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THE GREAT DIVIDE: PRODUCTIVITY DYNAMICS IN THE UNITED STATES AND THE EURO AREA AFTER THE PANDEMIC

by Luisa Carpinelli*, Rosalia Greco*, Stefania Romano*, Luca Rossi* and Eliana Viviano*

Abstract

US and euro-area (EA) productivity trends diverged from the mid-1990s to the late 2000s. The US experienced rapid growth driven by information and communication technology (ICT) advancements, while the EA, particularly Italy, lagged. After the Great Financial Crisis, the gap narrowed as US productivity slowed. However, the pandemic renewed this divergence, with US productivity-driven GDP growth far exceeding that of the EA. The divide stems from multiple factors. First, the energy crisis disproportionately affected intermediate goods prices in the EA, dampening productivity. Second, ICT played a much larger role in US productivity growth, despite its small economic weight. Third, the US outpaced the EA in both Total Factor Productivity (TFP) and capital intensity, especially in ICT investments. Contrary to some views, business dynamism alone does not explain the US acceleration. Additionally, Europe's short-term work schemes, while aiding labor market recovery, may hinder structural reallocation, though their overall impact on Italy's low productivity remains limited. Ultimately, longstanding structural differences continue to drive the transatlantic productivity gap.

JEL Classification: E24, J01, J08.

Keywords: labor market, productivity.

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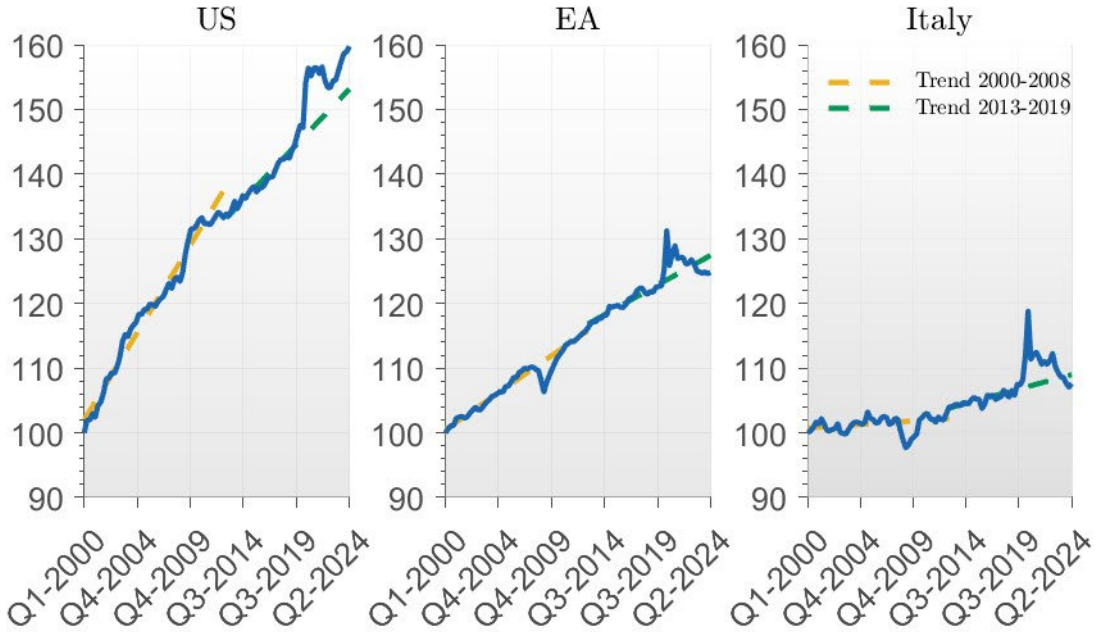
1. Productivity growth in the US and the EA

The productivity divide between the United States and Europe has been the subject of long-standing debate. Following Europe's remarkable post-World War II catch-up, productivity in the two regions began to diverge in the mid-1990s. The US experienced a strong acceleration, driven by the internet revolution and US dominance in high-tech sectors, while Europe lagged behind. After the Global Financial Crisis (GFC), as US productivity growth slowed and euro area (EA) productivity remained broadly stable, the gap temporarily narrowed. Italy's performance, however, remained particularly weak from 2000 to 2014; that said, unlike in the U S and the EA, Italy's productivity trend steepened from 2014 until the pandemic, possibly reflecting gains from deep restructuring following the double-dip recession of 2008–2011 (Greco, 2023).

In the wake of the pandemic,[1] productivity initially surged in the US, the EA, and Italy. However, the trends diverged again, particularly in 2023, when US productivity accelerated while it declined in both the EA and Italy (Figure 1).

Figure 1: Long-run trends in labour productivity, US, EA and Italy

(indices:2000=100)



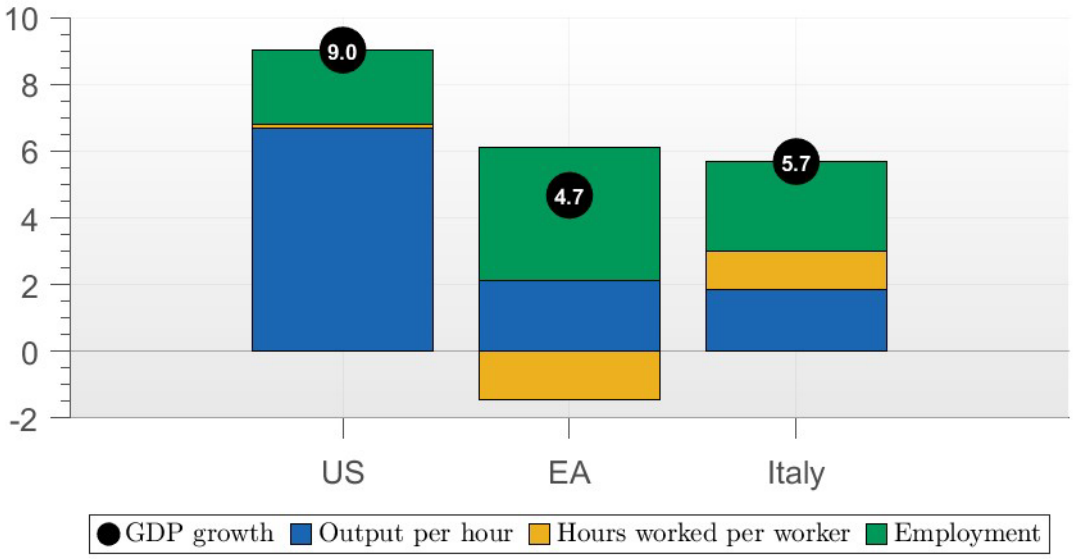
Source: Elaborations on BLS and Eurostat, National accounts. Non-farm private sector.

Productivity was the main driver of GDP growth in the US following the pandemic. Between 2019 and 2023, real activity expanded by 9% in the US, compared to 4.6% in the EA (Figure 2), translating to an annual growth rate of 2.2% in the US and 1.1% in the EA. In the US, the growth in output per hour worked, at 6.7%, accounted for roughly three-quarters of the overall growth. In contrast, in the EA, the primary driver was employment growth, at 3.6%, while labour productivity grew by about 2% and a decline in the average number of hours worked subtracted 1 percentage point from growth.

[1] Indeed, Gordon (2019) notices that a revival of productivity growth in the US economy was in place also at the end of 2018, and forecasted an increase in trend productivity in the subsequent years.

Italy outperformed the EA average in terms of GDP growth, partly due to strong fiscal support, recording an annual growth rate close to 2%, supported by robust employment, both in hours worked and in the number of people employed. However, productivity contributed slightly less to GDP growth in Italy compared to the EA average.

Figure 2: Decomposition of GDP and value added growth rate, total economy (1) 2019 – 2023
(percentages)



Source: Elaborations on Bureau of Economic Analysis and Bureau of Labor Statistics, and Eurostat, National accounts. GDP growth for the US, value added growth for EA and Italy. Delta log changes. (1) Excluding hours worked by selfemployed in the US.

The post-pandemic divergence has reignited a lively debate on the drivers behind these different patterns, i.e. what might be sustaining the recent acceleration of US productivity and what might be holding back the EA.

Part of the divergence observed in the post-pandemic period can be explained by the different impact of shocks on the two economies. In particular, the energy shock following the invasion of Ukraine hurt productivity growth in the EA much more severely than it did in the US, not only because it translated directly into the production costs of European firms but also because it tilted the relative prices of intermediate goods which induced EA firms to substitute the latter with labour (Colonna et al., 2024). This mechanically reduced output per hour worked in the EA, and Italy was certainly no exception.

Aside from these, other factors might also be relevant in accounting for the divide. Many explanations have been put forward recently in the academic and policy debate, ranging from cross-country differences in the adjustments to shocks at the business cycle frequency to more structural interpretations pointing to long-standing differences.

According to Fernald et al. (2024), in the US, productivity growth during the pandemic exhibited a cyclical behaviour analogous to the one seen during the Great Recession, with an initial surge and a subsequent retreat towards long-run trend, with a re-hiring process when the recession bottomed out,

leading to an increase in hours worked and a decline in output per hour worked.[2] As of mid-2024, however, the recent quarterly prints point to a stronger dynamic than what historical cyclical patterns would suggest. That said, the growth rate is still much slower than the pace from 1995 to 2004, casting caution on the optimism that this reversal will persist. In the view of the authors, compared to the US, labour productivity in the EA tends to be more pro-cyclical, as labour is less flexibly adjusted to production. According to Colonna et al. (2024), once the shock to relative input prices is absorbed, productivity in the EA and Italy should also return to its long-run trend.

An additional concern is whether the strong expansion in undocumented migration in the US, and its measurement hurdles, in fact caused a bias in the breakdown of the sources of growth, overestimating the relevance of labour productivity at the expense of employment dynamics in the US. A recent analysis by Carpinelli and Rossi (2025) shows that, while immigration in fact has sustained a much larger than originally estimated expansion in employment, the largest contribution to the recent US economic growth still comes from labour productivity.

Other analyses explore the hypothesis of instrinsic productivity enhancements driven by improvements at the firm level or by having concentrated activity in the most efficient firms within the same sector (see André and Gal, 2024, for a review). Such improvements can be manifold. One is firm dynamism, with stronger business destruction and formation (Kugler 2024, Dao and Platzer 2024). Some analyses have pointed to the better capacity of the US to create and adopt digital technologies, in particular AI (Dias da Silva et al. 2024), and to a larger diffusion of "teleworkability" activities. These improvements would have translated into a stronger total factor productivity (TFP), which measures the efficiency with which labour and capital are used to produce output, reflecting factors like technology, innovation, and management quality.

In addition, stagnating investment dynamics in the euro area compared to an acceleration in the US seem to be contributing to widening the existing structural gap, as noted by Cipollone (2024). Capital accumulation is another crucial determinant of labour productivity, as increasing the amount of capital per worker (so-called *capital deepening*) typically makes workers more productive, as they can rely on more or better tools, technology, and infrastructure to enhance their efficiency.[3]

Lastly, according to others, a better allocative capacity of labour across sectors - from less to more productive ones - would be underpinning the greater enhancement of productivity in the US (de Soyres et al. 2024, Kugler 2024). The root of this better allocation would be the differing institutional frameworks for employment protection, which led to a sharp reduction in employment in the US during the pandemic but preserved jobs in the EA.

In the remainder of this paper, we will explore these hypotheses more in detail and present some evidence for the US, the EA and Italy, with the best possible degree of statistical comparability.[4]

[2] Fernald J., H. Li, B. Meisenbacher, and A. S. Yalcin, *Productivity During and Since the Pandemic*, Federal Reserve Bank of San Francisco Economic Letter, 25 November 2024.

[3] According to Dao and Platzer (2024), differences in investment in intellectual property products (IPP) would be particularly relevant.

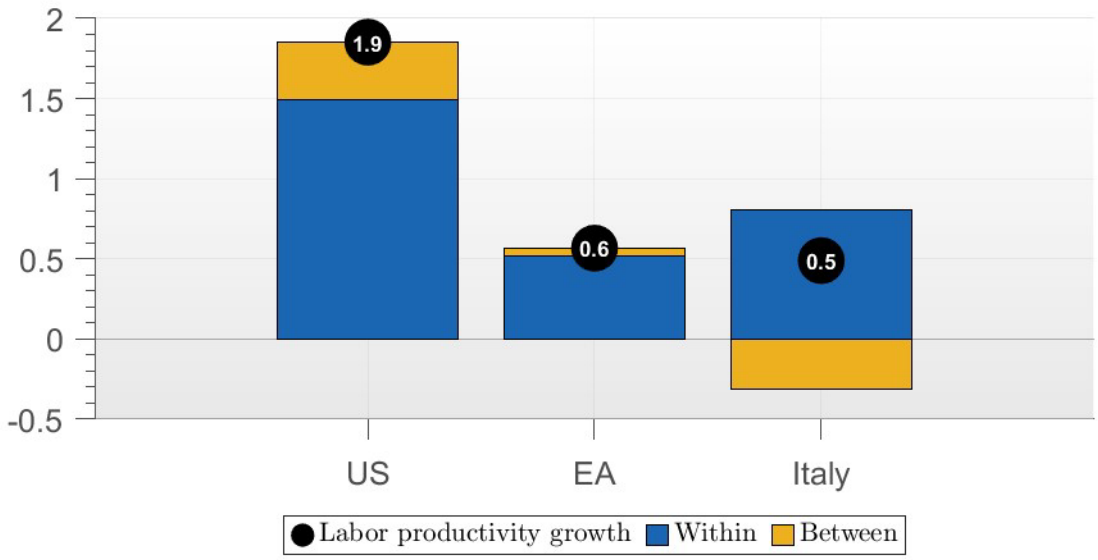
[4] Imperfect comparability of data at the sectoral level must be acknowledged, owing to the adoption of slightly different definitions of economic sectors, which in turn reflects remarkable differences among these economies, including the larger role of the public sector in EA countries.

2. Sectoral reallocation versus intra-sectoral dynamics

A *prima facie* evidence on the role played by sectoral reallocation can be derived from Figure 3 which shows a decomposition of annual productivity growth into the "between-sector" component (i.e. reallocation of production towards more/less productive sectors) and the "within-sector" component (i.e. intra-sectoral dynamics). Figure 3 indicates that the role of sectoral reallocation from 2019 to 2023 was rather limited and, in Italy, it was negative.

The annual decomposition of productivity reported in Figure A1 in the Appendix allows us to account for the peak in productivity observed almost everywhere in 2020, which benefitted from a high contribution of the between-sector component. As lockdown measures forced a massive setback on low productivity sectors – for instance retail trade and hotels and restaurants - activity was allowed to continue in other more productive sectors, and this mechanically raised productivity (Greco, 2023).[5] After the pandemic, the contribution of the between-sector component to productivity growth turned mostly negative, suggesting that production shifted again to less productive sectors. This drag on growth was generally offset by the within-sector component. In the US, however, the between-sector component also contributed positively to GDP growth on average.

Figure 3: Labour productivity decomposition: between and within components
(percentage points)



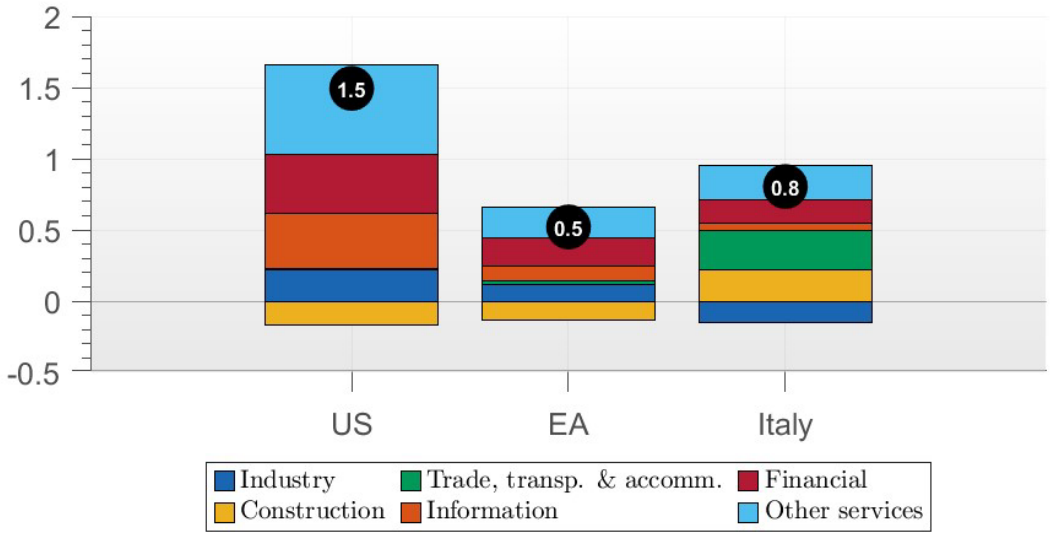
Source: Elaborations on BLS and Eurostat, National accounts. Productivity refers to the private nonfarm sector.

Looking at the specific sectors that sustained the within-sector component most may shed some light on the possible causes of the divergence between the two regions (Figure 4).

The most evident feature is the massive contribution of the ICT sector in the US compared to the EA and Italy, throughout the entire period.

[5] A robustness check on the EA and IT which excludes the sector L "real estate" confirms the relevance of the between component also for Italy, in line with the Bank of Italy Annual report (2023).

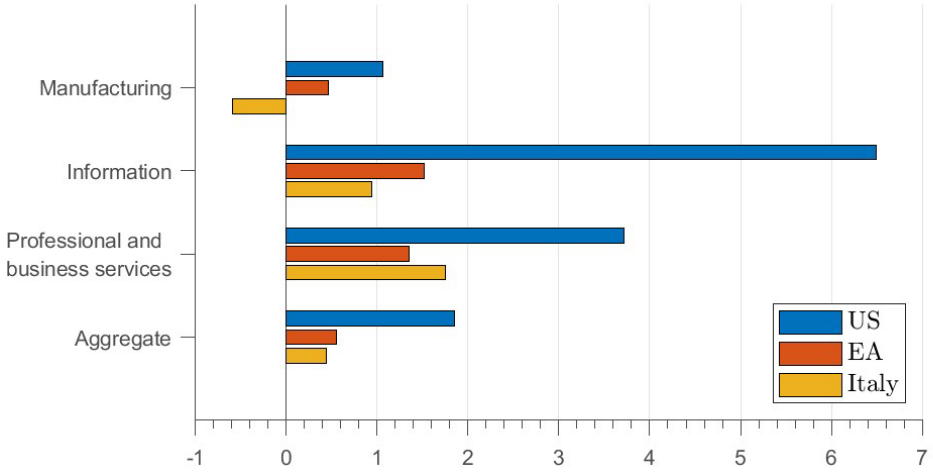
Figure 4: Sectoral contributions to the within component
(percentage points)



Source: Elaborations on BLS and Eurostat, National accounts. Productivity refers to the private nonfarm sector.

This is all the more striking given the relatively limited weight of the ICT sector on total value added, which hovered around 6% in the US in 2019; comparable data for the EA and Italy are not available.[6] The **high contribution of this sector to total productivity growth is therefore mostly driven by an extraordinary expansion**, equal to more than 6% in annual terms (Figure 5).

Figure 5: Sectoral productivity annual hourly productivity growth rates 2019-2023
(percentages)



Source: Elaborations on BEA and BLS and Eurostat, National accounts. Productivity refers to the private nonagricultural sector.

[6] In the EA and Italy the ICT sector includes not only digital services and software production but also publishing activities, and audio-visual and film products.

The contribution of professional and business services to the dynamics of the service sector has also been significant; (these are included in "other services" in Figure 3, for data limitations.) Interestingly, in the EA and Italy the same sectors recorded higher than average productivity dynamics, suggesting that structural factors help to explain productivity growth in advanced economies.

All in all, the evidence is highly suggestive that the engine of US growth is technology and its use in various service sectors.[7]

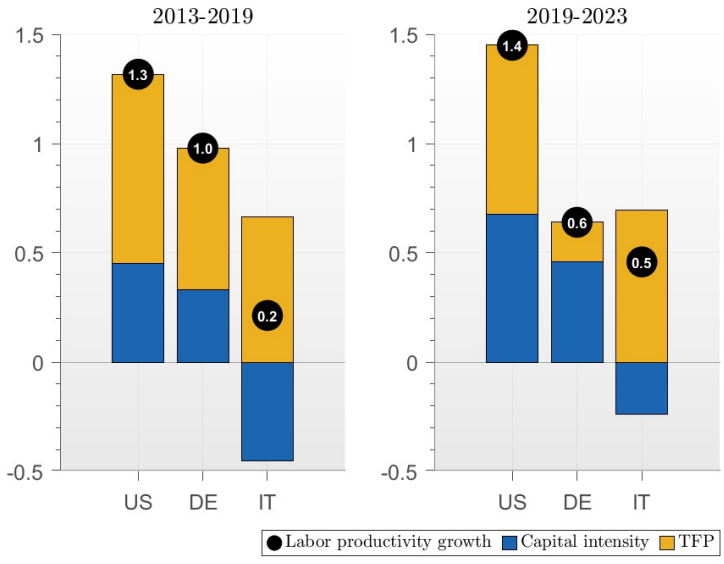
3. TFP vs capital intensity

The textbook breakdown of labour productivity consists of two key components: (i) capital intensity and (ii) total factor productivity (TFP). Capital intensity - the ratio of capital to labour - reflects the availability of machines, equipment, or technology per unit of labour, measured in hours worked or people employed. Meanwhile TFP captures the portion of productivity that cannot be attributed to changes in input quantities, and it primarily reflects improvements in efficiency, technology, and innovation, making it the ultimate driver of living standards in the long run.

Figure 6 presents the breakdown of average annual productivity growth for the US, Germany and Italy, distinguishing between the pre-pandemic period and the subsequent 2019-23 horizon. In all countries TFP is calculated as a residual, assuming a capital share equal to 0.33, the one used by the US Bureau of Labour Statistics (BLS).

Figure 6: Capital intensity and TFP before and after the pandemic in the US, Germany and Italy. Total economy.

(percentage points)



Source: Elaborations on Bureau of Economic Analysis and Bureau of Labor Statistics, and National accounts of Germany and Italy. The small discrepancies with respect to Figure 2 are due to rounding effects.

[7] See also Viviano, 2015 for a comparison between the demand for services in the US and largest EA countries.

Two systematic differences stand out.

First, the contribution of TFP remains substantially higher in the US, consistently supporting nearly one percentage point of annualized productivity growth both before and after the pandemic. Similarly, the IMF (2024) estimates that TFP explains more than two thirds of the per capita GDP gap (at purchasing power parity) between the US and the EU. In Germany, however, the contribution of TFP has been very small since the pandemic, largely due to a temporary slowdown in capital stock adjustments amid ample unused capacity in the German manufacturing sector (Colonna et al., 2024). In Italy, the TFP contribution remained positive in both periods, albeit less than in the US.

Second, capital intensity also contributed less to productivity growth in Europe, particularly after the pandemic, as noted by Melek and Gallin (2024). Italy in particular has experienced a persistent drag from capital intensity on productivity growth.

The next Section delves deeper into the breakdown of capital intensity, followed by an exploration of key potential determinants of TFP, including firm dynamics and labour market frictions that may have emerged in Europe due to the widespread use of short-time work schemes during the pandemic.

4. The role of capital intensity

Figure 7 illustrates the evolution of capital intensity – measured as the ratio of aggregate capital stock to hours worked – for both the total economy and for the ICT sector in the US, Germany and Italy from 2014 to 2023.[8]

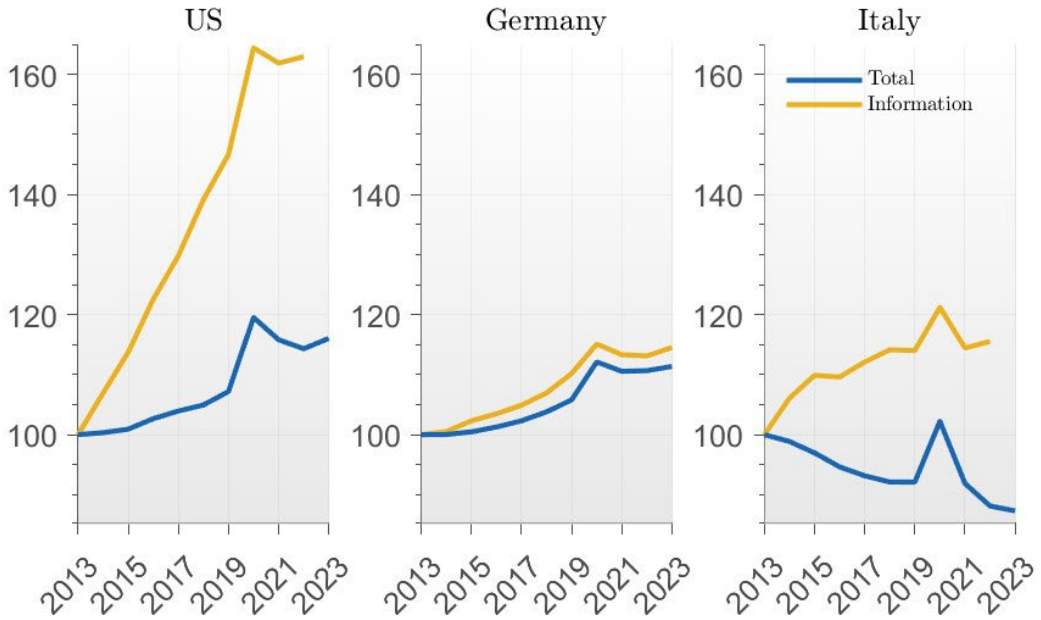
Several key patterns emerge. In Italy and Germany, capital intensity peaked in 2020 due to the sharp decline in hours worked during the pandemic; however, it subsequently began converging toward its trend—which remains positive in Germany but largely flat in Italy, on the back of the strong post-pandemic rebound in hours worked.[9] In contrast, in the US, capital intensity not only rebounded but started growing at a pace above its pre-pandemic trend. Notably, from 2014 to 2019 Germany and the US had followed a similar cumulative growth trajectory.

The ICT sector presents a particularly striking trend. In the US, capital intensity surged dramatically before the pandemic but later plateaued, giving way to TFP as the primary driver of productivity growth in the sector. In Germany, capital intensity in ICT largely mirrored that of the broader economy, whereas in Italy it significantly outperformed the rest of the economy.

[8] Annual data on capital stock are generally not available in Europe. However, in some cases the national accounts estimates provided by national statistical entities report data on capital stock. This is the case for Germany and Italy, also at the sector level. Eurostat data on capital intensity are instead available for some countries up to 2022 in most cases. [9] Capital intensity in Italy has been on a rising trend from 1990 to 2018. Afterwards, probably due to the process of tertiarization of the economy, that intensified after the Global financial crisis, it remained roughly constant around the current levels.

Figure 7: Capital intensity in the US, Germany and Italy.

Total economy and ICT sector (indices: 2013=100)



Source: Elaborations on BLS and Eurostat, National accounts. Capital at constant prices (replace cost for Germany; chain linked volumes for Italy), divided by hours worked of employees and self-employed.

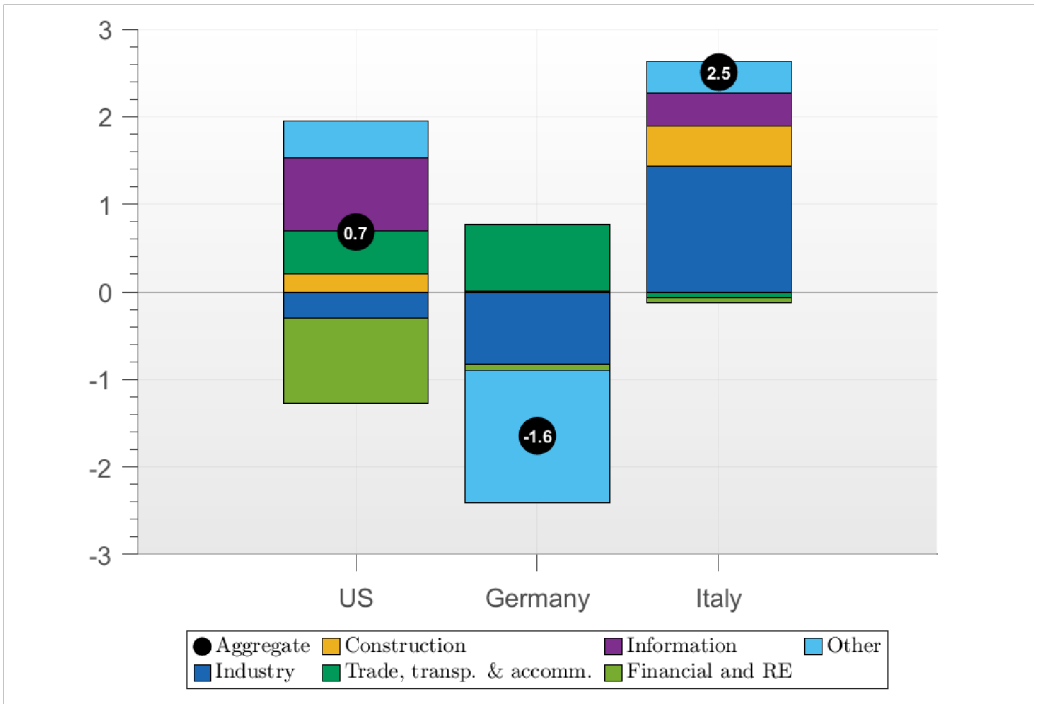
The distribution of investment across sectors reflects both the structural composition of each economy and the specific policy measures implemented after the pandemic, as shown in Figure 8 which presents a sectoral breakdown of capital accumulation (excluding data for the EA, which are unavailable).[9] For example, in Italy, the Superbonus[10] program significantly boosted construction sector investment, likely influencing industrial sector investment as well. In contrast, in the US—and to some extent in Germany—investment in machinery and equipment has been primarily driven by the service sector. Notably, in the US the ICT sector has been the largest contributor to overall investment growth, a remarkable fact given that it accounts for just over 5% of GDP. In Italy, by comparison, ICT investment has been significantly lower, with the industrial sector taking the lead in capital accumulation. In Germany, service sector investment has been concentrated in retail trade and transportation, even though the ICT sector has shown some signs of growth.

In summary, this evidence suggests that capital accumulation plays a key role in explaining productivity gaps—particularly in the ICT sector. In both Germany and Italy, the ICT sector remains relatively small and its investment contributes less to overall capital accumulation. There are however some early signs of improvement after the pandemic.

[9] We exclude real estate investment and focus only on machinery and equipment (machinery, vehicles, office equipment, computer, communication and network equipment), updated to 2022.

[10] The *Superbonus 110%,* approved in the second half of 2020 with Decree Law 34/2020 (the so-called "*Rilancio*" decree), established a temporary increase to 110 percent of the personal income tax deductions for certain types of work aimed at improving the energy efficiency of buildings and reducing seismic risk. The incentive, initially valid until the end of 2021, was later repeatedly extended, up to December 2025.

Figure 8: Sector contribution to gross capital formation in machinery and equipment, 2019-23
(percentage points)



Source: Elaborations on BEA and Eurostat, National accounts. Private sector.

5. The role of business dynamism

Some commentators argue that recent productivity growth in the US has been driven by a revival in business dynamism following a long period of stagnation (Decker et al., 2024; de Soyres et al., 2024; Kugler, 2024). Business dynamism – defined as the entry of more productive firms and the exit of less productive ones – can enhance allocative efficiency and boost aggregate TFP. The sluggish performance of business dynamism prior to the pandemic sparked considerable debate (e.g., Decker et al. 2016), while the apparent reversal of this trend afterward has also attracted economists' attention (Decker and Haltiwanger, 2023).

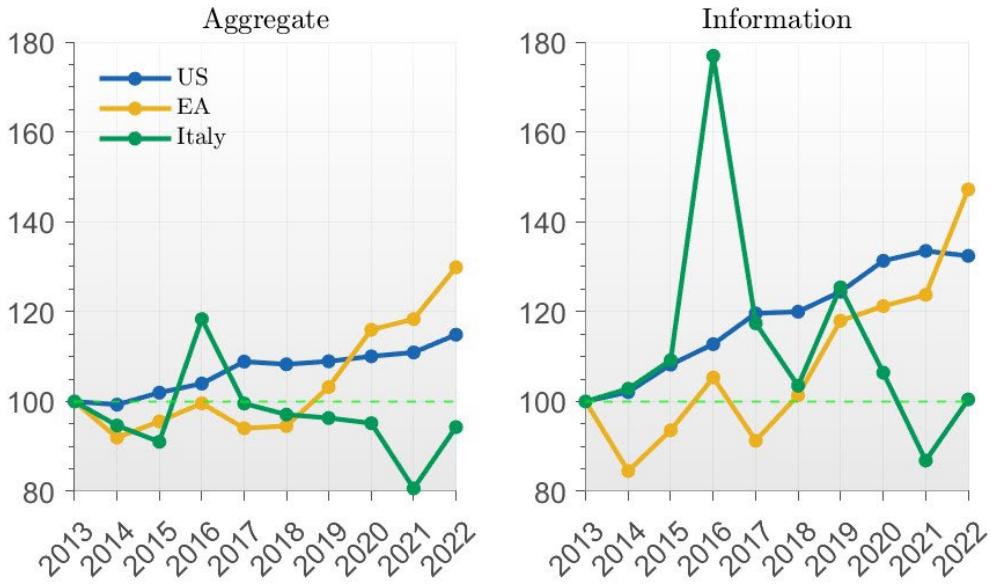
Recent evidence supporting the recovery of business creation in the US is based on the sharp rise in business applications recorded after the pandemic crisis (Kugler 2024). However, the outright use of applications might not be a reliable measure of dynamism, as not all applications lead to the establishment of a new enterprise, nor do they ensure that the new firm will hire employees. In addition, focusing solely on firm entries without considering exits from the market can be misleading. Decker and Haltiwanger (2024a) observed that as early of 2023 the increase in applications had not translated into a proportional rise in the number of firms. In 2024, the same authors further downplayed the meaningfulness of this trend, noting that the post-pandemic surge in applications had lost momentum, suggesting that it might have simply reflected deferred business creation disrupted by the pandemic (Decker and Haltiwanger; September 2024b).

To account for these caveats, we focus on firms that survive at least one year after their establishment, as this indirectly also captures firm exits, which tend to be particularly high among newly created

business. Figure 9 presents entry rates based on this alternative definition for both the private sector as a whole and the ICT sector, covering the period from 2013 to 2022.[11]

Under this definition, business dynamism in the US appears far less pronounced, suggesting that widely cited evidence may overestimate the phenomenon.[12] By contrast, business dynamism has been increasing in the EA, with an upward trend that began well before the structural break in 2021. In both the US and the EA, the ICT sector has contributed to growth (for the US, also see Decker and Haltiwanger, 2024b). However, the dynamics observed in Italy are more difficult (complex) to interpret, possibly due to the impact of the structural break in 2021.[13]

Figure 9: Newly born firms (aged 1 year). Private sector and ICT sector.
(indices=2013=100)



Source: Census Bureau and Eurostat. Data on Euro area are obtained as the sum of data for Germany France, Italy, The Netherlands and Spain. They may be affected by the change in the series in 2021: before that date headquarters of multinational firms were excluded.

6. The role of reallocation and employment adjustments after the Covid pandemic

The debate over the role of short-time work (STW) programs and their potential negative impact on worker reallocation after economic shocks dates back to the Great Financial Crisis. In response to that crisis, several governments—including Germany and Italy—expanded their use of STW schemes to protect jobs by subsidizing reductions in working hours. As a result, the decline in employment in the

[11] The data for the EA refer to the five largest economies and are affected by a structural break in 2021: before that year the reference population excluded activities of holding companies, included instead in more recent data. The data exclude the sector K642.

[12] Eurostat data also have a structural break in 2020. This break however should have a limited impact of the number of newly born firms.

[13] The spike registered in 2016 in Italy is probably due to the generous hiring subsidies paid to firms hiring permanent workers. The dynamics of 2021 and 2022 could instead be affected by the break in the series.

EA was far less severe than in the US, where such schemes were used very little. In a 2009 New York Times column, Paul Krugman praised STW programs for their ability to cushion employment losses, a view echoed by other economists (e.g., Brenke et al., 2011; Hoffman and Lemieux, 2013) who referred to them as a "German answer to the Great Recession".[14] However, in the years that followed, many European countries experienced stagnant productivity, prompting some commentators to argue that STW schemes may have hindered the efficient reallocation of labour across firms.

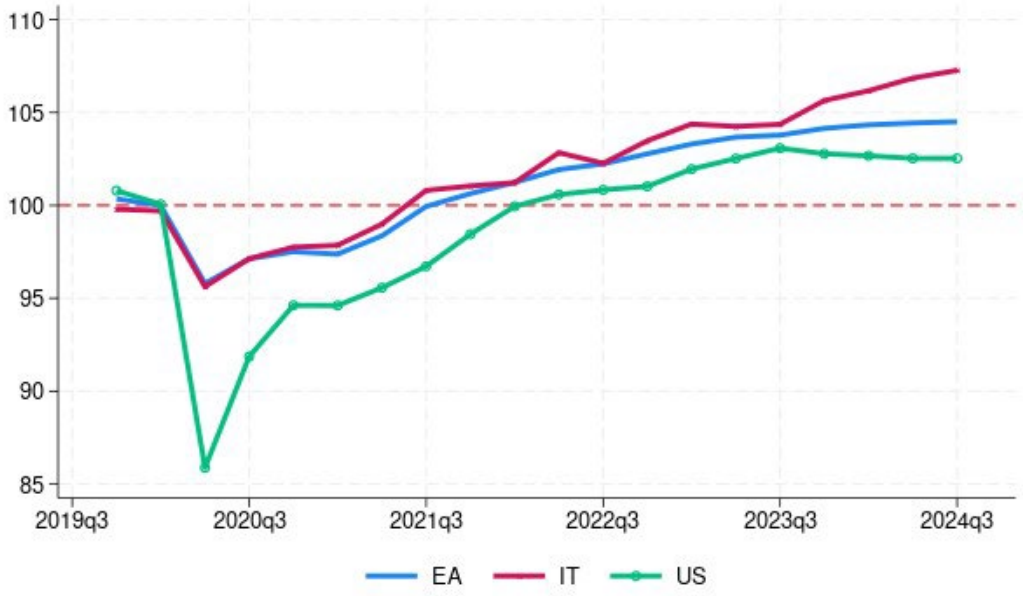
To some extent, the debate is still relevant today. During the Covid-19 pandemic, the use of STW greatly expanded in many countries, where the proportion of workers covered by STW reached historically high levels. In the EA, the labour market implications of this expansion are evident looking even at very simple statistics: while employment in the US fell dramatically during and immediately after the pandemic, the decline in the EA, and in Italy in particular, was remarkably smaller (Figure 10). Furthermore, the use of STW presumably allowed the EA and Italy to recover the pre-pandemic employment levels one year before the US. In Italy the layoff freeze implemented from March 2020 to December 2021 also helped firms retain workforce - even if the relative contribution was notably smaller than the contribution coming from the *Cassa Integrazione Guadagni* (CIG), Italy's STW program (see Viviano, 2020).

More recently, however, Andrè and Gal (2024) found that greater reliance on STW was associated with slower sectoral reallocation after the pandemic, reigniting concerns on the unintended consequences of STW schemes. In this context, it is useful to revisit a key argument from the post-GFC debate: as Cahuc (2024) notes, the impact of STW depends on the program design. Schemes that are too long or overly generous may artificially sustain less productive firms, making it less compelling for workers to seek employment in more efficient companies (see also Basso et al. 2024).

In Italy, one key issue is the exceptionally long duration of the CIG compared to other international STW programs. The CIG consists of two components: (i) *CIG Ordinaria*, which provides temporary support for firms facing short-term shocks (lasting up to 12 months); and (ii) *CIG Straordinaria*, which applies in cases of company crises and can last up to three years. Unlike other STW programs, CIG Straordinaria can also be used during insolvency procedures, making Italy the only country with such an instrument, which creates clear obstacles to worker redeployment. Recognizing this issue, policymakers attempted to abolish *CIG Straordinaria* in the 2012 Fornero reform and the 2016 Jobs Act, but political pressures—linked to crises in large firms—led to a reversal of these efforts (Lobello, 2021). In 2022, fearing that the pandemic would trigger mass layoffs and corporate failures, the government reaffirmed the role of *CIG Straordinaria*, even expanding the circumstances under which it could be used. That said, it is unlikely that Italy's aggregate productivity trends can be attributed to *CIG Straordinaria*, as it affects a relatively small number of workers—less than 0.5% of private-sector employees in 2023.

[14] NYT, 12 November 2009.

Figure 10: Employment adjustment during and after the pandemic. Total employees
(indices: 2019-Q2=100)



Source: Elaborations on BLS and Eurostat, National accounts.

7. Conclusions

This paper examines the factors driving the evolution of output per hour worked in the US and the EA following the pandemic, highlighting how labour productivity in the US has significantly outpaced that of euro area (EA) countries.

Our findings suggest that both cyclical and structural factors have played a role. On one hand, the disproportionately higher impact of the energy shock in Europe following the invasion of Ukraine led firms to substitute energy and intermediate goods with labour, which weighed on productivity growth. On the other hand, productivity gains in the US have been highly concentrated in specific sectors, most notably ICT and, to a lesser extent, professional and business services. In the EA, the same sectors are leading productivity growth, but they have been unable to keep pace, reflecting a more subdued evolution of both capital intensity and total factor productivity (TFP). At the same time, business dynamism does not appear to have resurfaced as a key driver of productivity growth in the US.

These patterns are in no way new, and have been at the center of the debate on longer-term dynamics of productivity in the two regions.

In particular, recent research has emphasized the pivotal role of the tech sector in shaping the US-EA productivity divide since the 2000s. Nikolov et al. (2024) – as referenced in the Draghi Report - show that, excluding the tech sector, EA productivity growth (and TFP in particular) would have been broadly on par with the US over the 20 years up to 2019. In fact, between 2013 and 2019 productivity growth in the EA would have even exceeded that of the US, underscoring the outsized role of ICT. The TFP growth advantage of the US over the EA stems from both higher TFP growth rates within key sectors generating large TFP gains and the larger share of these in value added. Overall, it appears that in the EA the transition towards high productivity services sectors, where TFP is growing the

fastest, has been slower than in the US. Research by the European Investment Bank (2024) further documents how the gap in productive investment between the European Union and the US recorded from 2013 to 2019 has been particularly wide in information and communication technology (ICT) and also intangible assets.[15] Our analysis suggests that these patterns have likely persisted in the post-pandemic period.

It remains too early to determine whether the recent US productivity gains signal a permanent shift to a higher growth trajectory, reversing the post-GFC stagnation that has affected all advanced economies. As we have shown, a clear resurgence in business creation is not yet evident in the data, offering no strong indication of a reversal in the decades-long decline in business dynamism documented by Decker et al. (various years), looking at productive churn and business-to-business reallocation.

As to the underlying causes of this decline of dynamism, aside from demographic factors, a substantial body of research has explored the role of the IT revolution in reshaping the market structures. The rise of huge incumbent tech companies would contribute to greater market concentration and deterred entry, by reshaping the business environment through different channels, ranging from the optimal scale of operations (Aghion et al. 2023, De Ridder 2024) to the mechanisms of technology diffusion (Akcigit and Ates 2023).

These insights suggest that while the US continues to lead in productivity growth, structural shifts in market dynamics and firm behaviour remain critical factors in shaping the long-term trajectory of both US and EA productivity. In addition, the potential for emerging technologies (artificial intelligence as well as supercomputer chips, medical and green tech) to underpin a long-lasting surge in productivity in the near future will also critically depend on the ability of policy to carefully balance innovation with technology diffusion and the accessibility of technology with consumer protection.

[15] Both analyses are based on the EU KLEMS releases – containing information on sectoral breakdown of productivity, employment creation, capital formation and technological change, and providing comparable data for the US. Data are so far updated to 2019, hindering a post pandemic comparison.

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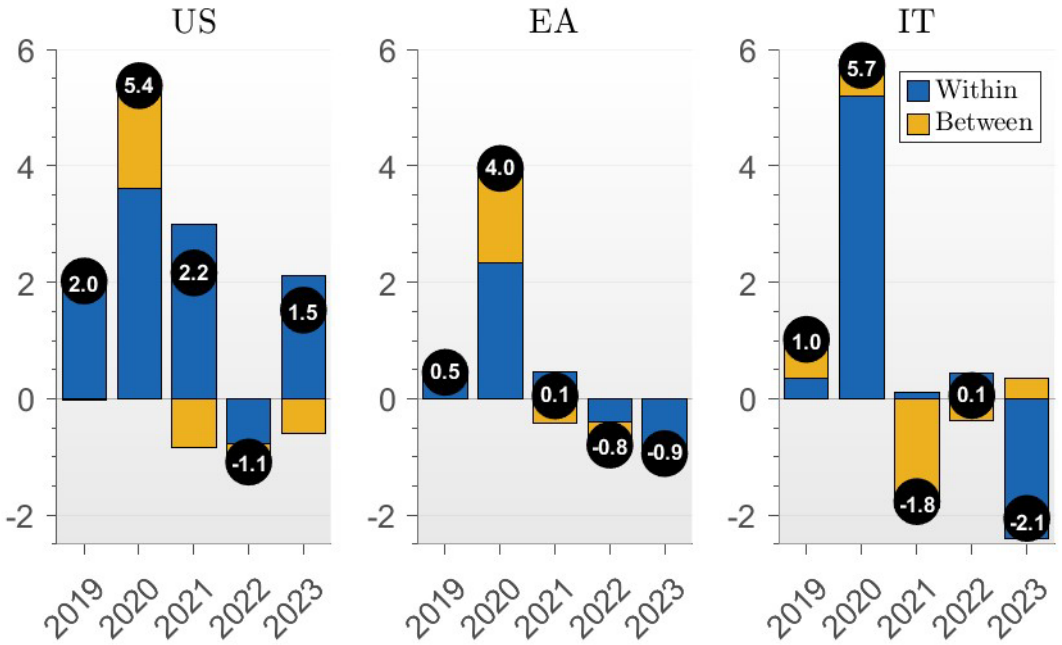
APPENDIX: ADDITIONAL FIGURES FOR A COMPARISON WITH ITALY

Fig. A1: Productivity decomposition year by year: between and within components

(p.p.)



Source: Elaborations on BLS and Eurostat, National accounts. Productivity refers to the private nonfarm sector.