SPEECH

Governor Signe Krogstrup's speech at Aarhus Symposium about Revisiting Global Imbalances in the Context of the "AI hype"

DANMARKS NATIONALBANK

7 November 2025

CHECK AGAINST DELIVERY

1. INTRODUCTION

Good afternoon. I am so happy to be joining you at this symposium with lots of interesting speakers and great opportunities to engage with all of you.

The topic of today's symposium is the **"AI hype".** And I say that with quotation marks because we don't know how much is hype or real transformation.

Clearly, this is not just a technology story about AI. It is also a complex story of investments in technology, productivity growth and financing differences between the EU, the US, China and other countries. Contributing to global imbalances and capital flows, notably from the rest of the world and into US technology investments.

My remarks today will focus on global imbalances in the context of the "AI-hype". "Global imbalances" is a description of how trade and financial imbalances are distributed across countries and regions. These imbalances cancel out at the level of the global economy. But some countries have had persistent deficits and surpluses over long time spans. In particular, the US has run a persistent trade deficit, while the China, Japan, the EU and oil exporting nations, among other countries, have tended to show surpluses.

Global imbalances widened in the years before the Great Financial Crisis (GFC). This gave rise to concerns about abrupt adjustments and financial risks. Imbalances are widening again today, although to a smaller extent.

I will try to make sense of the complex macroeconomic and financial links with the "AI hype" and draw out some lessons for today, with a focus on the US and the EU.

Why revisit global imbalances? Two reasons, which I will clarify in my talk.

First, because the **current US administration has put global imbalances at the centre of the global policy debate** once again. The US persistent trade deficit is seen as unfair, driven by trading partners' policies. Something to be addressed through trade policies. But trade imbalances are not driven by trade and tariffs alone, as global imbalances also reflect **diverging trends in savings and investments across the Atlantic.** In this light, policies supporting investments in the US would tend to increase the trade deficit, which would be opposite to the effects of import tariffs, as I will explain.

Second, global imbalances also reflect capital flows. These were much debated before the GFC. Some viewed the imbalances as contributing to the build-up of the financial risks that preceded the crisis, while others saw them merely as a symptom. With renewed widening of imbalances and capital flows, it is **relevant to revisit these issues today**. I will clarify what similarities we see today, but also what the differences are.

Before I begin, I want to acknowledge that I am using the "AI hype" theme of this symposium as a pretext to talk about the very interesting topic of global imbalances, linking these to investment and technology. But high fiscal deficits and government debt issuance are perhaps even more important in driving global imbalances today. This will not be my focus, but I hereby suggest that you ask your professors to take up the role of fiscal policy and government debt developments in driving global imbalances.

2. DIVERGING ECONOMIC OUTLOOK, INVESTMENT AND TECH IN THE US AND THE EU

The current divergence in growth, productivity and tech investments between the US and the EU is the starting point of our story. The Draghi report made this contrast clear.[1]

[1] See Mario Draghi, The future of European competitiveness, *European Commission*, 9 September 2024.

China and the rest of the world are important parts of the global picture too. But I will focus, where possible, on the US and the EU to try to simplify a complex story.

The US story: high productivity growth, low savings.

The US has had **strong productivity growth, but there is uncertainty about current and future economic activity.** The US has benefitted from a high business investment rate in technology. Growth has also been relatively high compared to the EU.[2] Despite tariffs and restrictive immigration policies, US growth seems to be holding up, supported notably by investments in AI and related infrastructure, flexible labour markets, and stimulating government budget deficits. There is high uncertainty, however. It is difficult to assess current labor market developments because the ongoing US government shutdown limits data. And tariffs and immigration policies may dampen growth and raise inflation in the coming months and quarters. Time will tell.

An AI investment surge and productivity. Despite this uncertainty, the US is currently seeing a surge in investment in AI, data centers and the energy infrastructure to support it. The investments make up an important share of current US growth.[3] Some see AI implementation as already supporting productivity growth in the US.

The financing of the "AI hype" is supported by easier financial conditions. Rising asset prices draw in financing, notably in the tech sector. Financing is also supported by a steady supply of financing and what we call high "risk appetite" in financial markets.

The EU story: Lower productivity growth, high savings.

Growth has been more subdued in the EU. The contrast to rising tech investments in the US is stark. Productivity growth in the EU has been lagging behind for many years.[4] Currently, overall investments are picking up slightly in the EU.

Ambition to ramp up investment and productivity growth. With recent geopolitical and geoeconomic developments, the ambition is to ramp up

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[2] See World Economic Outlook, *International Monetary Fund*, October 2025.
[3] See World Economic Outlook, *International Monetary Fund*, October 2025. See also data from Federal Reserve Bank of St. Louis.
[4] See Malin Andersson, Valerie Jarvis and Michel Soudan, Business investment: why is the euro area lagging behind the United States?, *ECB Economic Bulletin*, Issue 2/2025.

investments in EU energy infrastructure, defence, security, resilience and digitalisation. This will also support productivity growth. But challenges abound. I will come back to these.

High savings and capital exports. There are ample savings to finance potential investments in the EU. Savings are high but invested cautiously, often through bank-based national financial systems, and to some extent abroad, notably in the US. A case in point is Denmark, where high pension savings boost overall saving, but a large share is invested abroad.[5]

3. FROM THE "AI HYPE" TO GLOBAL IMBALANCES

What does all this have to do with global Imbalances?

Global imbalances predate the AI hype. Global imbalances have been a chronic feature of the world economy since the late 1990s.

Global imbalances are widening again. The IMF annually assesses global imbalances in its External Sector Report. This year, the IMF reported the largest increase in excess imbalances in a decade, driven by the major economies, the US, the euro area and China (2024 data).[6] The US external deficit increased, primarily reflecting investments and high government budget deficits in the US.

Back to the textbook

How is investment, and by extension the "AI hype", linked to these imbalances?

Bear with me as we go **back to the textbook** on national accounting. We know from national accounting that a country's income (or production) can be broadly divided between consumption, government spending, investment and net exports. What is left of income or production when we subtract consumption and government spending is – by definition – the savings of the economy.

Rearranging the national accounting identity shows that the external balance of a country is at the same time (i) a trade imbalance, (ii) an imbalance of savings over investment, and (iii) a cross-border net capital flow.

[5] See Andersen, Risbjerg, Spange, and Wederkinck, The Danish savings surplus: Trends in firm and household savings, *Danmarks Nationalbank*, Economic Memo, no. 6, September 2024.
[6] See External Sector Report, Global Imbalances in a Shifting World, *International Monetary Fund*, July 2025.

These three types of "imbalances" are different perspectives on the same macroeconomic imbalance.

Take the US persistent deficit as an example of low national saving. The US imports more than it exports. For example, it imports European vehicles and machinery or Chinese rare earths for data centres. This leads to a trade deficit, notably against China and the EU. But this high demand for imports also reflects that US residents and the US government are spending and investing more than is produced in the US. Or put in terms of savings and investment, US savings are relatively low. And in particular, the US government dissaves with its high budget deficit. These collective savings are not enough to finance what US residents – notably US tech companies – want to invest in the US. Hence financing from abroad is needed to pay for the part of investments that exceeds national saving. This leads to foreign capital coming into the US, reflecting the third perspective on the imbalance. For example, Danish pension funds are investing in the US, notably in tech equities and US treasury bonds.[7] This financing from abroad helps pay for the needed extra imports, bringing us full circle to the trade deficit in the balance of payments.

The EU's persistent surplus instead reflects high national savings. Similar narratives apply to China and Japan. The EU exports more than it imports, for example cars, steel or machinery. The trade surplus also reflects that EU residents save more than required to finance investments in the EU. Residents place their high savings with financial institutions, typically banks or pension funds, which in turn channel financing to investments, some of which are abroad, including in US tech companies.[8]

This accounting perspective should make it clear that trade, and hence trade policy, is not singularly driving external imbalances. For example, the US trade deficit also reflects high consumption and investment, in turn drawing in imports and foreign capital.

Back to the "AI hype" and the link to global imbalances: The current investment boom will, all other things being equal, increase the US trade deficit and capital inflows, unless savings are also increased in the US. At the same time, US tariff policy has as an objective to narrow the trade imbalance. Time will tell where the US external imbalance is heading. In any

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[7] See Søndergaard, Hallarth, Madsen og Halsnæs, The road to more risky assets in the Danish pension sector, *Danmarks Nationalbank Analysis*, Nr. 18, 3 September 2025. See also Madsen and Risbjerg, Denmark has record-high investments abroad, *Danmarks Nationalbank*, Statistics News, 7 October 2025.

[8] An important share also flows into financing government budget deficits in both the EU and the US.

case, if current investments are raising productivity growth in the US, a resulting rise in the external deficit may be a good bargain.

This contrasts with the EU external surplus. The EU ambition to raise investments in the EU, notably to support productivity, could narrow the EU trade surplus and reduce capital outflows – including capital outflows to the US.

Let's now close the textbook and have a look at global imbalances in the data.

Trends in current accounts point to global imbalances. The left-hand chart (slide 8) shows the geographical distribution of global current accounts, i.e. the sum of trade balances and income on foreign assets. The sum of all current accounts should in principle be zero, but it is not due to data discrepancies. This confirms what we already discussed. The US (red bars) has a persistent current account deficit. This is mirrored in persistent current account surpluses primarily in Germany (light green), China (light red) and Japan (gold).

Zooming in on the EU, the right-hand chart shows the geographical distribution of current accounts in the EU and other advanced European economies. Importantly, the sum of all European current accounts does not need to be zero, as these represent net surpluses or deficits against the rest of the world. As seen earlier, Germany has been the main force behind European current account surpluses, in part supported by other countries, for example the Netherlands and the Scandinavian countries. Of the Scandinavian current account surplus, Denmark accounted for roughly a third in 2024. In the years preceding the global financial crisis, southern European countries, (Italy, Portugal, Spain and Greece) ran large current account deficits.

Current account imbalances reflect differences in domestic savings and investments. As we talked about before, current account imbalances represent an imbalance between domestic savings and investments. As seen in the left-hand chart (slide 9), the US current account deficit has been primarily driven by dissaving by the US government (light red), with households (dark red) contributing to the deficit leading into the financial crisis. For the euro area (right-hand chart), the current account surplus has been primarily driven by a savings surplus by the private sector. A quick look at the surpluses in China and Denmark, respectively (slide 10) shows that the Chinese surplus (left) reflects excess savings by Chinese households. In Denmark, savings have exceeded investments since the

early 1990s. This was to a large extent driven by firms, but also sound public finances. Following the GFC, the savings surplus has been particularly high, reflecting higher household savings rates.[9]

4. FROM THE "AI HYPE" TO CAPITAL FLOWS AND FINANCIAL RISKS

Capital inflows into the US and investments in AI, data centres and energy (the "AI hype") may well increase productivity in the US and earnings in tech companies. But there is also a risk that "blind" financing of the "AI hype" is based on high expectations of future earnings that may not pan out.

In other words, there is a risk of misallocation of capital. Capital that would have led to more value, had it been invested elsewhere. We still do not know which is true. And maybe we will see some productivity growth from the "AI hype" but also a correction of asset prices – the **"good bubble"** that some argue is happening.

This debate is reminiscent of the discussions of the role that global imbalances played prior to the GFC.

In the years leading up to 2008, the US deficit widened substantially, more than is the case today, as we have seen. There are other similarities to the situation today, although there are also clear differences. Capital flowed from surplus countries into US assets, as is the case today. Back then, a lot of financing went into the now notorious securitised housing loans rather than to the arguably more productive technology assets of today. Financial conditions were easy and risk appetite high, which we also see indications of today. It was easy to finance a house, even for individuals with no income. This contributed to driving up housing prices in the US, which – when they fell and lead to losses on securitised housing loans – triggered the great financial crisis. Today, mainly AI-related equity prices are soaring, and these high prices may or may not be justified.

[9] See Andersen, Risbjerg, Spange, and Wederkinck, The Danish savings surplus: Trends in firm and household savings, *Danmarks Nationalbank*, Economic Memo, no. 6, September 2024.

Debate on imbalances before the GFC: Two views on causality

There were two competing views on the role of global imbalances in the build-up of financial imbalances and risk-taking prior to the GFC:

View 1: The global savings glut hypothesis (push): This view was notably put forth by Ben Bernanke, then chairman of the US central bank, the Federal Reserve.[10] It suggests that an excess of global savings led to a flood of capital into the US in search of safe investments and good returns. According to this view, and with the risk of oversimplifying, the flows **pushed down the cost of** financing in the US, which made Americans borrow more and take more risk. This in turn pushed up asset prices, notably housing prices, which later collapsed. Foreign capital inflows also contributed to the widening trade deficit, as savings fell.

View 2: Domestic policy as a key driver (pull): This view argues that the primary cause of the 2008 crisis was domestic policy that stimulated risk taking and reduced saving in the US. These policies included large government deficit spending and **financial deregulation that gave incentives to borrow**.[11] House prices rose as borrowing to finance housing increased. And this created demand for foreign financing. According to this view, capital inflows were driven by US demand. Foreign capital was pulled into the US rather than pushed in.

Both mechanisms may have played a role. In global imbalances, it takes two to tango. The global supply of capital (the **push**) may interact with domestic policies (the **pull**) to create the environment of easy financing and risk taking.

Let's consider lessons for **what we see today on AI/tech.**

We have seen a **surge of investments in AI infrastructure** in the United States. There are more data centres in the United States than in all other major economies (slide 13). US tech firms have contributed to **rising equity valuations and concentration in the equity market** (slide 14). US stock valuations have climbed since April 2025, driven in particular by increasing valuations of the largest tech companies. The seven largest tech companies now make up an unprecedentedly large share of the stock

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[10] See Ben S. Bernanke, Global Economic Integration: What's New and What's Not?, speech at the *Federal Reserve Bank of Kansas City's Thirtieth Annual Economic Symposium*, Jackson Hole, Wyoming, 25 August 2006.

[11] See Maurice Obstfeld and Kenneth Rogoff, Global Imbalances and the Financial Crisis: Products of Common Causes, Paper prepared for the *Federal Reserve Bank of San Francisco Asia Economic Policy Conference*, October 18-20, 2009.

price index. Their price to earnings ratios suggest that expectations of future earnings are substantially higher than for other firms.

Financial conditions have eased in both the US and the EU (slide 15). Credit spreads are low relative to historical levels, while measures of broad financial conditions point to an easing.

Does this entail **potential risks for financial stability or is "this time different"?**

There are some similarities to the situation before the GFC. We are seeing high asset valuations and high concentration of risks. The IMF continues to caution that some assets may be overvalued. Combined with the high degree of concentration, especially in tech companies, this entails a risk of a sudden price correction, which could cause significant volatility in financial markets and potentially have broader real economic consequences.[12] Furthermore, there has been a push towards deregulation in the US. A push to review the regulatory framework aims to address undue complexity and burdens.

But there are also clear differences. The flood of foreign capital is not comparable, as global imbalances have not widened to the extent seen before the GFC. The assets seeing price rises will most likely eventually support productivity growth in the US; it is just a question of how much and whether it is priced right. Banks and the financial system are arguably more robust, with strengthened capital and liquidity regulation and better resolution frameworks.

The million-dollar question: are we seeing **(1) evidence of productive technological transformation or (2) indications of the next bubble?**

I will not make a call. I will stick to being the two-handed economist. (1) One the hand, "this time may be different". Banks are generally more robust and resilient. Today's banking sector is better capitalised and better equipped to absorb shocks than prior to the 2007-08 crisis. Also, whether or not valuations are right, investments may lead to better energy and technology infrastructure. (2) On the other hand, AI equity valuations may turn out to be overvalued, leading to asset price declines that cause financial losses. Hence there may be opportunities, but it means that risk

[12] See Shifting Ground Beneath the Calm: Stability Challenges amid Changes in Financial Markets, Global Financial Stability Report, *International Monetary Fund*, October 2025.

management and loss absorption capacity are key when investing in US tech.

5. EUROPE'S INVESTMENTS, PRODUCTIVITY AND EXTERNAL IMBALANCES

A final point about the EU's external surplus and ambition to raise investments and productivity growth. Note that if the EU succeeds in raising investments, this will also result in a narrowing of the external surplus and capital flows, all other things being equal. That would be a good thing, if it reflects a genuine rise in productive investments in the EU.

The challenge for the EU is structural: how to convert its vast pool of domestic savings into productivity-enhancing, high-growth domestic investment?

The European success story can be leveraged to a higher degree. The EU single market has been a major driver of growth and prosperity in Europe (and Denmark!). But **the single market is incomplete** and there are still many internal barriers. In some ways, the EU still functions more like 27 individual markets than one large market. There is lots of potential, and studies have shown that **even small reductions in internal EU non-tariff barriers can increase growth and income**.[13]

EU capital markets integration can also work better for financing start-up and scale-up of new tech companies. The EU's fragmented capital markets act as a barrier, preventing promising new start-ups from getting financing from EU savings. **The Savings and Investment Union** aims to remedy this.[14]

6. CONCLUSION

To recap, we have moved from the current excitement of the AI boom, which is fundamentally an investment story, to how it interacts with

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[13] See Adilbish et al., Europe's productivity weakness, *IMF Working Paper*, no. 40, February. See also Bentsen, van Deurs, and Zhuang, Fewer barriers in the EU single market could increase Danish welfare, *Danmarks Nationalbank Analysis*, no. 17, August 2025.

[14] See Savings and Investments Union, A Strategy to Foster Citizens' Wealth and Economic Competitiveness in the EU, *European Commission*, Communication from the Commission, March 2025.

savings, trade and capital flows, and in turn global imbalances. The “AI hype” is not just about technology, but also a story of these imbalances.

We have talked about the similarities and differences relative to the pre-GFC imbalances. The AI investment boom in the US entails both risks and opportunities. The “AI hype” may simply be the newest channel for financial imbalances. Or this time may be different, and it may presage a surge in productivity growth. Time will tell. Risk management is key.

Finally, further EU integration could boost investments and growth in the EU. The challenge ahead will be to strengthen conditions for boosting EU productive investments. This will improve conditions for productivity growth and at the same time possibly help narrow global imbalances.

Thank you.

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Revisiting global imbalances in the context of the "AI hype"

Governor Signe Krogstrup
Aarhus Symposium, 7 November, 2025

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Agenda

1. Diverging economic outlook, investment, and tech developments in the US and EU
2. From the "AI hype" to global imbalances
3. From the "AI hype" to capital flows and financial risks
4. Europe's investments, productivity, and external imbalances

Diverging economic outlook, investment, and tech developments in the US and EU

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Diverging economic developments in the US and EU

The US story

- Strong productivity growth, but uncertainty about current and future conditions.
- An AI investment surge, with financing supported by easy financial conditions.
- Low savings. Capital imports.

The EU story

- Productivity growth more subdued in the EU.
- Ambition to ramp up investment and productivity growth.
- High savings. Capital exports.

From the "AI hype" to global imbalances

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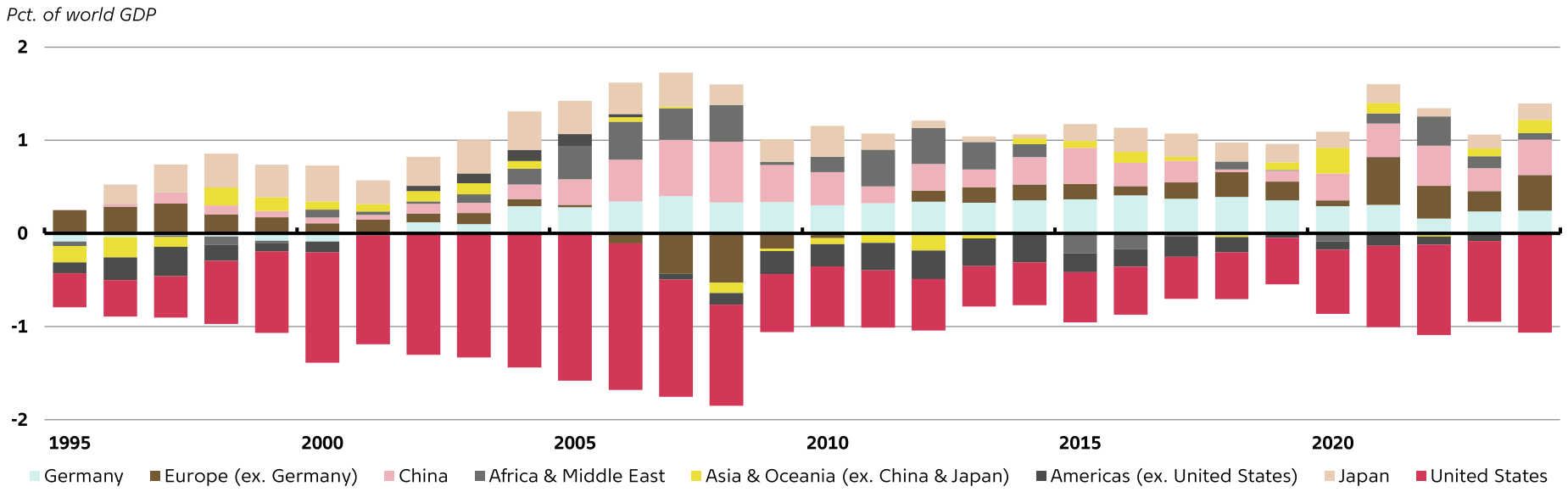
Global imbalances

The US has run persistent current account deficits, while China, Germany, and Japan have had persistent surpluses.



Note: The chart shows global current account balances across regions and select countries. The sum of all depicted current accounts do not sum to zero due to data discrepancies.
Source: IMF, the World Bank, and own calculations.

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Back to the textbook:
Three perspectives on the same imbalance

$$Y = C + I + G + NX$$

$$S = Y - C - G$$

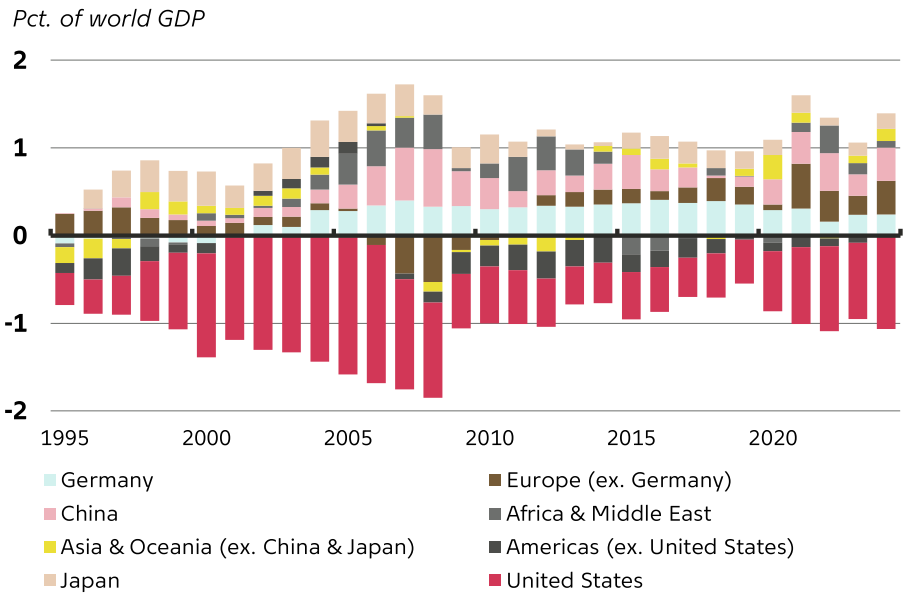
$$\Longrightarrow$$

$$NX = S - I = \blacktriangle CF$$

Y = National income
C = Consumption
I = Investment
G = Government spending
NX = Net exports
S = Savings
CF = Capital flows

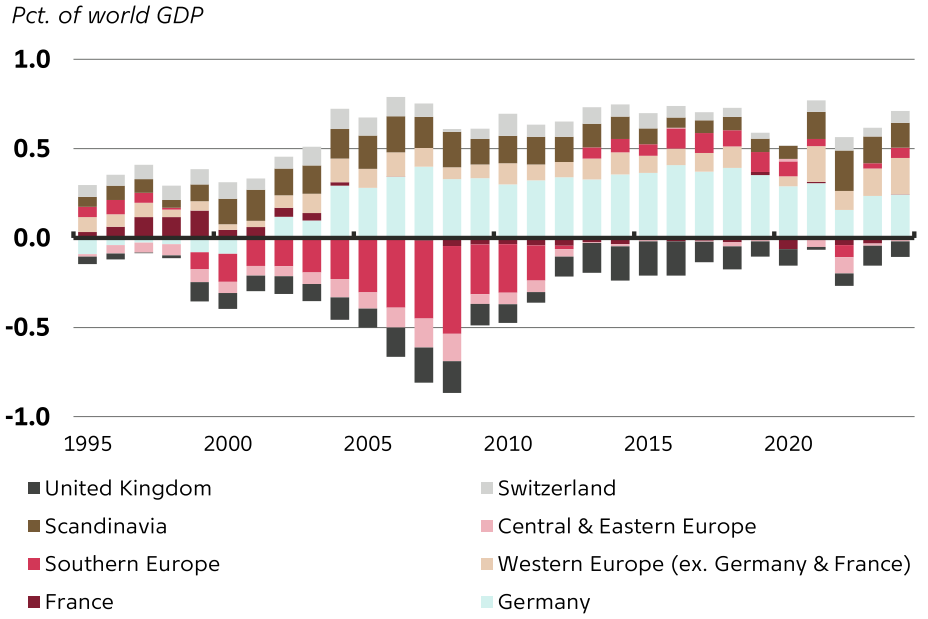
Global imbalances

The US has run a persistent deficit, while China, Germany, and Japan have surpluses



Note: The chart shows global current account balances across regions and select countries. The sum of all depicted current accounts do not sum to zero due to data discrepancies.
Source: IMF, the World Bank and own calculations.

Large differences across Europe, with Germany, Scandinavia, and Western Europe being the main contributors to the European surplus



Source: IMF, the World Bank and own calculations.

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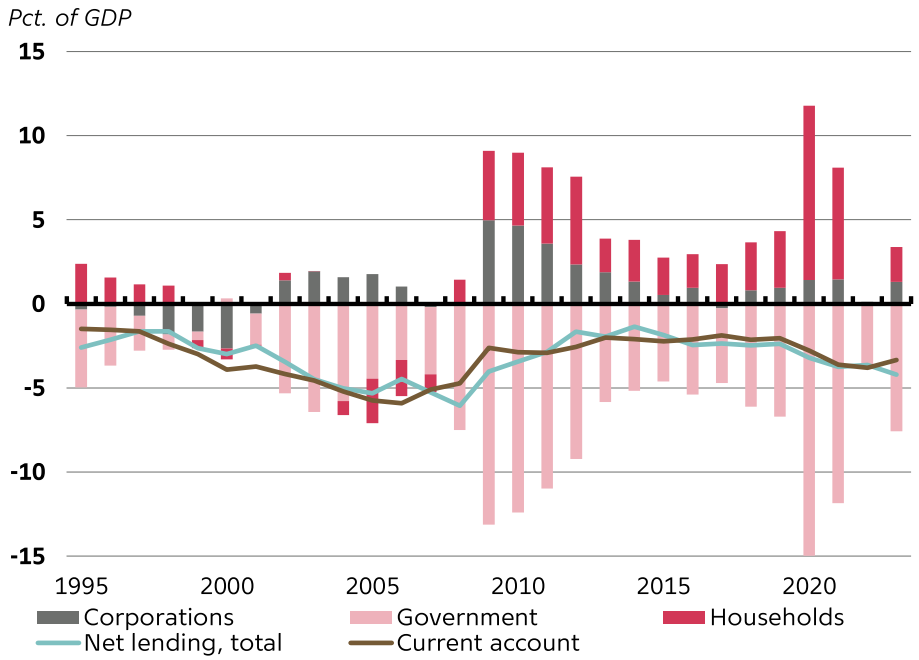
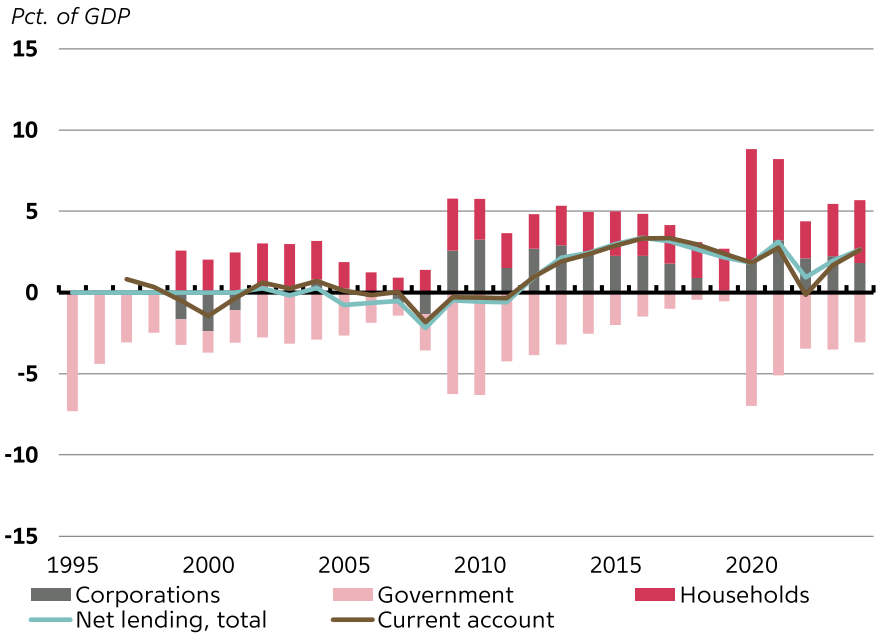
Imbalances reflect differences in domestic savings and investments

US net lending (+) / net borrowing (-) by sector



Euro area net lending (+) / net borrowing (-) by sector



Note: Differences in total net lending and the current account are due to data discrepencies between reporting regimes.
Source: OECD, IMF and own calculations

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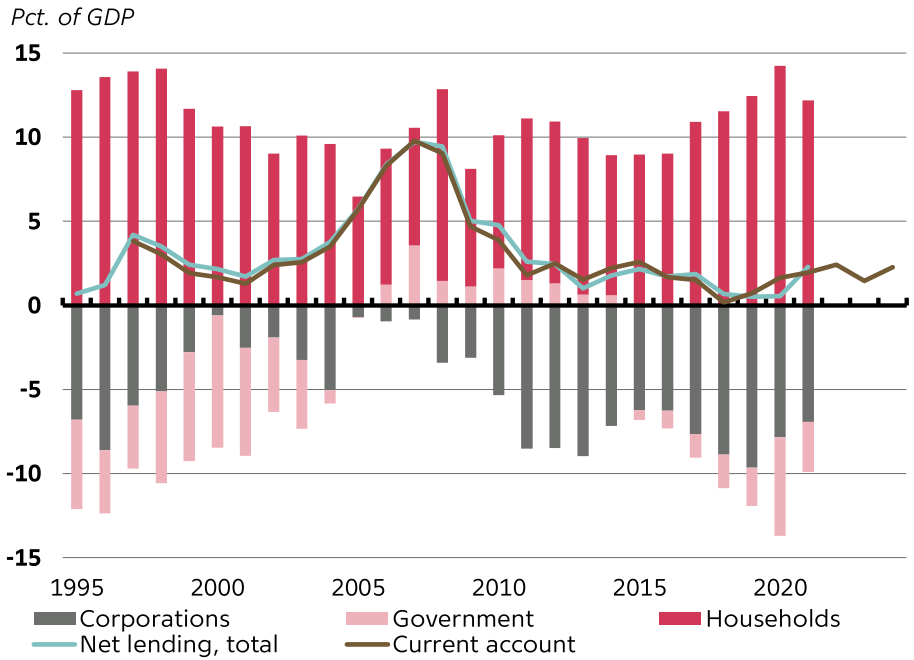
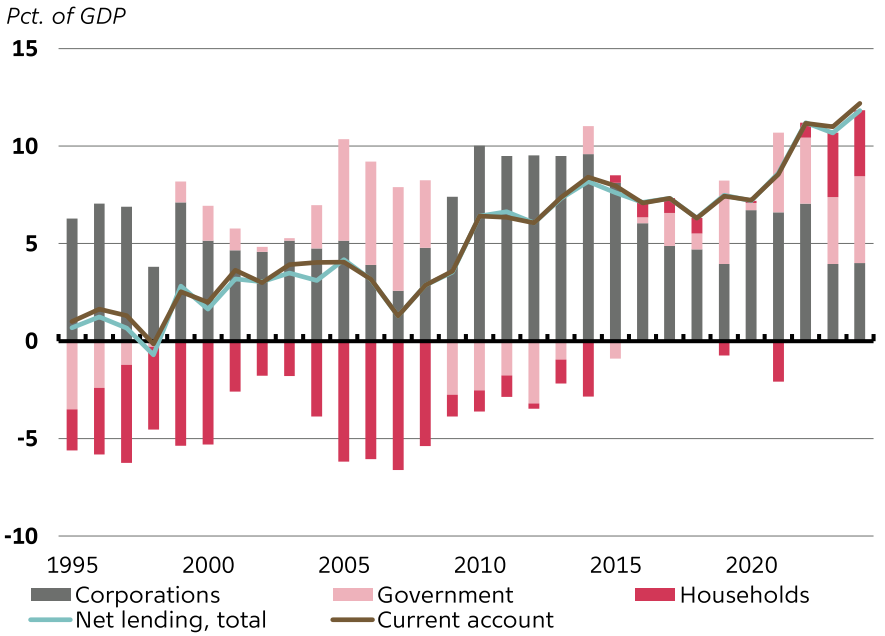
Imbalances reflect differences in domestic savings and investments (contd.)

Chinese net lending (+) / net borrowing (-) by sector



Danish net lending (+) / net borrowing (-) by sector



Note: Differences in total net lending and the current account are due to data discrepencies between reporting regimes.
Data for Chinese net lending/borrowing only available until 2021.

Source: OECD, IMF and own calculations

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From the "AI hype" to capital flows and financial risks

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Debate on imbalances before the great financial crisis: two views on causality

"Global savings glut" (push)

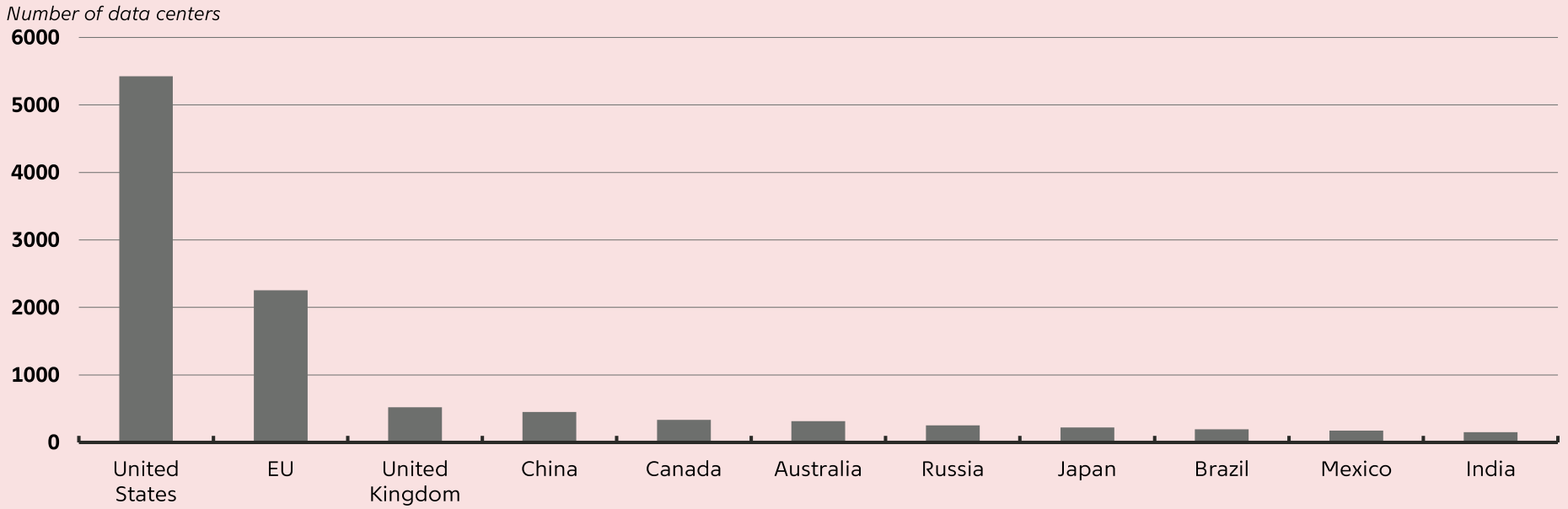
- Excess of global savings
- Flood of capital into the US reduced cost of financing
- Push as cause of widening US deficit

Domestic policy as a driver (pull)

- US fiscal expansion, loose monetary policy, and financial deregulation
- Global flows pulled in by opportunities created by US policy
- Domestic policies created imbalance

Surge of investments in AI infrastructure in the United States

More data centers in the United States than in all other major economies



Note: Data as of March 2025.
Source: Cloudscene.

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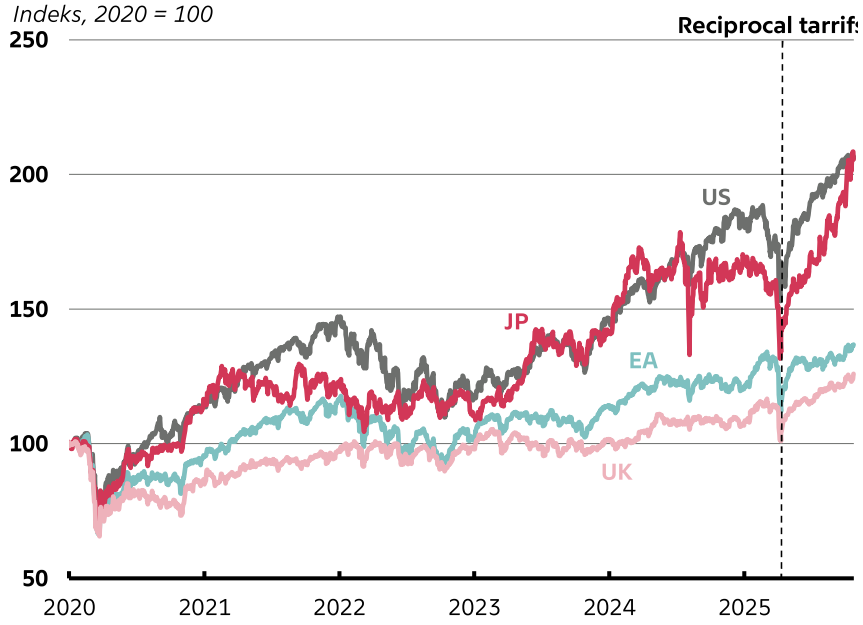
US tech firms have contributed to rising equity valuations and concentration in the equity market

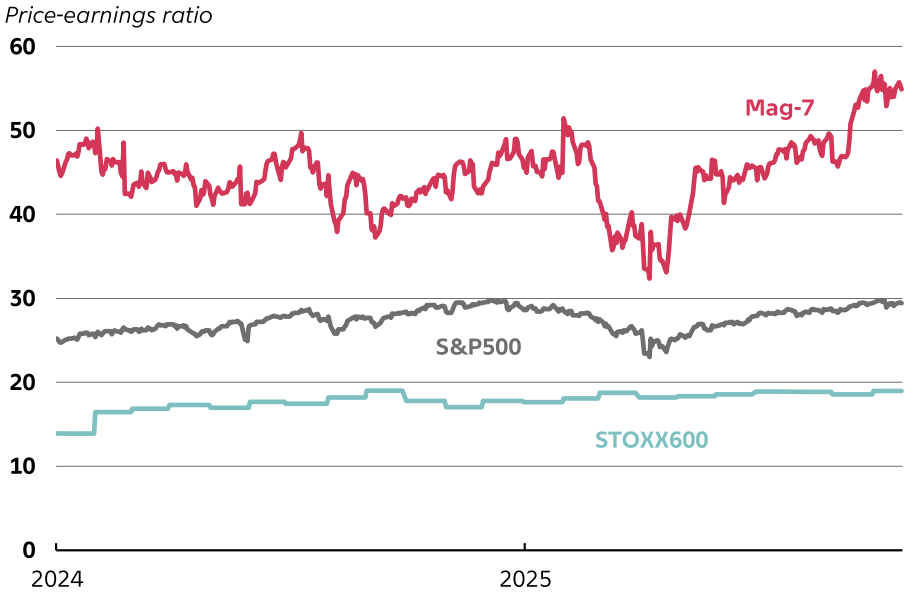
US stock valuations have climbed notably since April 2025



Note: The chart shows the change in global stock indices, S&P500 (US), Euro Stoxx600 (EA), FTSE100 (UK), Nikkei 225 (JP) since 2020.

Source: LSEG Workspace

... in particular driven by increasing valuations of the largest tech companies

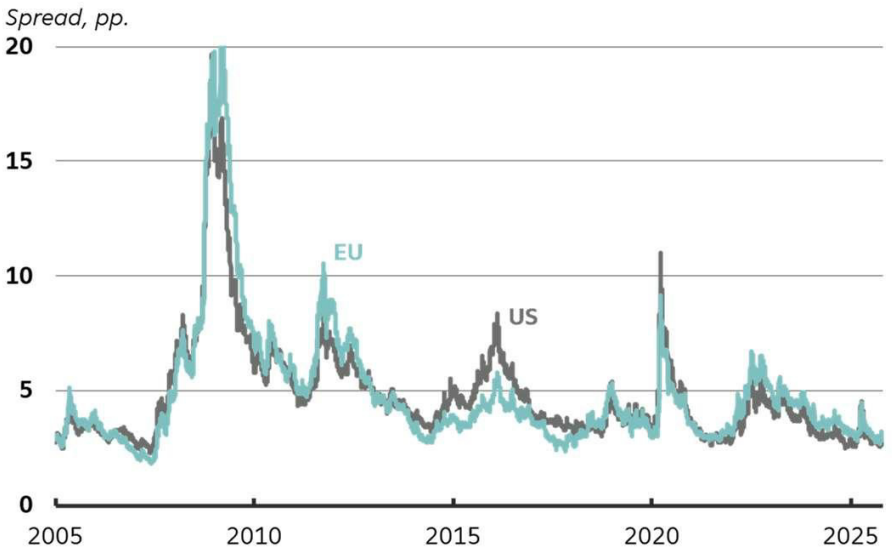


Note: The chart shows the change in price-earnings ratios of US and european stocks since 2024. Price-earnings ratios for Mag-7 is computed as a market cap weighted average of price-earnings ratios of Alphabet, Amazon, Apple, Meta, Microsoft, Nvidia and Tesla.

Source: LSEG Workspace

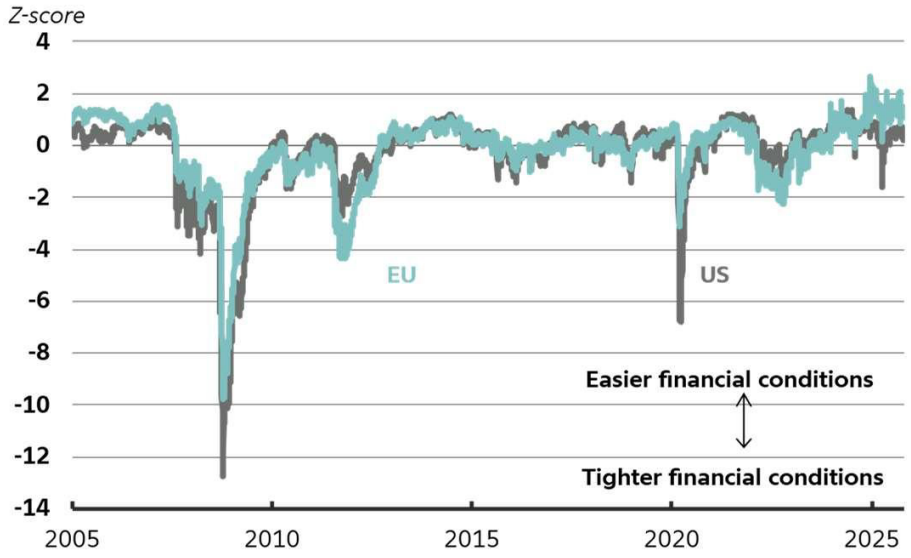
Financial conditions have eased in the US and EU

Credit spreads are low relative to historical levels



Note: The chart shows the average option-adjusted spread of high yield issuances.in the US and EU.
Source: Bloomberg

... while measures of broad financial conditions point to an easing



Note: The chart shows Bloomberg indices of financial conditions in the US and EU.
Source: Bloomberg

Potential risks for financial stability or "this time is different"?

Similarities with pre-GFC

- High concentration of risks (in few US AI assets and firms)
- Push towards deregulation
- Abundant capital and appetite for risk-taking

Differences from pre-GFC

- More robust banks
- Productive investments
- Less pronounced global imbalances

Risk management is key.

Europe's investments, productivity, and external imbalances

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Making Europe's savings work for European productivity and growth

- Leveraging the European success story: completing the single market
- Even small reductions in internal EU barriers can boost productivity
- EU capital markets can work better for AI and tech

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Main messages

1

"AI hype" is also a story of global imbalances

2

AI investment boom in the US entails both risks and opportunities

3

Further EU integration could boost investments and growth in the EU

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Thank you!
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