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How large is misallocation of resources in the Polish economy?

Extended abstract

The paper studies how large is the deviation of Poland's allocation of labor and capital from an efficient benchmark and how it has evolved over three decades. It sets out to measure misallocation over 1993–2023, compare alternative measurement frameworks, assess the role of business dynamism, map sectoral differences, and identify firm traits associated with movements toward efficient scale. Our results indicate, that resource misallocation in Poland has risen since the early 2000s, with counterfactual gains from eliminating wedges growing from roughly 30–40% of GDP in the 1990s to about 70% of GDP in the 2020s, robust across methodologies and specifications.

Methodology

The baseline employs the Hsieh–Klenow (2009) framework that infers firm-level wedges from dispersion in revenue productivity, where sectoral TFP falls with the variance of log TFPR under log-normality, and eliminating wedges equalizes after-tax marginal revenue products within sectors, boosting output through within-industry reallocation. The analysis also implements Dias–Marques–Richmond (2016) gross-output extension with intermediates and Bils–Klenow–Ruane (2021) mismeasurement-aware approach. The study uses the annual Polish enterprise census for firms employing 10+ FTEs, covering years 1993–2023, with nearly 1.3 million observations and around 158K firms observed on average for eight years, mapped to 4-digit NACE industries. Value added, labor costs, fixed assets, and materials/outsourcing components are consistently defined since 2002, with carefully documented adjustments in earlier years to maximize cross-time comparability while tracking coverage against national accounts aggregates.

Results

Resource misallocation rises from the early 2000s, with implied output gains from removing wedges of 30–40% in the 1990s, 50–60% in the 2000s–2010s, and around 70% in the 2020s, indicating substantial and growing dispersion in marginal revenue products within industries. The rising trend is robust across three approaches: Hsieh–Klenow (2009) (mean misallocation near 51% with trend increase), Dias–Marques–Richmond (2016) (lower levels by about 8.2 pp due to averaging and not eliminating wedges), and Bils–Klenow–Ruane (2021) (higher by about 10.2 pp by adding materials distortions), all pointing to deterioration since the 2000s. The results (especially with regard to trend misallocation) are broadly sensitive to a number of adjustments to the identification strategy, including: labor measurement, industry granularity, and technology parameters. Accounting for possible mismeasurememt suggests only modest corrections on the order of roughly −3.9 pp on average, leaving the upward trend intact.

Factors affecting misallocation

The analysis made on balanced panels reveal that within-cohort misallocation does not trend up strongly over long horizons, in contrast to the full-sample aggregate, implying that business dynamics

is an important factor behind the upward trend of misallocation. Moreover, misallocation levels and trajectories differ across sectors, with especially high and rising dispersion in services such as real estate, administration, hotels/food, information, and selected transport/trade segments, and comparatively lower dispersion in manufacturing, construction, and some goods-producing industries over 2002–2023. This pattern aligns with the broader literature that finds higher misallocation in services and underscores the importance of sector-specific frictions and policies in shaping dispersion.

Firm-level analysis

To identify which firms would need to expand or contract to attain efficient scales, the study estimates firm-level regressions of the growth required to reach efficient size and, separately, observed growth, using alternating projections to absorb multiway fixed effects and clustering, with specifications weighted by labor and by alternative schemes. Factors associated with lower misallocation (i.e., growth toward efficient size) include middle size, non-exporter status or lower export shares among exporters, higher productivity, higher profitability, and absence of subsidies; notably, several determinants (size, productivity, subsidization) have opposite signs in regressions explaining realized growth, helping reconcile why reallocation contributes positively to TFP growth even as misallocation rises.

Policy and research implications

The findings call for diagnosing the policies aiming at or implying wedge dispersion that vary by size, sector, and firm status, including careful evaluation of subsidies, export-linked policies, and market power/competition measures. Future work could integrate explicit structural frictions (credit, firing costs, size-dependent rules) and dynamic investment/adjustment cost channels, and further refine mismeasurement corrections, to map specific policy levers to quantifiable reductions in TFPR variance and associated TFP gains.