraine's economic future. This is particularly true in Donbas, where conflict has further weakened prevailing institutions.

Although trust in institutions increased with the last election, residents in the east do not trust reforms. Perceptions of the accountability, responsiveness, and transparency of local authorities remain consistently low. Thus, any attempt to win hearts and minds should feature beneficiary feedback mechanisms, grievance redress processes, and transparency and accountability measures, with transgressions being addressed promptly.

**Policies to open up the housing market.** The lack of sufficient housing, which is one of the main obstacles to more efficient interregional mobility in Ukraine, traps labor in low-productivity areas. Ukraine's housing market problems are intertwined with land market problems, residence and registration regulations, and other institutional factors that overregulate a process that other countries simply manage much more effectively. Addressing these institutional problems to promote a more dynamic housing market is crucial for both Donbas and Ukraine in general, with or without conflict.

**Investments to modernize education for jobs.** Skill mismatches and demographic aging-driven labor supply problems limit growth at its foundation. Policies should align vocational schools with market conditions; boost adult (re) training; improve access to childcare facilities and family-friendly jobs (to activate women); and subsidize employment for disadvantaged groups (persons with disabilities, older people, and so on).

Involving employers in study program revisions would improve the employability of graduates, and increasing the focus on civic education and ethics in the curriculum could help foster opposition to corruption. In addition, increasing the effectiveness of the State Employment Service of Ukraine (including expansion

of its digital skills and jobs databases) could help increase labor market participation.

**Investments that target low-hanging fruits in infrastructure.** Much of the infrastructure in the GCAs needs rehabilitation (for example, schools, water and sanitation systems, and transportation systems). Rehabilitation of those, and improving environmental outcomes (such as eliminating pollution of water resources) are desirable under both the status quo and reintegration scenarios.

New infrastructure should target the elimination of service delivery and connectivity islands and prioritize the projects with the most welfare impact and least risk of redundancy. Projects should be coordinated by a master plan that is firmly embedded in the broader recovery strategy, prioritized according to viability (subject to rigorous public investment management principles), and communicated well to the public.

**Better data to address knowledge gaps.** In Ukraine, better data are needed urgently in three major areas: (a) demography, (b) physical damages and needs, and (c) regional statistics. First, official demographic statistics are residence-based and unlikely to reflect the situation on the ground. We recommend that a census be considered in the near future. Second, our knowledge about the conflict-driven damages, overall conditions of infrastructure systems, and service access needs are fragmented and in most cases outdated. A new round of damage and needs assessments is needed to inform the future recovery strategies (in addition possibly to a census of firms and UXOs). Finally, official statistics cover the entire oblasts of Donetsk and Luhansk before 2014 and only their GCAs since 2014. This often leads to misinterpretations. Backcasting the GCAs' data series or forecasting NGCAs' series can help to resolve this problem.

## A Final Word

Finally, a word on implementation is in order. Reforms, to be successful, require local ownership. This is particularly important in Donbas, where trust in top-down reforms is very low, as discussed earlier. Therefore, extra care must be given to involve local authorities and beneficiaries in decision-making processes. Commendably, the authorities have implemented consultation processes, but more is needed. Citizen-government engagement (facilitated as needed) and community consultation during the design and implementation of policies, reforms, and projects will also engender greater trust and ownership.

It is also important that all Ukrainians feel they have a stake in the economic recovery of the east. The social cohesion data (as further discussed in chapter 2 of this work) suggest that the low levels of social proximity and high prevalence of negative stereotyping are key drivers of the marginalization, mistrust, neglect, and isolation expressed by majorities of survey respondents. Overcoming these challenges is not optional for winning hearts and minds.

## Notes

1. Estimates by the UN Office of the High Commissioner for Human Rights (OHCHR) in 2020, [https://www.ohchr.org/Documents/Countries/UA/29thReportUkraine\\_EN.pdf](https://www.ohchr.org/Documents/Countries/UA/29thReportUkraine_EN.pdf).

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