Resilience of the Regional Agri-Food Sector amid Wartime Challenges

Evidence from Kharkiv Oblast, Ukraine

1. Research focus and approach

Objective: assess resilience of the agricultural component of the agri-food sector in Kharkiv Oblast.

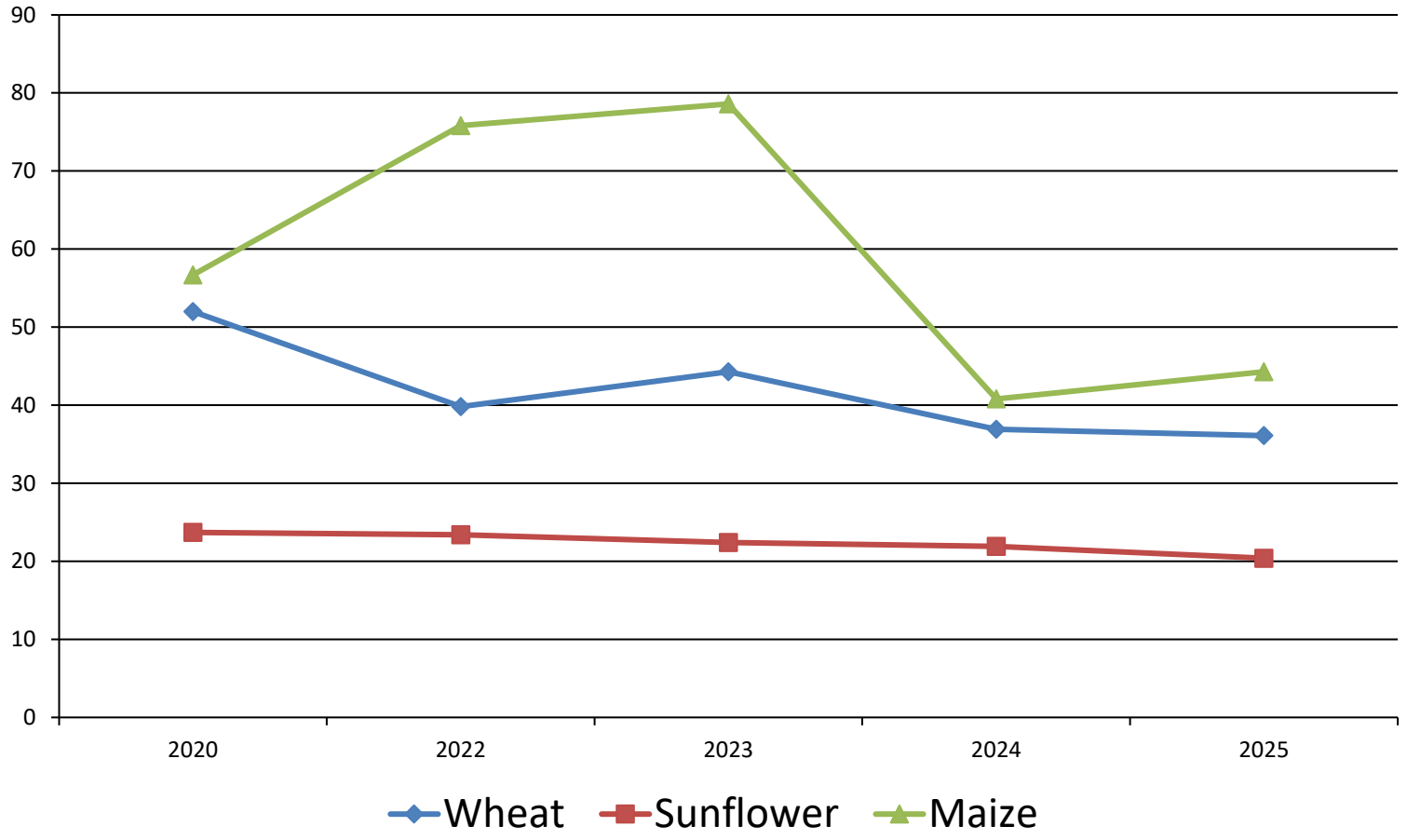
Data: agricultural enterprise reporting for 2020 and 2022–2025; 2020 is the pre-war baseline.

Three dimensions: physical productivity, structural diversity, and financial-operational capacity.

Method: descriptive comparative analysis — the study does not estimate causal effects of individual wartime threats.

2. Physical productivity: recovery remains incomplete

Yields in decitons per hectare; milk yield in kg per cow



−30.6%
wheat yield, 2025 vs 2020

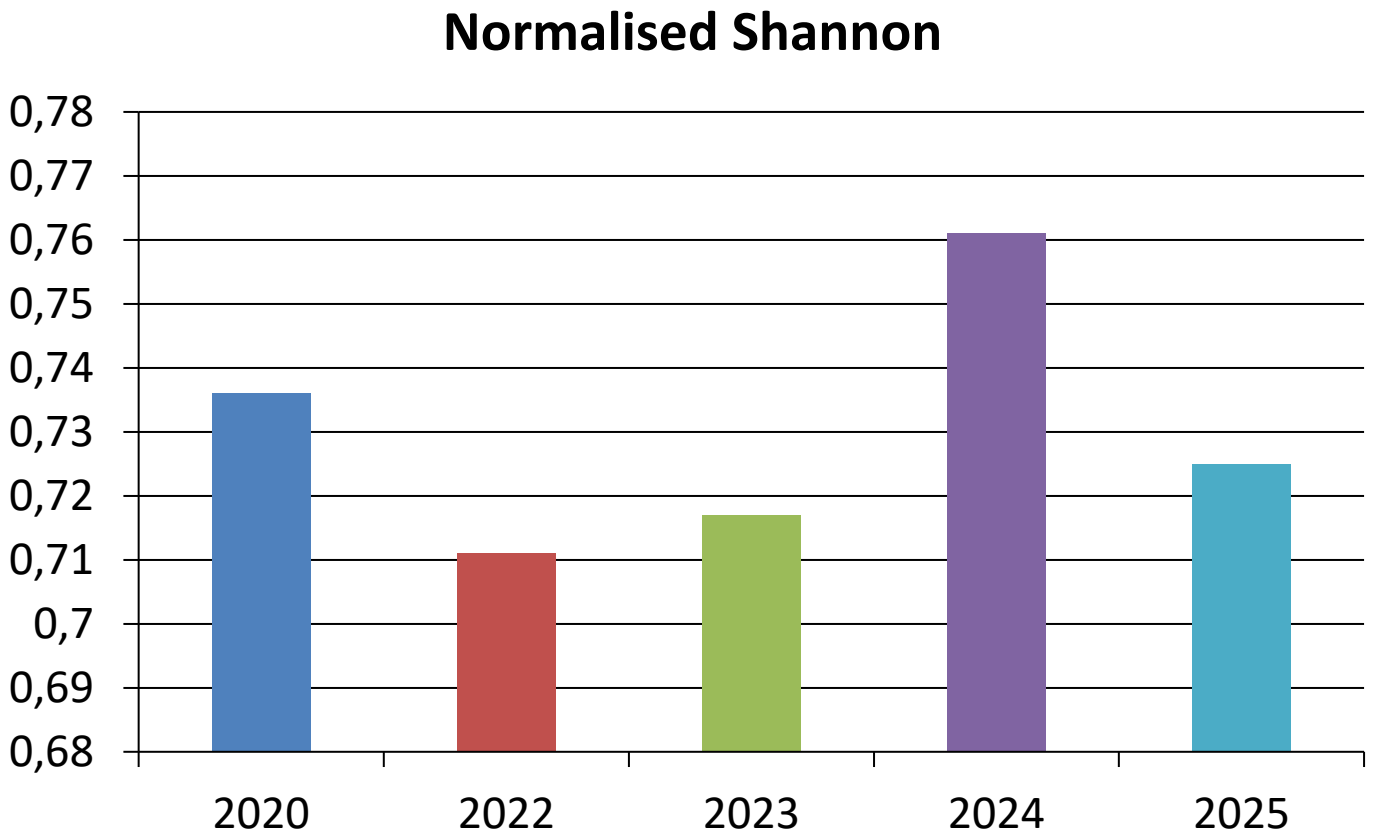
−13.9%
sunflower yield

−21.9%
maize yield

Milk yield per cow: −4.9% vs 2020

3. Structural diversity was relatively stable

Normalised Shannon index



0.736 → 0.725

2020 to 2025

0.761

peak in 2024

Key message:

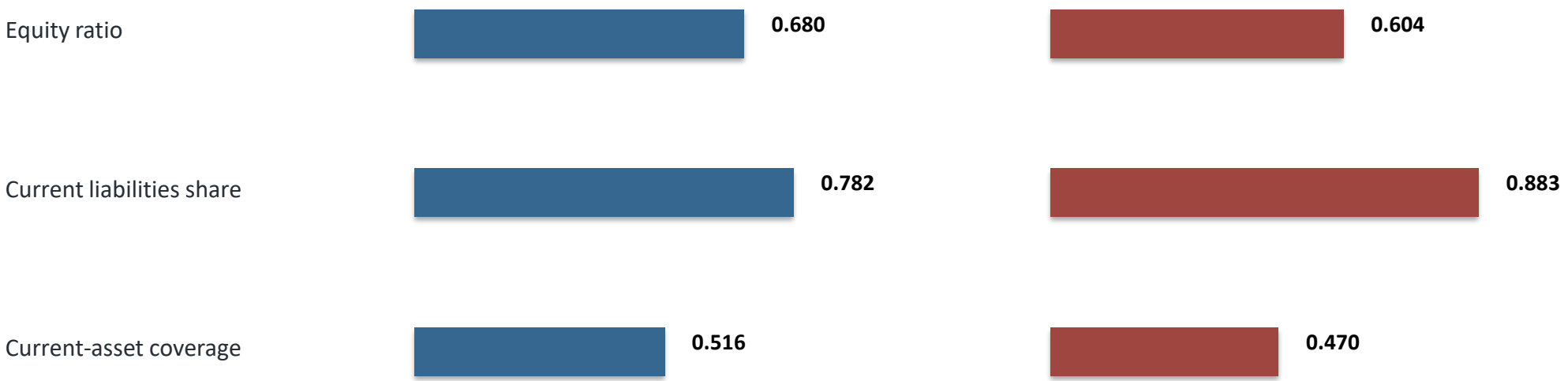
Diversity remained resilient, but it did not guarantee sustained

4. Financial resilience weakened in important respects

0.680 → 0.604
equity ratio

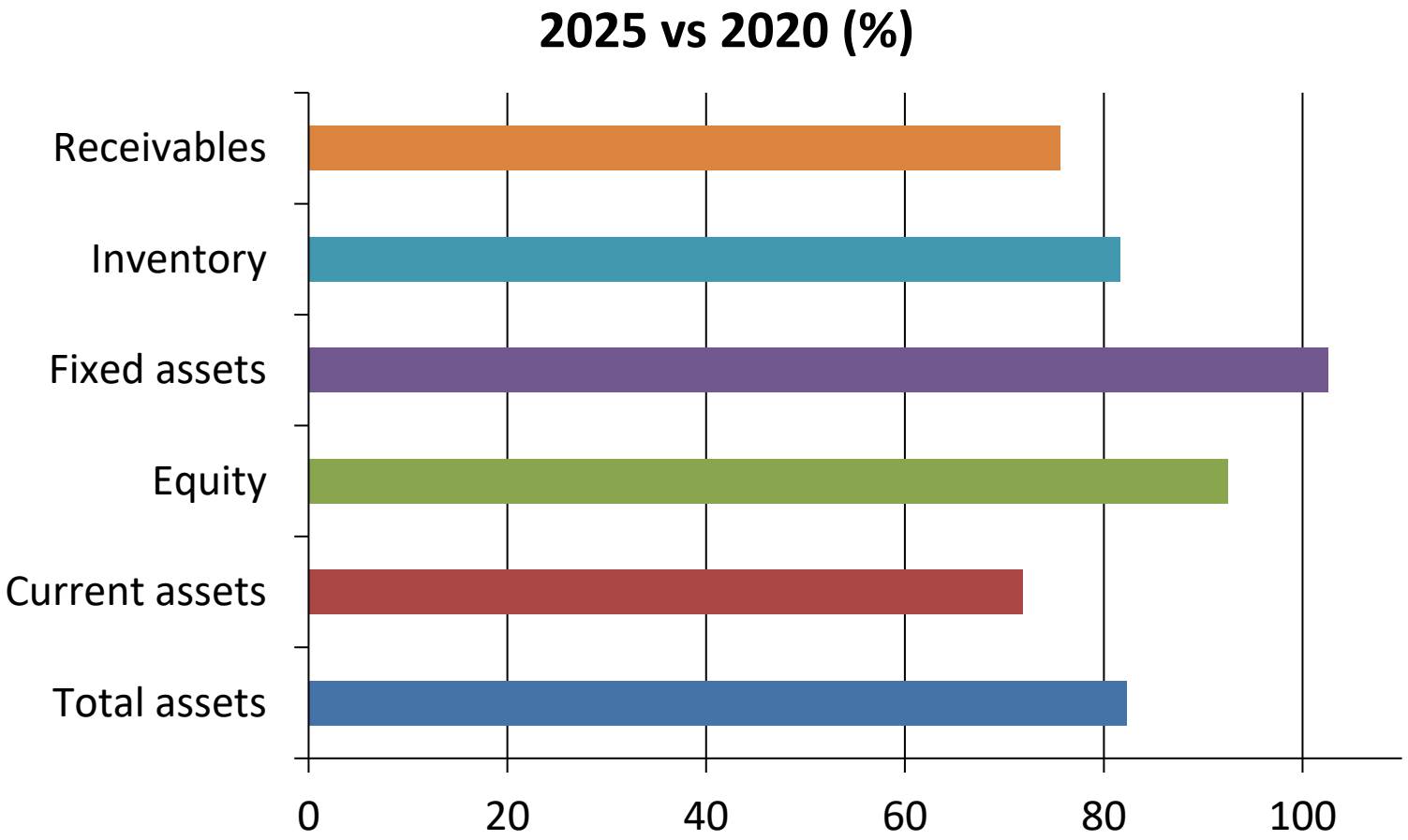
78.2% → 88.3%
current liabilities / non-equity financing

51.6% → 47.0%
current-asset coverage by equity-funded WC



5. Business activity: partial but uneven recovery

2025 compared with the 2020 pre-war baseline



–17.7%
total asset turnover

–18.3%
inventory turnover

–24.4%
receivables turnover

6. Main finding: resilience is multidimensional

PRODUCTIVITY

Physical yields remained below 2020 levels.

STRUCTURE

Crop diversity stayed comparatively stable.

FINANCE & ACTIVITY

Turnover recovered partly, while financial dependence increased.

Operational continuity ≠ full long-term economic resilience.

7. Implications and limitations

Monitor production, structural diversity, and financial-operational indicators together.

Use baseline comparisons and explicitly flag changes in reporting coverage.

The proposed digital monitoring architecture is conceptual only; it has not been implemented or validated.

Key limitations: missing 2021 data, changing reporting population, nominal financial values, and no causal identification of individual wartime threats.

Take-home message

The Kharkiv regional agri-food sector demonstrated adaptive capacity, but resilience was uneven:

structural diversity was comparatively stable;

physical productivity remained depressed and volatile;

business activity partially recovered;

financial independence weakened.

Thank you for your attention.