Firm dynamics, productivity, and innovation

Findings from Transition Report 2017-18

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Schumpeterian model of development: Creative destruction

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- Growth comes from
  1) Innovations by new and existing firms → higher productivity
  2) Selection (entry and exit) → composition of innovative firms
  3) Allocation of resources
- Incentives to innovate and grow respond to economic policies and institutions: in particular, competition.
- Implications for convergence
  1) Less room for adoption and imitation as a country gets richer.
  2) Countries can get trapped in investment-based strategies (selection is less important: short-run growth can be boosted through channelling investments to incumbents).

We document two main findings

1) There is an abundance of very small firms and a lack of dynamism in the EBRD region

- Small firms are very inefficient, yet manage to survive
- They are also less likely to grow and become large

2) Industry-level growth slows down closer to the frontier

- This is true of all developing countries
- Greater openness to trade and engagement in GVCs lead to more sustainable productivity growth
- They also help reallocate jobs to more productive industries
- Capital investment key to retaining productivity growth

Growth in the EBRD region has been relatively "innovation-light"

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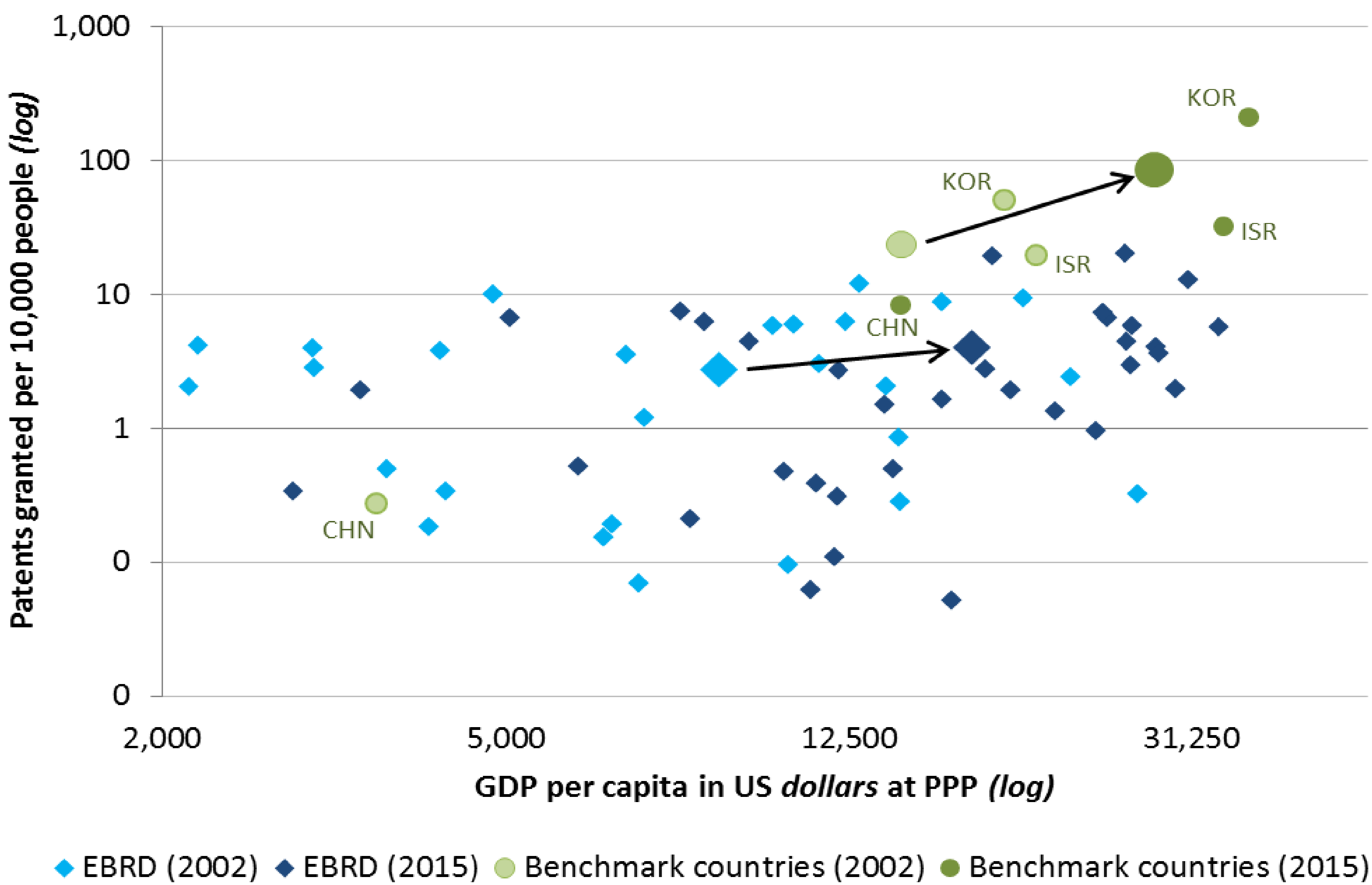

Source: World Development Indicators (WDI), World Intellectual Property Organization (WIPO) and authors' calculations.

As less than 1% of firms introduce a product that is new to the world

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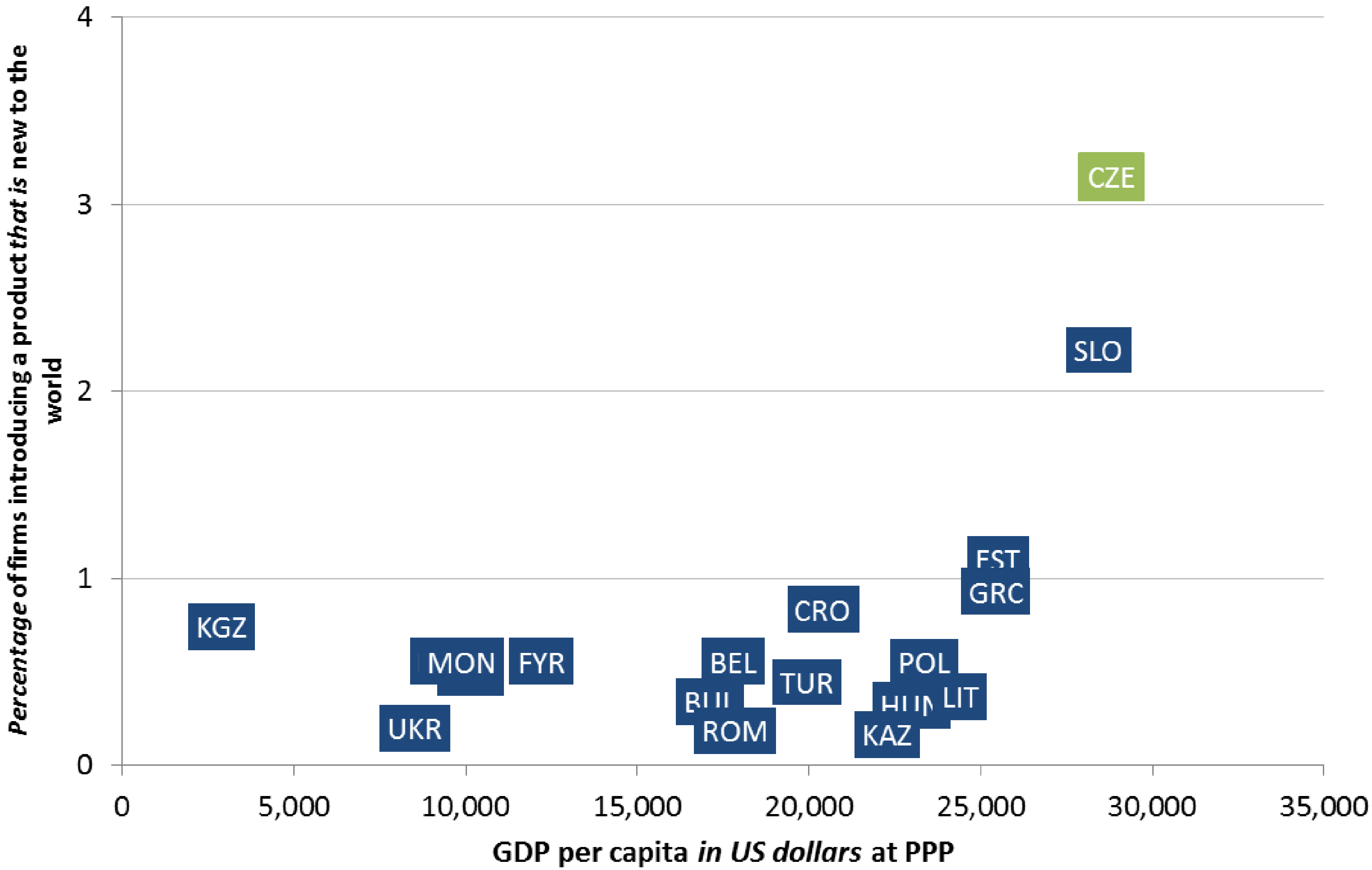

Source: BEEPS, WDI, and authors' calculations.

Small firms are abundant in the region, accounting for 96% of all firms

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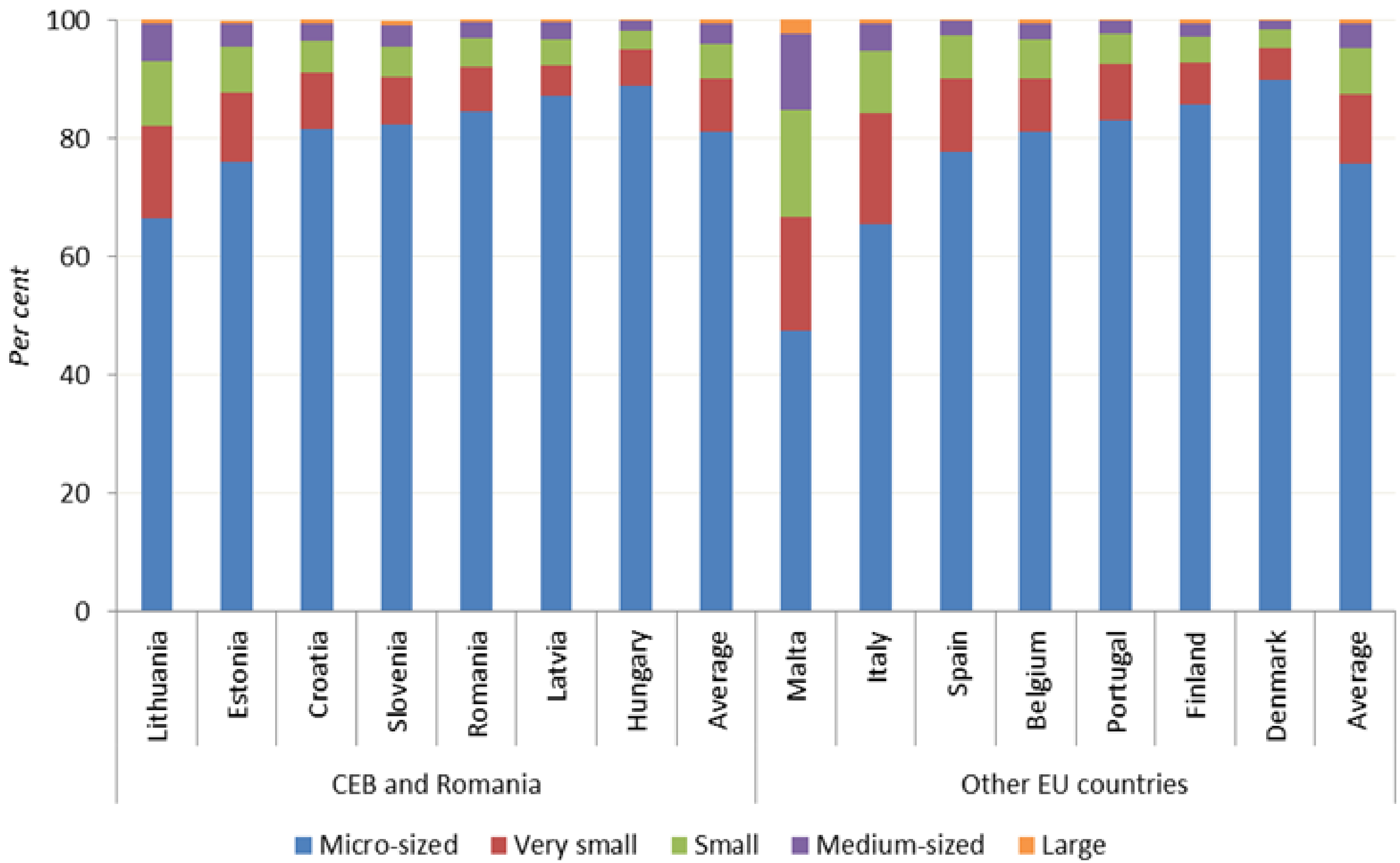

Notes: Firm scales defined as Micro: 1-9, V small: 10-19, Small: 20-49, Medium: 50-249, Large: 250+ workers.
Source: CompNet and authors' calculations.

Smaller firms are relatively inefficient

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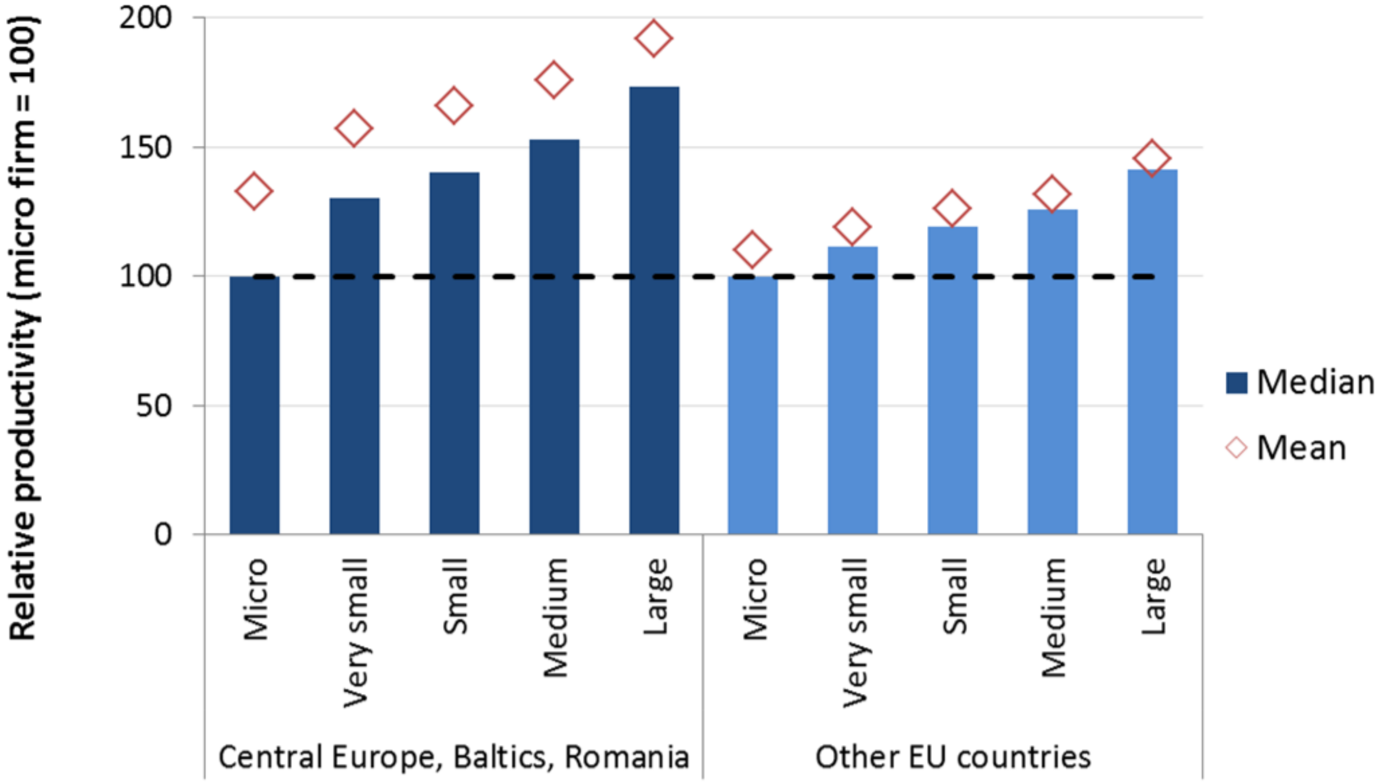
Median large firm in Central Europe and Romania is 70% more productive than median micro firm – versus 40% difference in EU-15.

Productivity levels by firm size (micro = 100)



Note: Productivity levels are normalised to 100 per cent for the median micro-sized firms.
Source: CompNet and authors' calculations.

While there is considerable variation in productivity across industries

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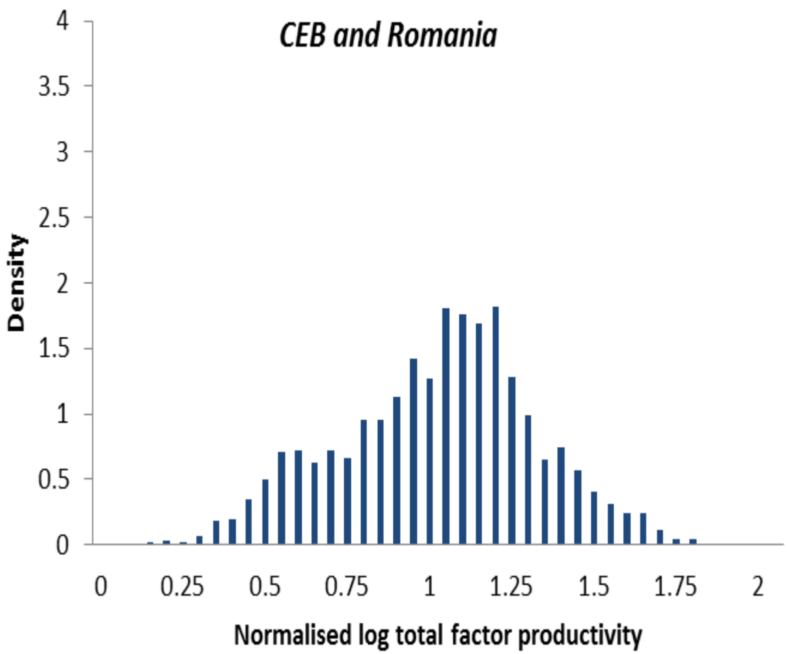

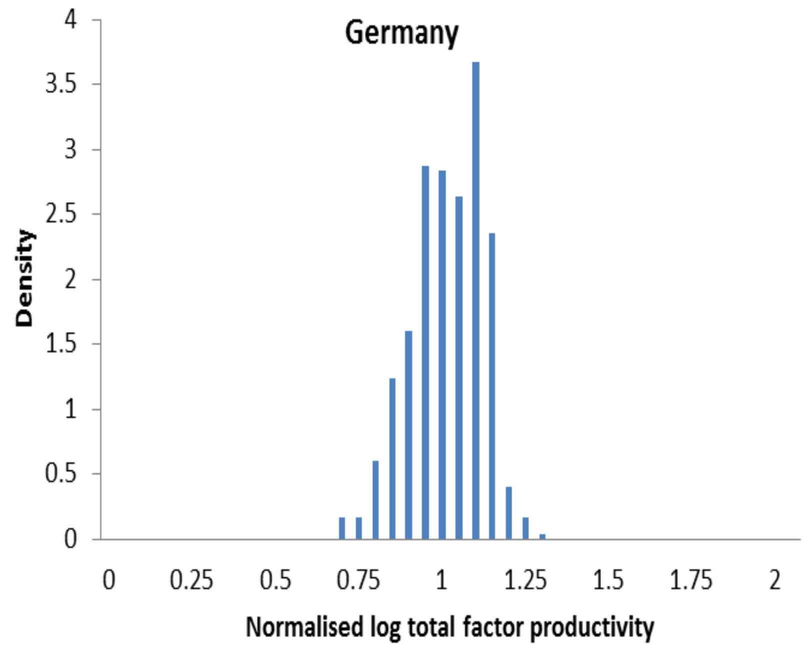

Note: Based on a combined industry-level sample, controlling for cross-country differences in industry composition.
Source: CompNet and authors' calculations.

Smaller firms in the region fail to grow

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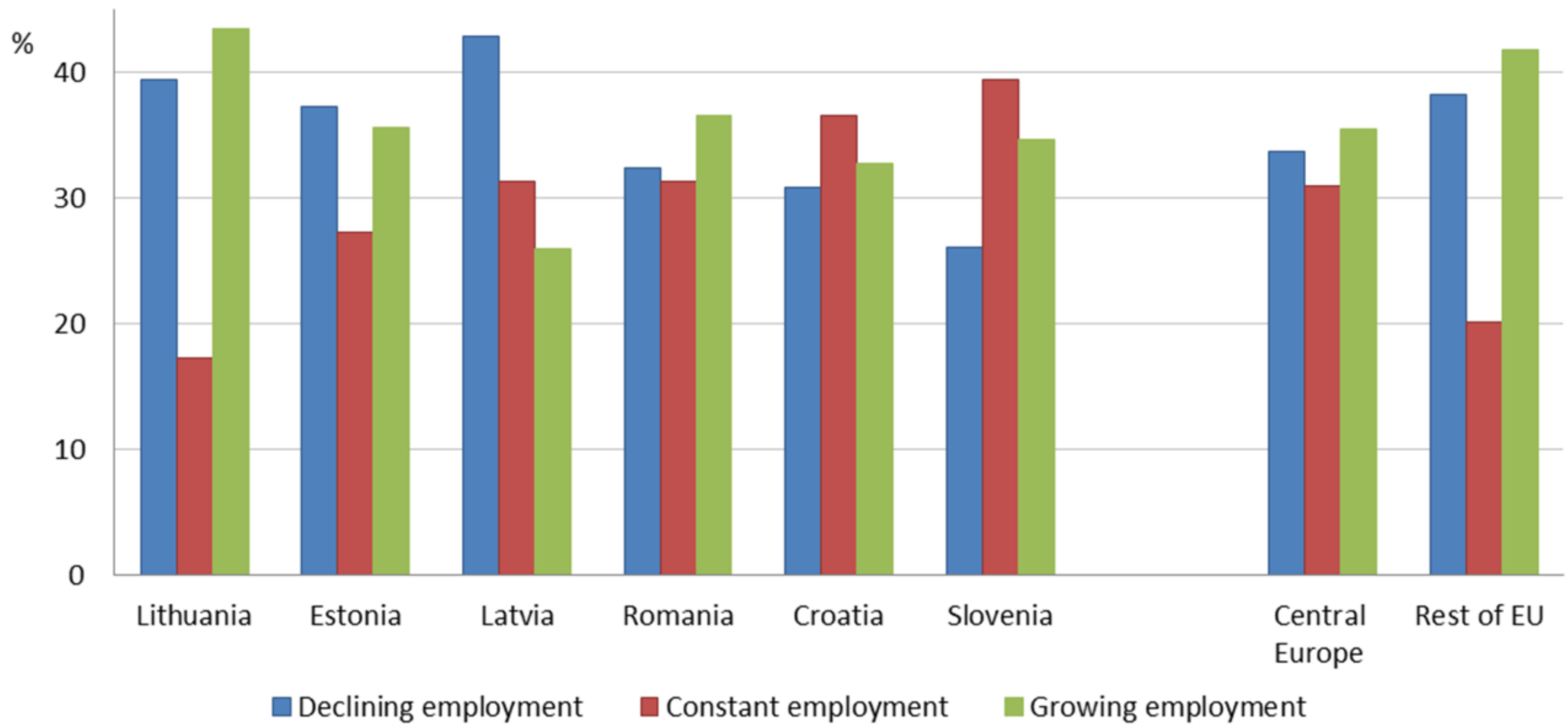
In EU-15 only 20% of firms remain in the same size bracket over 10 years, 40%+ of firms grow
In Central Europe, firms have roughly equal chance to grow, remain the same or shrink.

% of firms by change in employment, 2002-13



Source: CompNet and authors calculations.

Productivity growth is faster in industries further away from the technological frontier

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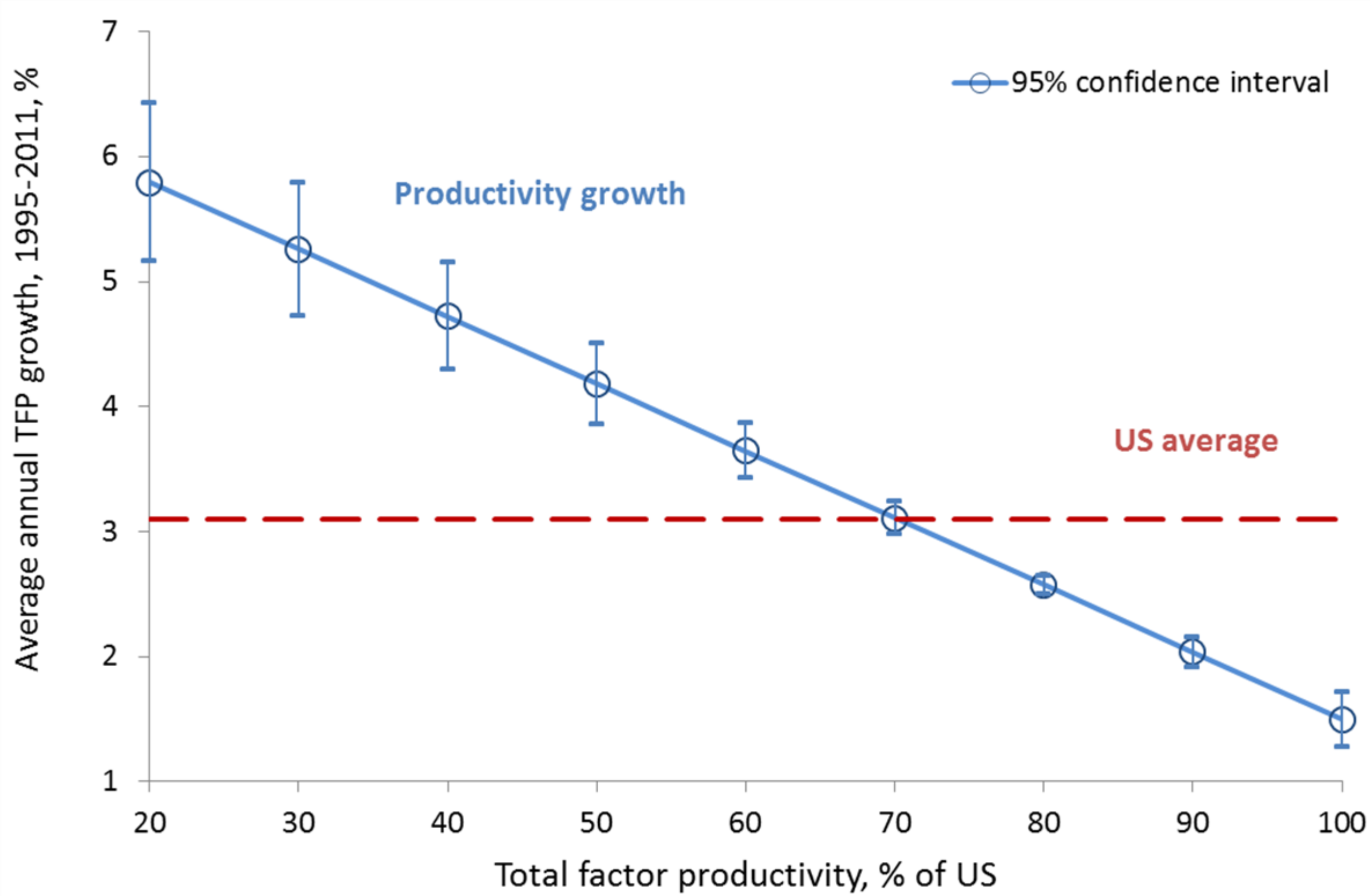
Estimated average annual TFP growth, 1995-2011, depending on initial TFP



Note: Predicted growth from a country-industry panel regression controlling for country, industry and year fixed effects.
Source: WIOD and authors' calculations.

Productivity convergence can be sustained with greater trade openness and integration

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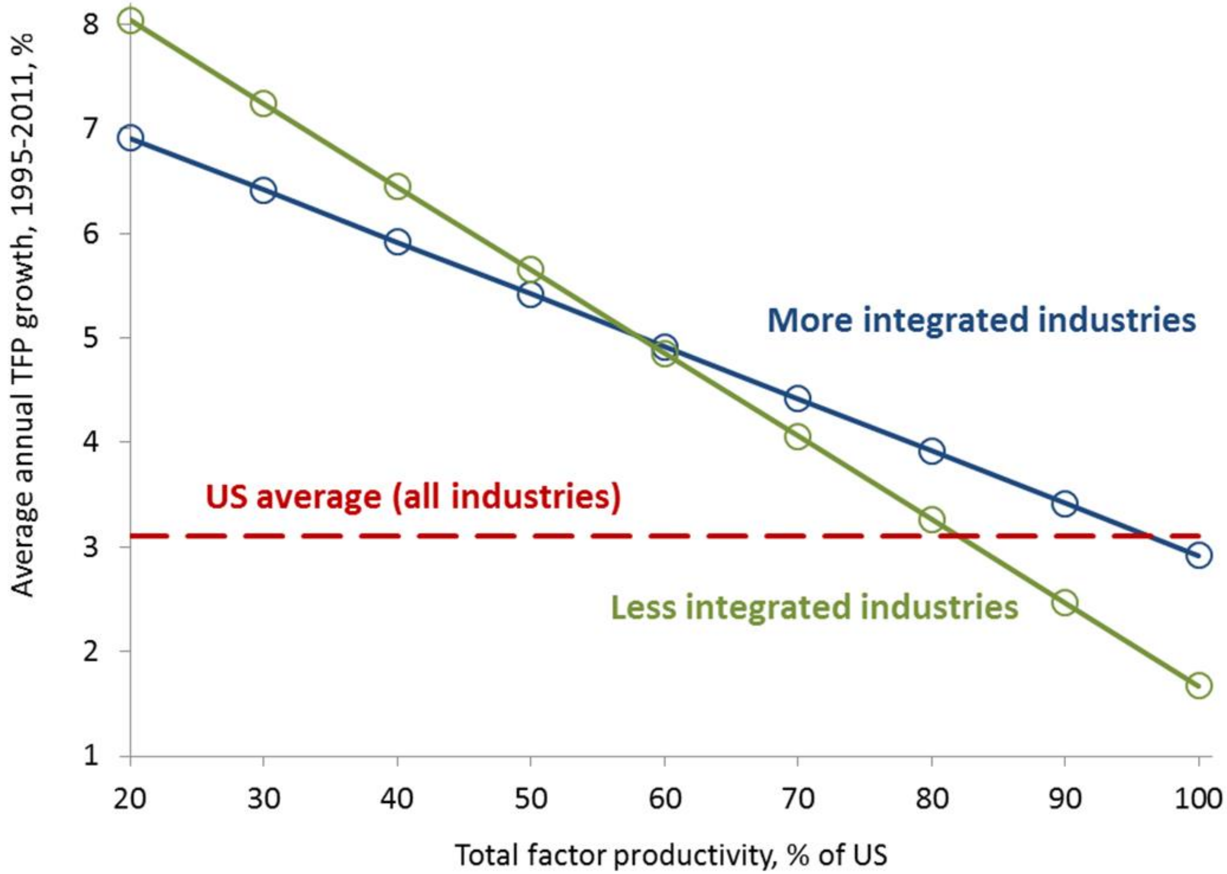
Average annual TFP growth, 1995-2011, depending on initial TFP



Note: Less integrated source <40% of inputs abroad; more integrated > 80%.
Source: WIOD and authors' calculations.

More productive industries create more jobs, and reallocation of labour boosts growth

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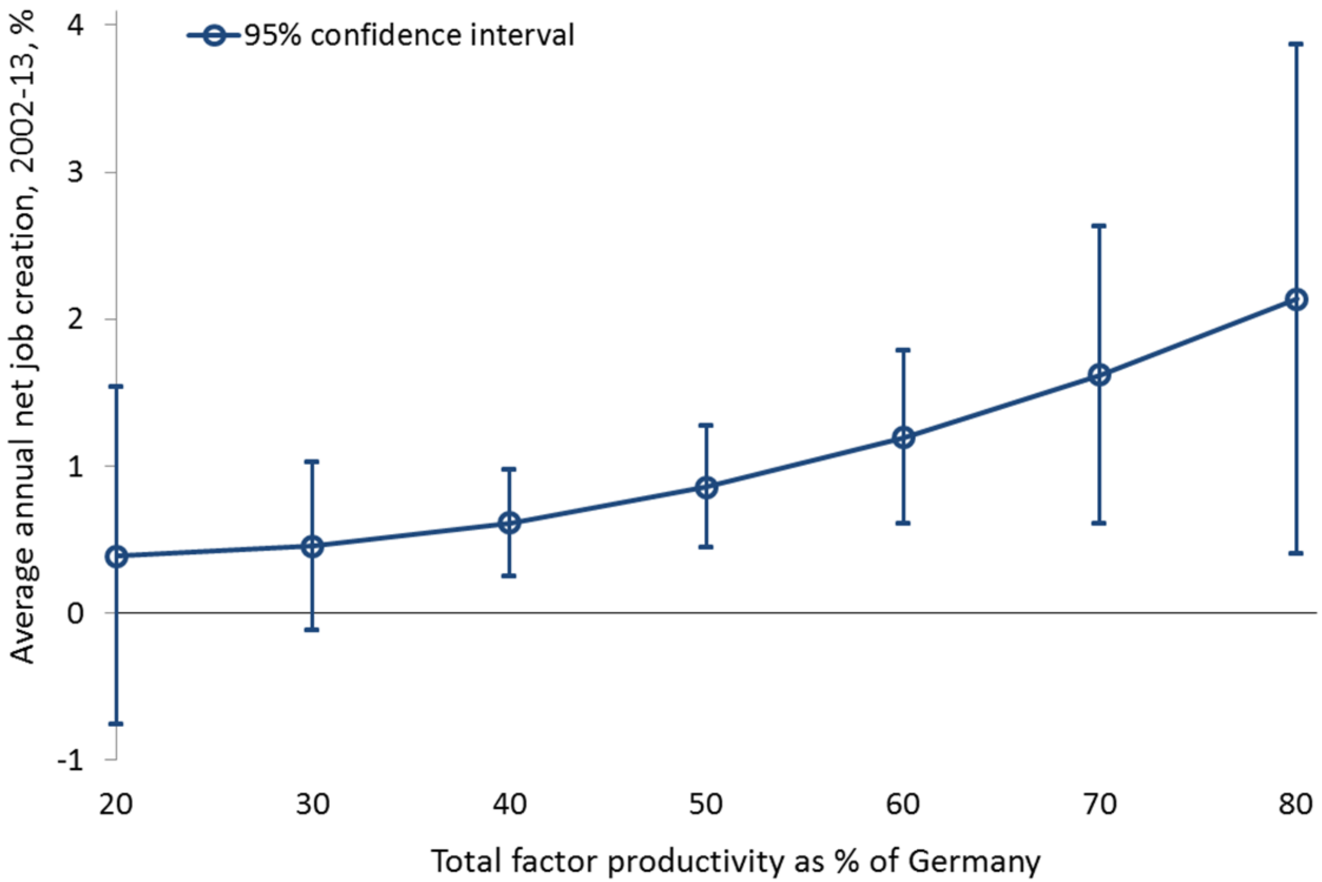
Average annual job creation, 2002-2013, depending on initial TFP



Note: Regressions control for country, industry and year fixed effects.
Source: CompNet and authors' calculations.

Trade openness helps to relocate jobs to more productive industries

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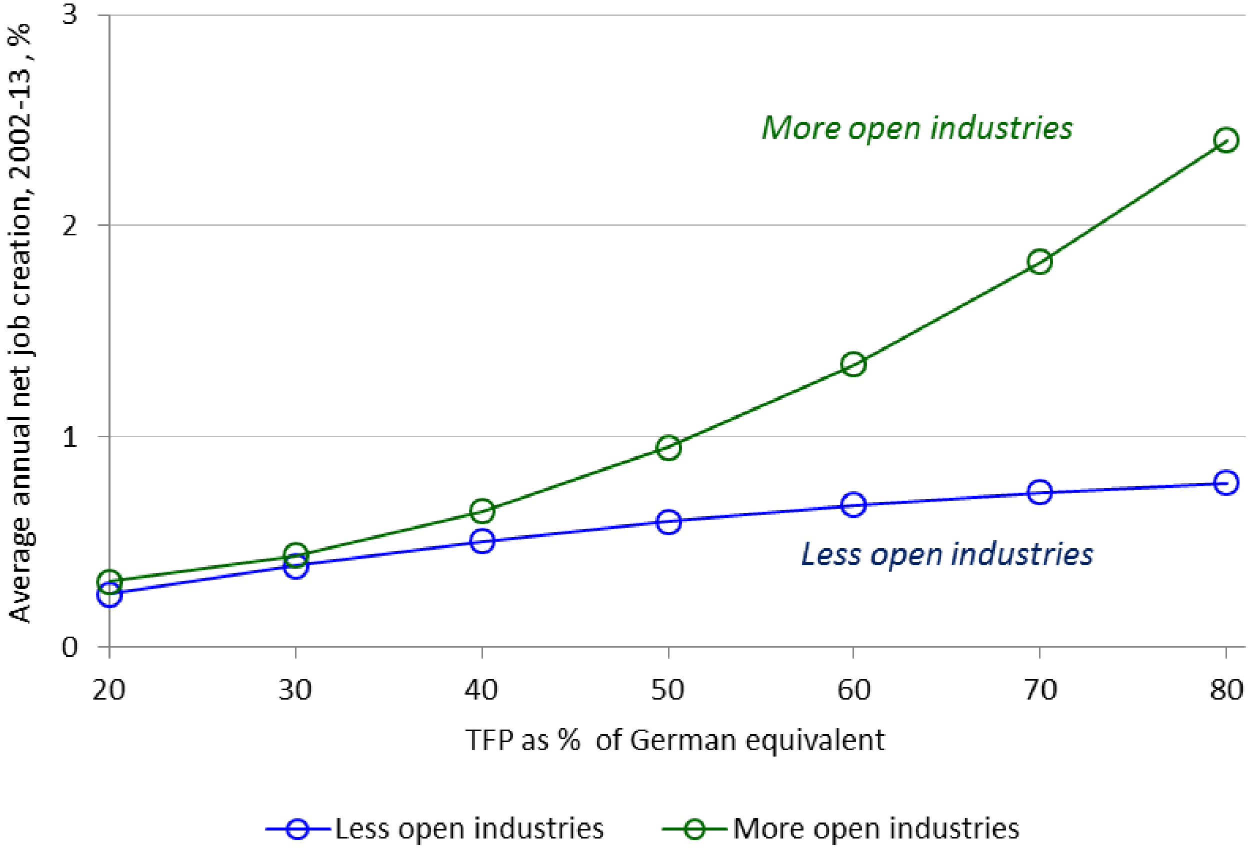
Average annual job creation, 2002-2013, depending on initial TFP



Note: Regressions control for country, industry and year fixed effects.
Source: CompNet.

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