

Adaptation at Limit

How Ukraine's Private Firms Endure During Russia's Invasion



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The World Bank has undertaken a second comprehensive monitoring program through multiple channels to find out how private sector firms in Ukraine are faring, and what they will need going forward.

The second wave of the analysis reveals a slight recovery in sales in 2023, yet a continuous destruction of fixed capital. Air raids and attacks significantly disrupt business activity even when there is no physical damage. Uncertainty about the future as well as the need for support remain high.

An ambitious and comprehensive monitoring program

The World Bank undertook the analysis using the following sources: (a) **Administrative financial records** of State Statistics Service with admin statements by about 250k active firms for 2021, 2022, and 2023; (b) **Self-reported information from a 2024 nationally representative panel survey** of about 1k businesses in Ukraine; (c) **Real-time e-commerce daily product sales** with tracking of 143 retailers, recording info on 6.6 Mio product sales (USD 293 Mio in revenues) with buyers' IP locations a year before and after the invasion.

Key findings

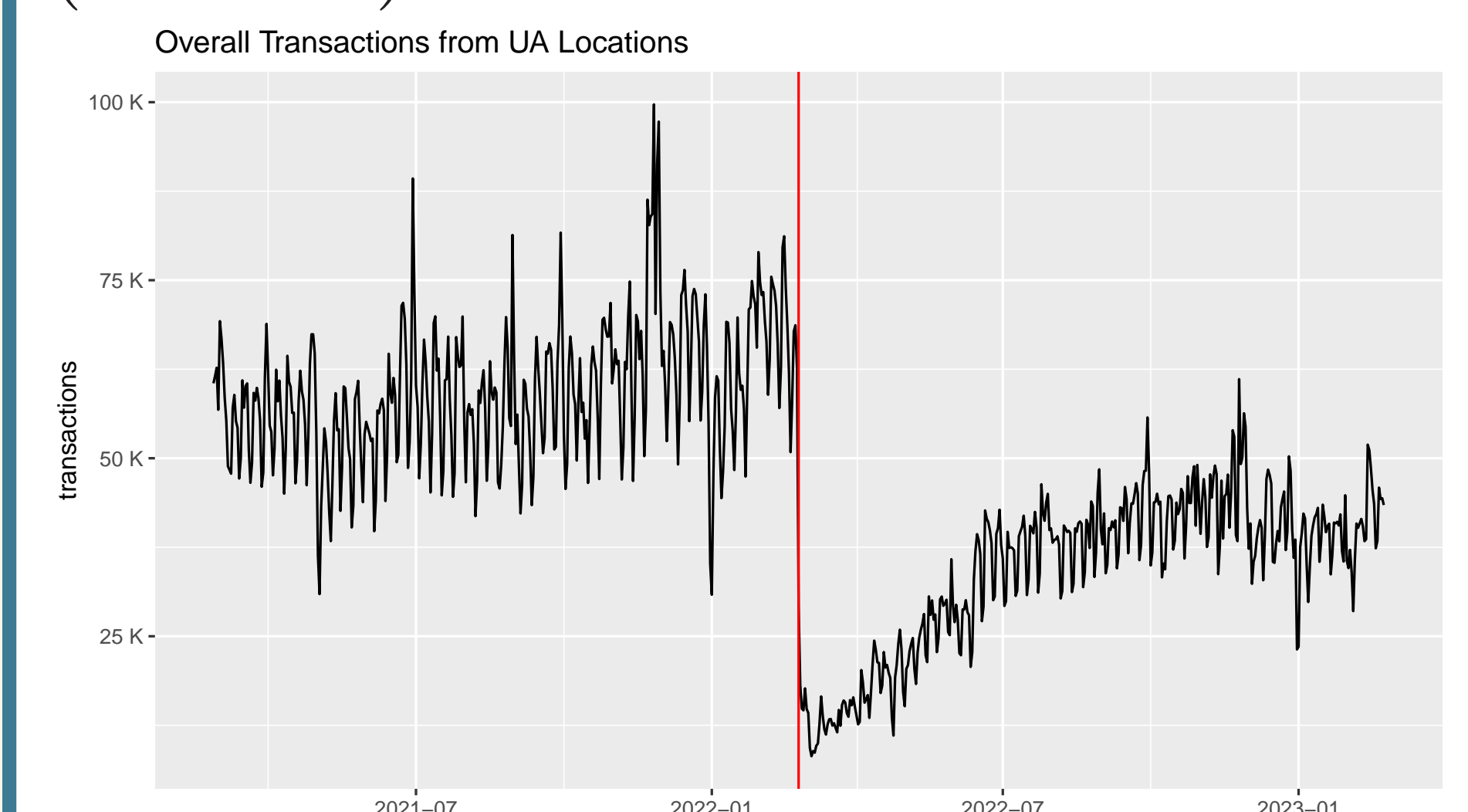
- Sales (goods, works, services) partially recovered but remain below pre-war levels.** Median drop of -35% in 2021/2022 followed by an increase of +9% in 2022/2023 (conditional on firm survival)^a;
- Domestic demand remains subdued, as additionally confirmed by e-commerce data.** In fact, e-commerce sales transactions halved a year after the war compared to the year before the 2022-invasion.^b;
- Fixed assets continue to drop.** Median drop of -27% in 2021/2022 and -18% 2022/2023. No sign of recovery, especially in Kyiv City where many firms are registered.
- Large numbers of firms continue to exit the market**, ranking insufficient demand (32%), security concerns (26%), and financial constraints (17%) as the main reasons for closure.
- No major structural changes:** No change in the commerce/manufacturing, drop in construction, limited geographical shift with more sales in West Ukraine.

^aActive firms with sales equal or greater than 0. Not considered sectors: B-N (excluding K6.2) in NACE rev 2.

^bIn 2021, Statista estimated USD 3,1 bn in the Ukrainian e-commerce sales (about 9%) and Grips captures USD 230 Mio. Each transaction location is identified by IP address at time of purchase.

E-sales drop, prices increase

The invasion affects e-commerce, especially in the East. E-commerce drops 42% after first 100 attacks on civilians. The biggest decline in e-commerce is observed in Kherson. Measures of drop in transactions and increase in war intensity correlate ($r=0.86$).

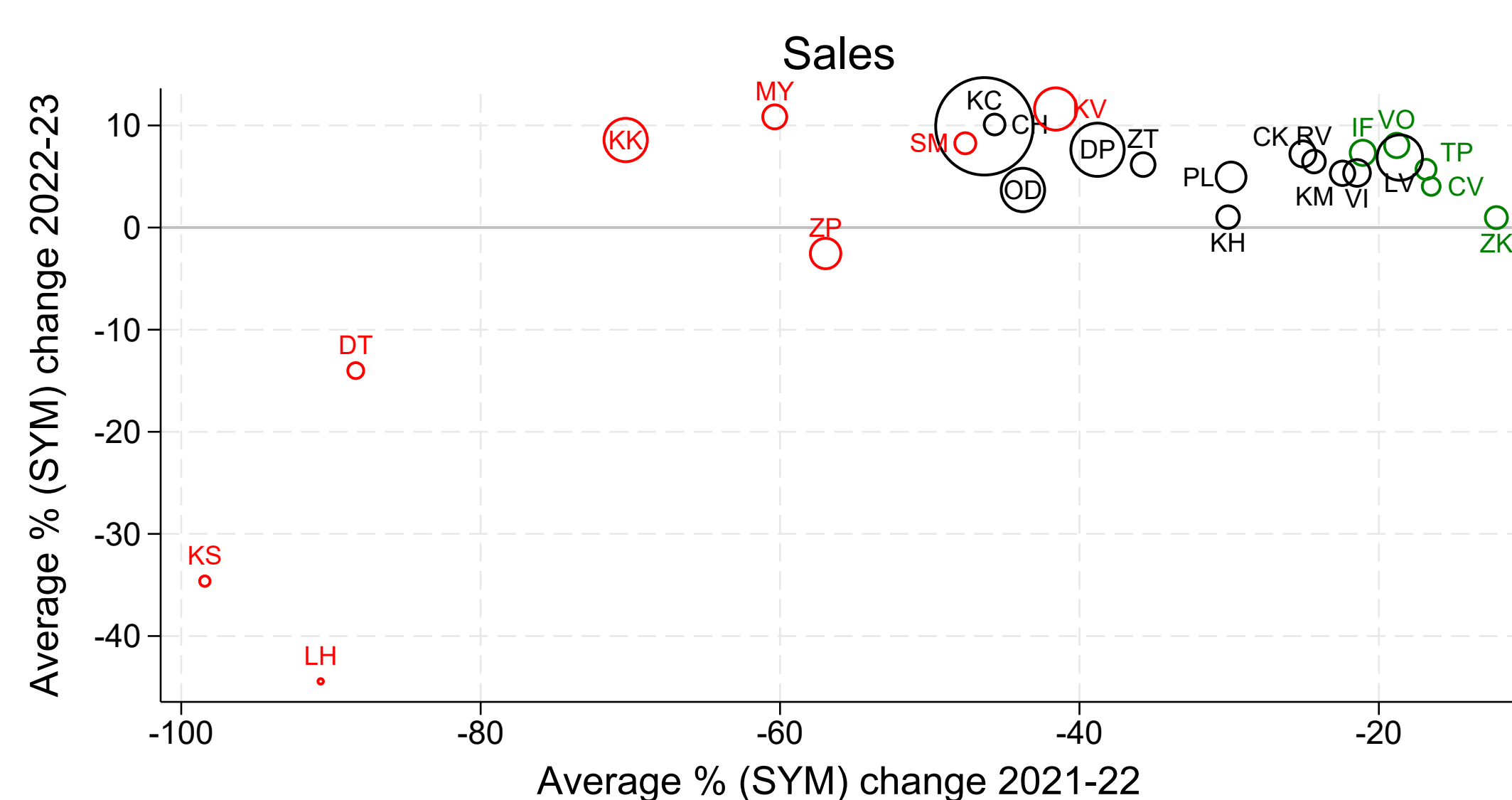


Prices increase in e-commerce transactions. Prices in e-commerce trade increase overall by 9.5%, the most in Donetsk. Prices increase for Electronics, but they drop for Apparel.

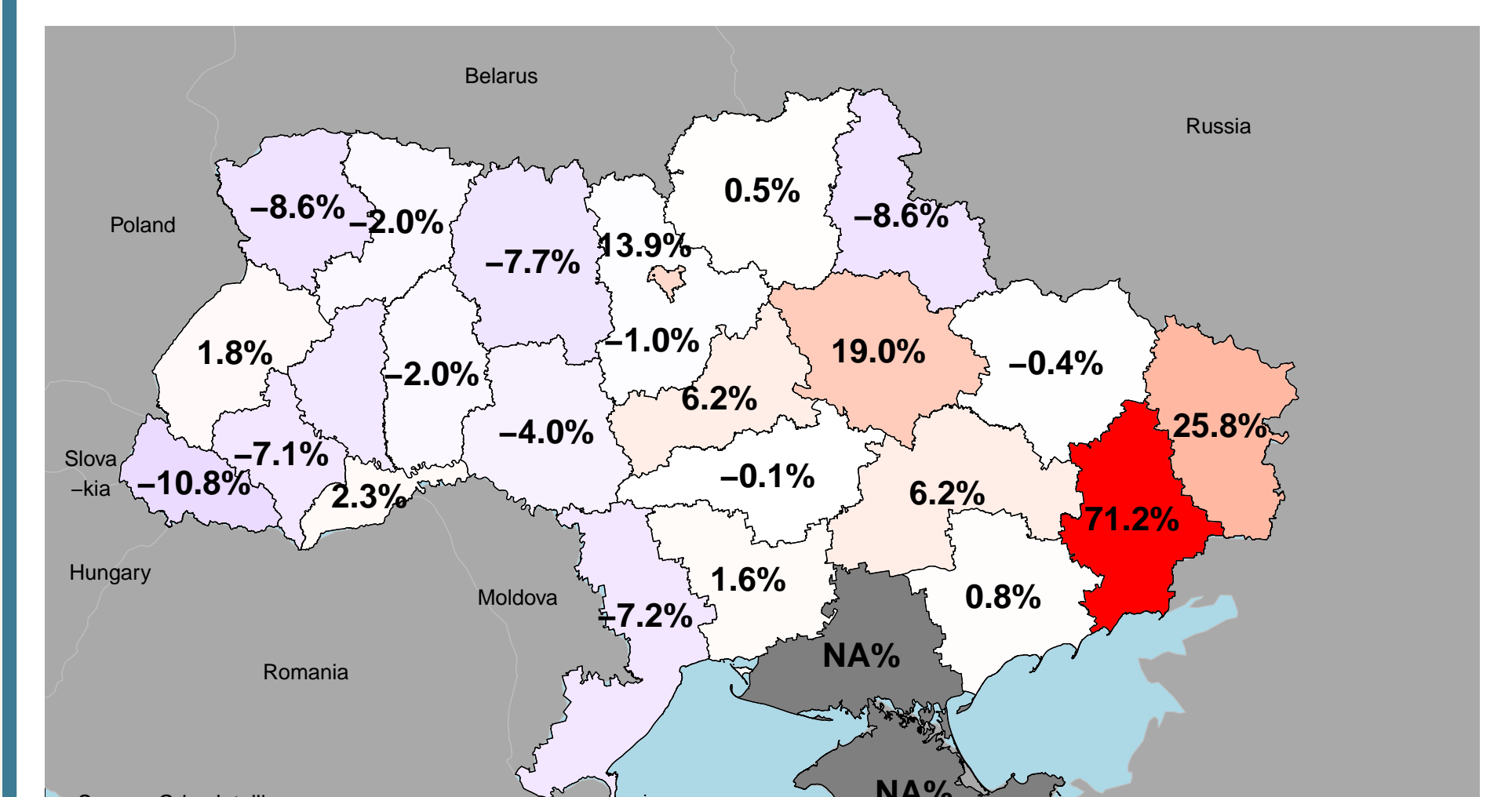
Consumer demand shifted, towards either the high- (luggage) or low-end (vehicles) of the price/quality spectrum.

Conflict intensity affects partial recovery by region

Regions less affected by the conflict show higher rates of recovery. In the East, sales dropped by over 80% in 2022 and Luhansk, Kherson, and Donetsk continue to face declining sales. The threat of air raids significantly disrupts business operations, as 1% rise in the number of air raids alerts is associated with a 0.075% decrease in sales.



Note: Conflict intensity in 2022: Green = Low, Black = Medium, Red = High. Graph shows % symmetric changes, such that a 10% increase offsets a 10% decrease in the previous year. Circle size based on pre-war number of firms in each oblast.



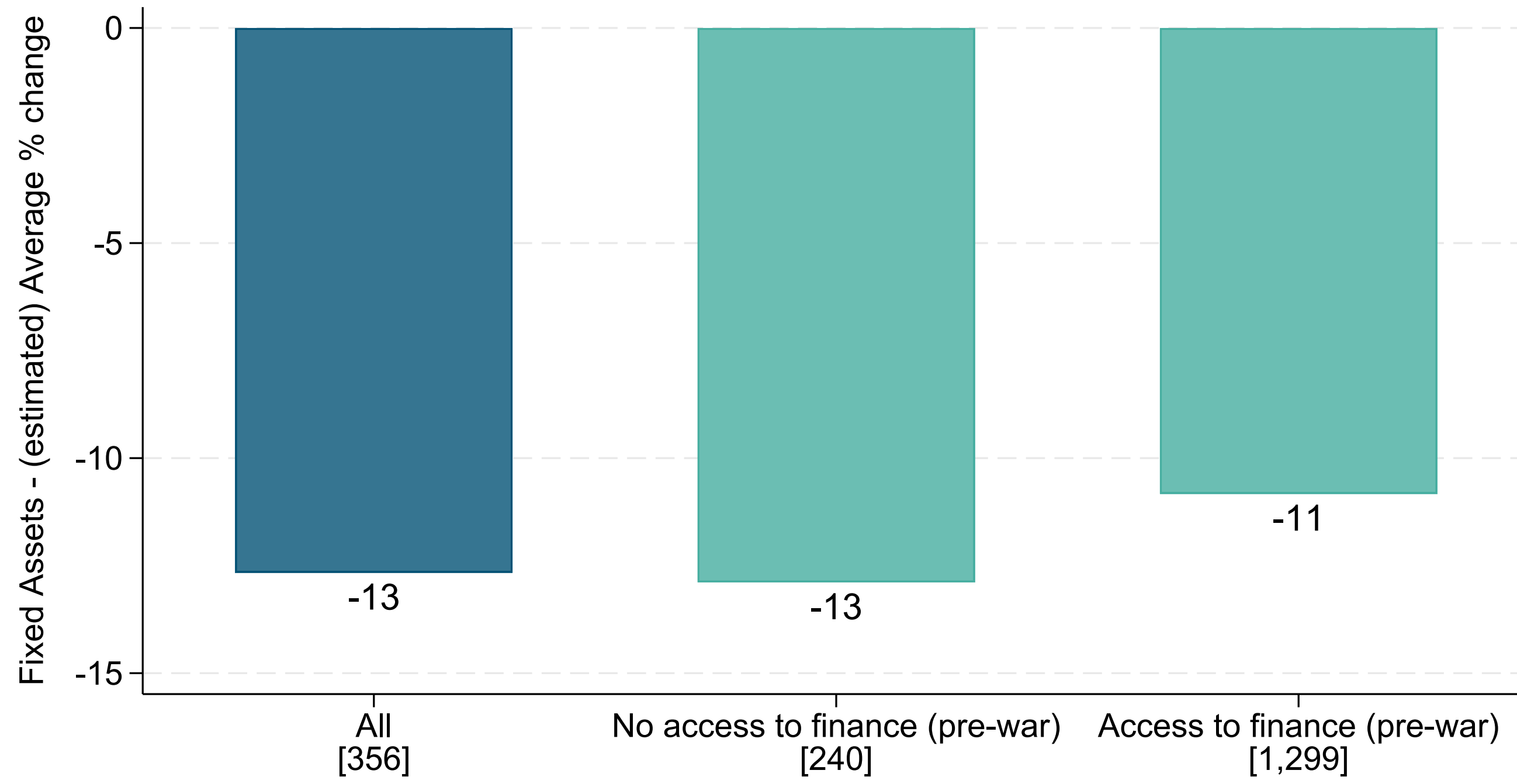
The War is Continuously Destroying the Firms' Capital

Conflict intensity matters for firm performance: Assets destruction continued in 2022 and 2023. Firms with diminished resources in conflict zones will need more support/security.

What is associated with the ongoing decline in fixed capital assets?

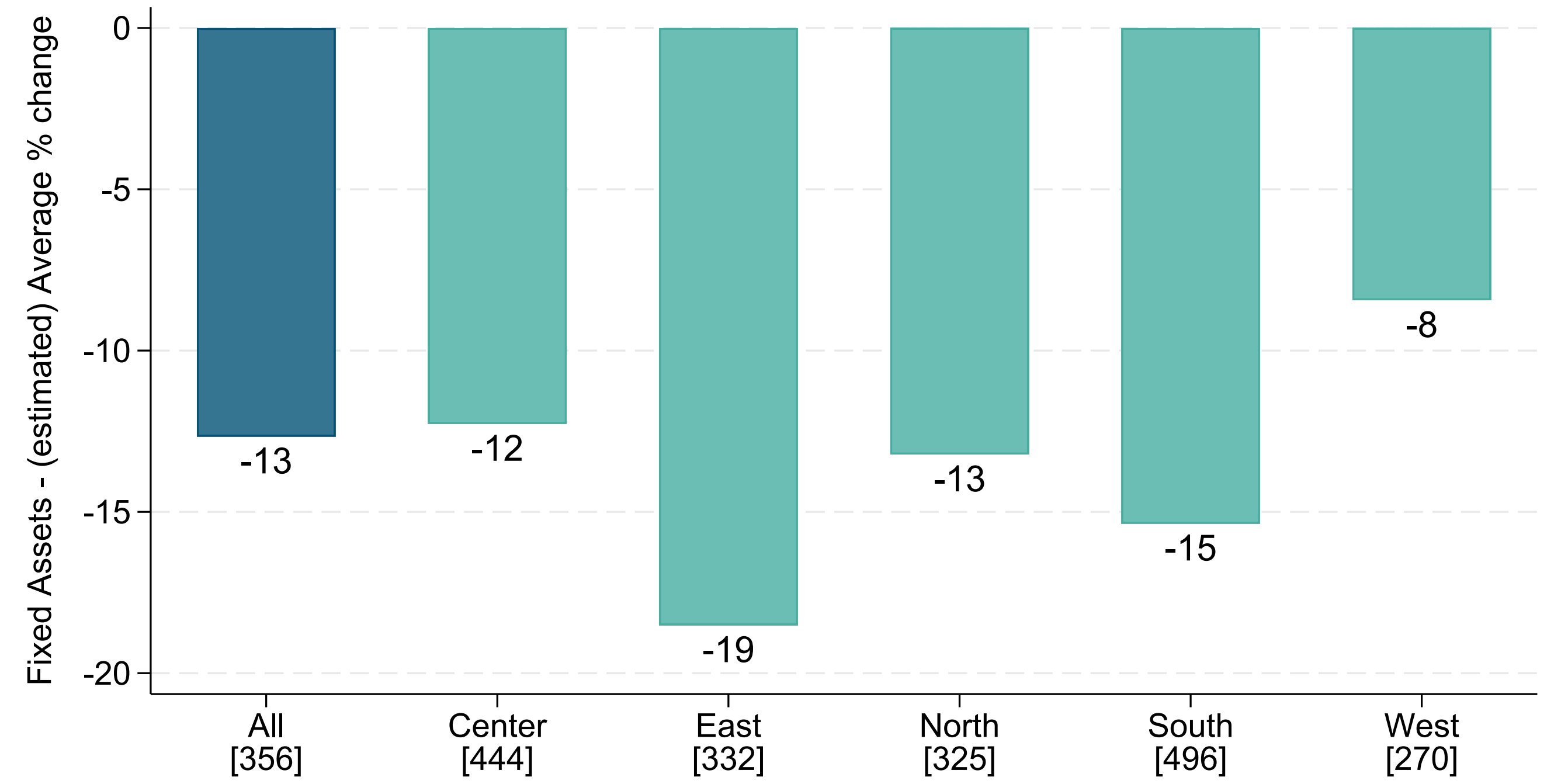
Access to finance seems to mitigate the reduction of fixed assets, while conflict intensity, location in the East, and larger firm size are negatively associated with fixed capital changes.^a

Pre-war access to finance predicts less destruction (2pp difference). In general, large firms continue to have better access to finance



Note: Conditional estimates from linear regression with 242,182 observations. Pre-war levels of fixed assets (2021) in brackets. Dep Var: YoY % change in fixed assets. Control Vars: level of assets and sales in 2021, firm size, sector, conflict intensity (Low/Medium/High), pre-war access to finance (Y/N), region FE, year FE.

Being located in the most affected regions is a strong predictor of capital destruction with -19pp and -15pp in fixed assets in the East and South.



Note: Conditional estimates from linear regression with 242,182 observations. Pre-war levels of fixed assets (2021) in brackets. Dep Var: YoY % change in fixed assets. Control Vars: level of assets and sales in 2021, firm size, sector, conflict intensity (Low/Medium/High), access to finance (Y/N), region FE, year FE.

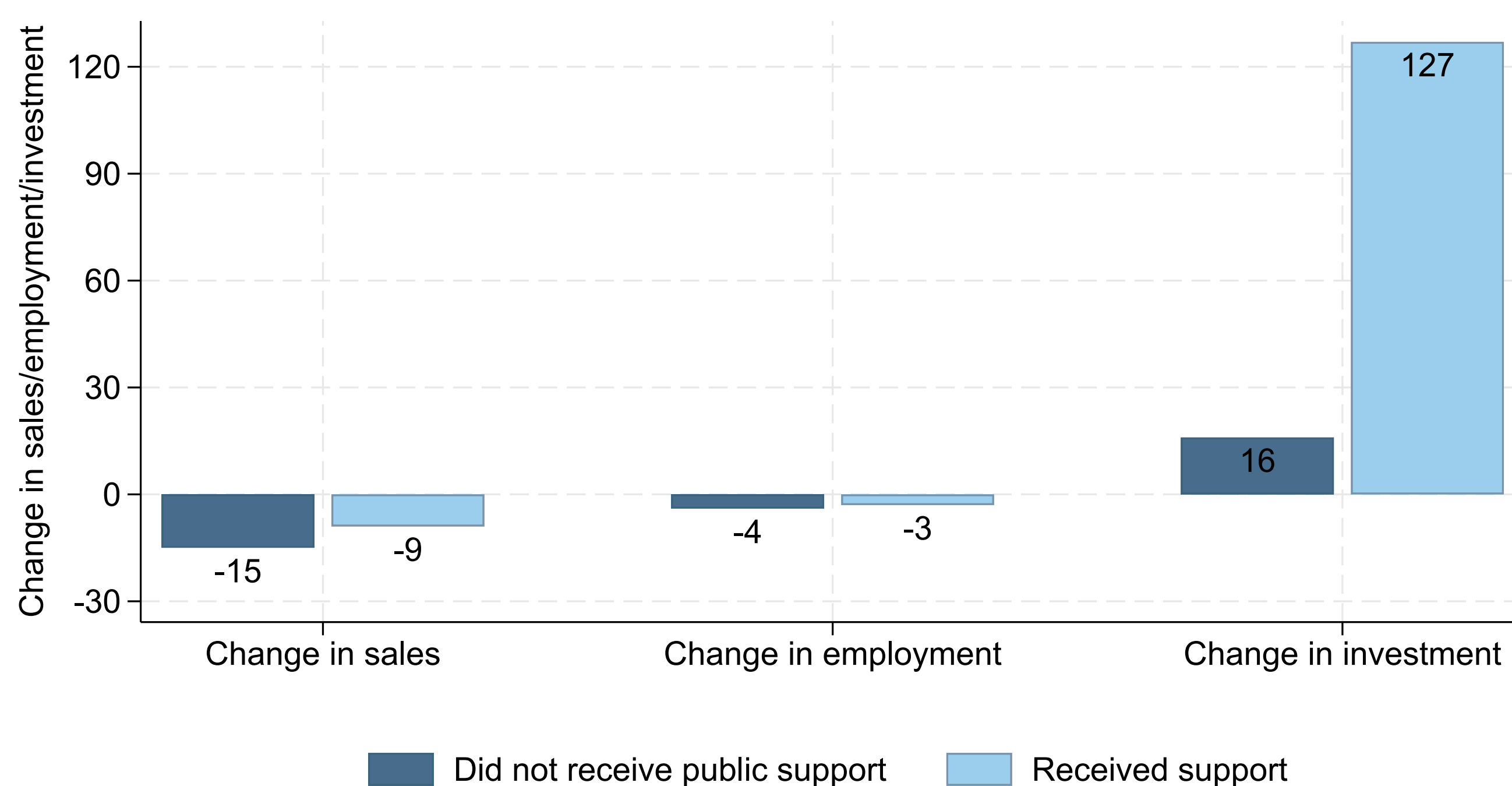
^aWe present predicted percentage point (pp) change in fixed assets based on administrative information and linear regressions (YoY% change) at the firm level (controlling simultaneously for level of assets in previous year, level of sales in previous year, conflict intensity, firm size, sector, access to finance, region and year fixed effects).

Governmental support, policy responses, and firms' needs

Firms' (other) challenges:

- Uncertainty about future sales is highest in the Center (17%) & in the Construction and Wholesale/ Retail sectors (19 and 13%, respectively);
- Financial fragility declined over time, but is still very high with a 34% probability to fall into arrears for small businesses that survived;
- Firms face challenges in hiring: Job creation (nr. of vacancies since January 2023) lowest in the South (and East), highest in the North. Shortages in labor supply (unfilled vacancies/total advertised vacancies) highest in the East and South (71% and 79%, respectively).

Direct governmental support is associated with more sales, employment, and investment

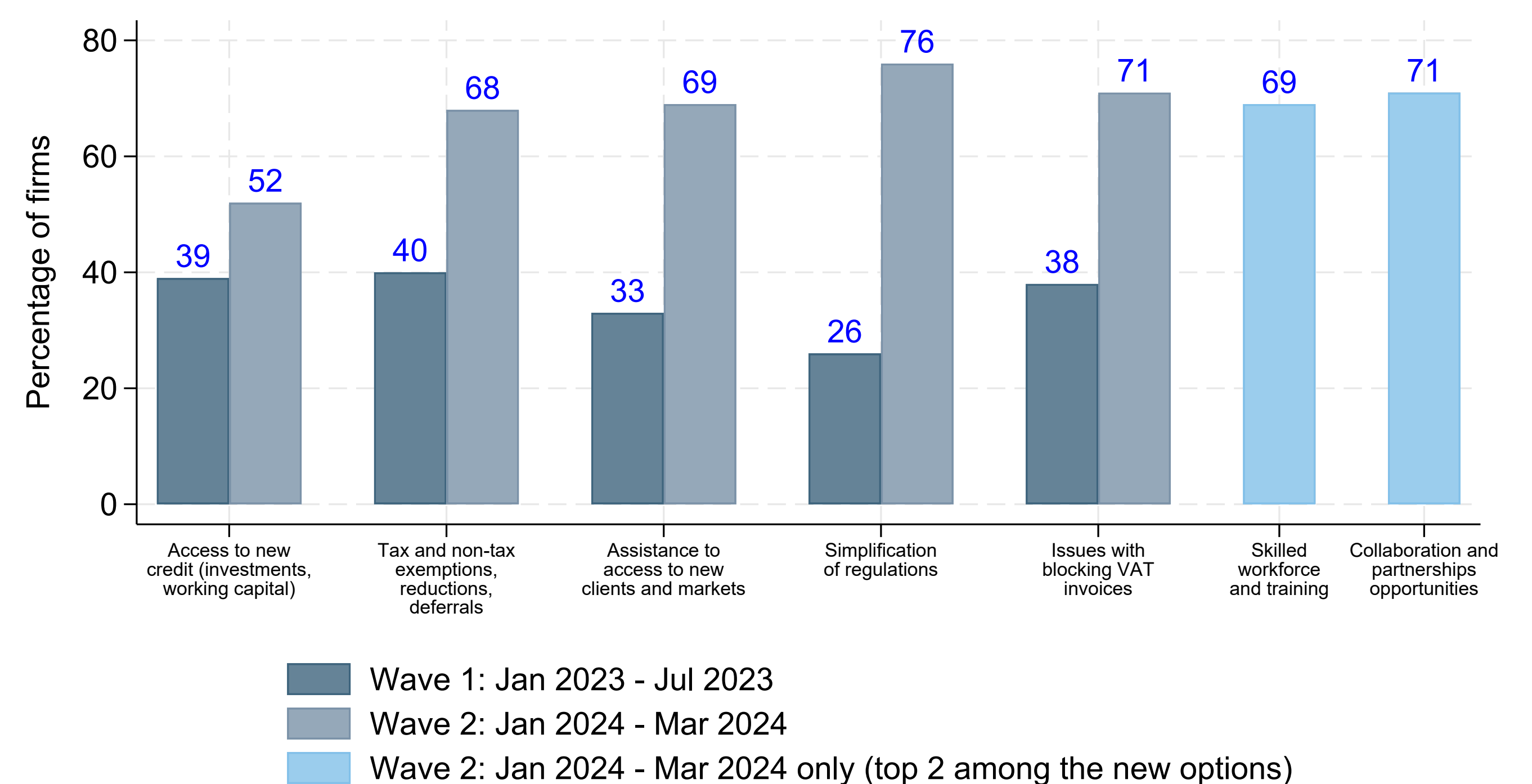


Note: OLS regression of change in sales or employment or investment on access to public support in either wave 1 or wave 2 controlling for size, sector and region. The number of observations for change in sales, employment and investment are 718, 615 and 486 respectively. The data is as of 11 Apr 2024

Government support..

- ... is generally associated with more sales, employment, and investment;
- ... remains low: Only 8% have access, with only large firms increasing support over time; most frequently reported for the 5-7-9 program (55% out of 72 firms);
- ...is needed immediately (e.g. for regulatory simplification (76% of firms), VAT blockages (71%), firm linkages (71%), access to markets (69%), and more;
- ... is needed to maintain critical fixed assets that continue to be destroyed in conflict areas.

Government support is needed



Note: Unconditional estimates. The number of observations for each policy need varies, but ranges between 848 to 891 as of 12 Apr 2024