Europe's Productivity Weakness

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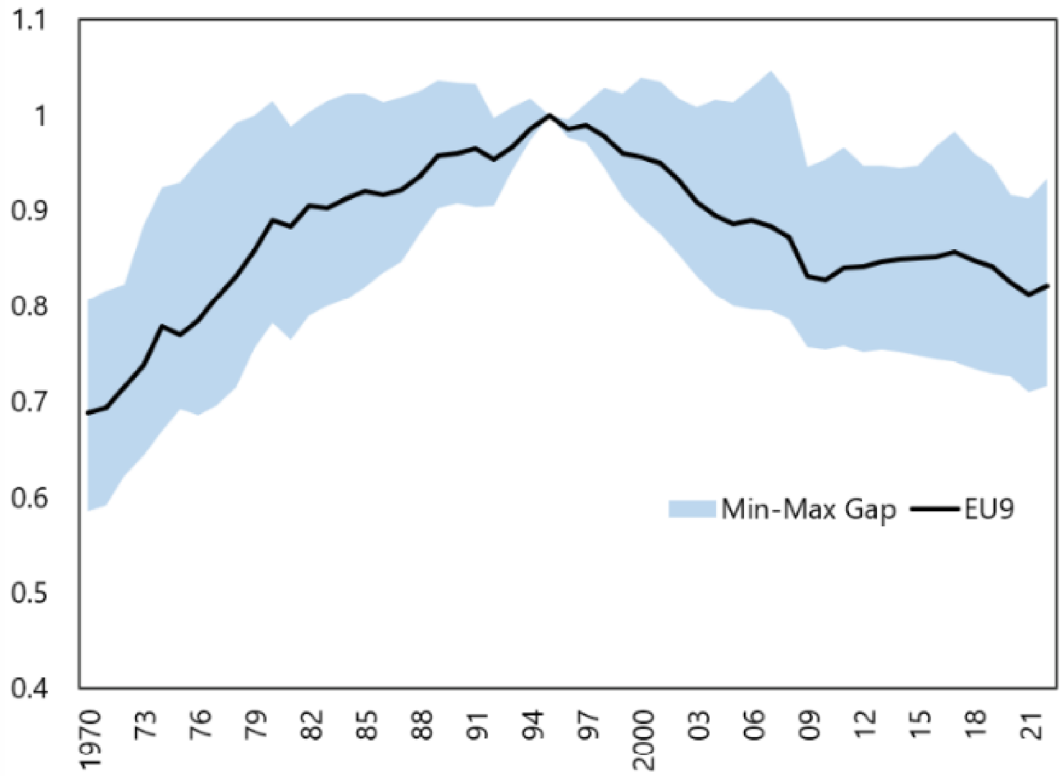
PRESENTED BY GEE HEE HONG

Europe has a large productivity shortfall

Labor Productivity compared to the US

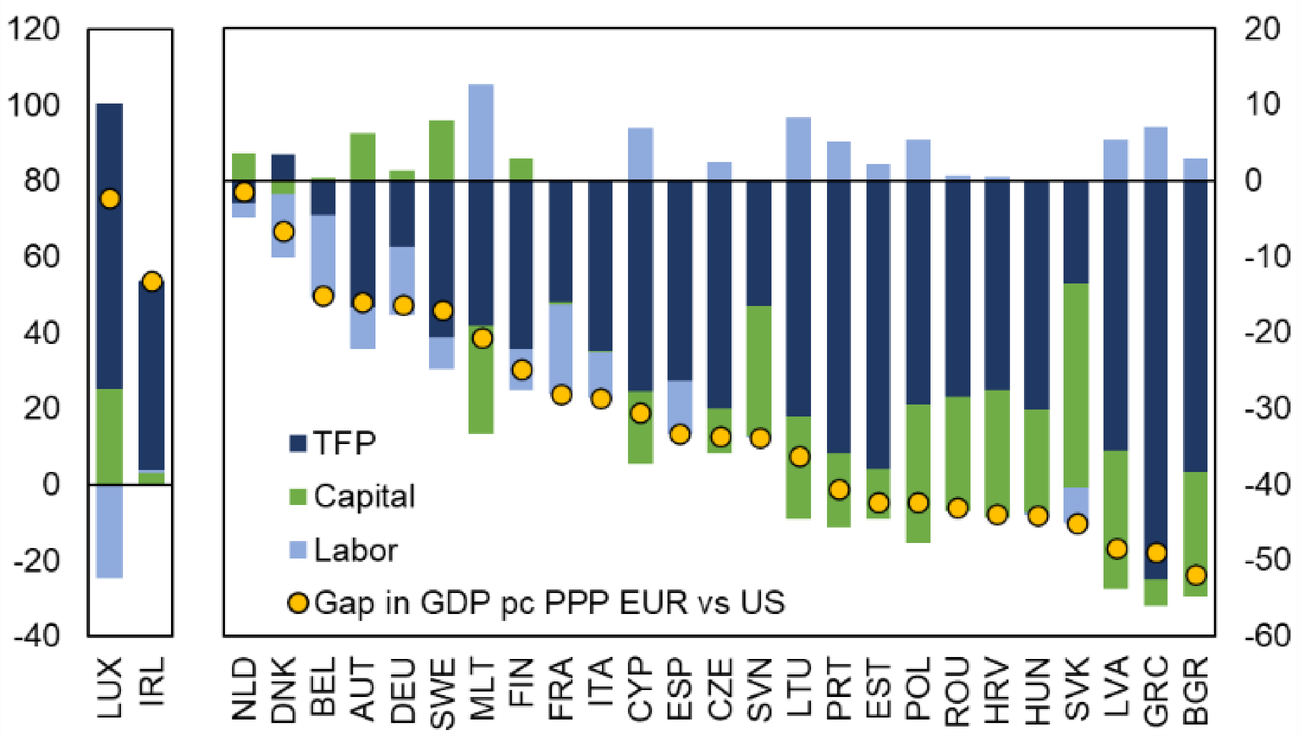
(GDP per hour worked in PPP terms relative to the U.S.; 1995=1)



Sources: Long Term Productivity Database; ECB; and IMF staff calculations.

Decomposition of GDP per Capita Difference with the US, 2024

(in PPP terms, 2024)



Source: AMECO; WEO; and IMF and staff calculations.

This paper

- Deep-dive into the underlying source(s) of the aggregate productivity weakness by establishing micro-level evidences using various firm-level datasets (CompNet, Compustat, Orbis)
- Productivity across firm life-cycle: (1) large, leading firms; (2) young, high growth firms
- Neo-Schumpeterian framework (e.g., Aghion, Ackigit, Howitt, 2013)

The Firm-Level Origins of Europe’s Productivity Problem

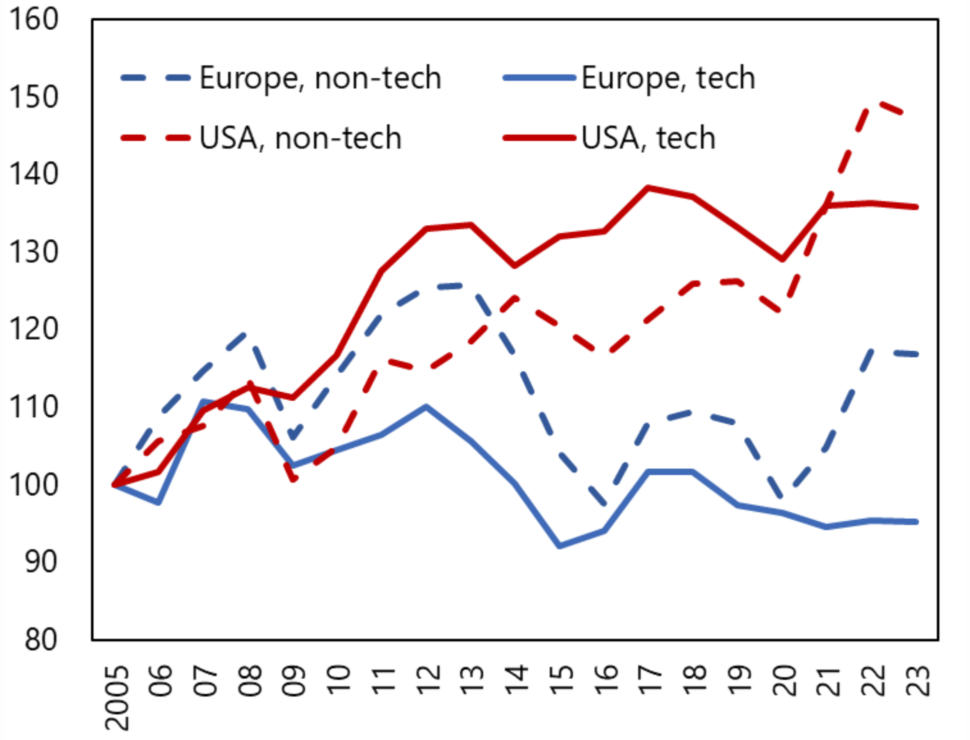
Europe's large leading firms lag in productivity and innovation…

Productivity growth of Europe's listed firms, especially in tech, has trailed their US counterparts…

… and this divergence comes hand-in-hand with a widening gap in innovation efforts.

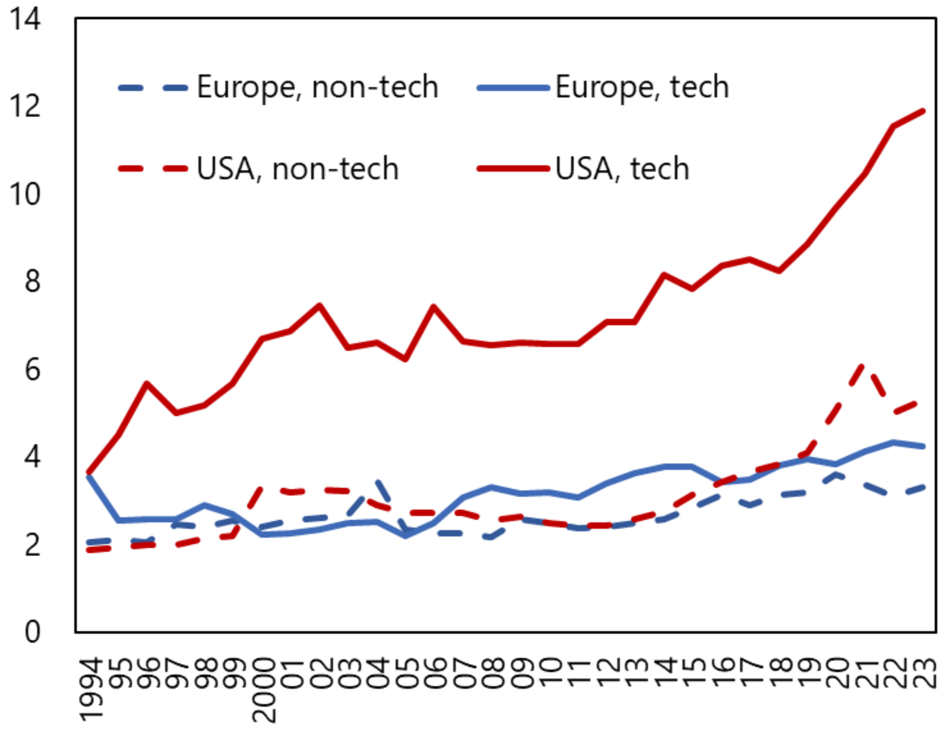
Productivity of Listed Firms

(2005=100)



R&D Intensity over Sales

(Percent)



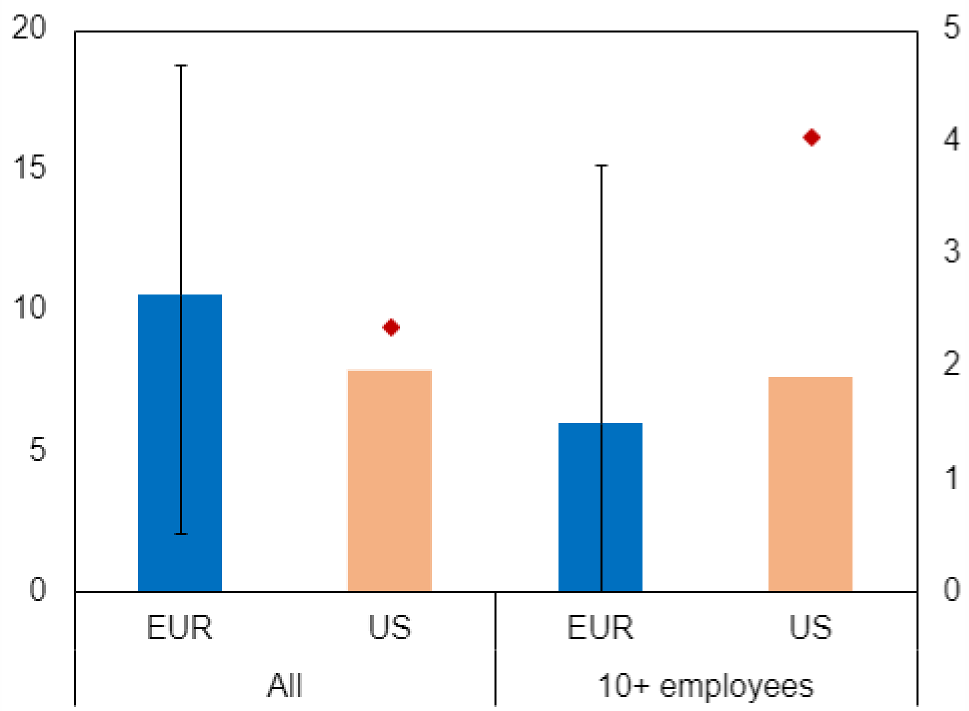
Source: Compustat; and IMF staff calculations.

Note: Productivity estimates are based on non-parametric approach by Gandhi and others (2020).

There is a deficit of startups, with too few making it to the top

Relative to the U.S., firms enter at a lower rate in many European economies.

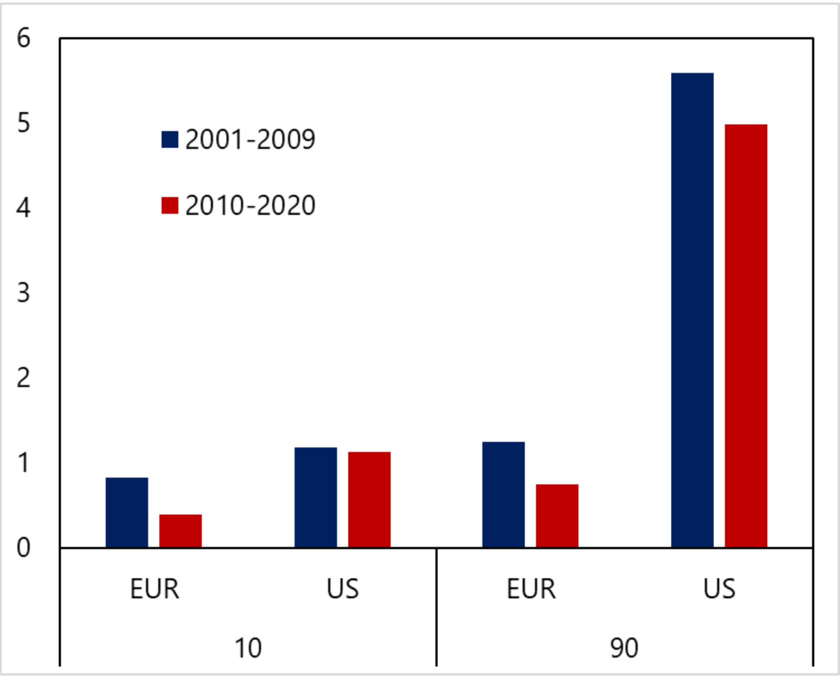
Firm Entry Rates in 2019
(Percent)



Source: DynEmp; BDS; and IMF staff calculations.

Europe's young high-growth firms have a smaller footprint in the economy.

Employment Share of Young Firms by Employment Growth (Percent)

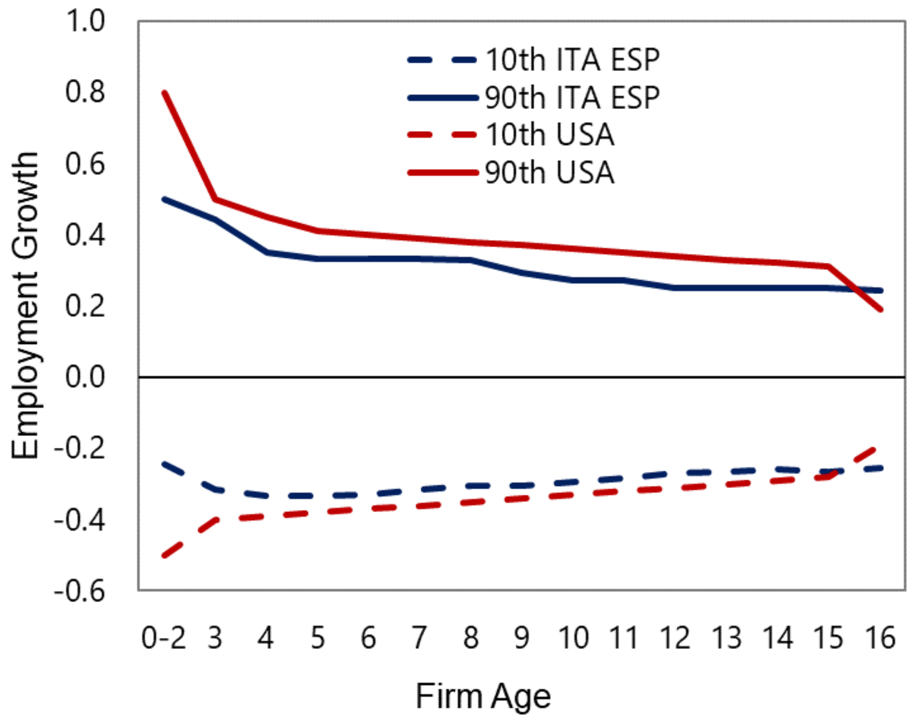


Source: CompNet; BDS; and IMF staff calculations.
Note: 10th and 90th percentile of employment growth

Up-or-out dynamics are weaker in Europe

Europe shows a deficit not just of high-growth young firms, but also of exiting/shrinking unsuccessful firms.

Distribution of employment growth by firm age

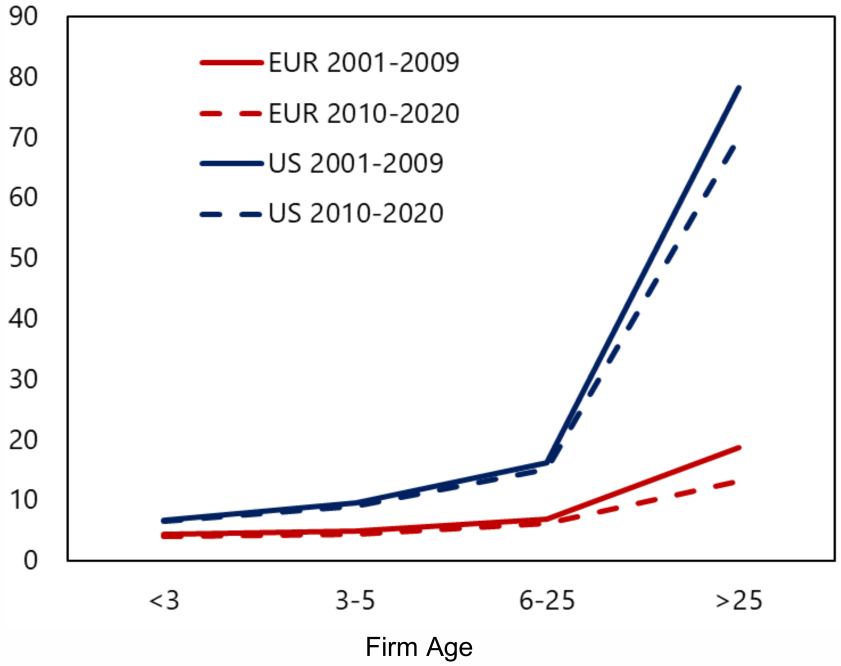


Source: Orbis; BDS; Eslava and others (2022); and IMF staff calculations.

Instead, there is an overabundance of small and mature firms

Mature European firms scale up less…

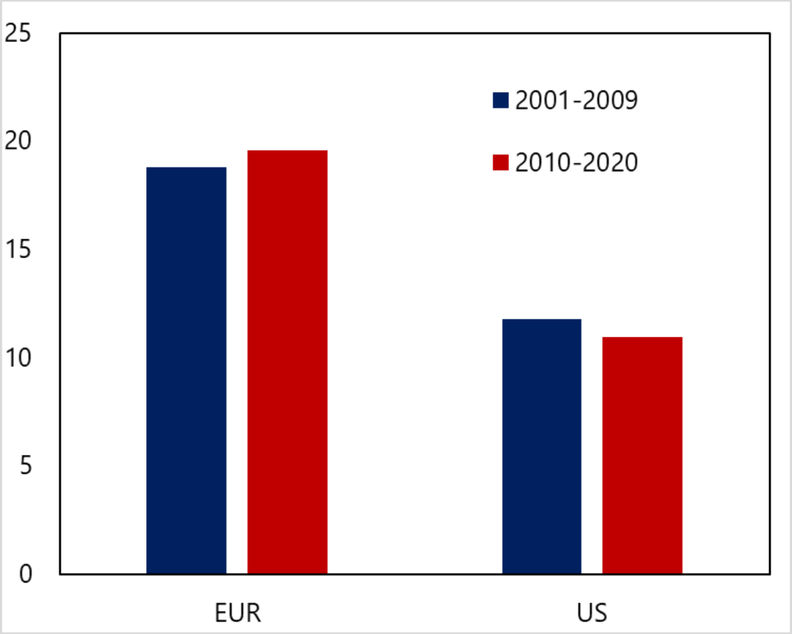
Average employment by firm age



… resulting in too many firms that remain small.

Employment share by small firms

(Percent)



Source: CompNet; BDS; and IMF staff calculations.
Notes: "Small firms" are firms with ten or less employees.

Why are Europe’s leading firms falling behind?

Europe's fragmented markets hamper firm growth

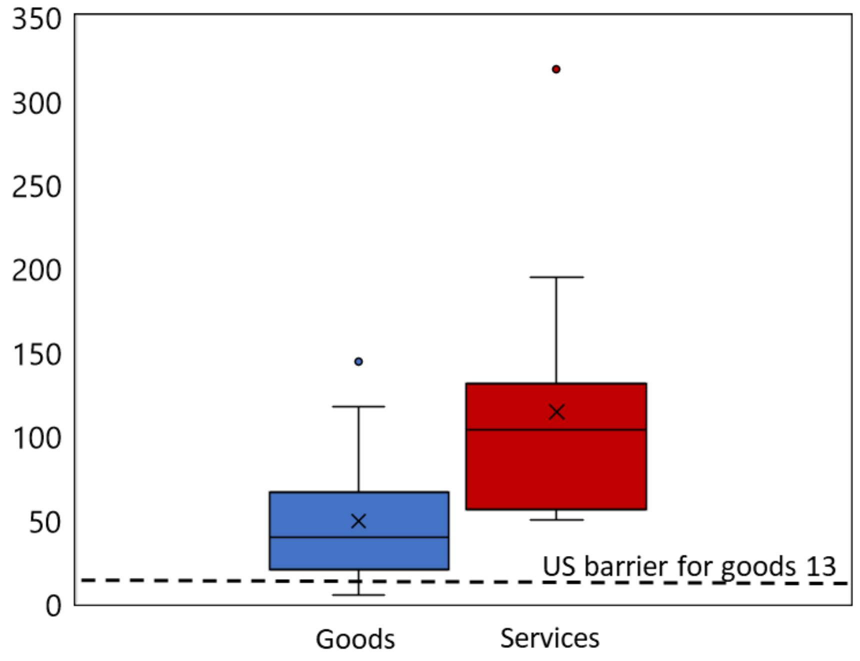
Large firms benefited from EU accession compared to small firms.

Sales Growth of Continuing Manufacturing Firms
(2004 accession countries)

Source: Orbis; and IMF staff calculations.

Despite significant progress, intra-EU trade barriers remain significant.

Estimated intra-EU trade barriers in 2020
(Percent)



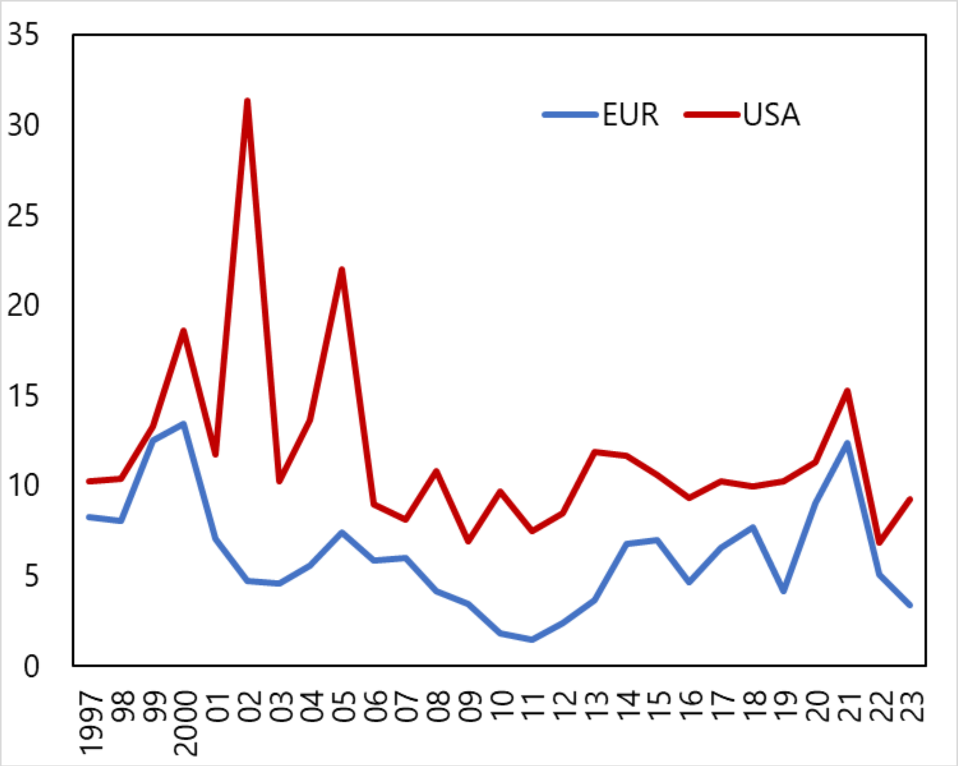
Source: Inter-Country Input-Output Tiva tables and IMF staff calculations.
Note: Each box represents the distribution of the estimates of intra-EU trade barriers across sectors for goods and services using gravity models for bilateral flows in 2020.

Europe's listed firms rely less on equity…

U.S. firms tap equity issuance at twice the rate as European companies, given their size.

Net Equity Issuance of Listed Firms

(Share of total assets)

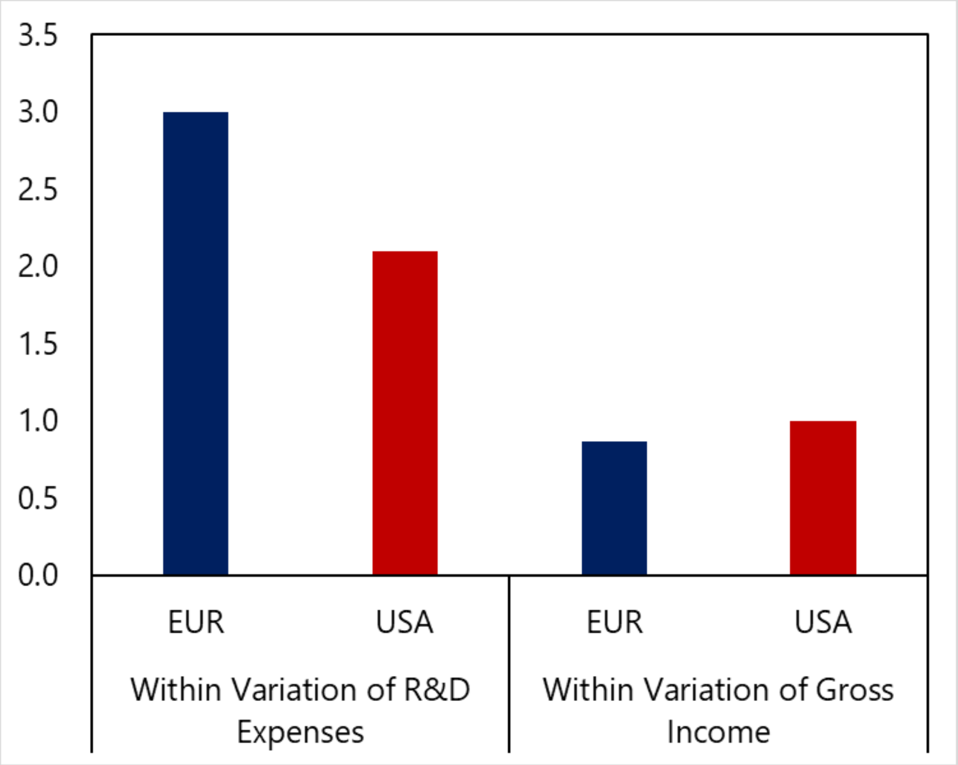


Source: Compustat; and IMF staff calculations.

R&D spending volatility is higher in Europe.

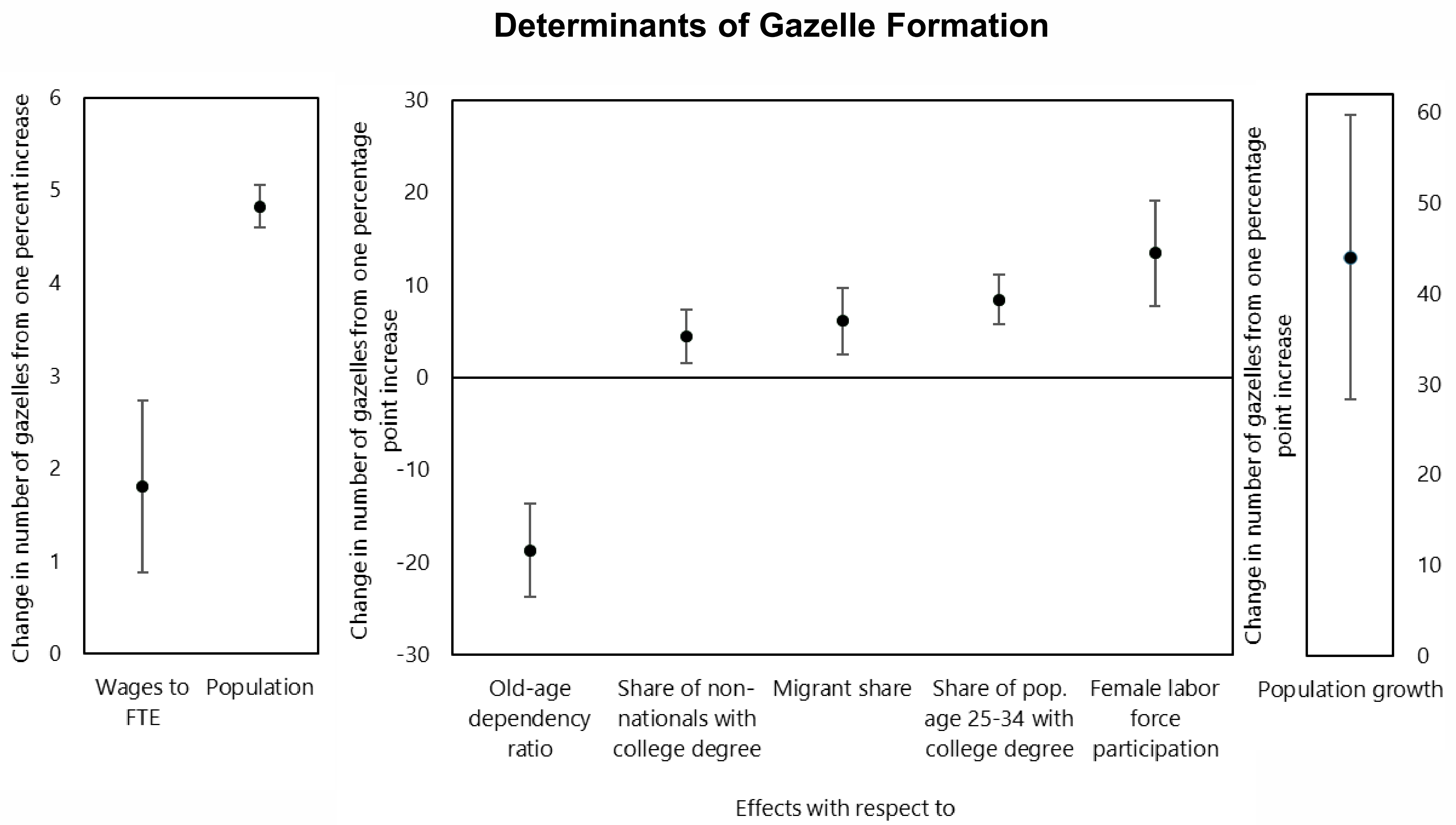
Volatility of R&D Expenses and Income

(Percent)



In Search of Europe’s High-Growth Young Firms

3. Human capital to offset adverse demographic trends



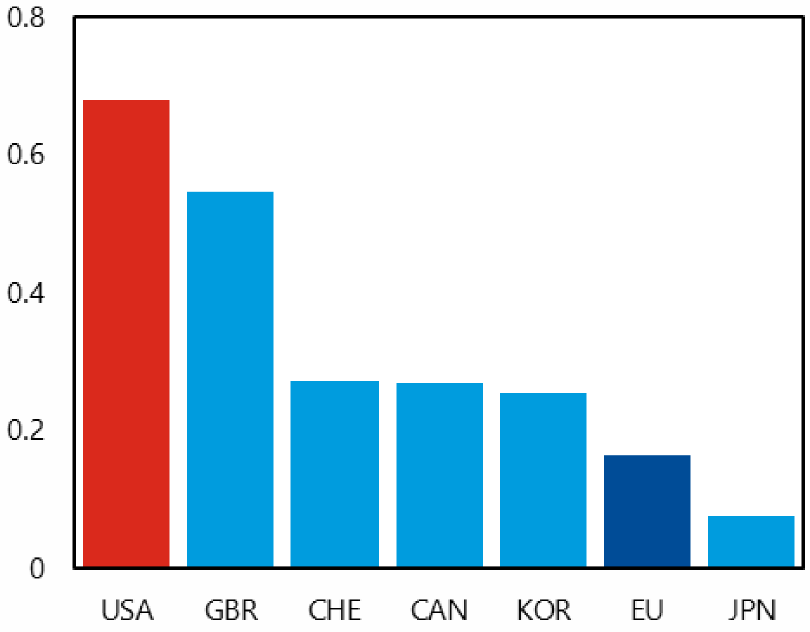
Source: Orbis; Eurostat; and IMF staff calculations.
Note: Tobit model at NUTS2 region-level is used to estimate the correlations of each variables with the number of gazelles.

VC depth remains limited and heterogeneous

VC in Europe is less than one-fourth of what it represents for the U.S. economy…

VC investments, 2013-23

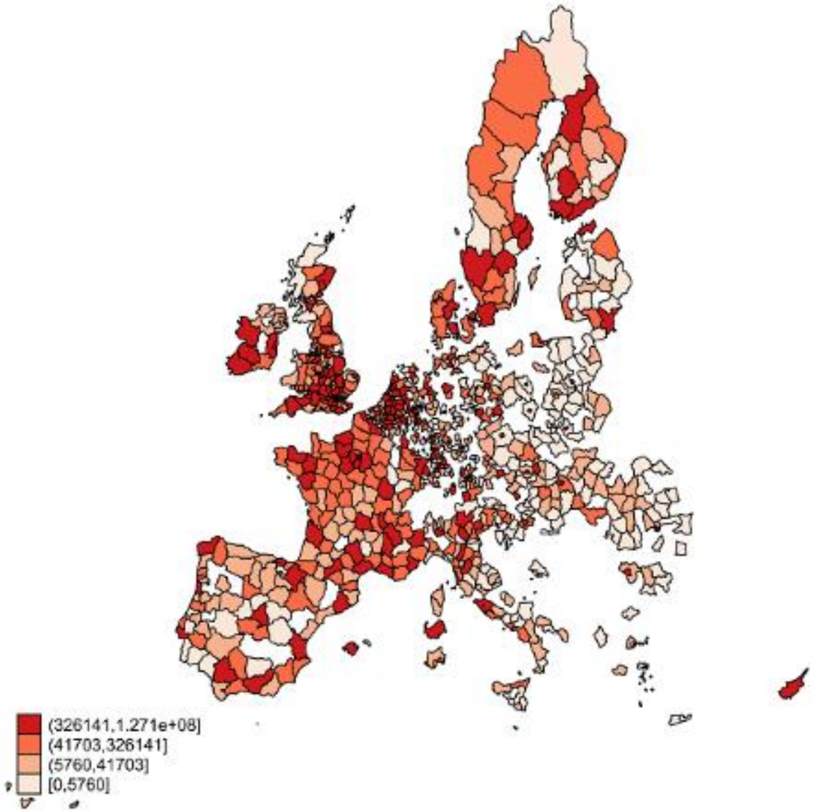
(percent of GDP)



… and these investments have been concentrated in a few countries such as the UK and France.

VC: Total Equity Invested, 2007-2021

(index; thousands of euros)



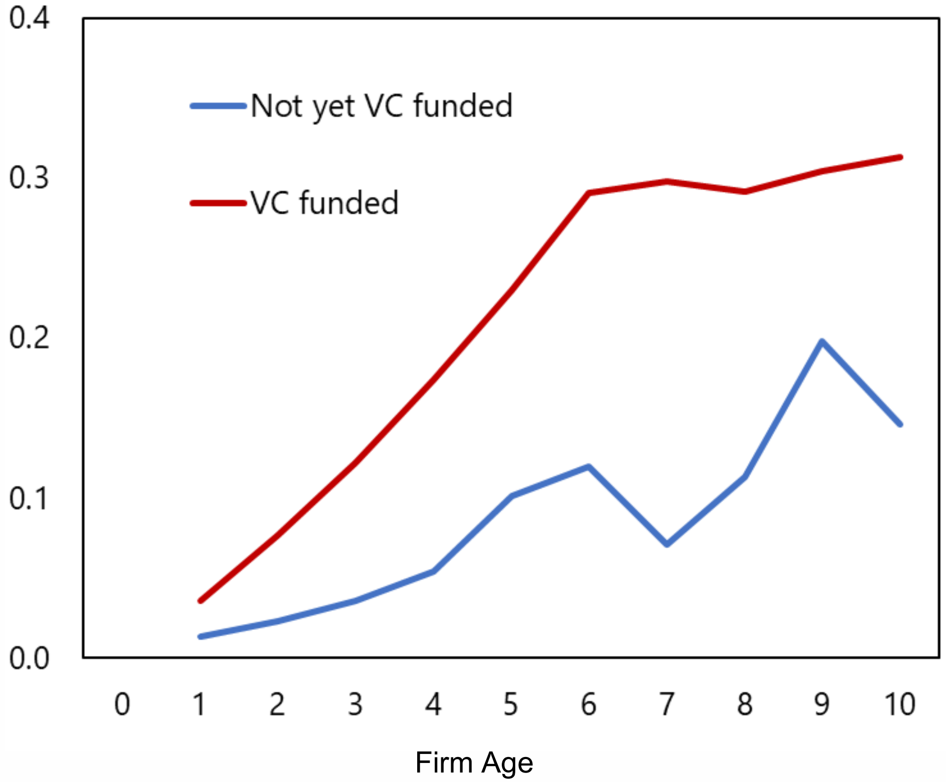
Source: Arnold and others (2024); VICO; and IMF staff calculations.

A more vibrant VC landscape can support young and innovative firms

Intangible assets grow faster for VC-funded firms

Median intangible assets

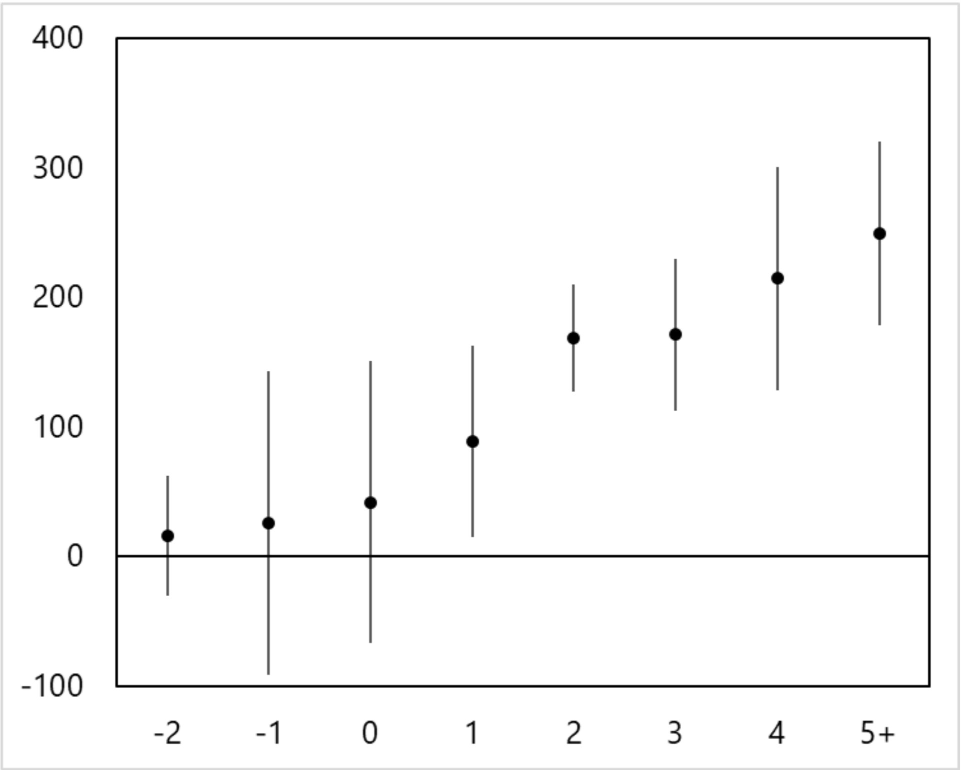
(Million Euros)



Sources: Orbis; and IMF staff calculations.

European firms with VC backing vastly improve their performance.

Post-VC Funding Intangible Investment Growth Relative to Pre-VC Funding (Percent)



T=0, Receipt of VC Funding

Policies to Rekindle Productivity Growth in Europe

A deeper single market will be key to address deficiencies

- Europe's productivity has deep firm-level roots, with smaller markets, a more limited role for equity financing, and human capital availability among factors behind it.

- Addressing these and other underlying structural deficiencies, which became more penalizing with the advent of the ICT revolution, should guide Europe's growth-enhancing reform agenda.

- Efforts are needed at both regional and country level.

- **More integrated markets can allow firms to scale up and attract financing at a larger scale**
  - Remove barriers to trade, including within the EU
  - Increase the availability of long-term risk capital, including through advancing EU's capital markets union

Thank you