

Press Releases

Productivity is almost everything: the drivers and implications of productivity differences between the US and EU - Remarks by Governor Gabriel Makhoulouf at the Global Interdependence Center, Philadelphia

17 June 2024 Speech

Good morning. Thank you for the invitation to join you. It is a pleasure to be here today

Introduction

The global economy is recovering from a sequence of large shocks in recent years, with the pandemic followed quickly by a sharp increase in inflation in the wake of Russia's war on Ukraine and its people. The necessity to deal with these *immediate* challenges meant that the attention given to major *long-term* challenges has been curtailed in recent years.

One of these major long-term challenges is the slowdown in global economic growth; the IMF forecast for global growth five years from now is 3.1 per cent, the lowest it has been in decades. Economic growth can be decomposed into the contribution of employment growth, growth in the physical capital stock, and the growth in productivity, which reflects the technologies and efficiency with which capital and labour are used in production.

A key reason for the growth slowdown has been a slowdown in productivity growth. It is important to note that productivity has both a cyclical component, which fluctuates significantly over the business cycle, and also has a structural component, which is more slow moving and depends on deeper underlying factors. An important part of the more rapid productivity growth of the US relative to the EU since the pandemic is likely explained by cyclical fluctuations in productivity.^[1]

Over the medium-term, a more productive economy raises potential growth by boosting the supply-side, thereby contributing to lower price pressures. Cyclical productivity developments also feature in the latest Eurosystem Staff Projections, where the baseline projection envisages an uptick in labour productivity to offset the impact of higher wages on costs and prices. Labour costs matter more for services firms, and services inflation – some 45% of the overall inflation basket for euro area countries – has been slower to fall than other, more external components, such energy and goods.

However, these data can be volatile, and it can take time to discern what exactly is signal and what is noise. As a result, the Governing Council will continue to follow a data-dependent and meeting-by-meeting approach to determine the appropriate level of interest rates. At our meeting on the 6 June, we cut rates by 25 basis points, whilst also stating that we are not committing to a particular rate path. This leaves policy rates firmly in restrictive territory, given where we see the nominal neutral rate (around 2% in latest ECB estimates) and the path for inflation. We will deliver on our mandate, which is price stability in the euro area. And I should add, to answer a question that some commentators have posed, we take account of all influences on macroeconomic developments in the euro area, wherever they occur in the world. But, like other central banks, we do not “follow the FED” in a mechanistic sense.

But my focus today is not on monetary policy or the cyclical component of productivity growth. Rather, today I will talk about the concerning *long-term* trend decline in productivity in both the US and EU. While of course measuring productivity is inherently difficult, to put some numbers to this, from 2007 to 2019, US labour productivity growth in the market economy was 1.3 per cent, compared to 2.7 per cent from 1995 to 2007. If we compare this to an average across some of the Europe's largest economies, including France, Germany, Italy, Spain, and the UK, the numbers are even starker, with labour productivity growth declining from 1.3 per cent to 0.5 per cent over the same period.^[2]

This decline should be a major concern for policymakers: productivity growth is central to the sustained increase in living standards for individuals, and to the fiscal sustainability of governments in the face of looming challenges such as climate change and an ageing population. This is not of course a revelation. As Paul Krugman wrote 30 years ago, “Productivity isn't everything, but, in the long run, it is almost everything. A country's ability to improve its standard of living over time depends almost entirely on its ability to raise its output per worker.”^[3] In the face of such challenges – not least our changing climate – international cooperation and openness is more important than ever.

In Ireland we are very aware of the importance of such interconnectedness. We are a small open economy on the periphery of Europe which has benefited hugely both from being a part of the EU and from developing strong economic linkages with the US. In many ways, Ireland sits between the EU and US, even when it comes to the challenge of productivity growth, where Ireland performs well relative to most of its EU peers.^[4] Measurement issues are particularly prominent in Ireland however; average annual labour productivity growth between 2011 and 2023 for the whole economy was a remarkable 6.1 percent. This of course includes some activities undertaken by multinationals which do not reflect the underlying growth of the Irish economy. But if we focus instead on domestic-dominated sectors of the Irish economy, labour productivity grew annually by 0.7 per cent on average between 2011 and 2023.^[5]

It is from this perspective that today I want to discuss the productivity gap between the US and EU. I will start by discussing some of the *proximate* drivers of the growing productivity gap, namely, lower investments to innovation and technological adoption, as well as lower business dynamism more broadly. I will then dive into some of the *structural drivers* of these differences, by focusing on some importance differences between US and EU product markets, financial markets and labour markets. And I'll wrap up by discussing what implications this might have for the future.

Facts about declining productivity growth in the EU and US

The first fact I want to highlight is that the main proximate driver of the slowdown in labour productivity in both the US and EU is not a lack of investment in physical capital, nor changes in hours worked, but rather a decline in total factor productivity (TFP) growth.^[6] TFP growth depends not on the accumulation of physical inputs over time, but rather on how productively these inputs are used. It therefore depends on innovation by incumbent firms, firm entry and new product creation, and the extent to which inputs are efficiently allocated between firms. As with labour productivity, US TFP is well above that of EU economies, with the gap widening from around 13 per cent in 1995 to around 20 per cent in 2019.^[7]

The second fact to highlight is that the US invests considerably more in R&D than the EU. In 1991, R&D spending was 2.5 per cent of US GDP but 1.6 per cent of EU GDP.^[8] The gap has grown since then. In 2021, R&D spending was 3.5 per cent of US GDP but 2.2 per cent of EU GDP. Relatedly, US firms tend to be faster adopters of new technologies, particularly ICT. The share of ICT-related patents remained stable in the EU from 1995 and 2019, hovering around 15 per cent. In contrast, this share has increased over time in the US to around 35 percent as of 2019.^[9] In summary, the US invests a lot more in innovation and adoption of new technologies than the EU, although I am reminded of Robert Solow's comment that "you can see the computer age everywhere but in the productivity statistics"^[10].

The third fact to highlight is that there has been a notable decline in various measures of business dynamism in both the US and EU. Firm entry rates and the share of young firms in economic activity have declined, industry concentration and mark-ups have increased, resource misallocation has risen, the gap between frontier productivity firms and laggards has increased, and job reallocation has declined.^[11] All of this suggests that the economic forces of creative destruction, which are so important to aggregate productivity, are declining. A notable difference between the US and EU however is that the growth of so-called 'superstar firms' in the US, (as coined by David Autor and others), which has led to an increase in industry concentration, has not been as pronounced in the EU.^[12]

So these are some of the main proximate drivers of the growing productivity gap between the EU and US. I am now going to turn to some of the deeper structural drivers that could be contributing to these patterns, focusing in particular on the extent of integration in product markets, financial markets, and labour markets.

Drivers of the productivity gap

Product Markets

Let's start with product market integration. The EU single market has lowered trade barriers and harmonized many rules and regulations. Despite these significant achievements, the EU remains a more heterogeneous block than the US. Language differences can act as a barrier to trade, notwithstanding the dominance of English^[13], cultural differences manifest as differences in consumer tastes and preferences, and there remain scope to remove regulatory barriers and deepen the Single Market.^[14]

As a result, high-productivity firms in Europe have a harder time scaling up to be as large as their US counterparts. This limits resource reallocation across EU industries and countries relative to the US experience, lowering aggregate productivity. It also reduces the incentives of European firms to invest in R&D and innovate, which can lead to persistently lower productivity growth, and therefore a widening productivity gap. Technological developments in IT, such as cloud computing and machine learning, may have amplified this dynamic by increasing the benefits of scale.^[15]

Of course, there must be a balance between enabling firms to grow while ensuring that large incumbents don't become entrenched in their positions and block competition, and so an appropriate competition regulation framework is a very important policy tool. But beyond scale effects, there are also potentially more frictions and rigidities in EU product markets than in the US. Recent IMF work suggests that misallocation has worsened considerably in advanced economies, lowering TFP growth annually between 2000 and 2019 by 0.5 percentage points. Notably, the US is the only exception, with allocative efficiency *improving* over the same period. There is also a lot of variation across EU industries and countries in the extent of misallocation. Forthcoming

work by economists at the Central Bank of Ireland explores this issue, and quantifies the extent to which various rigidities, such as information frictions and the difficulties firms face in adjusting their physical capital, worsen capital allocation and lower productivity across the EU.

Financial Markets

Now to financial market integration. Despite substantial increases in EU financial integration in recent decades, the US has considerably more integrated financial markets. Recent research has highlighted how differences in institutions across EU countries, for example financial disclosure standards and creditor rights, can matter for the concentration of firm ownership.^[16]

How might this contribute to the productivity gap between the US and EU? On the one hand, entrepreneurs and young firms tend to have difficulty obtaining financing before they have built up sufficient revenues and capital as collateral. Deeper and more integrated financial markets make it easier for financial institutions to diversify risk, enabling young firms to grow more quickly, driving business dynamism and hence productivity growth. On the other hand, the depth of financial markets also matters for large firms that already have access to finance, they affect the incentives of private firms to go public, and they can also shift the composition of public firm financing between debt and equity. A notable fact is that there is a greater reliance on debt, in particular bank financing, in the EU, while US firms tend to have a relatively greater reliance on equity as a source of financing.^[17] This matters because equity diversifies risk in a way that bank debt doesn't, potentially enabling firms to invest more in risky ventures with high expected payoffs. An important avenue for future research will be determining to what extent the differences in the depth of financial markets in the US and EU contribute to the gap in R&D spending.

Labour Markets

Finally, labour markets. Even though there is free movement of labour within the single market, differences in language, culture and institutions (including social security and tax rules) make migration within the EU a lot more difficult than in the US. One result of this is that, in response to economic shocks or new innovations, European firms may not be able to fill positions as rapidly as firms in the US. Such adjustment costs can be a drag on productivity growth. In addition, EU labour laws tend to be less flexible than in the US. While this benefits incumbent workers who have greater job security, it can reduce the incentives of firms to hire and can slow down reallocation dynamics, potentially worsening allocative efficiency.^[18]

Beyond such reallocation dynamics however, an additional important feature of the US is its capacity to attract high-skilled migrants. Immigrants accounted for a quarter of new employer businesses in the US in 2019, up from 18.7 per cent in 2007, and are overrepresented in the high-tech industry and as founders of innovative firms.^[19] The agglomeration of skills in hubs such as Silicon Valley and top US universities generates important positive spillovers, and plays a key role in driving US productivity growth. EU countries have not had the same success historically in retaining and attracting skilled workers, likely contributing to its relatively sluggish productivity growth.^[20]

Lastly, ageing populations may also impinge on productivity growth in both the US and EU. As people age, the benefits of know-how and experience may be offset by depreciation of skills and more limited innovation, although these effects will be very heterogeneous by occupation and sector. The different structure of labour market institutions between the US and EU will mediate the effects of the demographic transition on productivity. More flexible labour markets alongside institutions, enabling reskilling and retraining workers as they age, will be all the more important in the face of population ageing. In addition, the quality and widespread availability of healthcare will be key to ensuring improved longevity and years of healthy life, which will help offset negative effects of ageing on long-run productivity growth.

Implications of the EU-US productivity gap

The last set of issues I will speak about include the impact of the pandemic, the implications of a continued widening of the productivity gap between the US and EU, and the policy tools at our disposal to provide a boost to productivity in the euro area. I will also touch on the implications of the ongoing geoeconomic fragmentation.

On the impact of the pandemic, I think it still a bit early to tell whether there has been a change to the trajectory of productivity growth in the EU and US, not least because productivity growth, as I said earlier, has an important cyclical component. But it is worth noting that the US saw a dramatic increase in entrepreneurship following the pandemic, particularly in high tech industries, with many of these new enterprises now employer firms.^[21] Business applications for likely employer firms in 2023 were 30 percent above their 2019 levels, and in the fourth quarter of 2022 the share of gross job creation accounted for by new establishments reached 13 percent for the first time since 2004. In contrast, new business registrations in the EU in 2023 were less than 10 percent above the level in 2019, consistent with the pre-pandemic trend.^[22] The US and EU also took quite different approaches during the pandemic to protecting labour incomes, with the US largely insuring *workers* via unemployment insurance, and EU countries focusing on saving *jobs* through policies such as short-time work programs.^[23] While there are good arguments for both of these, the medium-term impacts of these policy choices on productivity are still playing out.^[24]

And what if the US-EU productivity gap continues to widen? A first important implication is that divergent steady state growth paths could imply different neutral rates of interest (r^*) in the US and EU, by which I mean different rates which keep the economy operating at potential without inflationary or deflationary pressures. This would in turn drive a wider gap between policy rates

required by the Federal Reserve and ECB to maintain inflation on target which could affect capital flows, exchange rates and US-EU trade. Countries like Ireland, which are very connected to the US, both through FDI and trade, might see exports benefit from a depreciation of the euro and the relatively strong expected performance of the US economy, though this is mediated by the fact that many multinational firms based in Ireland price in dollars.

A second implication is that low productivity growth in the EU will amplify fiscal pressures in the face of other mounting challenges which will require significant government investment. So what can EU policymakers do? A few thoughts on this.

First, EU Member States should continue to remove frictions in product and labour markets and harmonise rules and regulations across countries to improve the functioning of the Single Market, particularly for intra-EU trade in services.

Second, it is important to ensure that competition policy frameworks are equipped to deal with the fast-changing environment in which we live in order to maintain the balance between innovation incentives and competition, particularly as AI changes the business and technological landscape.

Third, continue financial market deepening and integration within the EU, including through the Capital Markets and Banking Unions. As well as providing greater choice to savers and promoting macro-financial resilience, more developed capital markets can ensure that business' diversified financing needs are provided for and that financial frictions don't act as a barrier to innovation and business dynamism. And finally, coordinated EU efforts which increase public investment in support of the development and adoption of new technologies, such as Next Gen EU, can provide an important boost to productivity growth.

Geo-economic fragmentation

Let me now turn to the theme of my remarks at your conference in Dublin last year. It is too soon to come to definitive conclusions on what the impact of geo-economic fragmentation will have on productivity, or on the differences in productivity between the EU and the US. But if we accept – as I do – that the growth of global interconnectedness over the last 50 years has seen greater efficiency, greater productivity and greater prosperity for our communities, it is not far-fetched to argue that less interconnectedness could have a negative impact on productivity, if not global welfare. Policymakers will need good evidence based on thorough research to help them make the best judgements here, for example whether interference in the market, so that domestic consumers pay to support inefficient domestic producers is in fact welfare enhancing overall.

Conclusion

Over the long-run, the only way to increase living standards sustainably is by raising productivity. The slowdown in productivity growth over recent decades is therefore one of the major challenges we currently face. I have already outlined some domestic policy reforms and tools which may help reverse this trend. But this is not just a domestic policy issue. In Ireland, we are particularly aware of the important role of multilateralism and openness in driving growth. Multinational firms in Ireland employ over a quarter of the workforce, with diverse positive spillovers to the broader economy. The wonderful thing about innovation is that ideas are non-rival: whether progress originates in the US, the EU or anywhere else, we all eventually benefit. Greater openness to the free movement of capital and the free movement of people has been an integral part of the EU project, and will become all the more important as we look for global solutions to reigniting productivity growth and improving the wellbeing of all our citizens.

[1] See Soyres, Herrero, Goernemann, Jeon, Lofstrom, and Moore (2024). "Why is the US GDP recovering faster than other advanced economies?," FEDS Notes.

[2] Source: Fernald, Inklaar and Ruzic (2023): The Productivity Slowdown in Advanced Economies: Common Shocks or Common Trends? Labour productivity is value added per hour in the market economy (which excludes government, education, health and real estate). The labour productivity growth numbers for the European countries are an unweighted average across the five countries. See ECB Occasional Paper Series No. 268 (2021) for comparable statistics for 12 euro area countries (EA12).

[3] Krugman (1994), *The Age of Diminished Expectations*

[4] See Figure 27 in Timoney (2023) and CSO Figure 1.7.

[5] Staff calculations from CSO Data.

[6] See Fernald, Inklaar and Ruzic (2023): The Productivity Slowdown in Advanced Economies: Common Shocks or Common Trends? There are of course exceptions across countries and sub-periods. A lack of investment in capital has been a large contributor to the slowdown in labour productivity growth in the UK since 2011 (Van Reenen and Yang, 2023) and EA12 countries between 2014 and 2019 (ECB Occasional Paper Series No. 268).

[7] Source: Fernald, Inklaar and Ruzic (2023). The EU countries included in the measure of the TFP gap are France, Italy, Spain, Germany and the UK (the period covered is up to 2019).

[8] Source: OECD.

[9] Source: Chart 2 in ECB Occasional Paper Series, Digitalization and Productivity.

[10] Robert Solow, *We'd better watch out*, New York Review of Books, 12 July 1987

[11] See Decker, Haltiwanger, Jarmin and Miranda (2020), Biondi, Inferrera, Mertens and Miranda (2023), IMF (2021), Diez, Fan, Villegas-Sanchez (2021), Akcigit and Ates (2021), IMF (2024).

[12] Gutierrez and Philippon (2023), Autor, Dorn, Katz, Patterson and Van Reenen (2020).

[13] Eurobarometer Survey, May 2024

[14] See Melitz and Toubal (2014) on language barriers and trade, and Bronnenberg, Dube and Gentzkow (2012) on persistence of brand preferences and implications for entry barriers.

[15] See Aghion, Bergeaud, Boppart, Klenow and Li (2023) for a formal model and quantification of this mechanism.

[16] Peter (2021): Equity Frictions and Firm Ownership.

[17] De Fiore and Uhlig (2011) and Di Vito, Fuentes, Leite (2023) (ECB Occasional Paper Series)

[18] See Haltiwanger, Scarpetta and Schweiger (2014).

[19] Chodavadia, Kerr, Kerr and Maiden (2024).

[20] In 2010, the United States hosted 41 percent of total skilled migrants in the OECD, with Australia, the UK and Canada accounting for an additional 29 percent. All other OECD countries accounted for 30% of total skilled migrants (Kerr, Kerr, Ozden and Parsons (2016)).

[21] See Decker and Haltiwanger (2023) and Decker and Haltiwanger (2024).

[22] See Figure 7 in Soyres, Herrero, Goernemann, Jeon, Lofstrom, and Moore (2024). "Why is the US GDP recovering faster than other advanced economies?," FEDS Notes.

[23] See OECD (2024).

[24] See Giupponi, Landais and Lapeyre (2022) for a discussion of US and EU social insurance policies during the pandemic.