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Europe's productivity weakness: Firm-level roots and remedies

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Europe's labour productivity gap with the US has widened since the mid-1990s and again since the Covid pandemic. This column uses comprehensive cross-country firm-level and sector-level data to trace the roots of Europe's productivity problem. It shows that productivity growth of Europe's large leading firms has been trailing that of US counterparts. Young firms in Europe also exhibit weaker dynamism, have a smaller economic footprint, and there is an overabundance of mature small and low-growth firms. Overcoming these challenges will require reforms in education, regulation, and the innovation ecosystem.

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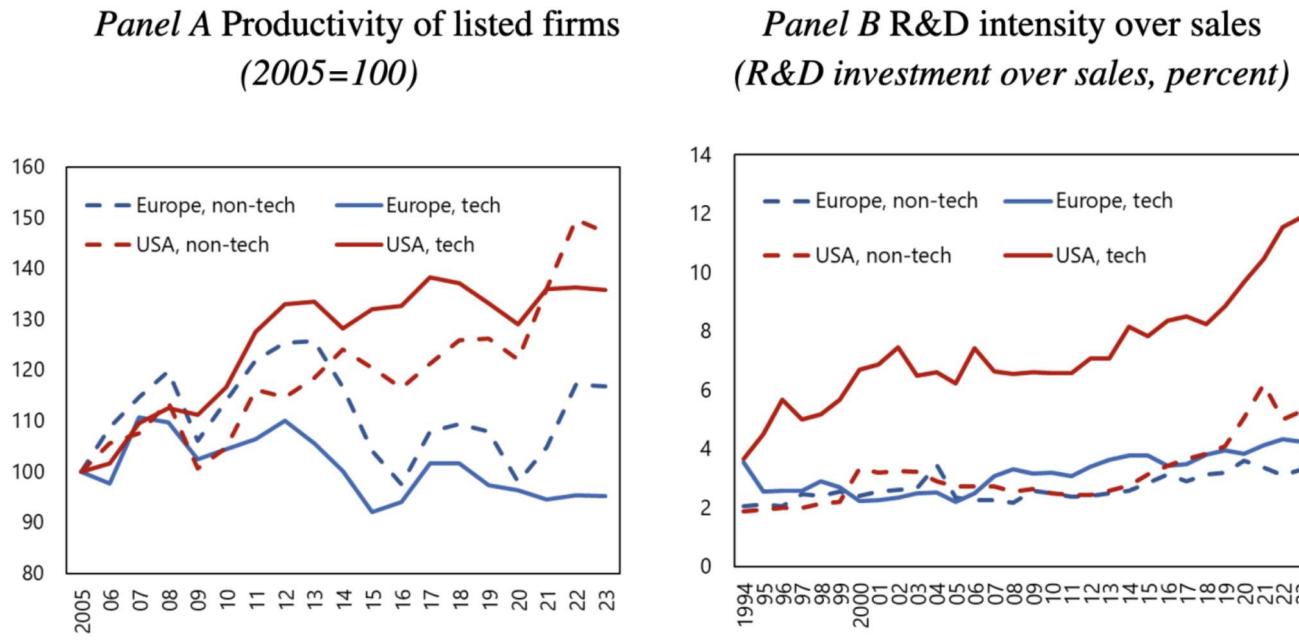
After an impressive four-decade-long productivity convergence spell with the US in the second half of the 20th century, Europe's hourly labour productivity gap vis-à-vis the US widened from the mid-1990s, and then again since the COVID crisis. In line with this, lower total factor productivity explains the bulk of Europe's significant per capita income gap with the US. Indeed, these trends have prompted policy discussions emphasising the need for urgent policy action (Draghi 2024, European Commission 2025).

While Europe's shortcomings in the aggregate are well established (e.g. Bergeaud 2024), less is known about how these deficiencies are reflected in differences between firms across either side of the Atlantic. Building on recent efforts to improve the quality and availability of microdata for European countries (e.g. Di Mauro and Panizza 2024, Biondi et al. 2024, Verlhac et al. 2022), we trace the firm-level roots of Europe's productivity problem, drawing upon comprehensive cross-country firm-level and sector-level datasets (Adilbush et al. 2025). Specifically, we zoom in on the two groups of firms that are shown to be key players for innovation and productivity growth in the modern Schumpeterian growth literature (e.g. Akcigit and Ates 2023): market leaders, which are typically large, listed firms that define the domestic technology and productivity frontier, and younger high-growth firms with the potential to disrupt the market by leapfrogging the leaders. Our analysis uncovers the following three stylised facts.

Fact 1: Europe's large leading firms are lagging in terms of productivity and innovation

The total factor productivity growth of European listed firms has been trailing that of their US counterparts (Figure 1, Panel A). This divergence is broad-based but is starker in tech sectors. In all, the productivity of US listed tech firms increased by around 40% over the past two decades, while that of European tech firms has remained stagnant. This divergence comes together with a widening gap in innovation efforts (Figure 1, Panel B). R&D expenditures of European tech firms have been about 3-4% of sales in recent decades, while they have tripled in the US, reaching 12% of sales in 2023. Considering that US tech firms also enjoyed higher sales growth, the absolute R&D spending gap between the two regions has become even more pronounced, leading to a widening innovation gap.

Figure 1 Productivity and R&D investment of leading firms in Europe and the US



Sources: Compustat and IMF staff calculations.

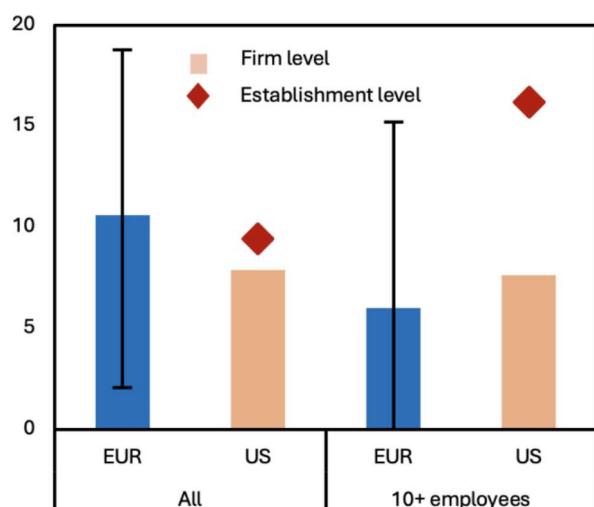
Note: In panel A, productivity estimates are based on non-parametric approach proposed by Gandhi et al. (2020). In panels A and B, Europe includes Belgium, France, Germany, Great Britain, Ireland, Italy, Netherlands, Spain, and Switzerland. R&D = research and development; USA = United States of America

Fact 2: Young high-growth European firms have a smaller footprint in the economy compared to the US, and too few among them make it to the top

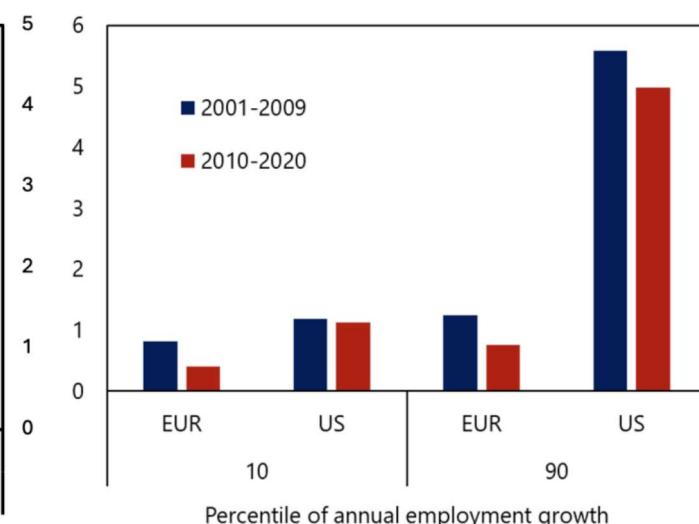
At the other end of the spectrum, young firms in Europe also exhibit weaker dynamism than their US counterparts. Entry rates are comparable on average, although they vary significantly across European countries, with some countries such as Denmark showing higher rates than the US (Figure 2, Panel A). However, when stripping out the data from microenterprises (firms with fewer than ten employees) – which account for a markedly low share of total value added compared to their share of employment – and thereby focusing on ‘higher-quality’ entrants, the average entry rate in the US is about 25% higher than Europe’s. Moreover, within Europe’s smaller pool of entrants, high-growth firms tend to have a smaller economic footprint. US top-performing young firms (those under the age of five and in the top decile in terms of sales growth) make up around six times the share of total employment of their European counterparts (Figure 2, Panel B). As a result, fewer innovative young firms also end up as market leaders in Europe. Indeed, the median founding year of the top ten listed firms is 1985 in the US, versus 1911 for Europe. The existing gap is despite the documented decline in the share of high-growth young firms in the US (Sedláček et al. 2018), highlighting a concerning trend in Europe.

Figure 2 Dynamism of young firms in Europe and the US

*Panel A Entry rates
(percent, 2019)*



*Panel B Employment share of young firms:
Low-growth vs high-growth firms
(R&D investment over sales, percent)*



Sources: OECD DynEmp; CompNet; Business Dynamics Statistics; and IMF staff calculations.

Note: In panel A, establishment-level entry rates for the US are calculated based on BDS-calculated entries and total number firms; firm-level entry rates are calculated as the ratio of age-0 firms to firms in the relevant category. Country-level entry rates for European countries are from the OECD DynEmp database. Out of 30 European countries, ten report at the firm level, one at the establishment level, and for 19 the metadata are not available. The average entry rate for Europe is calculated as the weighted average of country-level entry rates, using the share of firms of each country in the European aggregate as weights. 'All' represent the entry rates for employer firms and '10+' reflect entry rates of firms with at least ten employees. The following countries are covered: Austria, Belgium, Bulgaria, Switzerland, Cyprus, the Czech Republic, Germany, Denmark, Spain, Estonia, Finland, France, Greece, Croatia, Hungary, Iceland, Italy, Lithuania, Luxembourg, Latvia, Malta, the Netherlands, Norway, Poland, Portugal, Romania, the Slovak Republic, Slovenia, Sweden, and Türkiye. The sample for '10+' excludes Switzerland and Greece. Panel B shows the total employment shares of young low-growth firms (those with employment growth at or below the 10th percentile) and young high-growth firms (those with employment growth at or above the 90th percentile) for 2001-09 and 2010-20. In this chart, Europe includes Belgium, Croatia, the Czech Republic, Denmark, Hungary, Italy, the Netherlands, Slovenia, Spain, and Sweden.

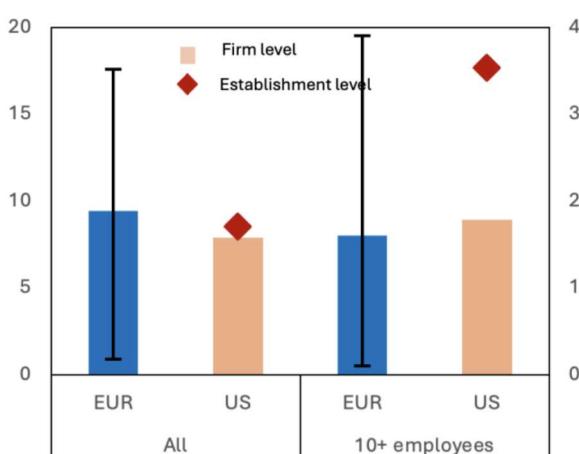
Fact 3: Together with weaker 'up-or-out' dynamics, there is an overabundance of mature small and low-growth firms

Europe shows a deficit not just of young high-growth firms, but also of shrinking unsuccessful firms. While aggregate exit rates are on average comparable between Europe and the US (Figure 3, Panel A), firm growth distribution in Europe tends to be narrower for all age classes, suggesting that compared to the US, higher-growth firms scale up more slowly, while lower-growth firms contract at a more modest rate (Figure 3, Panel B). This underscores weaker 'up-or-out' dynamics in Europe—a key characteristic of US business dynamism (Eslava et al. 2022).

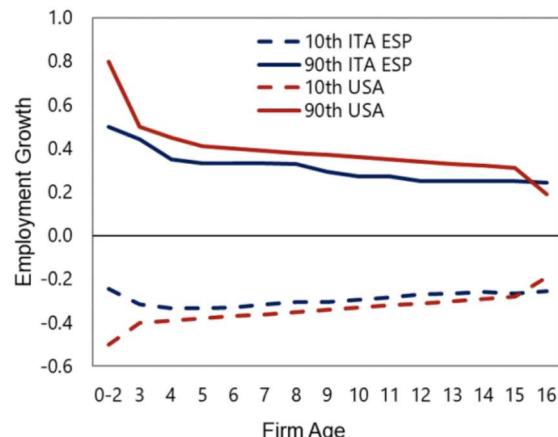
As a result, the difference in average firm size between Europe and the US grows over a firm's life cycle. An average mature firm (above 25 years old) employs just twice as many workers as an average young firm (below the age of three) in Europe, versus over eight times in the US (Figure 3, Panel C). A corollary is that smaller firms account for a larger share of aggregate employment in Europe. In particular, European micro firms (with ten employees or fewer) make up 20% of total employment, nearly twice as much as in the US (Figure 3, Panel D). Furthermore, the employment share of micro firms has risen in the past decade, in line with their stalling productivity growth and a rising productivity gap between national productivity leaders and other firms in their industry, especially in Europe's advanced economies (IMF 2024, Andrews et al. 2015).

Figure 3 Business dynamism and distribution of employment by firm size and age

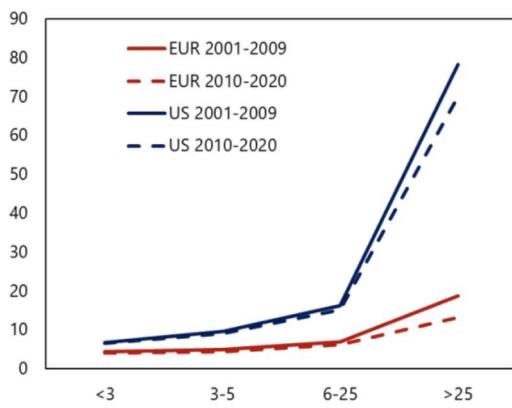
Panel A Exit rates
(Percent, 2019 values)



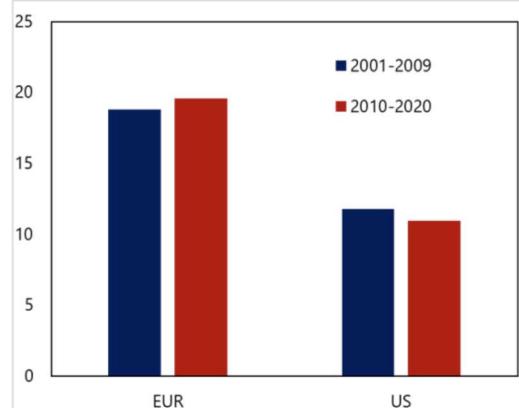
Panel B Distribution of employment growth by firm age (Percent)



Panel C Average employment by firm age (Number of persons)



Panel D Employment share of micro firms (Percent)



Sources: OECD DynEmp; CompNet; Orbis; Business Dynamics Statistics; Business Dynamics Statistics of High Growth Firms; and IMF staff calculations.

Notes: In panel A, exit rates for the US are based on BDS-calculated exits and total number firms or establishments; the exit rates for European countries are from the OECD DynEmp dataset. Out of 30 European countries, ten report at the firm level, one at the establishment level, and for 19 the metadata are not available. 'All' corresponds to firm exit rates of all firms and '10+ employees' reflects firm exit rates for firms that have at least ten employees. The following countries are covered: Austria, Belgium, Bulgaria, Cyprus, the Czech Republic, Germany, Denmark, Spain, Estonia, Finland, France, Greece, Croatia, Hungary, Iceland, Italy, Lithuania, Luxembourg, Latvia, Malta, the Netherlands, Norway, Poland, Portugal, Romania, the Slovak Republic, Slovenia, and Sweden. The sample for '10+' excludes Greece. Firm exit rates for the US are from Business Dynamics Statistics, which defines exit rates as the 'count of firms that have exited in their entirety during the period' divided by the average of the total number of establishments in the current and previous years. Under this classification, exits due to merger and acquisition activity are not classified as firm deaths. In panel B, the US data are from Eslava et al. (2022), where the age of firms is defined as the age of the oldest establishments for that firm in the first year of positive business activity. Annual employment growth for Spain and Italy is weighted by the PPP-adjusted nominal GDP in US dollars. In panel C, the vertical axis shows the average employment by firm age. CompNet is used for European firms, covering Belgium, Croatia, the Czech Republic, Denmark, Hungary, Italy, the Netherlands, Slovenia, Spain, and Sweden. Business Dynamics Statistics are used for US firms.

What is behind these shortcomings?

To understand the reasons behind this broad underperformance of European firms, in Adilbush et al. (2025) we analyse some of the structural deficiencies that are holding back market leaders and young high-growth disrupters. Fragmented market size, lack of risk financing, and the shortage of skilled labour stand out in explaining Europe's business dynamism and productivity shortcomings. Europe's fragmented market, with a small effective market size and lower reliance on equity financing, prevents its large leading firms from scaling up and investing consistently in innovative projects. For example, we estimate remaining intra-EU trade barriers to be potentially as high as 44% for the average manufacturing sector, and 110% for the average service sector — severely hampering the ability of large firms to scale up. As for young high-growth firms, we find evidence that a weaker pool of high-quality human capital hampers their formation, while lower availability of risk capital further hinders their expansion, especially for those that invest more heavily in hard-to-collateralise intangible assets — which play an increasingly critical role in modern economies, particularly in tech sectors.

Policies to rekindle convergence and growth

A thriving business sector is key to shrinking Europe's large productivity and income per capita gap with the US. There is no magic wand to make it happen. Instead, this requires a multifaceted agenda that will require European policymakers' years of sustained efforts cutting across multiple areas, from education to regulation to the innovation ecosystem. As noted in IMF (2024), addressing the root causes behind the underperformance of European businesses identified in our paper will require decisive actions at both the EU and domestic levels.

Deepening the European single market is critical, by enabling Europe's most productive firms to scale up and do so more quickly, enhancing their chances of success in markets increasingly characterised by large economies of scale, scope, and/or 'winner-takes-all' dynamics. Removing remaining barriers to trade within the EU and advancing the capital markets union are key in this regard, incentivising firms to undertake R&D and other investments that only pay off with a large customer base. For example, investing more in physical infrastructure to connect EU countries and deeper services trade liberalisation would expand firms' market access within Europe. For startups and young firms, allowing for greater access to venture capital by easing the constraints would ensure the critical investment at early stages of innovation.

Improving business dynamism also requires strong domestic efforts that match EU-level ambitions. Easing remaining administrative barriers to entry in services would promote greater business formation. Facilitating the entry of new, innovative firms also calls for labour market regulations that protect workers, not jobs. This means combining more flexible layoff procedures with adequate unemployment benefits and strong active labour market policies that support job search and skill development — an approach long taken by Denmark, one of the more innovative economies in Europe. Tax and regulatory incentives that incentivise firms to stay small should be made temporary and be reoriented to support young, high-potential firms. Finally, supporting tertiary education and addressing skill mismatches are critical to foster idea creation through new firms and technology adoption by existing businesses; this will require innovation-oriented reforms of tertiary education systems.

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