European Employers' Institute

Understanding the EU-US labour productivity gap

#1 – The broad perspective

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Executive summary

The current economic landscape is marked by significant concerns regarding Europe's economic performance. Recent influential reports, notably the **Draghi Report and the Letta Report, both published in 2024,** along with other analytical works, highlight a growing economic divergence between Europe and the United States (US). Furthermore, shifts in global trade dynamics, including past trade tensions and the ongoing fragmentation of global exchanges, fundamentally challenge Europe's traditional export-dependent economic model. This study provides an updated assessment of the labour productivity gap between the United States and the European Union (EU), along with an overview of the explanatory factors identified by economic research.

Overall, economy-wide hourly labour productivity has grown by an average of 1.7% per year in the US over the past 25 years, compared to 1% in the EU. Starting from a pre-existing -27 % gap in 2000, EU real labour productivity in 2020 prices is -38 % below that of the US in 2024. Across all economic sectors, US productivity is significantly higher than in the EU, both in nominal terms and in PPP dollars, i.e., after adjusting for relative prices.

The analysis highlights the importance of digital-related sectors (information and communication), with an average productivity growth gap of over 2 percentage points per year, as well as business services.

Finally, the analysis reveals three distinct phases in the widening productivity gap between the EU and the US:

- **Before the 2007 crisis:** A marked divergence (a 1 percentage point growth gap) primarily affecting three sectors (manufacturing, trade, and financial services).
- **Between 2007 and 2019:** A joint slowdown in productivity, although US productivity continued to grow more strongly, with significant productivity gains in the EU manufacturing sector and the rise of information and communication in the US.
- **Since 2019:** A new widening of the gap, generalised across most sectors, but particularly impacting information and communication and business services.

The persistence of this productivity lag poses major challenges for the European economy and society, given the key role of labour productivity growth for the progression of national income. This weakness impacts critical areas such as **living standards, wage growth, the financing of the social model,** and Europe's capacity to effectively address **collective challenges** (e.g., climate change, defence, digitalisation, demographic shifts).

Last, our review of academic literature identifies eleven complementary explanatory factors for the decline in EU productivity relative to the US: differences in Information and communications technology (ICT) Investment and use, fragmentation of the European internal market, lower R&D investment, weaker business dynamism, firm size distribution, limited access to financing, digital infrastructure and bottlenecks, differences in labour market functioning and social model, administrative complexity and regulatory burden, human capital and skills mismatch, and macroeconomic policies and demand-side factors.

1. A shared view: EU labour productivity has fallen behind the US over three decades

1.1. Introduction

A significant body of work has been published since the early 2000s concerning the labour productivity gap between the European Union[1] and the United States (a selection of bibliographic references is provided in the Appendix). This includes academic research, reports from public institutions, and studies from various think tanks. Other research, primarily focused on understanding the factors and dynamics of productivity in Europe, also uses the United States as a benchmark, thereby contributing to this ongoing discussion.

All of these studies address two major questions that economists grapple with: the measurement and analysis of the causes of the productivity slowdown affecting all advanced economies, and the weakness of European growth since the end of the global financial crisis.

Regarding the productivity gap between the EU and the United States, existing analyses offer a generally consistent picture, which can be summarised by the following points:

- **Catch-up Growth (1950s - Mid-1990s):** The core of the current EU experienced stronger labour productivity growth than the US from the 1950s up to the mid-1990s. This period was characterised by the EU catching up to the US in terms of productivity, in particular during the 1950s and the 1960s;
- **Divergence Post-Mid-1990s:** By the mid-1990s, the EU core countries had almost caught up to the US in terms of hourly productivity levels (though with variations across countries and not in nominal terms). However, since then, the EU has tended to diverge from the US.
- **Widening Gap During Crises:** The gap in productivity growth first persisted after the 2008 financial crisis and then widened even further during the pandemic.
- **Country-Specific Differences with Convergence Dynamics:** There are significant differences between EU countries, including substantial gaps in productivity levels and growth rates. These differences are part of a convergence dynamic, where countries with lower absolute productivity levels are also experiencing stronger productivity growth, gradually narrowing these internal gaps.
- **Broad Sectoral Lag:** The productivity lag is widespread across sectors, affecting both productivity levels and growth.

Against this backdrop, our study aims to provide an updated diagnosis of this divergence, spanning from the mid-1990s to 2024, a period more recent and comprehensive than most existing analyses, which typically conclude before 2022 or even 2019 and often cover varying timeframes. Furthermore, our analysis maintains a consistent focus on the EU27 as a homogenous entity throughout the study, in contrast to much of the literature that often examines subsets of countries. Moreover, a particular emphasis is placed on the sectoral dimension of this divergence.

[1] Our study's scope encompasses the European Union in its current 27-member configuration, and throughout the text, the term 'EU' refers to this scope unless explicitly stated otherwise.

1.2. Methodology and data sources

Metrics

- Labour productivity is defined as the ratio of value added to the volume of hours worked.
- Unless otherwise specified, the value added metric used is real value added, expressed in chained volumes. This ensures that changes in prices do not distort our understanding of output.
- The volume of hours worked includes all employed persons in the economy, both employees and self-employed. Including the self-employed helps to neutralise differences in the proportion of salaried workers across economies.

Analysis period

- Our analysis begins in 1995 (or a few years later if data is not available). The mid-1990s are generally recognised in economic research as the start of the period when EU productivity began to relatively lag behind the US.
- We have divided the analysis into distinct periods to account for two major disruptions since 1995: the 2007-2009 financial crisis and the 2020 pandemic.
- Therefore, our analysis periods are:
  - 1995-2007
  - 2007-2019
  - 2019-2024 (with 2024 being the most recent year for which data is available).

Data sources

- For the **1995-2007** and **2007-2019** periods, we rely on **EU-KLEMS data**, published by the Luiss Lab of European Economics, covering 1995 to 2021. This dataset provides detailed information by sector for a wide range of countries, including EU member states and the United States. EU-KLEMS data is a benchmark in most studies that conduct international productivity comparisons with a sectoral approach.
- For the **2019-2024** period, we use **OECD data** for the EU27 and from the US, with additional data from US statistical institutes for the US agricultural sector: specifically, the **Bureau of Labor Statistics (BLS)** for hours and the **Bureau of Economic Analysis (BEA)** for value added.
- We have verified the consistency between these two data sources during their overlapping periods and also with other sources of data on labour productivity, such as the OECD's.

Table 1. Codes and names for industries

Industry code	Industry name
A	Agriculture, forestry and fishing
B	Mining and quarrying
C	Manufacturing
D	Electricity, gas, steam and air conditioning supply
E	Water supply; sewerage, waste management and remediation activities
F	Construction
G	Wholesale and retail trade; repair of motor vehicles and motorcycles
H	Transportation and storage
I	Accommodation and food service activities
J	Information and communication
K	Financial and insurance activities
L	Real estate activities
M	Professional, scientific and technical activities
N	Administrative and support service activities
O	Public administration and defence; compulsory social security
P	Education
Q	Human health and social work activities
R	Arts, entertainment and recreation
S	Other service activities
T	Activities of households as employers; undifferentiated goods- and services-producing activities of households for own use
U	Activities of extraterritorial organisations and bodies
MARKT	Market economy (all industries excluding L, O, P, Q, T and U)
MARKTxAG	Non-agricultural market economy (Market economy less industry A)

2. The initial divergence: EU vs. US productivity (1995-2007)

EU-KLEMS data[2] provides a detailed look at labour productivity dynamics by sector in the EU27 and the United States during the first phase of the divergence, from 1995 to 2007 (just before the financial crisis). Over this period, average labour productivity across the **EU27 grew by 1.8% per year.** This was 1 percentage point lower per year than the US (+2,8 % yearly), or 35% less (see Figure 1).

During this timeframe, the most significant productivity gaps were observed in:

- **Business Services** (Sector N): US growth was 2.7%, while the EU27 saw a decline of 1%, creating a 3.7 percentage point gap.
- **Accommodation and Food Services** (Sector I): The US grew by 2.4%, compared to a 1% decline in the EU27, resulting in a 3.4 percentage point gap.
- **Wholesale and Retail Trade** (Sector G): The US experienced 4.7% growth, versus 2.1% in the EU27, a 2.6 percentage point difference.
- **Manufacturing** (Sector C): US growth was 6.2%, compared to 3.6% in the EU27, marking a 2.5 percentage point gap.

Conversely, the EU27 showed stronger productivity growth than the US in three sectors:

- **Transportation and Storage** (Sector H): The EU grew by 2.9%, while the US grew by 0.9%, a 1 percentage point advantage for the EU.
- **Agriculture** (Sector A): The EU grew by 3.8%, compared to 2.9% in the US, an 0.9 percentage point advantage for the EU.
- **Sectors D-E,** which include electricity, gas, steam and air conditioning supply, and water supply; sewerage, waste management and remediation activities.

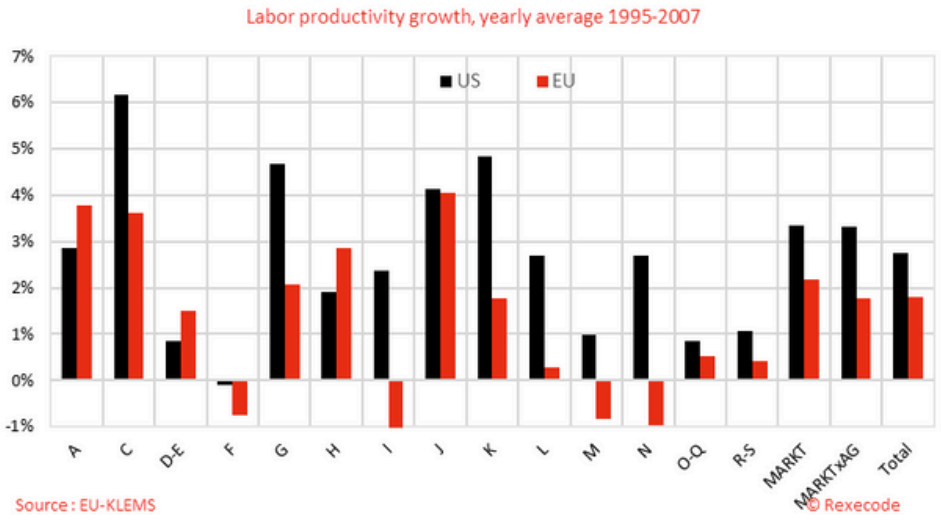

Figure 1: Labour productivity growth, yearly average 1995-2007

***Note:** A dash ("-") indicates an aggregate of two sectors. For example, "D-E" refers to the combined aggregate of sectors D and E*

[2] For the EU27, the EU-KLEMS database only provides data starting from 1999. Therefore, we have extrapolated backwards to 1995-1998 based on the growth measured for the EU-19.

Analysing each sector's contribution to the overall economy-wide productivity gap requires considering both their share of total hours worked and the effects of changes in their structure. The chart below (see Figure 2) shows each sector's contribution to the cumulative change in the EU-US productivity gap, distinguishing between the effect of sector-specific growth and structural shifts (see appendix 2 for the detailed methodology).

Three sectors contributed to the productivity loss during the 1995-2007 period in roughly comparable proportions: manufacturing, trade, and financial and real estate services. (The interpretation of the latter's contribution is complicated by the unique way value added is calculated for this sector.) Business services and information and communication contributed more modestly to this decline.

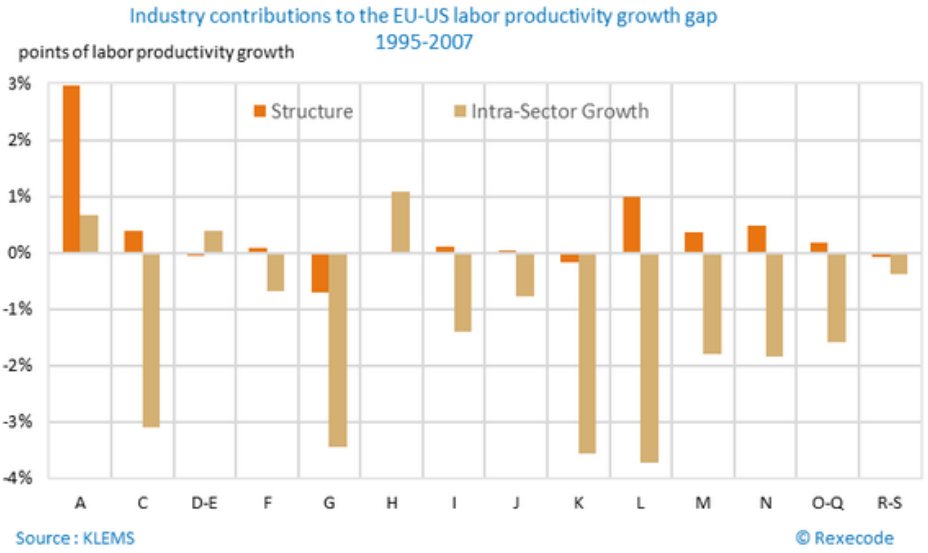

Figure 2: Industry contributions to the EU-US labour productivity growth gap, 1995-2007

***Note**: The combined contributions from all individual sectors account for the total change in economy-wide productivity over the entire period. Specifically, the Intra-Sector Effect quantifies how much each sector's own labour productivity growth contributes to the overall aggregate productivity change, considering its relative weight in the economy. Meanwhile, the Structure Effect (or "Composition Effect") captures the impact of shifts in the allocation of labour across different sectors. This effect highlights how overall productivity is influenced by changes in which sectors employ the most hours, particularly when these sectors have significantly different productivity levels.*

3. Productivity trends during and after the global financial crisis (2007-2019): beneath a shared slowdown, the rise of the ICT gap

The period from 2007 to 2019, which encompasses both the global financial crisis and the Eurozone sovereign debt crisis, saw a significant slowdown in productivity growth compared to the 1995-2007 period. This decline affected both the EU27 and the United States.

For the EU27, **average annual labour productivity growth** dropped to 1%, down from 1.8% previously. The slowdown was even more pronounced in the US, with growth falling to 1.2% from a previous 2.8%. While the US still maintained higher overall economic productivity growth than the EU during this period, the gap between them narrowed compared to 1995-2007.

The most significant negative productivity gap between the EU and the US during this period was in Information and Communication (Sector J): The US saw 5.8% growth, while the EU27 grew by only 2.2%, a 3.6 percentage point difference (see figure 3 below). This was followed by:

- **Administrative and Support Service Activities** (Sector N): US growth was 1.7% versus 0.2% in the EU27, a 1.5 percentage point gap.
- **Professional, Scientific and Technical Activities** (Sector M): The US grew by 1.2% compared to 0.1% in the EU27, an 1.1 percentage point gap.

Conversely, the EU demonstrated stronger or equal productivity growth than the US in five sectors, including Manufacturing (Sector C), where the EU grew by 1.8% against 1.2% in the US, a 0.7 percentage point advantage. Agriculture (Sector A) also showed EU outperformance, with 3.4% growth compared to 2.3% in the US, a 1.2 percentage point advantage.

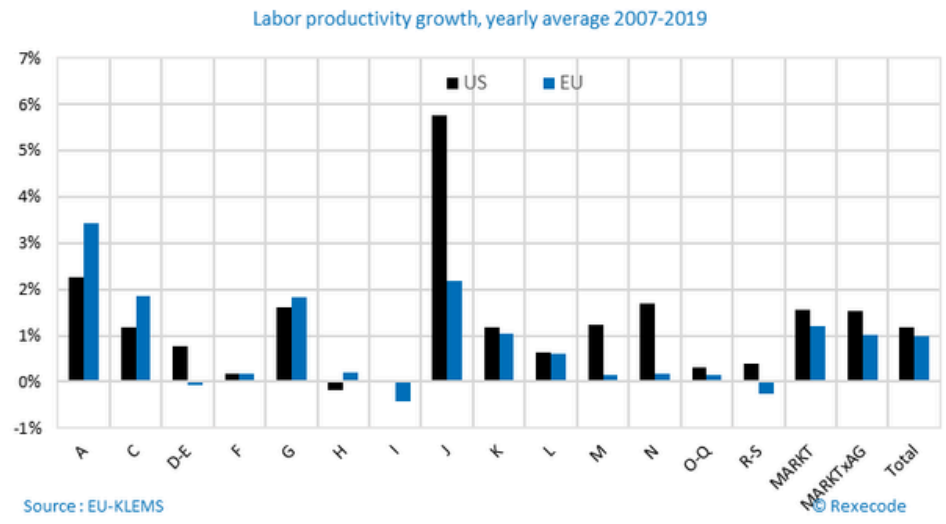

Figure 3: Labour productivity growth, yearly average 2007-2019

An analysis (see Figure 4) of each sector's contribution to the productivity gap between the EU and the US reveals a strong negative contribution from Information and Communication (Sector J), followed by Business Services (Sectors M and N) during the 2007-2019 period.

Conversely, manufacturing helped to mitigate the relative decline in EU productivity compared to the United States, thanks to its stronger sector-specific growth. Agriculture also played a similar positive role.

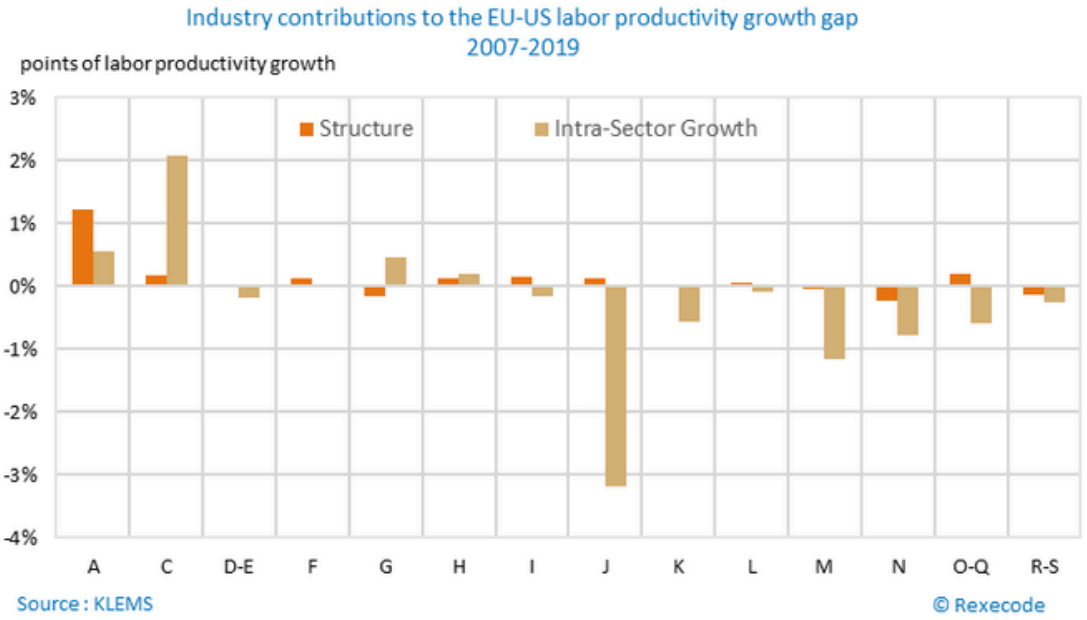

Figure 4: Industry contributions to the EU-US labour productivity gap, 2007-2019

Note: *The combined contributions from all individual sectors account for the total change in economy-wide productivity over the entire period. Specifically, the* ***Intra-Sector Effect*** *quantifies how much each sector's own labour productivity growth contributes to the overall aggregate productivity change, considering its relative weight in the economy. Meanwhile, the* ***Structure Effect*** *(or "Composition Effect") captures the impact of shifts in the allocation of labour across different sectors. This effect highlights how overall productivity is influenced by changes in which sectors employ the most hours, particularly when these sectors have significantly different productivity levels.*

These significant productivity growth gaps in Sector J (Information and Communication) and in Sectors M and N (Business Services) are consistent with economic research highlighting the EU's lag in digitalisation and business services.

4. The pandemic and its aftermaths: widening productivity gaps (2019-2024)

For the **2019-2024 period,** we use OECD data for the EU and the US, and additional data from US statistical institutes for the agricultural sector (BEA for value added, BLS for hours worked). These sources provide comparative insights into productivity growth across major sectors (see Figure 5), though at a less granular level than the EU-KLEMS data, which ends in 2021.

This period, significantly impacted by the global health crisis, reveals **a new divergence** between the two economies. Between 2019 and 2024, **labour productivity in the United States grew by an average of 1.9% per year,** a 50% acceleration compared to the preceding period. In stark contrast, **labour productivity decelerated in the EU, with its growth falling to 0.5% per year** over the same timeframe. Consequently, the productivity gap between the two economies widened significantly: at 1.3 percentage points, it is larger than the gap measured during the 1995-2007 period.

Almost all major economic sectors, with the exception of financial services, experienced slower productivity growth in the EU than in the United States between 2019 and 2024. The most substantial growth gap was in the **Information and Communication sector (Sector J)**, where the US saw an average annual productivity growth of 4.6% compared to just 1.3% in the EU, a **3.2 percentage point difference.** This was followed by Business Services (Sectors M and N combined), with US growth at 3.3% annually compared to 1.1% in the EU, a 2.2 percentage point difference.

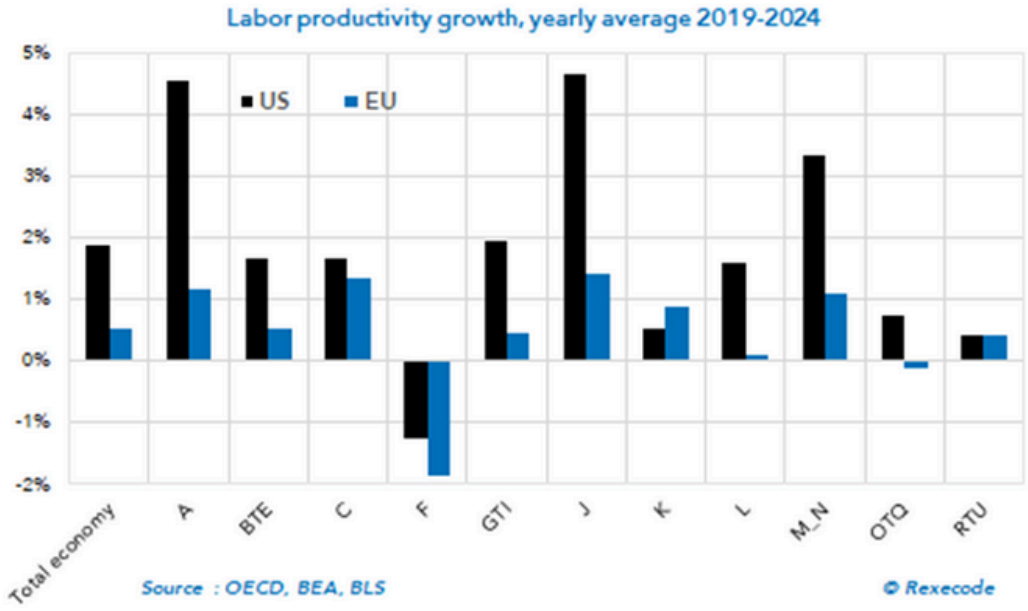

Figure 5: Labour productivity growth, yearly average 2019-2024

An analysis of sectoral contributions (see Figure 6) shows that the information and communications sectors were the primary contributors to the growing productivity gap between the EU and the United States, ahead of **business services (Sectors M and N). Industrial sectors** (excluding manufacturing, which achieved productivity growth above the whole economy average in the EU), as well as **trade, accommodation, and food services**, also contributed to the widening productivity gap.

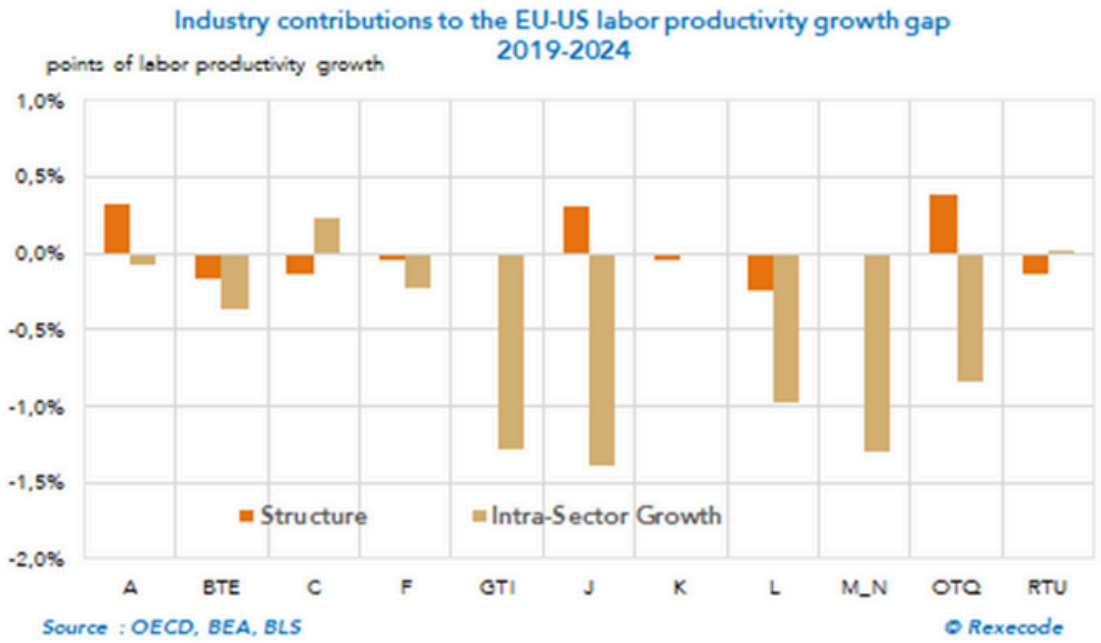

Figure 6: Industry contributions to the EU-US labour productivity growth gap 2019-2024

***Note**: The combined contributions from all individual sectors account for the total change in economy-wide productivity over the entire period. Specifically, the Intra-Sector Effect quantifies how much each sector's own labour productivity growth contributes to the overall aggregate productivity change, considering its relative weight in the economy. Meanwhile, the Structure Effect (or "Composition Effect") captures the impact of shifts in the allocation of labour across different sectors. This effect highlights how overall productivity is influenced by changes in which sectors employ the most hours, particularly when these sectors have significantly different productivity levels.*

5. The productivity race: measuring the widening gap in 2024

The three decades of relative decline in the **EU's hourly labour productivity** compared to the US have led to diverging productivity levels (see Figure 7). In **real terms**, using constant 2020 purchasing power parity (PPP) dollars, labour productivity was already lower in the EU than in the United States in 1997: $44.4 per hour worked in the EU versus $61.1 in the US, a difference of approximately -27%. By 2024, hourly productivity in the EU is **38% lower** than in the US ($60.7 per hour in the EU compared to $98.0 in the US in 2020 dollars).

The gap in **nominal terms (value)** has also grown significantly. From -45% in 1997 ($22.3 per hour worked in the EU versus $40.2 in the US), it has risen to **-57%** in 2024 ($49.7 per hour worked in the EU versus $116.4 in the US).

The gap, **when measured in value and purchasing power parity**, has also increased. It rose from -31% in 1997 ($27.2 per hour worked in the EU versus PPP $40.2 in the EU) to **-38% in 2024** ($72.0 per hour worked in the EU versus PPP $116.4 in the EU).

It is important to understand that these different measures of productivity each convey distinct economic insights. Productivity growth measured in **real terms** primarily indicates the advancement of the economy's productive capacity or supply. In contrast, productivity in **nominal terms (or value)** reflects a country's economic power, particularly its purchasing capacity on international markets. Meanwhile, the **PPP (Purchasing Power Parity)** adjusted measure is best suited for assessing the evolution of living standards for the population, as it accounts for differences in the cost of goods and services.

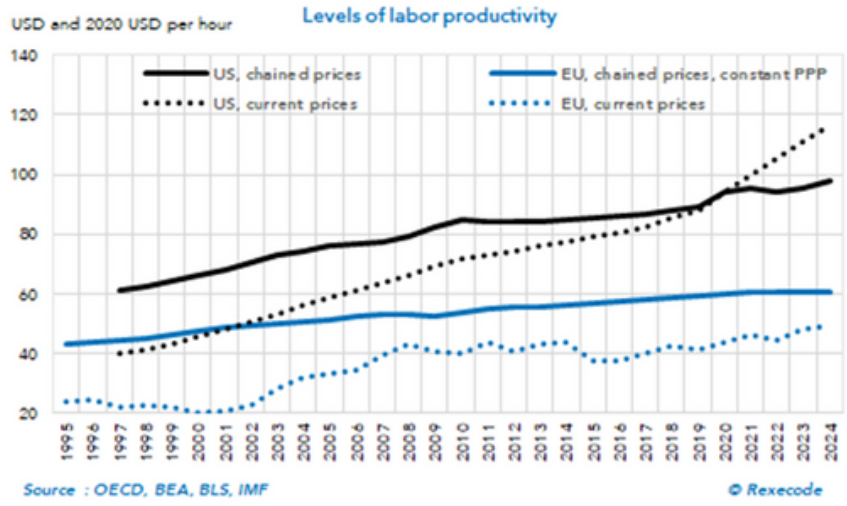

Figure 7: Levels of labour productivity

Another way to view the relative loss of productivity between the EU and the US is by looking at their ratio: Regardless of the metric used, the decline over 30 years is significant (see Figure 8).

However, it's worth noting that the productivity loss in volume and nominal value observed since 2019 does not appear when measured in **Purchasing Power Parity (PPP)** value. In fact, the productivity ratio measured in value and PPP has been broadly unchanged since 2010.

This could imply that the productivity gains achieved in the United States during this period were not passed back to the American consumer in the form of lower prices, or that European consumers benefited from these gains in similar proportions (which is likely the case for digital products and services).

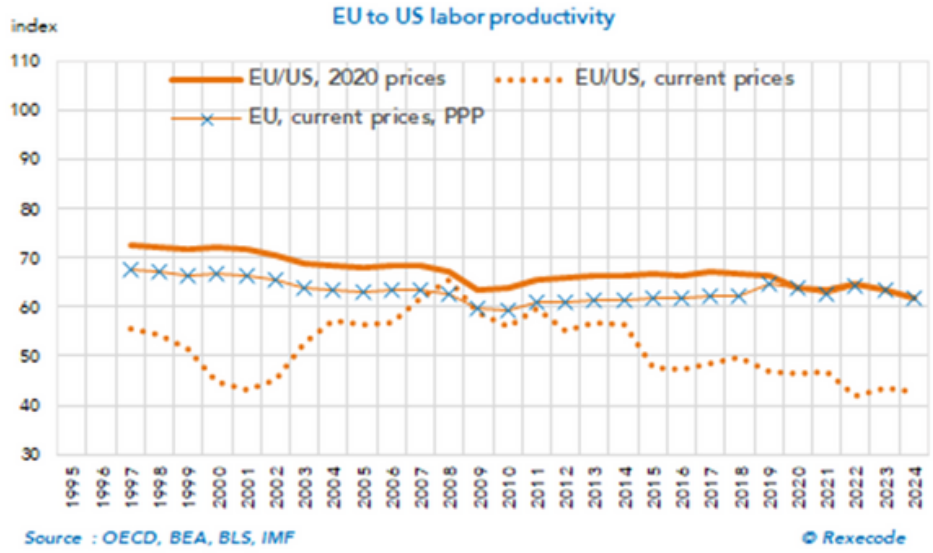

Figure 8: EU to US labour productivity

The productivity landscape within the EU is highly heterogeneous (see Figure 9 below). In 2024, the average productivity across the entire EU was 72 PPP USD per hour worked, which is 38% lower than US productivity (116 PPP USD). The gap is narrower for the fourteen earliest EU member countries, whose hourly productivity stood at 79 PPP USD (-32% lower than the US), and for the six original historical EU member countries (84 PPP USD, or -28% lower than the US). Conversely, the productivity of countries that joined the EU after 1995 was 51 PPP USD in 2024, representing -57% less than that of the United States.

This situation has nevertheless evolved over time. In 1997, the average productivity of the EU27 was somewhat closer to that of the United States (with a gap of only -31%). At that time, the productivity of both the fourteen earliest EU member countries and the six original member countries was much closer to that of the United States (- 16% and -10% respectively). Conversely, the productivity of countries that joined the EU after 1995 was -71% lower. In 1997, the productivity of countries that joined the EU after 1995 was 65% lower than that of the 14 earliest member countries, whereas today it is 36% lower.

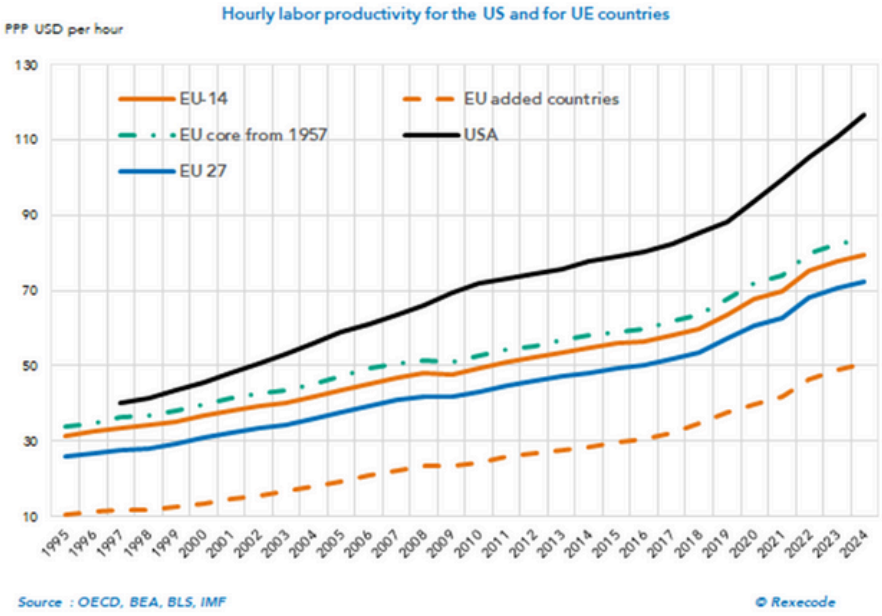

Figure 9: Hourly labour productivity for the US and for EU countries

***Note:** "EU-14" refers to the EU countries present in 1995 (excluding the United Kingdom). "EU added countries" designates the countries that joined the EU after 1995. "EU core from 1957" refers to the six original historical EU member countries. Due to data availability in the database used (OECD), Bulgaria is not included in these various perimeters, and it is assumed that this does not affect the general conclusions of this analysis.*

Methodological box: The impact of Ireland on EU-US productivity gap measures

Ireland stands out for the robust growth of its labour productivity and the exceptionally high level it has attained over the years, nearly double the EU average. Irish growth statistics can sometimes significantly influence those of the Eurozone. This situation is partly attributable to the presence of foreign multinationals in Ireland and their choices regarding the accounting localisation of value added. It is therefore pertinent to examine the impact of the Irish situation on the measurement of the EU-US productivity gap.

The chart below illustrates the productivity of the EU and that of the fourteen original EU members, both with and without Ireland. A discernible difference is indeed visible, approximately 1.5% at the end of the period, in the aggregate productivity measure. These discrepancies are relatively minor due to Ireland's small share in total EU hours worked (around 1%). Consequently, while the impact on the overall EU-US productivity gap is not entirely negligible, it is considered a second-order effect and does not fundamentally alter the diagnosis presented in this study note.

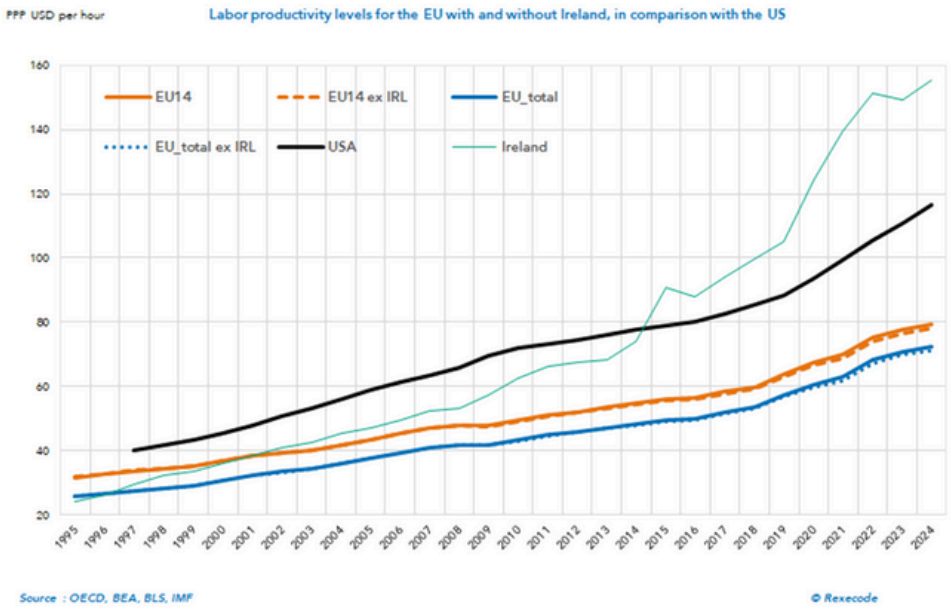

Figure 10: Labour productivity levels for the EU with and without Ireland, in comparison with the US

At the sectoral level, regardless of the measurement used, hourly productivity is higher in the United States than in the EU, with the notable exception of personal and household services (see Figure 9 and table). The productivity gap is particularly significant for the information and communication sectors, where the US exhibits an hourly productivity level three times higher in 2024.

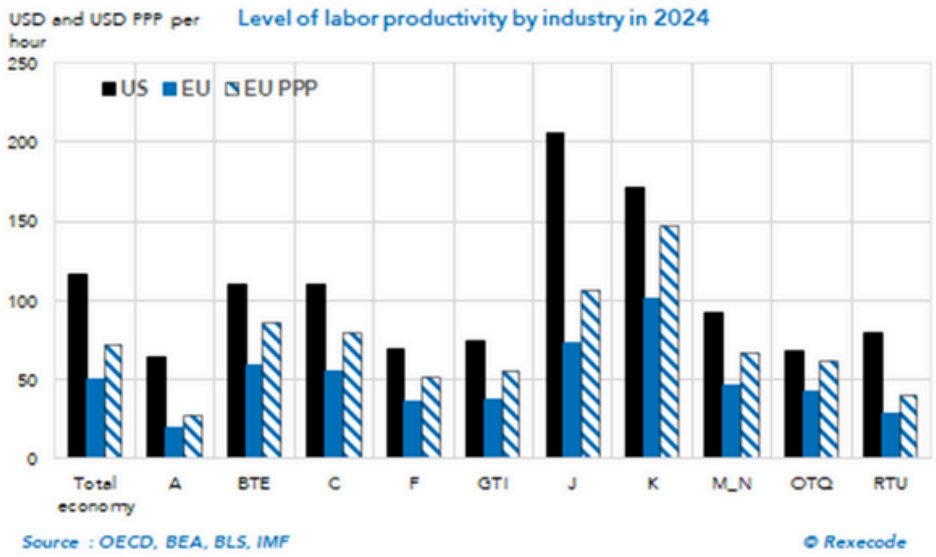

Figure 11: Level of labour productivity by industry in 2024

Note: *The real estate sector (L) is not included in this chart due to its significantly higher productivity levels.*

Table 2. US and EU productivity levels in 2024 and average growth rate over the 1997-2024 period

	Total economy	A	BTE	C	F	GTI	J	K	L	M_N	OTQ	RTU
Productivity levels in 2024, in current USD/hour												
US	116.4	63.8	110	110	68.7	74.7	206.2	171.2	883.3	92.5	68.1	79.6
EU	49.7	18.8	59.6	54.6	36.7	37.8	73.1	100.9	503.5	46.4	42.8	28.1
Average labour productivity growth, 2000-2024												
US	1.70%	2.40%	2.90%	2.90%	-0.80%	1.70%	4.50%	0.90%	1.20%	2.10%	0.30%	-0.10%
EU	1.00%	3.10%	1.70%	2.10%	-0.50%	1.00%	2.50%	1.10%	0.60%	-0.10%	0.10%	0.10%

Precautions for interpreting labour productivity measures

Labour productivity is an economic indicator that, from an accounting perspective, relates value added to the volume of hours worked. Its interpretation is relatively intuitive for traditional manufacturing activities or labour-intensive services. However, it becomes more complex for sectors where production can be decoupled from the volume of work. This is notably the case for the extraction of raw materials, for digital services sectors, and for real estate. For these sectors, labour productivity essentially reflects the installed capital (tangible or intangible) and its productivity.

Finally, the comparability of sectoral productivity measures, derived from national accounts data, is affected by differences in the methodologies used by national accountants. Far from providing a definitive metric of a country's productive capacity, it offers partial information that must be complemented by other indicators.

The levels of productivity across sectors vary significantly among EU countries. If Ireland is excluded, as its productivity in the manufacturing and digital sectors is notably influenced by value-added localization choices, the United States generally positions itself close to the highest productivity levels observed among EU countries, and in any event, within the top quartile (excluding household services). The highest productivity levels within the EU surpass those of the United States in agriculture, industry, finance, business services, the public sector, and household services. However, the United States consistently exhibits higher productivity than all EU countries (excluding Ireland) in the information and communication sector.

As visually demonstrated in the following figure, the disparity within the EU itself is substantial. Across most sectors, there is a wide range between the lowest and highest performing EU countries. While some EU members, such as Luxembourg or Denmark, achieve productivity levels comparable to or even exceeding the US in certain areas, the average EU performance often lags. This is particularly evident in sectors like "Information and Communication" (J), where the US line significantly surpasses even the maximum productivity observed among EU countries (excluding Ireland), indicating a broad EU-wide challenge in this critical digital sector. Even in sectors where the EU's top performers are strong, the gap between the EU average and the US often remains considerable, underscoring the challenge of diffusing best practices and productivity gains across the entire Union.

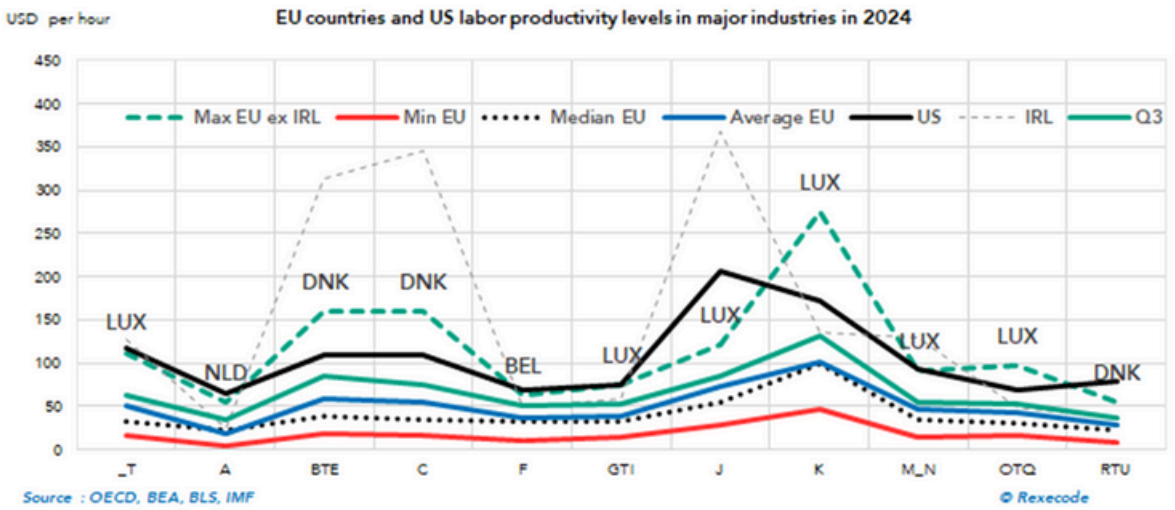

Figure 12: EU countries and US labour productivity in major industries in 2024

Note: *"Max EU ex IRL" refers to the highest productivity level for each sector among EU countries, excluding Ireland. "Min EU" denotes the lowest level, and "Q3" represents the lower threshold of the upper quartile. BEL, DNK, LUX, and NLD refer to Belgium, Denmark, Luxembourg, and the Netherlands, respectively.*

6. Eleven key factors behind Europe's labour productivity lag

The updated quantitative data confirm the three-decade-long decoupling of EU labour productivity from that of the United States, indicating an acceleration since the health crisis. The quantitative analysis also highlights the role of the information and communication sector, as well as business services, in this divergence. Economic research provides explanations for the observed productivity gap between the EU and the US, the main ones of which are listed below:

1. Differences in ICT investment and use

Firms in Europe generally invest less in Information and Communication Technology (ICT) than their counterparts in the United States (Atkinson, 2018). Higher levels of ICT investment are strongly linked to higher productivity growth (Atkinson, 2018; Corrado et al., 2017; van Ark et al., 2009). The average ICT capital intensity in US firms was found to be 1.5 times greater than in EU firms between 1995 and 2007 (Atkinson, 2018).

This lag in ICT investment, particularly in ICT-using sectors, is widely regarded as a major reason for Europe's productivity slowdown and the widening gap with the US (Atkinson, 2018). The US benefited more from productivity growth in the services sector, a significant portion of its economy, largely due to greater deployment and utilisation of ICT (Atkinson, 2018). While the EU observed positive effects of ICT in ICT-producing sectors, the benefits did not spill over as effectively to intensive ICT-using sectors like wholesale and retail trade and business services, unlike in the US (Atkinson, 2018; Bauer et al., 2020). Studies indicate that even US-owned multinational companies operating in Europe were more adept at capitalising on the benefits of the ICT revolution than European firms (Atkinson, 2018).

Furthermore, Europe also lags behind in technology creation compared to the US, particularly in high-tech manufacturing (Bergeaud, 2024). Furthermore, Europe is notably weak in emerging digital technologies that are poised to drive future growth, such as Artificial Intelligence (AI) and cloud computing. For instance, approximately 70% of foundational AI models developed since 2017 originate from the US, and only four of the world's top 50 tech companies are European (Draghi, 2024). This reflects a broader lag in technology creation, particularly in high-tech manufacturing (Atkinson, 2018; Bergeaud, 2024).

2. Fragmentation of the European internal market

Despite the EU's overall economic size being at par or even larger than that of the US, its market is less integrated in practice (Atkinson, 2018). the within-EU trade barriers remain significant in both goods and—particularly—services. This fragmentation, stemming from remaining barriers including implicit trade barriers, limits the effective market size for European firms, often restricting their operations to their home nation (Adilbish et al., 2025). Average intra-EU trade costs for goods are estimated to be around 44 percent (excluding agriculture), and even higher in services, at 110 percent on average, with all individual services sectors suffering higher barriers than those of the average goods sector (Adilbish et al., 2025).

A smaller market size potentially translates to lower returns on large, fixed-cost investments, such as those in ICT, thereby hindering their adoption and utilisation (Atkinson, 2018).

This issue is particularly acute for innovative companies, which encounter regulatory and jurisdictional hurdles that prevent them from scaling up across the EU. These include complex and costly national procedures that discourage the filing of Intellectual Property Rights (IPRs) and a proliferation of regulatory agencies that lead to inconsistent requirements, including "gold plating" of EU legislation by national authorities. Limitations on data storing and processing further hinder the creation of large, integrated datasets crucial for training AI models, putting EU companies at a disadvantage compared to the US and China (Draghi, 2024).

3. Lower R&D investment

Increased investment in R&D contributes significantly to higher Total Factor Productivity (TFP) growth across EU countries (Cevik et al., 2024). However, aggregate Research and Development (R&D) effort in Europe has been substantially lower than in the US (Bergeaud, 2024). While Europe demonstrates a strong capacity for cutting-edge research, accounting for approximately 30% to 40% of academic papers cited by disruptive technology patents (Bergeaud, 2024), this research leadership does not fully translate into patenting, as Europe's share of global Patent Cooperation Treaty (PCT) applications was only 13% for all patents and less than 9% for high technologies in 2019, with the latter share declining since the early 2000s (Bergeaud, 2024).

Furthermore, public sector support for R&I in Europe is often characterised by inefficiency and a lack of focus on disruptive innovation. Funding is fragmented across numerous programs, limiting the potential to achieve the scale necessary for breakthrough technologies and often failing to translate fundamental research into commercialised products (Draghi, 2024).

> ***Public sector support for research and investment in Europe is often characterised by inefficiency and a lack of focus on disruptive innovation.***

4. Weaker business dynamism

Europe exhibits a deficit of dynamic startups compared to the US (ECB Eurosystem, 2021; Adilbish et al., 2025). The average entry rate for firms is significantly higher in the US than in Europe (Bauer et al., 2020). More importantly, within the pool of young firms (under five years old), those with high growth (top decile in sales growth) have a much smaller employment footprint in Europe compared to the US (Adilbish et al., 2025). This implies that fewer innovative young firms in Europe grow large enough to become leading firms (Adilbish et al., 2025).

Additionally, Europe has an overabundance of small, low-growth mature firms and a deficit of exiting unsuccessful firms (ECB Eurosystem, 2021; Adilbish et al., 2025). This lack of dynamism results in less reallocation of resources towards more productive firms and potentially weaker competitive pressure on established firms, thereby reducing their incentive to innovate (ECB Eurosystem, 2021). Studies confirm a decline in entry rates in the services sector in many EU countries between 2008 and 2017 (Bauer et al., 2020).

5. Firm size distribution

The United States has a higher percentage of its workforce employed by large firms compared to European countries (Atkinson, 2018; Bauer et al., 2020). Productivity differences can stem from varying productivity across firms, and there is generally a positive relationship between firm size and labour productivity (Bauer et al., 2020). Eliminating barriers that prevent firms from growing larger is seen as a potential area for policy action to improve productivity (Bauer et al., 2020).

6. Limited access to financing

A more limited role of equity financing in Europe is identified as a contributor to the productivity problem (Atkinson, 2018; Adilbish et al., 2025). Financial constraints can particularly affect young, high-growth firms ("Gazelles") (ECB Eurosystem, 2021; Adilbish et al., 2025).

While venture capital usage is growing in Europe, its impact on intangible investments and firm innovation remains a focus of study (ECB Eurosystem, 2021). Studies suggest that low interest rates may have contributed to the competitive advantages of large firms, potentially hindering smaller firms' access to finance or their growth (ECB Eurosystem, 2021).

7. Digital infrastructure and bottlenecks

Europe faces emerging digital bottlenecks due to insufficient investment in computing power and connectivity. The global "AI chip race" highlights the massive computing power required for training new AI models, a race in which smaller, less-funded EU companies struggle to compete. Furthermore, the EU lags behind its 2030 Digital Decade targets for fibre and 5G deployment. The fragmented nature of Europe's telecoms market, with numerous mobile network operators compared to the US or China, makes the fixed costs of network investment relatively more onerous for EU operators (Draghi, 2024).

> ***Beyond explicit trade barriers, the pervasive administrative complexity within Europe acts as a significant drag on productivity.***

8. Differences in labour market functioning and social model

Long-standing structural deficiencies, such as barriers in labour markets, can hinder the swift reallocation of resources needed for productivity growth, especially in the context of technological revolutions like the ICT era (Atkinson, 2018; Adilbish et al., 2025). Strict hiring and firing regulations can also negatively impact productivity, particularly in intangible-intensive industries (Cette et al., 2024).

Some studies point to differences in management practices, suggesting US firms are more likely to adopt practices that help harness the benefits of ICT (Atkinson, 2018; Cette et al., 2024). American management quality is considered better overall across various indicators, and this "organisational capital" may explain a significant portion of the US-EU productivity gap (Atkinson, 2018; Cette et al., 2024).

9. Administrative complexity and regulatory burden

Beyond explicit trade barriers, the pervasive administrative complexity within Europe acts as a significant drag on productivity. European companies face substantial regulatory burdens, characterised by complex and costly procedures across fragmented national systems, particularly hindering innovative firms (Draghi, 2024).

This administrative burden is especially detrimental to Small and Medium-sized Enterprises (SMEs), with over half of European SMEs identifying regulatory obstacles and administrative complexity as their greatest challenge (Draghi, 2024). Such complexity not only increases compliance costs but also diverts resources that could otherwise be invested in productivity-enhancing activities like ICT adoption and R&D.

10. Human capital and skills mismatch

While education levels have generally risen in Europe, a persistent skills mismatch and skills gaps within the workforce hinder productivity growth compared to the US (Atkinson, 2018; Draghi, 2024). European companies frequently report difficulties in finding employees with the right skills, particularly ICT specialists, reflecting a disconnect between the skills supplied by education systems and those demanded by a rapidly evolving, technologically intensive economy (Draghi, 2024). This undersupply of critical skills can impede the effective adoption and utilisation of advanced technologies, as firms lack the human capital necessary to fully leverage innovations. Questions remain about whether specific skills needed to harness ICT and intangible assets are sufficiently present (Atkinson, 2018).

11. Macroeconomic policies and demand-side factors

Historical macroeconomic policy choices in Europe have, in some instances, prioritised objectives other than maximising productivity growth, contributing to the transatlantic gap. A notable feature has been a policy emphasis on job creation, which, while socially beneficial, has sometimes entailed reducing average labour productivity compared to the US (Atkinson, 2018). Beyond these specific policy priorities, economic research, particularly from the McKinsey Global Institute (MGI), underscores the critical role of demand-side weaknesses in explaining the productivity slowdown (MGI, 2018). Following the 2008 financial crisis, many European economies experienced a "job-rich but productivity-poor" recovery, characterised by robust growth in hours worked alongside weak growth in value added (MGI, 2018).

This dynamic stemmed from factors such as weak aggregate demand, persistent uncertainty, and excess capacity, which collectively restrained private investment and, consequently, productivity growth. Furthermore, fiscal expansion in Europe was often constrained by austerity measures, potentially prolonging the recovery and contributing to a persistent environment of low investment (MGI, 2018, p. 39). This highlights that capturing future productivity potential requires macroeconomic policies that foster sustained demand growth and support investment, complementing traditional supply-side interventions.

> ***European companies frequently report difficulties in finding employees with the right skills, particularly ICT specialists. This reflects a disconnect between the skills supplied by education systems and those demanded by a rapidly evolving, technologically intensive economy.***

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7. Connecting the dots: How productivity factors impact specific sectors

Building upon these identified factors, a closer examination reveals their specific manifestations across economic sectors, shedding light on the intricate dynamics behind the transatlantic productivity gap. The divergence in ICT investment and use disproportionately impacts service sectors, notably wholesale and retail trade and business services, where the US has capitalised more effectively on digital adoption (Atkinson, 2018). Furthermore, Europe's lag in technology creation directly affects high-tech manufacturing and emerging digital domains like Artificial Intelligence and cloud computing, undermining its position in frontier industries (Bergeaud, 2024; Draghi, 2024).

The fragmentation of the European internal market and its associated regulatory hurdles particularly impede innovative companies across various sectors from achieving the necessary scale for significant productivity gains (Draghi, 2024; Adilbish et al., 2025). This is compounded by lower R&D investment, which limits breakthrough innovations that could benefit sectors from manufacturing to digital services (Cevik et al., 2024; Bergeaud, 2024).

Weaker business dynamism, characterised by fewer high-growth startups and a slower reallocation of resources, affects the entire entrepreneurial fabric, with a noted impact on service sectors where entry rates have declined (Bauer et al., 2020; Adilbish et al., 2025). Linked to this, the firm size distribution issue implies that fewer European firms in any sector grow large enough to fully leverage productivity-enhancing investments (Atkinson, 2018). Limited access to financing, particularly equity and later-stage venture capital, disproportionately constrains young, high-growth firms across all innovative sectors (ECB Eurosystem, 2021; Adilbish et al., 2025).

Emerging digital infrastructure bottlenecks, such as insufficient computing power and fragmented telecoms markets, directly hinder the most digital-intensive sectors, including information and communication, and any industry reliant on advanced AI capabilities (Draghi, 2024). Lastly, differences in labour market functioning and social models, including skills mismatches and administrative complexity, broadly impact all labour-intensive and intangible-intensive industries (Atkinson, 2018; Cette et al., 2024; Draghi, 2024).

Appendix 1: Bibliography

- Adilbish, O., Cerdeiro, D., Duval, R., Hong, G. H., Mazzone, L., Rotunno, L., Toprak, H., Vaziri, M. (IMF), *Europe's Productivity Weakness: Firm-Level Roots and Remedies*, 2025
- Atkinson, R. D., *How ICT Can Restore Lagging European Productivity Growth*, 2018
- Bauer, P., Fedotenkov, I., Genty, A., Hallak, I., Harasztosi, P., Martinez Turegano, D., Nguyen, D., Preziosi, N., Rincon-Aznar, A., Sanchez Martinez, M. (for EU JRC), *Productivity in Europe: Trends and drivers in a service-based economy*, 2020
- Bergeaud, A., *The Past, Present and Future of European Productivity*, 2024
- Buiatti, C., Duarte, J. B., Sáenz, L. F., *Europe Falling Behind: Structural Transformation and Labor Productivity Growth Differences Between Europe and the U.S. (Updated version)*, 2023
- Bunel, S., Clymo, A., Garnier, O., Zago, R. (BdF), *Revisiting the European performance gap vis-à-vis the United States*, 2025
- Cette, G., Lopez, J., Mairesse, J., Nicoletti, G., *Trust, intangible assets, and productivity*, 2024
- Cevik, S., Naik, S., Primus, K. (IMF), *Chasing the Dream: Industry-Level Productivity Developments in Europe*, 2024
- Draghi, M. *The Future of European Competitiveness: A Competitiveness Strategy for Europe. European Commission*, Brussels, 2024
- ECB (European Central Bank) / Eurosystem work stream on productivity, innovation and technological progress, *Key factors behind productivity trends in EU countries*, 2021
- Gordon, R. J., Sayed, H., *The industry anatomy of the transatlantic productivity growth slowdown*, 2019
- Martínez Turégano, D., *Sectoral productivity vis-à-vis the US and heterogeneity within the EU27: the role of firm size distribution and firm demographics*, 2020
- Remes, J., Manyika, J., Bughin, J., Woetzel, J., Mischke, J., & Krishnan, M. (McKinsey Global Institute), *Solving the Productivity Puzzle: The Role of Demand and the Promise of Digitization*, 2018.
- van Ark, B., de Vries, K., Erumban, A. (for European Commission), *Productivity & Innovation Competencies in the Midst of the Digital Transformation Age: A EU-US Comparison*, 2019

Appendix 2: Methodology for the decomposition of labour productivity growth

This section outlines the methodology used to analyse the contributions of sectoral growth differences and labour structure effects to the widening labour productivity gap between the EU and the US.

Hourly labour productivity and its decomposition

Hourly labour productivity is defined as the ratio of value added in volume to the total volume of hours worked. This definition can be applied at an aggregate level (for the entire economy) or for each individual sector.

From an accounting perspective, aggregate productivity is the sum of the productivities of different sectors, weighted by each sector's share in total hours worked. Consequently, each sector contributes to the evolution of aggregate productivity through two main effects:

1. **Intra-Sector Growth Effect (or "within-branch effect"):** This effect captures the contribution of a sector's own productivity. It is defined as the sector's productivity weighted by its share in total hours worked. For a given sector, with an unchanged structure of hours worked, changes in its productivity directly affect the evolution of aggregate productivity, with a greater impact if that sector's share in total hours worked is high.
2. **Structure Effect:** This effect reflects the reallocation of hours worked between sectors. It is calculated as the change in a sector's share of total hours worked, weighted by that sector's relative productivity. This effect captures the evolution of aggregate productivity resulting from variations in the structure of hours worked. It is more pronounced (in absolute value) when the difference between the sector's productivity and the average productivity is large. The structure (or composition) effect can arise from either a distortion in the structure of hours per capita or a reallocation of employment between sectors.

The decomposition formula used is formally based on Berthier (2002)[3] for calculating contributions. Let P_{jt} denote the productivity in sector j at time t, and α_{jt} denote the share of sector j in total hours worked at time t. The aggregate productivity variation between time t and time t_0 can be written as :

$$P_t - P_{t_0} = \sum_j (\alpha_{jt} - \alpha_{jt_0}) \left(\frac{P_{jt} + P_{jt_0}}{2} - \frac{P_t + P_{t_0}}{2} \right) + \sum_j \frac{(\alpha_{jt} + \alpha_{jt_0})}{2} (P_{jt} - P_{jt_0})$$

Where $\sum_j \alpha_{jt} P_{jt}$ is the aggregate productivity of all sectors. The first term of the decomposition represents the structure effect, and the second term represents the intra-sector growth effect.

To estimate the contributions of structural effects and intra-sectoral growth to the widening laboir productivity gap between the EU and the US, this decomposition is performed separately for the EU and for the US. The contribution of the structural effect is then the difference between their respective structural effects, and similarly for the intra-sectoral growth effects.

[3] Berthier, J.P. (2002). Réflexions sur les différentes notions de volume dans les comptes nationaux. Document de travail de l'Insee n°8, juin 2002, mentionned in Insee, Note de conjoncture, décembre 2021.

About us

European Employers' Institute (EEI)

The European Employer's Institute is a not-for-profit association established in Brussels in 2024. The Institute aims at supporting its members to promote social dialogue and developing a business-friendly regulatory environment by collecting documentation, conducting research, and producing studies on strategically important issues in the world of work.

Its areas of work include labour market and social policy, industrial relations, occupational health and safety (OHS), skills development and workplace transformation. Its members are cross-industry and sectoral employers' organisations operating at both European and national levels.

The EEI's activities consist of collecting data and information, analysing topics relevant to employers, conducting studies, establishing networks of researchers and research organisations in the fields of industrial relations and labour law, and supporting social dialogue on horizontal and sectoral levels.

The European Employers' Institute's members include Ceemet - European Tech & Industry Employers, the European Banking Federation (EBF), the European Chemical Employers Group (ECEG), EuroCommerce, FIEC, European Employers' Group of Professional Agricultural Organisations (Geopa), HOTREC, SMEunited, The World Employment Confederation Europe (WEC Europe), as well as Byggforetagen, The Confederation of Danish Industry (DI), Norsk Industri, Föreningen Industriarbetsgivarna (The Swedish Association of Industrial Employers), Gesamtmetall, IKEM – Innovation and Chemical Industrie, Technology Industries of Finland, Teknikföretagen, and UIMM.

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