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CEPR PRESS

PARIS REPORT 4

# The New Global Imbalances

Edited by H el ene Rey, Beatrice Weder di Mauro,  
and Jeromin Zettelmeyer



# THE NEW GLOBAL IMBALANCES

Paris Report 4

In collaboration with Bruegel

**CEPR**

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## **CEPR PRESS**

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ISBN: 978-1-917343-01-5

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Hélène Rey

London Business School and CEPR

Beatrice Weder di Mauro

Geneva Graduate Institute, INSEAD and CEPR

Jeromin Zettelmeyer

Bruegel and CEPR



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RESEARCH

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# Foreword

CEPR's Paris Reports are annual in-depth studies of topical policy issues concerning Europe, complementing CEPR's longstanding Geneva Reports on the World Economy. The first Paris Report, *Rebuilding Ukraine: Principles and Policies*, was published in November 2022. The second Paris Report marked the launch of a joint CEPR–Bruegel initiative, *Important Topics of Common European Interest (ITCEI)*, addressing Europe's economic security challenges in an era of supply chain vulnerabilities and geopolitical shocks. The third Paris Report, *Global Action Without Global Governance*, responded to the erosion of multilateralism by proposing pragmatic coalitions to advance climate and biodiversity goals. This fourth volume turns to another issue that has re-emerged with urgency in the global policy debate: global imbalances.

The topic of this fourth Paris Report was conceived at the suggestion of the French G7 Presidency for 2026, reflecting the renewed policy relevance of global imbalances in the current international context. Notably, a pre-publication version of the report was presented to the Finance Track of France's Presidency (French Treasury and the Banque de France), and has informed analytical, research-based policy discussions. All contributions to the report were finalised on 22 February 2026 and do not include economic and political developments due to the war in Iran.

At first glance, global imbalances may appear to be a familiar concern from an earlier era, since they were the subject of intense debate in the run-up to the Global Financial Crisis. Yet, as this report makes clear, they have returned in a profoundly altered global context. Today's imbalances are unfolding against a backdrop of elevated public and private debt, heightened geopolitical tensions, and mounting strains on the rules-based trading system. They are no longer simply a matter of macroeconomic accounting, but are increasingly intertwined with financial stability risks, industrial policy, trade frictions, and questions of economic security. This volume shows that the risks associated with current imbalances are both financial and political, and that failure to acknowledge the structural nature of the changes will undermine long-term growth across the world.

The report goes beyond diagnosis to articulate a coherent framework for adjustment. It highlights the need for fiscal consolidation in the United States, higher and more productive investment in Europe, and a rebalancing of the Chinese economy towards domestic consumption and services. At the same time, it recognises that coordinated adjustment among the major economies may prove difficult to achieve. It therefore examines the contingent strategies that may be required in a less cooperative environment.

The result is a timely and authoritative contribution to one of the defining challenges of the current global economic landscape. Combining historical insight, analytical rigour, and policy relevance, this volume underscores why global imbalances matter once again and why addressing them will be essential not only for safeguarding financial stability, but also for preserving an open, resilient, and cooperative international economic order.

Our thanks go to Anil Shamdasani for his skilled handling of its production and Kivanc Sezer for his tireless effort in the project management of this volume. We thank Bruegel and CEPR communications, events, and project teams in organising meetings and workshops that informed the report.

CEPR, which takes no institutional positions on economic policy matters, is delighted to provide a platform for an exchange of views on this crucially important topic, which is a perfect example of CEPR's motto of "research excellence, policy relevance".

Tessa Ogden

Chief Executive Officer, CEPR

April 2026

## CHAPTER 1

# The new global imbalances: Why care, why now, and what can be done

**Beatrice Weder di Mauro and Jeromin Zettelmeyer<sup>1</sup>**  
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## 1 INTRODUCTION

Again? Didn't we just have this debate? Many still remember the last time 'global imbalances' – large current account deficits in the United States, large surpluses in China and some European countries – dominated policy discussions. Who was the perpetrator? Who was the victim – and why? These questions were fiercely debated across the Atlantic and the Pacific during the 2000s. Was the United States pulling in excess savings from the rest of the world, or was it being pushed into overconsumption by surplus economies? Amid this contentious debate, the buildup of financial risks at the core of the US and global financial systems received insufficient attention. A global financial crisis and a debt crisis in Europe ensued, whose resolution dominated policy efforts well into the next decade.

The lesson from history is that global imbalances often end in financial crises. That risk cannot be dismissed today. The stock of external liabilities of the central country in the global financial system is already high and projected to rise further. At the same time, asset managers hold increasingly concentrated exposures, equity valuations are stretched, and signs of investor nervousness are emerging, with greater efforts to hedge risk. In such an environment, the potential for abrupt repricing and spillovers is significant.

Even when the external imbalances do not trigger or magnify a financial crisis – or not yet – they can fuel worry for a second reason: as a by-product of domestic problems and a potential cause of political ones. To the extent that they reflect a large and/or rapidly rising trade imbalance, they can fuel protectionism, and ultimately a fragmentation of the global trading system. Japan experienced a trade conflict with the United States in

<sup>1</sup> We are grateful to H  l  ne Rey, our co-editor, and the authors of the Paris Report chapters cited for discussions, to Tam Bayoumi, Agnes B  nassy-Qu  r  , Marek Dabrowski, Zsolt Darvas, Roel Dom, Gene Frieda, Joseph Gagnon, Ignacio Garcia Berceo, Alicia Garcia-Herrero, Hans Geeroms, Heather Grabbe, Alexandre Mendon  a, Gian Maria Milesi-Ferretti, Maury Obstfeld, Jonathan Ostry, Jean Pisani-Ferry, Camille Reverdy and Andr   Sapir for helpful comments on an earlier draft, to Bo Sangers and Costanza Greppi for outstanding research assistance, and to Kivanc Sezer for expertly managing the project.

the 1980s. China came under intense pressure to revalue its currency prior to the Global Financial Crisis (GFC) and faced escalating tariffs during the first Trump administration. On “Liberation Day”, the US administration signalled a shift toward a more unilateral and confrontational trade stance.

For both reasons, the cause of very large external imbalances needs to be understood, and steps taken to reduce them. How to do this is not self-evident – it depends on the size, trend and cause of imbalance. Furthermore, there is the risk that reduction of trade imbalances gives protectionists an excuse. Sometimes we need to fight the imbalances – by addressing their underlying causes. Sometimes we just need to fight the protectionists.

Drawing on the rich research presented in the remainder of this report, this chapter has four objectives. The first is to summarise why we should and should not care about imbalances. The second is to explain why global imbalances have recently experienced a revival in international policy debates – including in the context of fora such as the G7 and the G20. The third is to summarise the insights from this report on the causes of the current imbalances, and how they should be addressed. This section will focus on the three largest trading blocs – the United States, the European Union, and China. The final objective is to draw some policy conclusions on how the rest of the world should react to external imbalances in the United States and China – should these persist.

## 2 WHY CARE?

### 2.1 Back to basics

Despite their ominous label, global imbalances are not inherently detrimental. Their nature and implications are best understood by revisiting the fundamental concepts and accounting identities underpinning the balance of payments framework.

1. **Current account imbalances reflect domestic savings–investment gaps.** A current account balance is the mirror image of the difference between saving from domestic sources and investment in the domestic economy (from any source – public or private, domestic or foreign). Deficits arise when investment exceeds savings; surpluses when a country saves more than it invests. Imbalances are mostly a macroeconomic phenomenon.
2. **Such imbalances are not inherently negative.** For fast-growing or catching-up economies, investing more than domestic saving allows – by importing capital – to accelerate growth and raise future income.
3. **A current account deficit means net capital inflows; a surplus means net capital outflows.** Countries with deficits import foreign capital to finance direct or portfolio investment or consumption, while surplus countries export capital abroad.

4. **Risks rise when deficits become prolonged and large.** Persistent deficits can undermine confidence, leading to currency pressure, rising borrowing costs, sudden stops, or debt crises. Surpluses can also distort global demand and financial flows, but financial instability risks tend to be more acute on the deficit side.
5. **What matters is the overall current account, not bilateral balances.** A country can run a bilateral deficit with one partner and a surplus with another; only the aggregate balance reflects its macroeconomic position.
6. **The current account includes more than trade in goods.** Services, income flows, and transfers are equally important. Focusing narrowly on the goods trade balance can give a misleading picture of external sustainability. Conversely, concerns about trade imbalances (for example, related to import competition and the displacement of workers) might also be poorly proxied by the current account.
7. **Cumulated deficits imply increasing external liabilities** (external debt or equity claims), while sustained surpluses accumulate foreign assets. Large foreign asset and liability positions are prone to valuation changes.

In sum, global current account imbalances reflect domestic saving–investment gaps. They can support growth when financed sustainably and directed toward productive uses, but they become risky when large, persistent, and tied to rising leverage or asset bubbles. What matters for these risks is not bilateral trade balances but the underlying macroeconomic conditions. Durable adjustment therefore requires domestic policy changes, not trade measures alone.

This said, policies that economists would normally classify as microeconomic or sectoral – including industrial policies, trade policies, and credit allocation – *can* influence current account imbalances under some conditions. First, import tariffs can appreciate the domestic currency, raising the value of a country’s external liabilities relative to its foreign assets, hence reducing the trade deficits that a country can afford in the future (see Chapter 6 by Itskhoki and Mukhin). Note that this effect is very different from what proponents of tariffs typically have in mind, who focus on import substitution and ignore offsetting exchange rate movements. Second, tariffs and subsidies can have an impact on the current account if they are accompanied by macroeconomic policies that lean against normal equilibrating forces. For example, industrial subsidies that expand tradables production can increase the current account surplus if they are accompanied by policies that depress domestic spending, reducing domestic consumption (see Chapter 4 by Maurice Obstfeld).

One reason we care about global imbalances is because their resolution has often been disorderly, as shown in the next section.

## 2.2 Some lessons from history: Financial crisis risks

History provides repeated evidence of the dangers posed by large external imbalances. Chapter 3 by Barry Eichengreen and Chapter 4 by Maurice Obstfeld review major episodes over the past century; in most cases, these imbalances ended in economic and financial crises, and in some instances laid the foundations for prolonged disruption and conflict.

One notable exception was the first **Age of Globalisation (1870–1914)**. At the time, Britain and other European economies ran sustained current account surpluses, while capital flowed to the United States and other ‘new world’ economies – Canada, Australia, and Argentina. These capital inflows largely financed productivity-enhancing infrastructure, including railways and ports, which expanded export capacity and supported debt servicing. Capital and labour moved in the same direction, fiscal policy was generally disciplined, and the gold standard provided a credible nominal anchor that facilitated balance-of-payments adjustment. Wage and price flexibility, together with cooperative central banking, reinforced systemic stability. Episodes of overextension and instability did occur, such as during the 1890s Baring crisis involving lending to Argentina, but they were resolved quickly. Few of these supporting conditions hold today.

By contrast, most other episodes involving large imbalances ended adversely. In the 1920s, the United States emerged as the dominant surplus country, channelling private capital flows to Europe and Latin America. Increasingly, these flows financed government spending rather than productive investment. Weak underwriting standards, fragile confidence in the gold standard, and abrupt monetary tightening by the Federal Reserve in 1928 triggered destabilising reversals that contributed to systemic collapse.

Similarly, during the **1970s petrodollar recycling episode**, large OPEC surpluses were intermediated through US and European banks and lent to developing economies, particularly in Latin America. These flows financed substantial current account deficits and expansionary policies, many of which were unsustainable. The cycle reversed sharply when US interest rates rose under Volcker. Heavily indebted countries lost market access, and Mexico’s 1982 default marked the onset of a broader sovereign debt crisis, leading to abrupt adjustment, deep recessions, and Latin America’s ‘lost decade’.

In the **1980s, the contentious issue was the trade imbalance between the United States and Japan**. Tight US monetary policy and large fiscal deficits led to high interest rates, a sharply appreciated dollar, and a widening US current account deficit. Japan, by contrast, ran persistent surpluses driven by high savings and export-led catch-up growth. As Japanese exports gained market share, the imbalance became politically contentious in the United States, fuelling protectionist pressures.

The **Plaza Accord** aimed to correct the dollar's overvaluation and defuse mounting political tensions, buying time for structural adjustment rather than eliminating the imbalance outright. According to Chapter 16 by Takeo Hoshi, however, its legacy has been widely misunderstood. Two influential but flawed narratives emerged. In the United States, the episode fostered the belief that external pressure and outcome-oriented agreements can successfully force adjustment. Yet while the Accord contributed to dollar depreciation, it did not eliminate Japan's current account surplus. Nor did it trigger an immediate downturn: Japan experienced rapid growth and asset price inflation in the late 1980s, with prolonged stagnation only following the burst of the asset bubble in the early 1990s. In Japan – and later in China – the Plaza Accord is instead often seen as the root cause of Japan's 'lost decades', serving as a cautionary tale against yielding to US pressure for exchange rate appreciation.

The largest narrowing of global current account imbalances in recent memory was the **2009 Global Financial Crisis** – so consequential that it acquired its own acronym (GFC). Once again, the United States stood at the centre, running the largest current account deficit in absolute terms. In the runup to the crisis, surplus and deficit countries debated the underlying drivers of these imbalances. In Chapter 4, Maurice Obstfeld recalls that the dominant narrative in the United States attributed its deficits to the rest of the world: excess saving in emerging Asia and oil-exporting economies was alleged to have been 'pushed' into US financial markets, driving up the dollar and asset prices, and widening the trade deficit. However, this account is difficult to reconcile with the evidence. The US dollar began a sustained depreciation in 2002, even as the current account deficit continued to expand. If foreign saving pressure had been the primary driver, one would have expected a persistently strong or appreciating dollar. Instead, the combination of a weakening currency and a widening deficit point to powerful domestic forces – most notably the housing boom, financial innovation, deregulation, and highly accommodative monetary policy. These dynamics culminated in a real estate and banking crisis that, although it originated in the United States, quickly spread across the globe.

The resulting financial and economic turmoil left deep economic and political scars that remained visible for more than a decade. Importantly, however, it did not unfold in the way that had been expected: while the US current account partly reflected the domestic developments that led to the crisis, the crisis was not triggered by a reversal of capital flows to the United States. Instead, it triggered a flight out of risky assets in the United States and globally into US safe assets (Treasury bonds), with the net effect of *appreciating* the US dollar.

Taken together, these episodes show that large external imbalances can be dangerous – either by setting up an economy for a reversal in capital flows, or as a symptom of an underlying domestic problem that could at some point explode. They have often unwound in a disorderly manner, with sudden reversals of capital flows and financial

crises. Debtor countries are typically most at risk. However, when the debtor is also at the centre of the global financial system and issues the main reserve currency, instability at the core is likely to spill over to the rest of the world. For that reason, global imbalances are not just a bilateral concern but require everyone to care.

### 3 WHY NOW?

#### 3.1 Similar geography of imbalances - but with sharply increasing US net liabilities

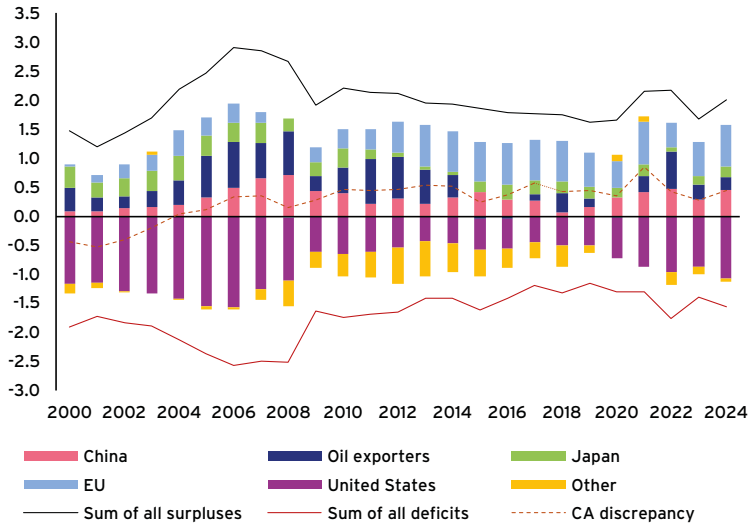
Why are global imbalances back on the agenda now? What is different this time? At first glance, they do not even appear unusually large. At around 2% of global GDP, global imbalances (the sum of all current surpluses, which is equal to the sum of all deficits plus a ‘global discrepancy’) remain well below the peak of almost 3% of global GDP observed two decades ago, and only about 0.4% of global GDP above the trough in 2019 (see Figure 1a, and Chapter 2 by Ravi Balakrishnan). The composition has also changed less than might be expected. The United States continues to run the largest current account deficit, both relative to global GDP and in absolute terms. On the surplus side, the main counterparts are familiar: the major economies – particularly the European Union, Japan, and China – alongside oil exporters as a group.

On the debtor side, the persistent current account deficit of the United States reflects the accumulation of external liabilities, although the relationship is not one-to-one owing to valuation effects (see Chapter 2 by Ravi Balakrishnan).<sup>2</sup> As a result, the United States’ **net international investment position (NIIP)** reached about 90% of US GDP, or 24% of world GDP, by end-2024 (Figure 1b). This development is attributable not only to sustained current account deficits but also to sizeable valuation effects associated with rising US equity prices and an appreciating dollar (through January 2025). At the same time, valuation dynamics have shifted and the United States’ ‘exorbitant privilege’ – the ability to earn higher returns on external assets than it pays on liabilities – has largely eroded (Du et al., 2025). As a result, it can no longer sustain large current account deficits without a meaningful further deterioration in its NIIP, reversing the pattern observed in the mid-2000s.

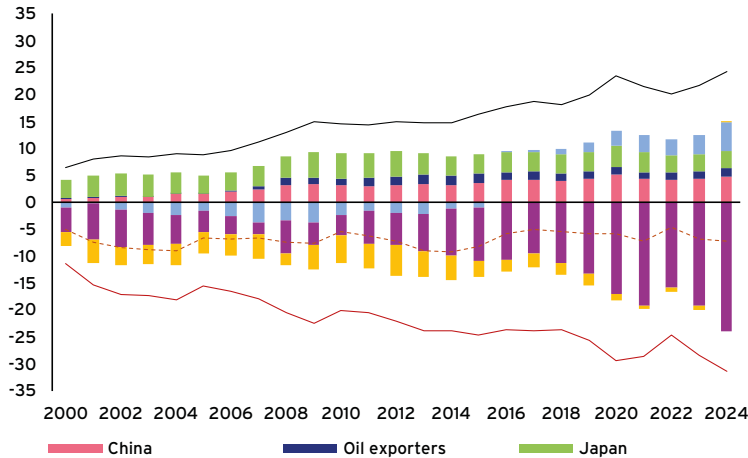
2 On the creditor side, the principal counterparts have been advanced European and Asian economies, where net asset accumulation has been driven primarily by persistent current account surpluses. Valuation gains on US assets have accrued mainly to countries with substantial equity and foreign direct investment positions in the United States, including several Anglo-Saxon economies (such as Canada), as well as to countries with large sovereign wealth funds, notably Norway and several Middle Eastern oil exporters (see Chapter 2 by Balakrishnan).

**FIGURE 1 EXTERNAL IMBALANCES 2000-2024 (IN PERCENT OF WORLD GDP)**

**a) Current account surpluses and deficits**



**b) Net international investment position**



Note: The current account (CA) discrepancy is the sum of current accounts of all countries. The NIIP discrepancy is the sum of net international investment positions of all countries.

Source: IMF World Economic Outlook, and External Wealth of Nations Database.

The United States has long played the dominant role in supplying both global safe and risky assets. US Treasuries served as the world’s primary safe asset because of the scale of the US economy, its fiscal capacity to raise revenues, the depth and liquidity of its financial markets, Federal Reserve backstopping, and its geopolitical strength – advantages that competitors such as the euro area, Japan, or China did not fully replicate. At the same time, the United States supplied the majority of global risky assets, with equity and corporate debt markets far exceeding treasury supply, underpinned by strong institutions, robust property rights protections, and a technology sector that attracted global investors. Safe and risky asset markets were interconnected: during periods of global stress, rising demand for Treasuries led to dollar appreciation, which

increased the value and attractiveness of all dollar-denominated assets and reinforced a US ‘safety premium’ (see Chapter 6 by Itskhoki and Mukhin). Yet this architecture, long taken as a structural feature of the international monetary and financial system, is increasingly under political, and geopolitical strain – a point to which we return to in Section 5.1.

Apart from the eroding ‘exorbitant privilege’ of the United States, a further feature distinguishing recent imbalances from those in the 2000s is that the US current account is no longer financed mainly by public savings (reserves accumulation in China and other Asian countries) but instead by private capital flows. These are increasingly intermediated by nonbank financial institutions (NBFIs), often accompanied by rising leverage (see Chapter 5 by Harr and Krogstrup). In advanced Europe and Asia, **NBFIs have become the main conduit of savings into US assets**, with assets under management rising sharply over the past two decades. This has coincided with **greater investment in riskier assets**, including equities and corporate bonds, and a marked increase in foreign holdings of US equities. Leveraged funds, particularly hedge funds, have also become more active in sovereign bond markets, using repo financing in strategies that may amplify volatility and trigger sudden spikes in yields. Price-insensitive investors are replaced by more elastic private actors; risk premia have become compressed – US equity valuations are historically high and credit spreads unusually tight – despite elevated geopolitical and trade uncertainty. The combination of leverage, low risk premia, and greater reliance on market-based finance increases the potential for abrupt repricing and cross-border spillovers. The development of USD-based stablecoins may add new complications (see Chapter 10 by Gilles Moëc).

Are the current imbalances excessive? According to the IMF’s 2025 External Sector Report, global imbalances in 2024 were not judged excessive overall. The G3 positions were assessed as moderate: the US current account was “moderately weaker than implied by fundamentals and desirable policies”, while those of China and the euro area were assessed to be “moderately stronger”. The US assessment has been broadly unchanged in recent years, while the current accounts of China and the euro area were considered broadly in line with fundamentals in 2022–23. Among the 30 economies covered in the External Sector Report, only a few – such as Singapore, Sweden, and the Netherlands – were assessed as having substantially stronger-than-warranted external positions, and none as substantially weaker.

However, the **rapid widening of imbalances in 2024 and 2025** has raised concerns. According to the IMF (2025), roughly two-thirds of the increase in global current account balances in 2024 reflects an increase in ‘excess balances’ (the gap between the actual current account and the current account that the IMF views as justified by fundamentals and desirable policies). This deterioration was driven mainly by China, whose current account surplus rose from 1.4% in 2023 to 2.3% in 2024 and an estimated 3.3% in 2025, and the United States, where the deficit widened from about 3.3% to about 4%, with a smaller contribution from the euro area. In reaction, the IMF has recently switched its classification of China’s external position from “moderately stronger” to

“stronger than the level implied by medium-term fundamentals and desirable policies” (IMF, 2026a). The IMF also expects the US current account deficit to decline modestly but remain high, at about 3.5% of GDP; and it has reiterated its concerns about the high US fiscal deficit and its rising debt-to-GDP ratio (IMF, 2026b).

In sum, the “why now?” question can be answered as follows. On the one hand, the level of global imbalances does not appear exceptional by historical standards and remains below earlier peaks. On the other hand, there are clear reasons for concern, including the persistent rise of the net external liabilities of the United States, its unsustainable fiscal trajectory, gradual loss of its ‘exorbitant privilege’, and its dependence on private capital inflows intermediated by nonbank financial institutions. For all these reasons, the United States is vulnerable to a decline in foreign inflows, with risks for global financial stability. We return to these risks in Section 5.1

The recent dynamics of widening current account imbalances – particularly in China – raises a different set of concerns, centred on import competition, industrial capacity, and strategic rivalry. We now turn to these.

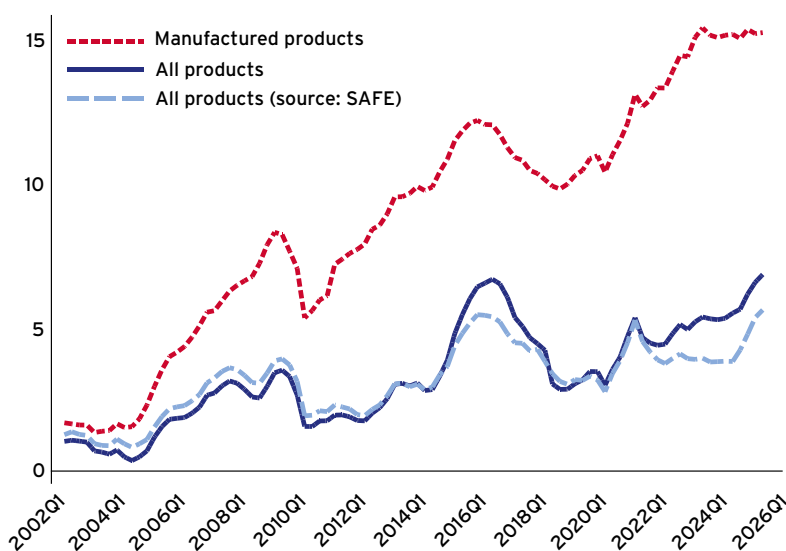
### **3.2 A different narrative: Industrial policy and import competition from China**

Today’s imbalances narrative in the United States is drastically different from what it was in the pre-GFC period. The focus is no longer on a global ‘savings glut’ originating in the rest of the world, but on perceived unfair competition primarily from China but more recently also beyond. Persistent trade and current account deficits are portrayed as *prima facie* evidence of discriminatory trade practices, currency policies, and asymmetric burdens associated with providing open capital markets and the dollar as a global public good.

In this view, external deficits have contributed to deindustrialisation, manufacturing job losses, and an erosion of economic strength in the United States. Current concerns about global imbalances are therefore more explicitly microeconomic in nature, centring on sectoral competitiveness, import competition from China, high-tech rivalry, and the geographic concentration of manufacturing employment losses. A recent explosion of the Chinese trade surplus (Figure 2), particularly based on customs data,<sup>3</sup> has added further fuel to this view, raising similar concerns in Europe and many other countries.

3 The widening gap between China’s balance-of-payments (BoP) data and customs trade statistics is not fully understood. Some explanations relate to recording of global production structures and corporate arrangements that have become more complex. Part of the gap may reflect offshore or ‘factoryless’ manufacturing arrangements, such as iPhone production in China, where the timing of ownership transfer affects whether transactions are recorded as goods or services trade. Export over-reporting – linked to VAT rebate incentives – and import under-reporting – related to tariff evasion – could also contribute materially to the widening BoP-customs discrepancy (see Chapter 12 by Ma and Wei). Pending greater clarity on the underlying causes, both sets of measures should be considered in assessing China’s external position.

**FIGURE 2 CHINA'S TRADE SURPLUS (IN PERCENT OF REST OF WORLD IMPORTS, EXCLUDING INTRA-EU TRADE)**



Note: Based on customs data, except for “All products (source: SAFE)”. SAFE stands for the Chinese State Administration of Foreign Exchange, which report balance of payment data.

Source: Chapter 13 by Sebastien Jean.

At the core of this debate are two questions. First, do current account deficits contribute to deindustrialisation in advanced countries? Second, has import competition from China accelerated this deindustrialisation?

The answer to the first question starts with the observation that all advanced economies, regardless of their external position, have experienced a shift in domestic value added from manufacturing to services. Hence, even persistent current account surpluses cannot prevent deindustrialisation in the long run. At the same time, it is true that many advanced countries that have run external surpluses in the past, including three of the G7 economies – Germany, Japan, and Italy – have been able to maintain larger manufacturing sectors than countries that have typically run deficits, such as France, the United Kingdom, and the United States (Figure 3, panel a). But there are also counterexamples: Canada has run surpluses but has a relatively low share of manufacturing.

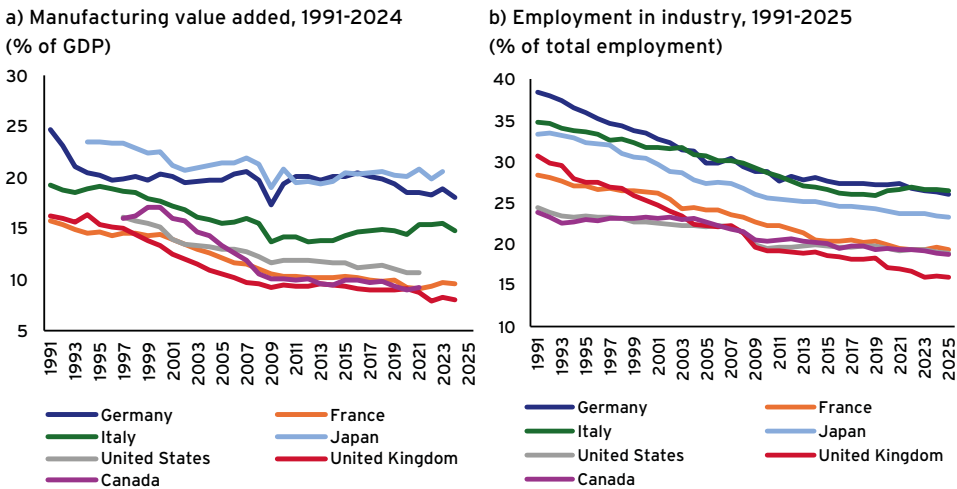
A simple conceptual framework going back to Corden (1960) helps clarify these correlations (see Chapter 4 by Maurice Obstfeld). Because people like to balance tradables and non-tradables consumption, there is a mechanical link between large tradables sectors and trade surpluses: excess tradables are exported. Tradables are typically industrial goods. But this is not always the case. In countries with high natural resource endowments, such as Canada, the tradables sector might be dominated by commodities. In a country like Luxembourg, meanwhile, the tradables sector is dominated by financial services. Hence, Canada and Luxembourg have small

manufacturing sectors, even though they are surplus countries. Furthermore, even where countries have large manufacturing sectors, these may not be the result of policies – and even where they relate to policies, the objective of these policies may not have been to support manufacturing.

A good example is Germany, where fiscal surpluses and wage restraint have, since the mid-2000s, arguably contributed to keeping the manufacturing sector relatively large and to external surpluses, as these policies dampened consumption and supported competitiveness. However, the motivation for these policies was fiscal prudence and lowering unemployment, which was structurally high in Germany until the late 2000s, rather than the desire to resist deindustrialisation.

Reflecting their higher shares of industry in GDP, the shares of manufacturing employment in the G7 surplus countries have tended to be higher than in the deficit countries (Figure 3, panel b). However, panel b of Figure 3 also shows that the *trend* of manufacturing employment has been the same – downward. This reflects a shift away from low-cost, labour-intensive production towards automation. Developing countries differ in this respect: as the rural population moves from agriculture to industry, the manufacturing share of employment might still be rising. For example, China’s share of manufacturing employment rose by 9 percentage points of total employment between 2004 and 2024, even though its manufacturing value added *declined* by almost 7 points of GDP between 2004 and 2024 as a result of the growth in services.

**FIGURE 3 INDUSTRIAL EMPLOYMENT AND VALUE-ADDED SHARES IN G7 COUNTRIES SINCE 1991**



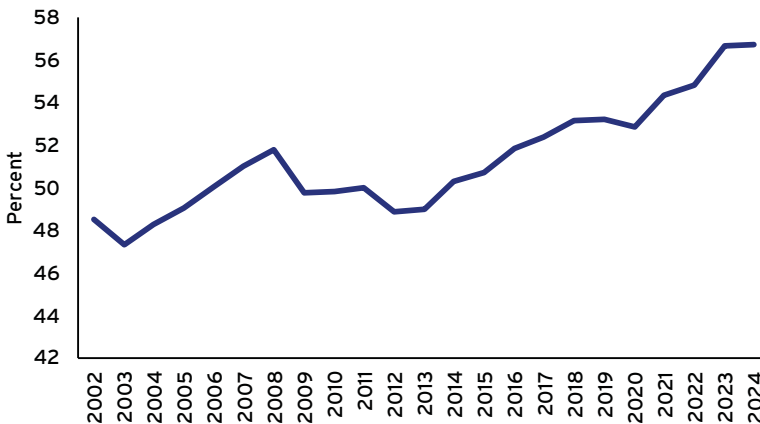
Source: Bruegel based on World Bank, World Development Indicators series SL.IND.EMPL.ZS and NV.IND.MANF.ZS

Turning to the second question – whether import competition from China accelerated deindustrialisation in advanced countries – there is strong evidence that Chinese import competition has accelerated manufacturing job losses in the US. Autor et al. (2021) find that the 2000–2012 trade shock from China reduced manufacturing employment as

a share of the working-age population by about 1.6 percentage points over 2001–2019, almost 60% of the decline in the manufacturing share over that period. There was no impact on non-manufacturing employment, so the impact on the total employment–population ratio was about comparable to that on manufacturing employment. For **Germany**, Dauth et al. (2014) similarly find that import competition from China and Eastern Europe (“the East”) caused substantial job losses in import-competing industries. But in the case of Germany, these were more than offset by employment gains in export industries. According to their estimates, the net effect of increased trade between Germany and “the East” in the period 1988–2008 was the creation almost 500,000 new jobs.

Recently, however, China has stopped being a magnet for German imports. As Barkin and Williams (2026) document, growth in China and Chinese imports of German goods decoupled around 2021, while net car exports have plummeted after reaching a peak in 2022. Chapter 2 by Ravi Balakrishnan shows that Chinese exports have become increasingly similar to those of the euro area (Figure 4). This suggests that much of the import competition in Europe is structural, i.e., Chinese goods have caught up with their competition. According to Grjebine et al. (2026), one third of German exports and 68% of German manufacturing value added are now “threatened” by Chinese competitors.

FIGURE 4 EXPORT SIMILARITY INDEX BETWEEN CHINA AND THE EURO AREA



Source: Chapter 2 by Ravi Balakrishnan, based on UN Comtrade.

This competition may be aggravated if the United States’ aggressive stance on tariffs and on China means that exports are redirected to other countries, increasing import competition there. European policymakers have expressed concerns about potential **trade deflection**. Evidence from the 2018–19 US–China trade war suggests that such effects were materialised. Empirical analysis in Chapter 15 by Charlotte Emlinger, Isabelle Méjean and co-authors indicates that US tariffs on Chinese goods led to a measurable redirection of Chinese exports toward third markets, including the European Union and Vietnam. Estimates suggest that the European Union may have

absorbed roughly one-third of the decline in US imports from China in tariff-affected sectors. By contrast, the 2025 trade measures have been more broadly applied and not limited to China. Although US tariffs on Chinese goods have increased further, the evidence to date does not point to a comparable or pattern of trade deflection toward the European Union. This may be the case because the 2025 US trade war was generalised, hitting all trading partners rather than focusing on China.

An additional concern about China's trade surplus is that in certain sectors, China has attained dominant market positions that may serve as political leverage. A prominent example is the refining of critical minerals, particularly rare earths and magnet production. China has repeatedly used export controls in this area, most recently introducing a global licensing system for rare earth exports following the US "Liberation Day" announcement.

A key question is whether China's external surpluses reflect market forces or deliberate policy choices, and if so, whether these policies should be considered appropriate or not. The IMF's answer is that most of China's 2025 current account surplus – 2.3 percentage points out of a total of 3.3 percentage points of GDP – cannot be justified as reflecting medium-term fundamentals and desirable policy choices and desirable policy choices, and that the real exchange rate is undervalued by 12–21% (IMF, 2026a). Hence, there is a prima facie case for policy adjustment that would likely both benefit China and lower both its current account and its trade surplus.

#### **4 OPTIMAL ADJUSTMENT: ALL TOGETHER**

The ideal adjustment would involve the main systemic economies – at least the United States, China, and Europe – rebalancing simultaneously and in a coordinated manner. Such an approach would reduce the risk that adjustment in one economy simply shifts imbalances elsewhere or triggers destabilising spillovers.

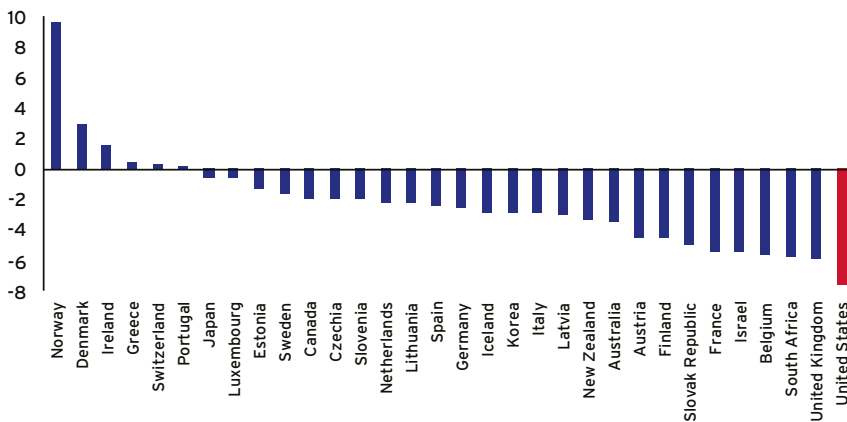
In simple terms, the required policy mix is well known. The United States would raise national saving, primarily through credible fiscal consolidation, thereby reducing its reliance on external financing. China would lower excess saving by rebalancing toward household consumption – strengthening social safety nets, boosting disposable income, and shifting away from investment- and export-led growth. Europe, for its part, would increase investment, particularly in infrastructure, defence, and the green transition, thereby absorbing more domestic and global savings.

Such coordinated flow adjustment would help narrow current account imbalances and reduce trade tensions. However, risks to the financial system would not automatically disappear. Financial vulnerabilities depend not only on flow imbalances but also on the accumulated stock of external assets and liabilities, leverage, and asset valuations. Even if flows were to adjust, elevated debt levels, concentrated exposures, and compressed risk premia would continue to pose stability risks. Nonetheless, shifting the flow dynamics would be an important first step toward a more sustainable global configuration.

#### 4.1 Adjustment in the United States: It's mainly fiscal

The doubling of the US current account deficit since 2019 primarily reflects strong domestic demand in relation to relatively tepid external demand; supported by large budget deficits, buoyant asset prices, and most recently an investment boom linked to AI (see Chapter 4 by Maurice Obstfeld and Chapter 8 by Gian Maria Milesi-Ferretti). However, this boom comes at a fragile moment. The US net international investment position is significantly more negative than in past episodes (see Chapter 8 and Bayoumi and Gagnon 2025). Absent significant consolidation, US public debt is on an unsustainable trajectory (Darvas et al., 2025 ; Dynan and Elmendorf, 2025; Fatas and Panizza, 2025; Congressional Budget Office, 2026). Despite solid growth and low unemployment, the United States is running an exceptionally large fiscal deficit – the highest among all advanced economies, according to the OECD (Figure 5).

FIGURE 5 FISCAL BALANCE IN ADVANCED ECONOMIES, 2025 (IN PERCENT OF GDP)



Source: Bruegel based on OECD (2025).

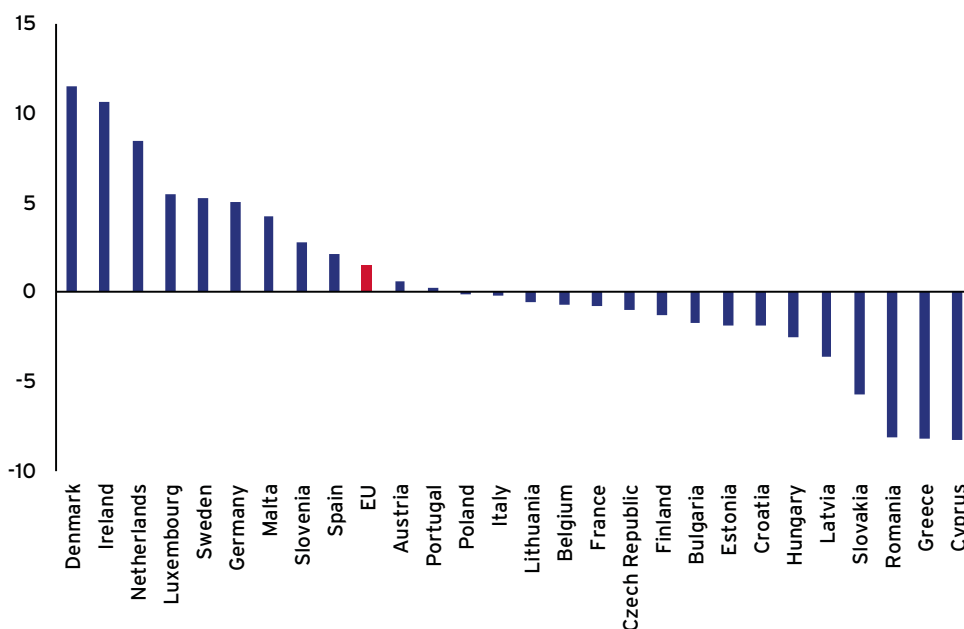
Fiscal policy should hence be the primary instrument for adjustment. A credible medium-term fiscal consolidation would serve a dual purpose: placing public debt on a sustainable path and reducing reliance on foreign savings, thereby contributing to a more durable narrowing of the current account deficit.

How exactly the US should adjust fiscally has been the subject of longstanding policy advice by institutions such as the IMF and the OECD. As in the past, the most recent IMF recommendations focus on increasing federal revenue and a reform of long-term entitlement programmes (IMF, 2026b). Past recommendations have included raising indirect taxes (the United States is the only major advanced country without a value-added tax), progressively raising income taxes, and eliminating a range of tax expenditures (IMF, 2024).

## 4.2 Adjustment in the Europe: Invest and reform

Adjustment in the European Union is conceptually much less straightforward than in the United States. This reflects the **European Union's heterogeneity**: its current account of about 3% aggregates 27 current accounts, ranging from a surplus of almost 12% of GDP in Denmark to a deficit of close to 9% in Romania, Greece, and Cyprus (Figure 6, referring to 2022-24 averages). The heterogeneity is not surprising. The European Union includes both advanced economies and countries that the IMF considers “emerging and developing” (Bulgaria, Hungary, Poland, Romania). And while most of the former share the same currency, they differ wildly in their fiscal and structural fundamentals.

FIGURE 6 CURRENT ACCOUNT OF EU COUNTRIES, 2022-2024 (AVERAGE AS A PERCENT OF COUNTRY GDP)



Source: AMECO database.

Attempting to control for these conditions, the IMF (2025) finds that only about half of the euro area surplus can be justified based on structural fundamentals and desirable policies. A related methodology used by the European Commission leads to the same result (Coutinho et al., 2022). The implication is that the European Union – or the euro area<sup>4</sup> – should be lowering its current account surplus by about 1.5% of GDP. This is less than the adjustment the IMF would require of China, but still significant.

4 It is debatable whether the European Union's or the euro area's current account balance is more relevant when analysing global imbalances. The euro area shares a common currency, while the European Union shares a common trade policy and a single market. In practice, the difference is not hugely important, as the EU and euro area current accounts are almost the same, and more than 80% of EU GDP corresponds to the euro area.

But exactly how should the European Union adjust? Unlike the renminbi, the euro is a freely floating currency. And inside the Union, one might need to make policy recommendations to either raise investment or lower savings to up to 27 national authorities, plus the EU institutions.

Policy institutions such as the IMF and the European Commission overcome this indeterminacy by making some implicit assumptions (see Chapter 14 by Darvas et al.).<sup>5</sup> First, **the focus of policy prescriptions to reduce the current account is on the surplus countries** – no-one ever advises countries in balance or deficit to make their deficits bigger for the sake of lowering the euro area surplus. Second, almost all emphasis is on policies that are expected to raise growth, while arguably also contributing to a reduction in the surplus. This means that the emphasis is mostly on raising investment, not on reducing savings.

The approach is less obvious than it might appear at first. One reason is that Europe's advanced country growth champions – Sweden and Denmark, the only EU countries whose productivity has grown in line with that of the United States – have some of the highest current account surpluses in the European Union. Hence, advising EU countries to take the Danish/Swedish growth medicine – in particular, by switching to defined contribution pension systems, which are a boon for the financing and growth of the local economy (Lappe and Pinkus, 2025; Kukies and Noyer, 2026) – would likely increase, rather than reduce, the EU current account. Another reason to question the conventional prescription is that **EU average investment is at about the same level as average investment in the United States**. The enormous difference between the US and EU current accounts – of about 8% of GDP – is driven by the much higher savings rate in the European Union (26% of GDP, against 17% in the United States). Hence, the most obvious way to lower the EU current account surplus might be measures that make the European Union save less, rather than invest more – while perhaps also modifying the composition of its investment to make its growth friendlier.

Yet, the conventional view – to focus on raising investment – is probably justified, for three reasons.

First, unlike in the 2010s – when German fiscal policy was too tight, in part due to legal constraints – **there is no straightforward fiscal policy lever to reduce savings**. In the United States, lowering the fiscal deficit would be good on many fronts – lowering the external imbalance, bolstering debt sustainability, reducing pressure on prices, and lowering interest rates. In the European Union, however, these policy objectives conflict. The European Commission considers the aggregate fiscal stance of the euro area to be appropriate (Cepparulo and Reitano, 2025), and with a few exceptions – including Denmark and Sweden, which are small countries – EU countries do not have the fiscal space to raise the deficit. Germany has already raised it, after shaking off its 'debt brake', but will need to reduce it again at some point to stabilise its debt.

5 See, for example, the IMF's latest euro area assessment (IMF, 2025, Table 3.7).

At the same time, advising countries with high private savings to manage these down seems risky, given that these likely contribute to sustaining investment and growth. And euro area inflation and interest rates are already low.

Second, policies that improve the composition of investment tend to correlate with policies to raise the level of investment; they are about making the business environment friendlier to entrants, and to the scaling of successful firms. When policy institutions advise European policymakers to raise investment, they mean policies that would also encourage investment in ICT.

Finally, bottom-up estimates (for example, quoted in the 2024 Draghi Report) indicate **continued large investment gaps in Europe** in areas including digital infrastructure, renewable energy sources, electricity grids, and military infrastructure. These estimates are a better indicator of the needed direction of travel than the relatively low investment rates of the United States.

Even though the direction of travel may be obvious, however, the nitty-gritty is not. The standard policy prescription consists of reforms that reduce single market barriers, promote capital markets and banking union, increase risk-taking and entry and exit in product markets, attract more FDI to Europe, and reform European fiscal rules to make them investment friendlier. But the strength of the impact of these reforms on investment is unclear. How much of a difference would capital market union make, particularly in the absence of deep accompanying reforms to national pensions systems? Do successful EU startups move to the United States because of easier finance or just because of the bigger and less regulation-encumbered market? Furthermore, most of the proposed reforms have long histories, floundering because of national red lines on further European integration or special interest opposition. And in some cases, such as greater openness to Chinese FDI, they may involve trade-offs with economic security.

Most perniciously, the urgency triggered by increasing competition from China cuts both ways. While it reduces complacency and increases the resolve of politicians to do *something*, it also boosts the **popularity of protectionist policies** that are likely to reduce, rather than raise, investment and growth over the medium and long term. We return to this problem in the last section of the chapter.

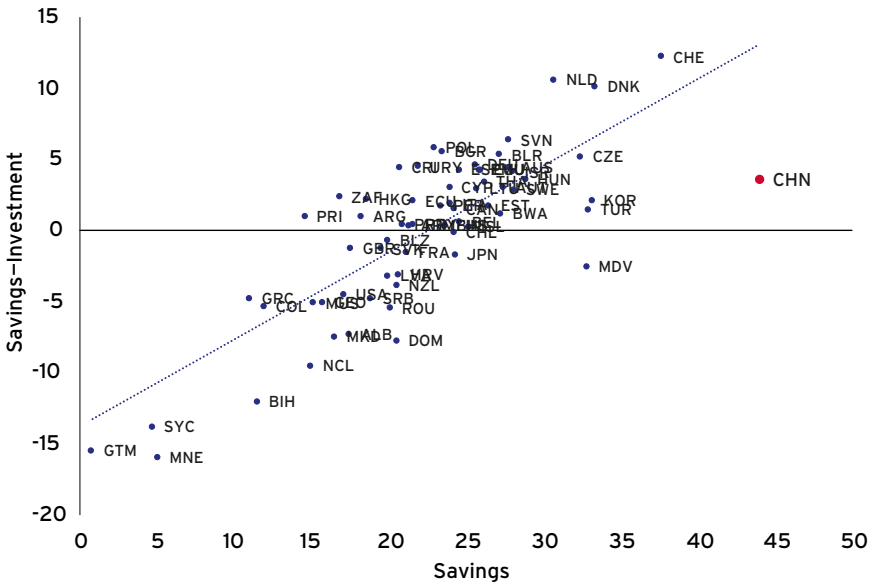
Still, Europe has to try again, and on many fronts at once.

### 4.3 Adjustment in China: Rebalance

The causes of China's current account and trade surpluses and their recent increase are complex. The three chapters that analyse them in this volume – Chapter 11 by Yiping Huang, Chapter 12 by Chang Ma and Shang-Jin Wei, and Chapter 13 by Sébastien Jean – do not fully agree. Based on these three chapters, as well as IMF (2026a), our reading of the causes of the surpluses and the policy steps that would reduce them is as follows.

To understand China's structural current account surplus, it helps to start with the gross savings rate. For a country that is neither a natural resource exporter (such as Norway or the Gulf states) nor a small economy dominated by a financial centre or investment hub (such as Singapore, Ireland, Luxembourg, or Malta), China's savings rate is extremely high (Figure 7). Figure 7 also shows a positive association between the savings rate and the savings–investment balance, as approximated by the regression line. China's data point is well below this line, suggesting that given its savings rate, its current account surplus is abnormally low. For example, half a dozen European countries – the Netherlands, Denmark, Switzerland, Slovenia, Poland, Bulgaria, and Czechia – have current account surpluses that are much higher as a share of GDP than China, even though their savings rates are much lower.

**FIGURE 7 SAVINGS RATES AND CURRENT ACCOUNT BALANCES IN ADVANCED AND EMERGING ECONOMIES, 2022-24 AVERAGE (IN PERCENT OF COUNTRY GDP)**

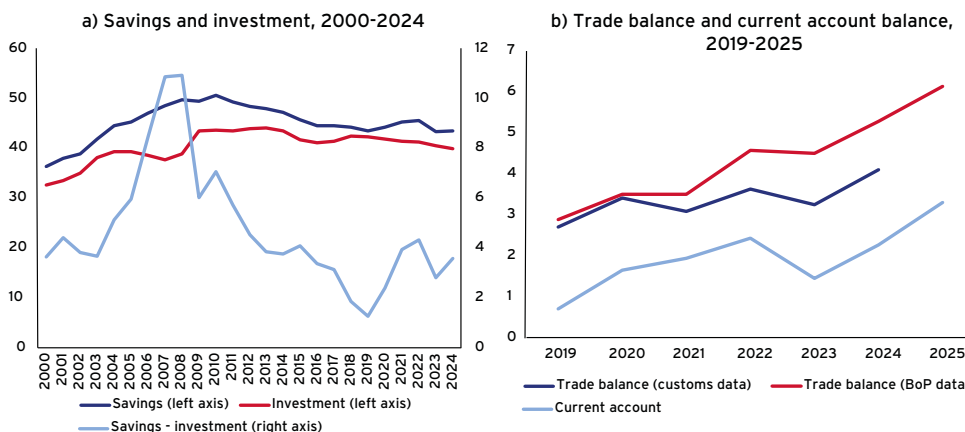


Note: Country sample in Figure 8.a includes all advanced and upper-middle-income economies except for natural resource exporters (Azerbaijan, Norway, Russian Federation, Gulf states, Mongolia, Turkmenistan), countries with large financial centres relative to country size (Bermuda, Macao, Hong Kong, Singapore, Ireland, Luxembourg, San Marino, Malta, Panama), heavily aid-dependent economies (Samoa, Kosovo, Greenland) and crisis countries with negative savings rates.

Source: World Bank (series NE.GDI.FTOT.ZS and NY.GDS.TOTL.ZS).

What makes China unusual is the combination of an exceptional savings rate with exceptionally high investment. Figure 8a shows that except in the second half of the 2000s, when the share of investment dropped and the current account surplus rose to about 10% of GDP, as well as a recent divergence, investment has been almost as high as savings.

FIGURE 8 THE EVOLUTION OF CHINA'S EXTERNAL IMBALANCES (IN PERCENT OF GDP)



Sources: World Bank (series NE.GDI.FTOT.ZS and NY.GDS.TOTL.ZS), IMF World Economic Outlook, and Bruegel trade tracker (for trade customs data).

Hence, to understand why the Chinese current account is structurally in surplus but normally not very high as a share of GDP, one has to understand why both savings and investment are abnormally high. The latter also helps to understand why the goods trade surplus is much higher than the current account.

A longstanding **structural reason for high savings**, cited by both Huang in Chapter 11 and Ma and Wei in Chapter 12, is an **underdeveloped social safety net**. Together with exceptionally adverse demographics (resulting in part from China's one-child policy, which was abolished in 2016), this is one reason for exceptionally high household savings. The decline in the savings rate since around 2010 is credited to improvements in the social safety net. Another reason, emphasised by Ma and Wei, could be China's highly **unbalanced male-female ratio** (itself a result of the one-child policy), which leads parents of sons to save a lot to improve their son's standing in the marriage market (Wei and Zhang, 2011).

The causes of **structurally high investment** similarly relate to longstanding state policies and preferences, which are partly inherited from China's era of central planning. As Huang points out in Chapter 11, a high investment share was a common feature of planned economies, such as the Soviet Union – it reflected the planner's preference for rapid industrialisation, to the detriment of consumption. This preference lives on in China, propagated by both traditional and less traditional planning instruments:

- Arguably the most powerful policy instrument keeping investment high are **capital controls**, which force most savings to look for returns within China. In the absence of capital controls, domestic investment would fall, and its current account surplus would likely rise to at least that of Denmark, the Netherlands, or Switzerland.

- A further policy instrument is **political competition at the local level**. Local governments are incentivised to outperform their peers in meeting growth target and industrial development targets in line with the Five Year Plan (see Chapter 11 by Huang). The response is to promote investment in favoured industries at the provincial level, using cheap land, cheap lending, and other forms of **subsidies**.

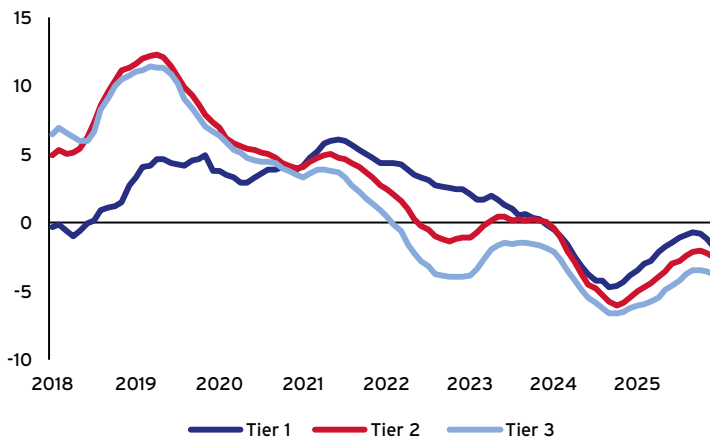
This discussion suggests that both China's structural current account surplus and its high investment rates are a result of its development model and political system, interacted with demographic conditions. There may be spillovers to the rest of the world, but perhaps these have to do with China's approach to keep investment high rather than just the current account.

This brings us to a second question, which is arguably more pressing from an international perspective, namely, why both China's current account and its trade balance have **recently been increasing as a share of GDP** (Figure 8b) and – given China's relatively high growth – even more so as share of GDP and imports of the rest of the world (Figure 1a and Figure 2).

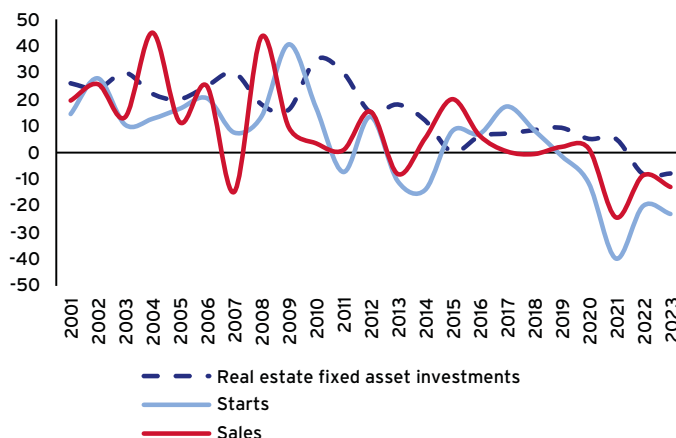
On this, there is a fair amount of consensus, namely, around the interaction of weak demand and government policies seeking to keep growth on target (see also IMF, 2026a). China is currently in the third year of a housing downturn (Figure 9). Falling property values have weighed heavily on household wealth, consumption, and local government revenues. Housing investment has collapsed, capacity utilisation in manufacturing has declined, and China is experiencing deflation. With **little flexibility in the nominal exchange rate**, the real exchange rate has been depreciating relative to its trading partners, increasing China's external competitiveness. In effect, China has been pursuing a beggar-thy-neighbour policy, substituting foreign demand for domestic demand.

**FIGURE 9 CHINA'S HOUSING MARKET: PRICES AND VOLUMES (IN PERCENT, YEAR-ON-YEAR CHANGE)**

a) Sales prices of new commercial residential buildings, by city 'tier'



## b) The property sector remains weak



Note: Figure 9a shows year-on-year sales price of newly built commercial residential buildings in 70 large and medium-sized cities. First-tier cities include Beijing, Shanghai, Guangzhou, and Shenzhen. See IMF (2026a) for definition of second and third-tier cities.

Sources: China National Bureau of Statistics, Bruegel Dataset (2023): 'China economic database', and IMF (2026a).

In China, this phenomenon is referred to as '**involution**' – falling prices, cutthroat competition, and low or negative profit margins (García-Herrero and Xu, 2026). Outside China, it is referred to as '**overcapacity**' – a growing flood of cheap manufacturing exports. As shown by Jean in Chapter 13, this export growth has been particularly high in product categories that previously received state support.

What to do about all of this? As with the diagnosis of the problem, one can distinguish between structural measures and measures that deal with the consequences of the collapse of the housing boom and deflation.

- At the **structural level**, the key measures would be to further improve the coverage and generosity of the social safety net (to lower savings), particularly in rural areas, and remove incentives leading local governments to favour investment in tradables over investment in human capital and services. Expanding high value-added services would support job creation, strengthen domestic demand, and help reduce structural imbalances (see Chapter 11 by Huang).
- At the **macroeconomic policy level**, China should allow an appreciation of the currency. In addition, **fiscal stimulus** should focus on social spending and public infrastructure, such as the renovation of city centres and the expansion of the national power grids – an area where China has underinvested (García-Herrero and Mu, 2025) – rather than investment in manufacturing. These could be financed by scaling back manufacturing subsidies.

- Finally, as argued by the IMF (2026a), there is scope to **accelerate balance sheet consolidation and repair** – facilitating the exit of unviable property developers, clearing of the housing inventory overhang, and, if needed, local government debt restructuring.

## 5 CONTINGENT POLICY ADJUSTMENT

Coordinated adjustment along the lines proposed in Section 4 is unlikely to happen. In the remainder of this chapter, we examine the consequences of continued imbalances in the United States, the European Union and China, and make some policy recommendations for how the rest of the world should react to these imbalances.

### 5.1 What if the US does not adjust?

The policies of the Trump administration are clearly not going in the direction recommended in Section 3.1. Rather than raising domestic savings through fiscal consolidation, the administration is seeking to boost economic growth through a mix of demand- and supply-side measures: low taxes, deregulation, promoting the production of fossil fuels, and pressuring the Federal Reserve to lower interest rates.<sup>6</sup> To the extent that these policies succeed in lifting growth in the short and medium term, they are likely to do so by raising private investment while maintaining a large – and growing – fiscal deficit (Congressional Budget Office, 2026). All else equal, this implies a large, and possibly growing, current account deficit.

Importantly, however, “all else” need not be equal. In particular, there will be – and already have been – market reactions to the administration’s unsustainable policies. What happens next will depend on these reactions.

In a benign scenario, equity prices would gradually decline and risk premia widen. The economy would slow, leading markets to expect a prolonged period of easier monetary policy. In reaction, the dollar would depreciate further, continuing the trajectory on which it has been over the last 12 months (according to the IMF’s real exchange rate index, it has depreciated by about 6–7% since January of 2025). This would help rebalance both the current account and the net international investment position, as US net liabilities would decline due to valuation effects. US borrowing costs may not rise much, as wider risk premia and lower interest rates offset each other, and rising productivity growth due to AI adoption may slow the expected rise of the debt ratio.

6 On the first two, see [www.whitehouse.gov/priorities/economy/](http://www.whitehouse.gov/priorities/economy/) and [www.whitehouse.gov/priorities/energy/](http://www.whitehouse.gov/priorities/energy/). On the latter see “Trump steps up attacks on Fed’s independence amid interest rates row”, *The Guardian*, 1 August 2025 ([www.theguardian.com/business/2025/aug/01/trump-jerome-powell-tariffs-federal-reserve](http://www.theguardian.com/business/2025/aug/01/trump-jerome-powell-tariffs-federal-reserve)).

In a crisis scenario, market would react more abruptly. This could be triggered by concerns about the United States' unsustainable fiscal trajectory, concerns about the institutional independence of the Federal Reserve, a sharp correction of stock market valuations inflated by the AI boom, or a crisis linked to opaque and leveraged portions of the financial sector (such as private credit).

The question is what the rest of the world can do to protect itself in such a crisis scenario. The answer depends on two factors.

The first is the reaction of capital flows and the US dollar exchange rate. Historically, international financial crises – even crises originating in the United States, such as the 2008-2009 GFC – have triggered a 'safe haven' flight into US Treasury bills and bonds, appreciating the dollar and hence providing an insurance effect to the rest of the world that is long on US assets (the counterpart of the US negative net international investment position). But a crisis of confidence in US fiscal or institutional fundamentals – as opposed to a specific US asset class, such as subprime mortgages in the run-up to the GFC – might have the opposite effect. If US assets, even Treasury bonds and bills, are no longer considered safe, there would be a flight *out* of the dollar. Borrowing from the literature on emerging market crises (Calvo, 1998), we refer to this scenario as a 'sudden stop' on the United States.

The second factor is the reaction of the US authorities to the international dimension of the crisis. The 2008-09 crisis was quickly contained through international cooperation (except for its knock-on effect in Europe during the euro crisis). This included coordinated fiscal stimulus and the extension of Federal Reserve US dollar swap lines to all other reserve currency central banks, as well as some central banks in the emerging world.

This type of cooperation could fail in the next crisis originating in the United States, for reasons ranging from unintentional to discriminatory. Coordinated fiscal stimulus might be off the table due to lack of fiscal space. The Federal Reserve may decide that it can no longer politically afford unlimited swap lines with foreign central banks. And worse, the United States may use crisis management instruments such as capital controls that discriminate against foreign residents.

The difficulty in mitigating the crisis will depend on the interaction of the crisis type and the US response (Table 1):

- In the top-left scenario in Table 1, the crisis originates in a **specific sector** – private credit, for example, or crypto – but US Treasuries remain good collateral. To the extent that capital flows react, they would do so by fleeing into US Treasuries. This risks a dollar liquidity crunch in the rest of the world, but this could be averted by the Federal Reserve, which would extend dollar liquidity to its counterparts.

- The top-right scenario is the same, except that the Federal Reserve **suspends swap lines**. US dollar liquidity would continue to exist but could not travel freely to where it is needed. The consequence would be a severe liquidity crunch for dollar-exposed entities without direct or indirect access to the Federal Reserve system – particularly in emerging markets and in non-core financial systems, but also in Europe.
- In the bottom-left scenario, **investors flee the United States** because of fears of default, high inflation, or both. Both the dollar and treasury bond prices would collapse (a repeat of the pattern seen after “Liberation Day”, only more severe), but dollar liquidity would not be impaired. The Federal Reserve would most likely supply dollars to US institutions, and this liquidity would become available internationally, through the money market, to whatever institution requires it. The crisis would strengthen the balance sheet of foreign entities with net dollar liabilities but could eviscerate that of those with exposure to US Treasuries.
- The bottom-right scenario is similar, except that capital controls and the suspension of swap lines could in addition create a **dollar liquidity crisis abroad** (at the same time, capital controls might also mitigate the dollar collapse).

TABLE 1 US CRISIS SCENARIOS

		US response	
		Cooperative	Uncooperative
Crisis type	Standard (United States retains 'safe haven' status)	<i>Scenario 1:</i> United States maintains swap lines	<i>Scenario 2:</i> United States suspends swap lines
	Sudden stop (flight out of the United States)	<i>Scenario 3:</i> Capital flows unimpaired	<i>Scenario 4:</i> United States suspends swap lines, imposes capital controls

While it is hard to rank the scenarios in terms of severity, Scenario 1 is clearly the most benign, but that does not mean it *is* benign. The internationally relatively inconsequential bursting of the dot-com bubble belongs in this category (while swap lines were not in place, neither was there a need for them at the time), but so does the Global Financial Crisis. While the latter had some unique features that make its replay unlikely, the increase in private exposure to the United States since the early 2010s, often intermediated by nonbank financial institutions (Chapter 5), implies that international contagion could be severe.

It is also clear that the uncooperative version of the ‘standard’ crisis – Scenario 2 – might be far worse, as a liquidity crunch is added to the direct impact of the crisis. Finally, both Scenarios 3 and 4, described in the bottom row, would take the world into uncharted territory. Given world exposure to US assets, the associated wealth destruction could be stratospheric – and its impact could be magnified by a liquidity crunch (Scenario 4).

In general terms, the world can prepare for these scenarios by both **building dollar liquidity buffers** (for Scenarios 2 and 4), and by either **reducing exposure to US Treasuries or building capital buffers** (Scenarios 3 and 4). But these measures are also costly, and their effectiveness is unclear. Furthermore, a sudden and coordinated reduction of Treasury bond exposure – which we do not recommend – could also precipitate a crisis.

The right response will therefore be institution-specific, but what is right will also depend on what others are assumed to do. Financial supervisors in the rest of the world can help their supervisees prepare by quantifying scenarios of the type described in Table 1 and asking institutions to conduct stress tests based on these scenarios.

Given how disruptive some of these scenarios could be, there is also a strong case for intensified preparation and coordination among systemically important economies and international institutions. Central banks – working through the Bank for International Settlements – as well as the IMF and other international fora should be continuously **stress-testing adverse scenarios** and **preparing policy responses that do not require US participation**. This should span the full range of cooperative instruments used in past crises, including liquidity pooling arrangements, coordinated liquidity provision through the IMF, temporary moratoria, and, where necessary, coordinated capital flow management measures. It may require the upgrading of both the tools and governance of the IMF and other global cooperative institutions, as suggested by Georg Papaconstantinou in Chapter 7. Proactive coordination might reduce the risk of disorderly adjustment and help preserve global financial stability under severe stress, while also creating awareness in the United States of the importance of prevention and cooperation.

## 5.2 What if the European Union fails to raise investment?

The European Union is currently attempting to raise investment and growth, through higher public spending on rearmament and reforms that reduce internal fragmentation and promote innovation and productivity. A more dynamic European Union would support global rebalancing, by attracting the savings of deficit countries around the world and raising demand for their products.

But what if the attempt fizzles out? As argued by Darvas et al. in Chapter 14, a continued EU current account surplus in the order of 2.5% of EU GDP is not large enough to create a ‘savings glut’ that would raise a financial stability risk for other countries – except in countries that have high current account deficits, as a share of domestic GDP, for their own reasons. In addition to the United States, these include many developing countries (see Chapter 18 by Chari).

**A failure of the European Union to rebalance would hence strengthen the case for reforms that reduce current account deficits** (in particular, through fiscal adjustment, which would help both through their direct impact on demand and through exchange rate effects) **and/or make deficit countries less vulnerable to volatility in international capital flows.** In Chapter 18, Anusha Chari describes a battery of such reforms, both domestic and international. They include improving the allocation of capital, reducing the dependency on debt financing as opposed to equity and direct investment, financial sector reforms, and policies that raise transparency about the investment returns of multilateral development banks.

Beyond its impact on capital flows, a failure of the European Union to raise investment and growth could **impact the rest of the world through trade and political channels.** A weak European Union is more likely to become politically polarised, and demand for trade protection will rise. This is bad news for the rest of the world, both for deficit and surplus countries. The EU reform agenda outlined in Chapter 14 – including Single Market reforms and higher public investment – should hence receive strong international support. At the same time, the rest of the world should firmly stand against EU attempts to turn inward, such as “Buy European” programmes, or attempts to undermine the most-favoured nation principle underpinning rules-based trade.<sup>7</sup>

### 5.3 What if China does not rebalance?

Despite all obvious uncertainties about how the Chinese external surpluses will evolve, policymakers in the rest of the world can safely make three assumptions.

1. Over the medium term, the **Chinese external surplus – particularly its trade surplus – is likely to decline.** The reason for this is two-fold. First, the demand slump associated with the bursting of the property bubble will slowly unwind, as the property sector adjusts and bad credit is restructured or written off. Second, the ‘involution’/‘overcapacity’ situation is unsustainable. Exit of unprofitable firms is inevitable. Consolidation or exit will likely be not only tolerated but promoted by the Chinese authorities, at least in some sectors.

7 See “EU seeks to reform WTP ‘most favoured nation’ trade rules”, *Financial Times*, 21 January 2026 ([www.ft.com/content/2f5e1b1c-07f8-4316-ab40-fd4e1482df9f](http://www.ft.com/content/2f5e1b1c-07f8-4316-ab40-fd4e1482df9f)).

2. The reduction of the surplus/overcapacity will happen very slowly; indeed, **the surplus may rise before it declines**. This is again for two reasons. First, demand recovery and elimination of excess capacity is slow in the best of cases. Second, lack of clarity on how the authorities will react, particularly over the shorter term. China's current 'anti-involution' policies will likely prove insufficient (García-Herrero and Xu, 2026; IMF, 2026a). There are no signs yet that the authorities have understood the main lesson of Section 4.3, namely, that rebalancing the economy is not just about strengthening domestic demand, but that it requires changing the *composition* of domestic demand and supply – from investment to consumption, and from the tradables sector to the services sector. This change in economic strategy would run counter not just to decades of policy tradition in China, but also to the geopolitically fuelled urge to reduce dependence on virtually any import that is essential to the functioning of the economy. This urge may well perpetuate the authorities' traditional preference for the tradables sector. And even if the authorities learn their lesson and go easier on subsidising investment in tradables sector, this may in the short term reduce stimulus and widen both trade and current account surpluses (unless offset by higher social spending, as we would like to see).
3. At the end of the tunnel – that is, even if the Chinese economy successfully rebalances – the structure of the world economy will look fundamentally different from what it did 10 or 15 years ago, or indeed from what it does today. China will dominate world exports markets for manufactured goods, including the most sophisticated ones. And it will be a much larger economy than those of the traditional advanced country industrial leaders. **China will have caught up with advanced countries, rebalancing or no rebalancing.**

The implications of these predictions for the rest of the world differ, in part depending on the level of development. For Germany and other former manufacturing export powerhouses, it is bad news. It both means that their industrial model will need to change, and gives their economies little time to adjust. For developing countries, the news is more ambiguous. On the one hand, an extended period of Chinese overcapacity makes export-led growth harder for economies such as India (see Chapter 17 by Suman Bery). On the other hand, the availability of cheap capital goods from China can help them develop (much like competitive capital goods from Germany helped China develop in the 2000s). And in the long term, China will make room for the entry of lower-wage, technologically sophisticated economies, just like Germany and other countries of the European industrial heartland have been forced to make room for China. Developing countries that manage to upskill their large pools of reserve labour and attract foreign investment will be the new winners.

The implication is that policies in the rest of the world should be geared towards three objectives.

First, there may be a case for **transitory protection**, defined as policies to mitigate the impact of Chinese overcapacity on the manufacturing sectors of the importing countries. China's export surge is analogous to (and accompanied by) a real appreciation of the importing country that will eventually recede. This must not be allowed to lead to the loss of skills, technologies, and capital that would remain competitive after the surge is over.<sup>8</sup> Importantly, this argument does not justify permanent protection. Furthermore, no amount of protection will shield domestic producers from Chinese competition in export markets.

Second, policies should support the **transition to the 'new world'** in which China has both caught up and rebalanced. In that new steady state, continued protection is inefficient: sectors in which China has caught up and surpassed the old industrial powerhouses should have exited or transformed themselves. The question is what will take their place. Export-oriented advanced countries will need to discover new comparative strengths – preferably in industrial and services sectors that are associated with learning, innovation, and agglomeration externalities, and hence high growth.

Third, whatever policies are adopted to mitigate overcapacity and guide the economy to new areas of comparative advantage should be consistent with the **preservation of rules-based trade**. In the new steady state, trade will remain an essential motor of growth. Emerging and developing countries will eventually catch up with China in manufacturing, while advanced countries will be looking for niches at the technology frontier. Emerging and developing countries will need export markets. Advanced countries, and Europe in particular, will need both export markets and competitively priced intermediate goods – particularly energy-intensive intermediate goods (McWilliams et al., 2025). Hence, none of these 'growth models' will work without trade.

The trouble is that there are tensions between these objectives. They come in two stripes.

- **Trade protection and industrial policies meant to facilitate structural transformation could in fact hinder it**, permanently damaging industrial competitiveness. This would be the case if (i) protection and/or industrial policy meant to promote old sectors keeps firms and sectors alive that are not competitive in the new regime, rather than allowing their orderly exit; or (ii) protection reduces the incentives of firms to upgrade and innovate, accelerating their loss of market share in export markets. Such policies amount to 'negative industrial policy' for the sectors and firms that should be leading future growth.
- **The desire for protection may lead to policies that destroy rules-based trade**. The United States already crossed that Rubicon in the first Trump administration, did not reverse course in the Biden administration, and is currently in the middle of its most aggressive attack. China has been harming the

8 The argument for this is analogous to the case for exchange rate management made in Paul Krugman's classic 1987 paper on "The Narrow Moving Band, the Dutch Disease, and the Competitive Consequences of Mrs. Thatcher". In the presence of a learning-by-doing externality, a large real appreciation can lead to permanent de-industrialisation.

industrial sectors of its trading partners through its subsidies-based investment promotion. If Europe and other advanced countries take the same approach, what remains of the multilateral trading system will fragment. Putting it back together could take decades.

To avoid these pitfalls, countries seeking to reconcile the three objectives described should give priority to a strategy that (1) embraces policies that avoid the trade-offs described above by design; (2) focuses industrial policy on technology adoption and/or on innovation in areas of comparative strength; (3) makes structural change less costly; (4) encourages Chinese FDI in areas where China is clearly ahead; (5) uses trade defence instruments and industrial policies that stay within WTO rules, preferably in coordination with other countries that are hurt by Chinese overcapacity; and (6) avoids “Made in Europe”-type policies and instead promotes new trade partnerships that reduce import dependence on China.<sup>9</sup>

1. **Push no-regret policies.** Reforms that improve skills, expand markets, reduce regulatory burdens, improve infrastructure, reduce energy costs, improve access to finance, and improve the incentives to experiment and innovate will both help the existing industry to survive Chinese competition and support new entrants and structural change in the direction of comparative advantage.
2. **Allocate subsidies competitively, based on technological and commercial promise and consistency with high-level strategic objectives.** High-level objectives could include the green transition or security. Deciding what is commercially promising requires judgement by skilled and accountable individuals, operating within a transparent institutional framework (such as a development bank or an agency akin to the US Defense Advanced Research Projects Agency).
3. **Make structural change less costly.** For societies to survive large trade-related shocks, individuals that lose their jobs must be able to move geographically and/or re-skill. The state can support both. When the ‘Quartz crisis’ hit the Swiss watchmaking industry in the 1970s, it destroyed about 2% of Swiss jobs and had massive local impacts (Twinam, 2022), but did not seriously set back aggregate employment, in part due to mobility.
4. **Invite Chinese FDI.** Subject to appropriate security screening,<sup>10</sup> Chinese FDI should be encouraged, particularly in areas in which China is ahead. Chinese competition from *within* countries or trade blocs that use protection against China will put pressure on domestic companies to do better or exit, and build skills that can be transferred to other companies and sectors.

9 The catalogue of principles that follows draws from Autor and Hansen (2025), McWilliams et al. (2025), and Bercero et al. (2026).

10 See, for example, “Commission proposes new initiatives to strengthen economic security”, European Commission press release, 24 January ([https://ec.europa.eu/commission/presscorner/api/files/document/print/en/ip\\_24\\_363/IP\\_24\\_363\\_EN.pdf](https://ec.europa.eu/commission/presscorner/api/files/document/print/en/ip_24_363/IP_24_363_EN.pdf)).

5. **Use WTO-consistent safeguards rather than discriminatory tariffs.** ‘Safeguards’ are temporary trade defence instruments<sup>11</sup> – including tariffs, quotas, or a combination of both – in response to a surge in imports causes or threats to cause serious injury to a specific industry. Under WTO law, they can be imposed for four years and extended to a maximum of eight years. Unlike discriminatory tariffs, which are generally prohibited under WTO law, they apply to all suppliers; and unlike countervailing duties, they do not require lengthy investigations into foreign subsidies. At the same time, they can be designed in a way that mainly impacts the supplier whose imports have surged (by setting a quota based on pre-surge import levels together with a tariff for imports above that quota).
  
6. **“Made *with* X” rather than “Made *in* X”.** “Made in X” policies (insert your domestic jurisdiction here) that condition government subsidies on sourcing within the local jurisdiction are counterproductive. They violate WTO rules, upset like-minded trading partners, and make it harder for domestic companies to remain competitive. They should be replaced by “Made *with* X” policies promoting new trade partnerships, including through government procurement. “Buy European” procurement policies do not make sense for similar reasons – though a policy not to procure specifically from China could make sense and would be consistent with WTO rules.<sup>12</sup>

## 6 CONCLUSION

Global imbalances today are different from earlier episodes. Unlike past periods, they are unfolding against a backdrop of elevated public and private debt, large gross external positions, and geopolitical fragmentation. Risks thus extend beyond ongoing trade tensions: financial stability vulnerabilities are material, and strains on the rules-based trading system threaten medium-term prosperity across both advanced and emerging economies.

The first-best response remains coordinated rebalancing among the systemic economies. In the United States, credible medium-term fiscal consolidation would raise national saving, reduce reliance on foreign financing, and place public debt on a more sustainable path. In China, a durable shift away from investment in tradables and export-led growth toward household consumption – supported by stronger social safety nets, reoriented local government incentives, and balance sheet repair – would lower excess saving and moderate external surpluses. In Europe, higher and more productivity-enhancing investment, combined with deeper market integration and structural reform, would absorb savings and narrow the aggregate surplus.

11 Article XIX of the General Agreement on Tariffs and Trade (GATT), as well as the (more specific) 1994 Agreement on Safeguards, annexed to the WTO treaty.

12 China is not a signatory of the WTO government procurement agreement.

Taken together, such adjustments would reduce current account imbalances at their domestic source and lower the risk of destabilising spillovers. At the same time, flow adjustment alone would not eliminate financial vulnerabilities. Large external balance sheets, valuation risks, and concentrated exposures imply that even orderly rebalancing must be accompanied by stronger buffers and more robust financial oversight.

Absent coordination, countries will need to rely on contingent strategies: building resilience to adverse US-centred financial scenarios, preparing for both dollar liquidity shortages and disorderly exchange rate movements, mitigating the temporary effects of Chinese overcapacity without entrenching permanent protection, and reinforcing multilateral mechanisms for crisis management. Closer cooperation among central banks and international financial institutions would be critical in this context.

Ultimately, the choice is between gradual, policy-led adjustment and disorderly correction under stress. Addressing domestic distortions that give rise to external imbalances is in each country's own interest. In a world of high leverage and weakened trust, imbalances are unlikely to unwind smoothly. They are more likely to correct through financial stress, protectionist escalation, or both. The costs of such an outcome – lower growth, fragmented trade, and impaired financial stability – would be substantial and widely shared.

Finally, it is important to recognise that the global economy has already undergone an irreversible structural shift. The decline in manufacturing employment across advanced economies has been broad-based, reflecting deep forces of technological change and structural transformation. Rebalancing or not, China is likely to remain the dominant global exporter of manufactured goods – including sophisticated products – and to exceed traditional industrial leaders in economic size. China's move up the value chain and toward services may create opportunities for lower-wage developing economies that succeed in upgrading skills and attracting investment, but it presents significant adjustment challenges for advanced manufacturing exporters. Policy in advanced economies should therefore support reallocation rather than attempt to preserve legacy sectors. Industries in which China has established a durable comparative advantage will need to exit or transform while new strengths are developed, preferably in activities associated with innovation, learning, and agglomeration externalities. Efforts to address overcapacity and guide this transition must remain consistent with rules-based trade. Failure to acknowledge the structural nature of these changes and excessive emphasis on protection will undermine long-term growth for all.

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# Global imbalances: Current state and scenarios for the path ahead

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## 1 INTRODUCTION AND SUMMARY

In the context of major trade and geoeconomic tensions, the issue of global imbalances has once again come to the fore. The US current account deficit reached 4.6% of GDP in 2025H1, the highest level since before the Global Financial Crisis (GFC), while China's 2025 trade surplus in goods reached almost US\$1.2 trillion based on customs data – up from \$637 billion in 2021, and just \$421 billion in 2019. Reflecting this, French President Emmanuel Macron talked about “unbearable imbalances” on a trip to China in late 2025.

This chapter takes stock of the current state of global imbalances, looking at flows (the current account) and stocks (external assets and liabilities). In doing so, it touches on some important measurement issues that affect the assessment, including offshore contract manufacturing and profit shifting. It also puts the current state in the context of what we saw before the GFC and examines major exchange rate trends. Finally, it presents some scenarios for how imbalances could evolve going forward given the dynamics associated with frontloading of exports to the United States in 2025H1 ahead of the planned implementation of US tariffs, and the broader dynamics of savings and investment.

The main findings are as follows:

1. Global current account balances increased markedly in 2024 after a long decline before the pandemic. While they are still well below the 2006 peak, including when looking at trade balances only, net international investment imbalances (i.e., the net international investment position, or NIIP) have widened since the mid-2000s given the persistence of deficits and surpluses, and valuation effects.

<sup>1</sup> I would like to thank Costanza Greppi Maturana (Bruegel) for excellent research assistance. I am also grateful to the editors, Gian Maria Milesi Ferretti and other contributors to the report for helpful comments and suggestions. This chapter was written before I joined AMRO. The views expressed are mine and do not necessarily represent those of AMRO or its member authorities.

2. The G3 (the United States, China, and the euro area) drove the widening in current account balances in 2024, with the United States and China continuing the divergence in 2025H1. Frontloading of exports to the United States ahead of scheduled tariffs was likely behind some of the continued divergence in 2025H1, China's trade surplus has continued to grow through the rest of 2025, although the US current account deficit has shrunk substantially since 2025Q1.
3. Exchange rates are also diverging. Notwithstanding the depreciation since January 2025, the dollar remains highly appreciated by historical standards. The euro is also at its most appreciated since 2014, while the renminbi is at its most depreciated since 2012.
4. While the IMF External Balance Assessment (EBA) methodology only points to "moderate imbalances" in the G3, trends in China and the United States raise concerns. Measurement issues mean the 2024 Chinese current account surplus could potentially be up to double the official estimate of 2.3% of GDP. And the official surplus continued to grow to 3½% of GDP in 2025Q1-Q3. While the US current account deficit is about 2% of GDP less than the 2006 peak, the non-energy goods deficit is higher than back then and the primary income balance has turned into a deficit. Both relate to large and sustained fiscal deficits.
5. The US NIIP is also in uncharted negative territory (-90% of GDP), which is a particular concern given the centrality of the United States and the dollar to the global economy and the international monetary system. The concern of abrupt adjustment relates less to foreigners' holdings of US equities and more to the large foreign holdings of US Treasuries and limited likelihood of fiscal adjustment. A sustained FX risk premium shock would reverberate around the world – and we got a taste of this in April 2025.
6. While a scenario in which global current account imbalances narrow can be envisaged (e.g., the October 2025 IMF World Economic Outlook baseline), other scenarios in which they widen towards pre-GFC levels cannot be ruled out. This could be related to an AI boom in the United States widening the private savings–investment imbalance, or weaker domestic demand in China combined with further renminbi depreciation and a continued widening of China's competitive edge in growing new sectors such as electric vehicles (EVs). To the extent that the former leads to higher US productivity, it would be a positive development. But the latter would be of concern and likely lead to further trade tensions, as we are seeing in the current debate over EU "Made in Europe" targets. In the other direction, a reduction in global current account imbalances caused by a material US recession would likely be negative for the global economy. So, the reasons behind changes in current account imbalances are crucial in determining the welfare effects and the impact on trade and geoeconomic tensions.

## 2 HOW DO WE MEASURE GLOBAL IMBALANCES AND WHY DO THEY MATTER?

External imbalances are measured by looking at flow and stocks. While much commentary and polemic surround the size of trade balances, typically a broader flow concept is examined: the current account balance of a country. The main stock statistic is the net international investment position of a country. By looking at the composition of current account balances across countries – which countries are in deficit, which countries are in surplus, and by how much – and the evolution of international investment positions – studying gross assets and liabilities and not just net positions – one can create a picture of global imbalances.

But why do they matter? Current account surpluses or deficits may well be desirable. For example, countries at an earlier stage of development will likely benefit from an influx of foreign capital and associated knowhow. So, the key judgement is whether imbalances have become ‘excessive’.

Certainly, countries with large current account deficits could run the risk of losing market access, forcing an abrupt and painful compression of imports, as we have seen countless times in countries suffering a balance of payments crisis over the years. And if the country with large deficits is at the centre of the global trade and financial system – such as the United States – then the spillovers from a rapid current account or currency adjustment would be truly global and likely large.

Excessive current account surpluses can also lead to major spillovers. They can put downward pressure on global interest rates, causing other countries to borrow and spend more, implying potentially excessive deficits. Some analysts have suggested that the global savings glut before the GFC led to such effects (Bernanke, 2005). And growing current account surpluses in systemically important countries can raise trade tensions in countries receiving the imports if their domestic industries are perceived to have unfairly lost out consequently. The recent US tariffs on goods imports and the EU tariffs on Chinese EVs are examples of the consequences of such tensions. The ongoing discussions within the European Union on “Made in Europe” targets also reflect these tensions, particularly perceptions of unfair competition from China.

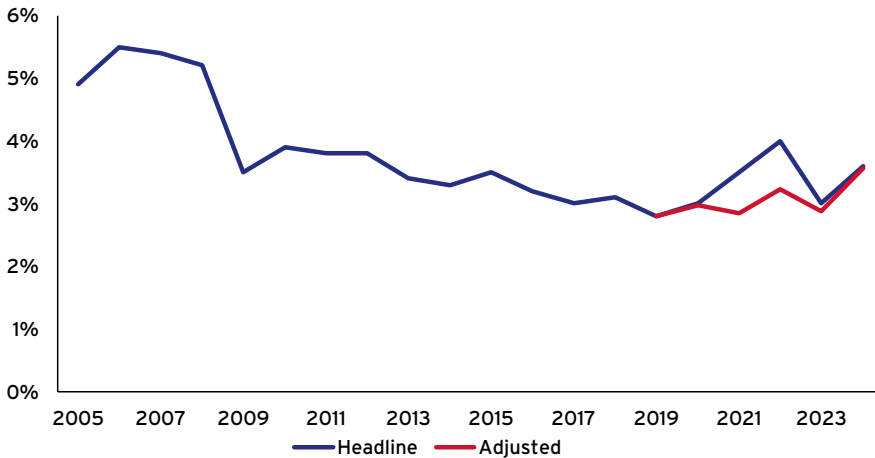
Clearly, deciding whether imbalances are excessive or not is multifaceted and far from simple. In this chapter we will discuss some of the metrics that have been used (for example, in the IMF’s External Balance Assessment), but we will also importantly dig into the reasons behind the imbalances. It is these reasons that will drive the judgement on whether the imbalances are of major concern or not. For example, a sustainable investment boom that leads to productivity and stock market valuations going up would, in general, be a good thing even if the current account deficit temporarily increases. But if the increase is due to an unsustainable deterioration in the public savings investment balance, that would be of greater concern.

### 3 CURRENT ACCOUNT IMBALANCES

#### 3.1 Helicopter view since before the GFC

A good way of summarising the evolution of current account balances over time is to sum up the absolute values of current account balances across the globe and normalize by world GDP. That is what we do in Figure 1.

FIGURE 1 GLOBAL CURRENT ACCOUNT BALANCES (% OF WORLD GDP)

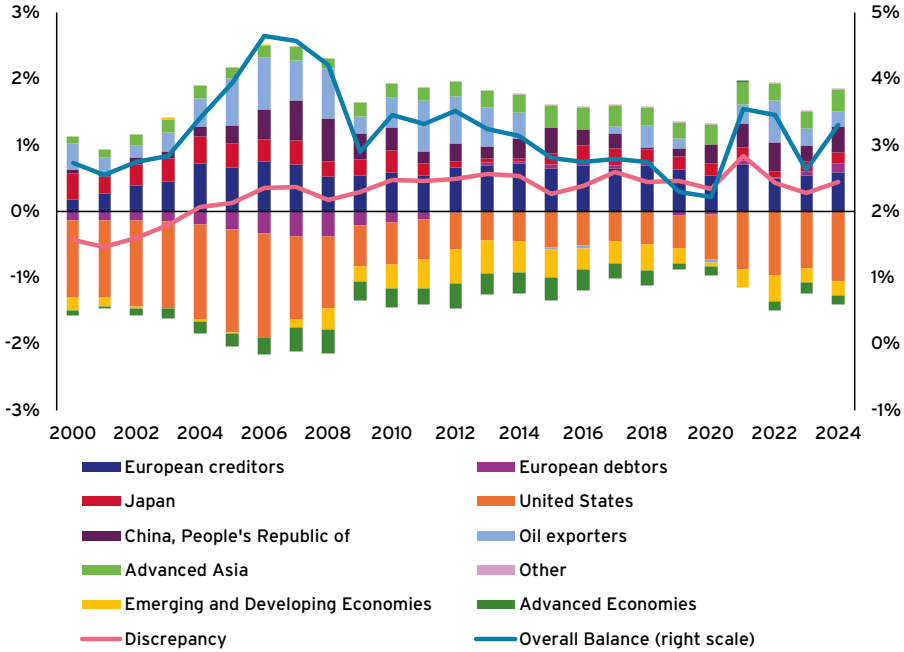


Source: IMF (2025a).

Global current account balances were on a long decline from a peak in 2006 of 5½% of world GDP through to 2019, with an acceleration during the GFC. The pandemic and the war in Ukraine did see a significant uptick, but if we follow the IMF's adjustment for these one-off events (orange line in Figure 1), then then this uptick largely goes away. The year 2024, however, registered a sizeable increase in global current balances of 0.6% of GDP to 3.6% of GDP. While still significantly below the pre-GFC peak, a key question is whether this is the start of another sustained surge in global imbalances or not.

Looking at the country dynamics underpinning the trends in global current account balances helps provide some colour (Figure 2).

**FIGURE 2 GLOBAL CURRENT ACCOUNT SURPLUSES AND DEFICITS (% OF WORLD GDP)**



Note: Discrepancy is the deviation of the sum of all countries' balances from zero. Overall balance is the sum of absolute values of current account surpluses and deficits.

Source: Bruegel based on IMF (2025c).

When global current account balances peaked in 2006, particularly high absolute balances were registered in the United States, oil exporters,<sup>2</sup> and European creditors (-1.6%, 0.8%, and 0.8% of global GDP, respectively). After joining the WTO in 2001, China's current account surplus was still growing in 2006 and peaked as a share of global GDP in 2008 (at 3% of global GDP). Advanced Asia's contribution (excluding China and Japan) has gradually grown over time (to 0.3% of global GDP in 2024), while that of Japan has shrunk (to 0.2% of global GDP in 2024). The GFC saw a major decline in the absolute balances for China and the United States as domestic demand and trade collapsed, while the oil exporter surplus plummeted in line with oil price dynamics.

Following the sustained decline post-GFC and pre-pandemic, the data for 2024 suggest there has been a subsequent significant rise in global current account balances once you look through the noise created by the pandemic and the war in Ukraine. Relative to 2019, surpluses have gone up considerably for China and the euro area, while the deficit has doubled for the United States (from -0.5% of global GDP to -1%).

When compared to the 2006 peak, the big change now is in a lower (albeit still large) US current account deficit and a much lower oil exporter surplus (0.3% of global GDP). The latter is volatile as it moves in tandem with oil prices (explaining the surge in the 2022 surplus). China's current account surplus has fallen from nearly 10% of GDP in

2 See Appendix A for the list of country groupings.

2007 to 2-4% of GDP, depending whether balance of payments or customs data is used (IMF, 2024) – an issue we will return to in Section 3.4 on measurement problems. But as China has grown tremendously since 2007, this still translates into a substantial surplus in terms of global GDP (0.4% in 2024 versus 0.6% in 2007). Japan's surplus has roughly halved in the post-GFC period.

One region that has added to the global current account balance now relative to pre-GFC is the euro area. Pre-GFC, euro area debtor countries (Cyprus, Greece, Ireland, Portugal, and Spain) ran large current deficits that were offset by surpluses of euro area creditor countries (Austria, Belgium, Finland, Germany, Italy, Luxembourg, the Netherlands, and Slovenia). Since the European sovereign debt crisis and the large demand adjustments that debtor countries had to make, there has been a dramatic turnaround in their current account positions, with many now running surpluses (e.g., Portugal and Spain). As the European creditor countries have still been running sizeable surpluses, the overall euro area balance has now swung into registering significant current account surpluses (0.4% of global GDP). Darvas et al discuss the current account dynamics of the euro area (and European Union more broadly) in more detail in their chapter in this report.

It is worth noting that, contrary to the narrative that some have of an 'uphill flow of capital', emerging markets and developing economies (EDMEs) have run significant deficits in aggregate. The discrepancy line in Figure 2 represents the measurement error in the balance of payments statistics. Essentially, over the last 20 years the positive discrepancy is telling us that the sum of current account surpluses is greater than the sum of current account deficits.

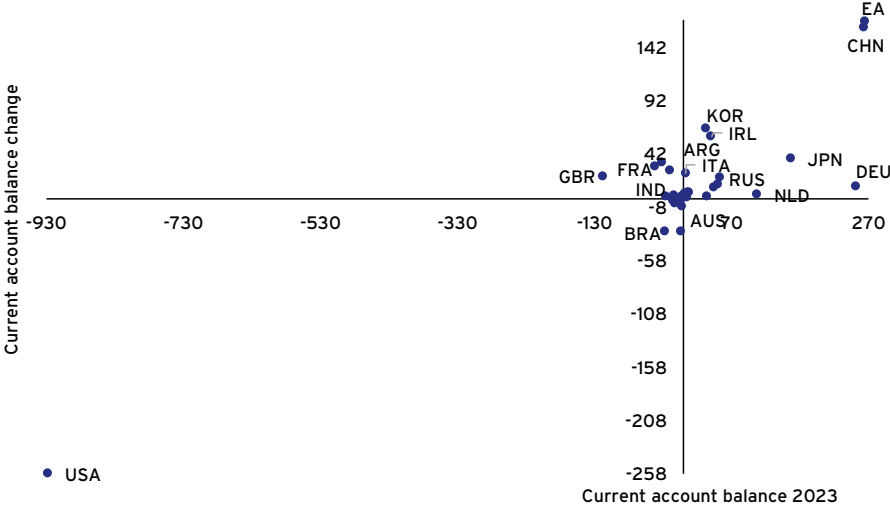
### 3.2 Current account balance changes in 2024 and 2025

The changes in 2024-2025 show how the G3 have been driving increasing current account balances. Figures 3a and 3b show, respectively, the current account balance changes in 2024 and 2025H1 versus the levels in the previous year across countries. Figure 3a shows clearly that the country with the biggest current account deficit in 2023 (the United States) had the largest deficit increase. At the same time, the country groups with the biggest surpluses in 2023 (China and the euro area) registered the largest surplus increases.

In 2025H1, the United States and China continued their divergent paths, while the euro area current account surplus shrunk. The US current account deficit was 4.6% of GDP in the first half of 2025, one percentage point wider than in 2024H1, mainly reflecting an increase in goods imports. The euro area current account surplus stood at 2% of GDP in the first half of 2025 compared with over 3% during the same period in 2024, largely because of lower primary income. Some of the euro area decline reflected developments in Ireland, which engender a lot of volatility in euro area current account

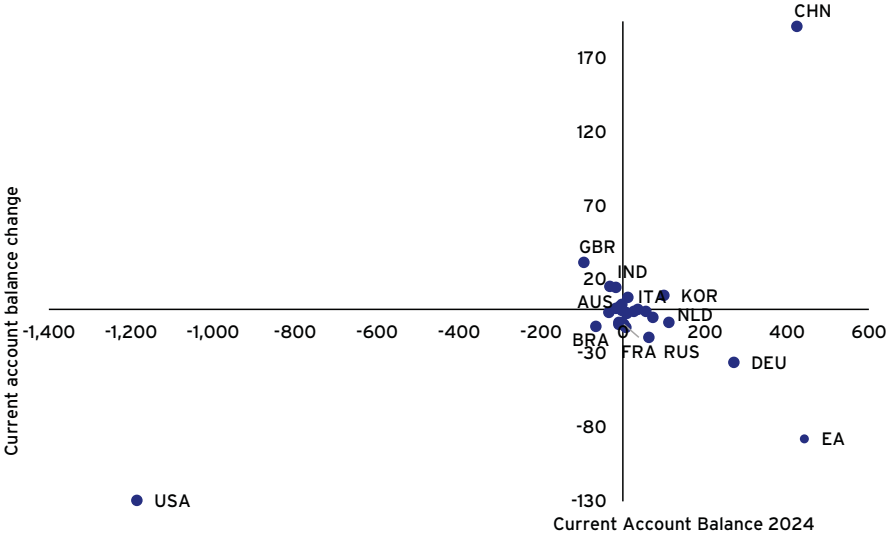
data and are an issue we will come back to when discussing measurement problems in Section 3.4. Current account surpluses stood at 3 % of GDP in China and 4.4% of GDP in Japan, which are larger than in the same period of 2024 and when compared with historical averages during 2013–24.

FIGURE 3A CHANGE IN 2024 RELATIVE TO 2023 LEVELS (US\$ BILLIONS)



Source: Bruegel based on IMF (2025c), Balance of Payments (BOP) dataset.

FIGURE 3B CHANGE IN 2025H1-2024H1 RELATIVE TO 2024 LEVELS (US\$ BILLIONS)



Source: Bruegel based on IMF (2025c), Balance of Payments (BOP) dataset.

The Chinese trade surplus has grown even further beyond 2025H1. Balance of payment data for 2025Q3 show that the current account surplus reached \$195.6 billion (about 4% of Q3 GDP), nearly \$50 billion more than a year ago and significantly above the average for 2025H1. This was driven by an increase in the goods surplus. This means that, at 3½% of GDP, the official Chinese current account surplus during 2025Q1-Q3 was almost double the surplus over 2024Q1-Q3. Looking at higher frequency customs data, China's trade surplus reached almost \$1.2 trillion in 2025 (about 6% of GDP). This represents a monthly average of \$100 billion versus about \$80 billion in 2024. Export growth was particularly strong to ASEAN and the European Union, while unsurprisingly there was a sharp drop in US exports.

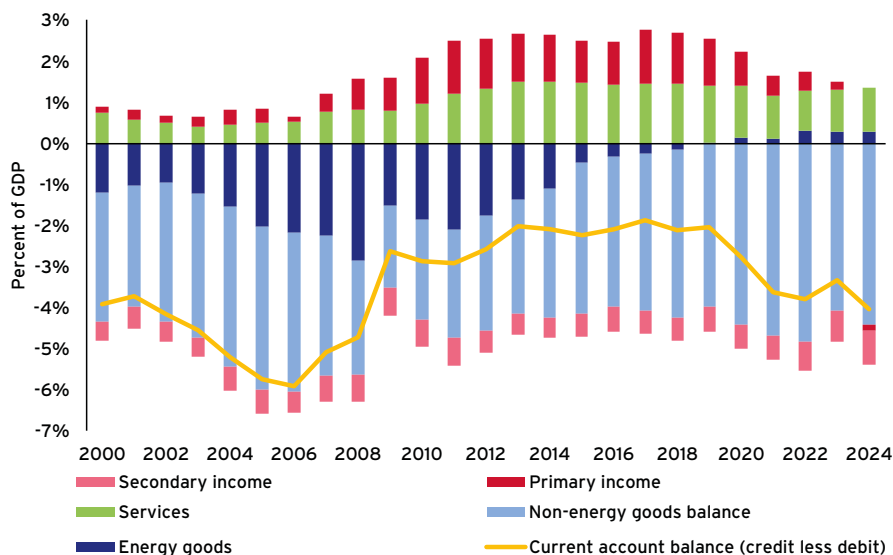
The United States and the euro area, however, saw different trends in 2025Q3. The US current account deficit shrunk to 2.9% of GDP, while the euro area surplus declined to 1.2% of GDP. This left the US cumulative current account deficit over 2025Q1-Q3 at just higher than during 2024Q1-Q3 (4% versus 3.8% of GDP). For the euro area, comparing the same periods, the surplus shrunk from just below 3% to 1.7% of GDP. The pattern in 2025 is of course influenced by the frontloading of exports to the United States ahead of the imposition of US tariffs. But clearly, the picture described above suggests that tariffs were not the only explanation, given China's surplus increased while the US deficit decreased in 2025Q3. We will come back to these trends when discussing scenarios for 2026 and beyond.

### 3.3 Peeling the onion of current account trends through 2024

The composition of current account balances clearly matters for how imbalances are likely to develop going forward. Other chapters in this report (by Darvas et al.; Milesi Ferretti; and Ma and Wei) take a deeper dive into the trends in each of the G3; here we simply take a snapshot of the G3 and Japan.

For the United States, while the current account and trade deficits peaked in 2006, the recent trends are certainly a source of concern (Figure 4). The shale revolution has led to a dramatic turnaround in the energy balance, which has gone from a significant deficit pre-GFC (2.2% of GDP in 2006) to a surplus now. If we strip out the energy balance, we can see that the non-oil trade deficit is higher now than in 2006 (4.4% of GDP in 2024 versus 3.9% in 2006). Moreover, the primary income balance deteriorated from a significant surplus (above 1% of GDP pre-pandemic) to a deficit for the first time in 2024, a trend which continued through 2025Q3. With an ever-increasing amount of external fixed income debt and relatively high interest rates in the United States, this should come as no surprise. And we are unlikely to see a significant turnaround anytime soon.

FIGURE 4 US CURRENT ACCOUNT COMPOSITION



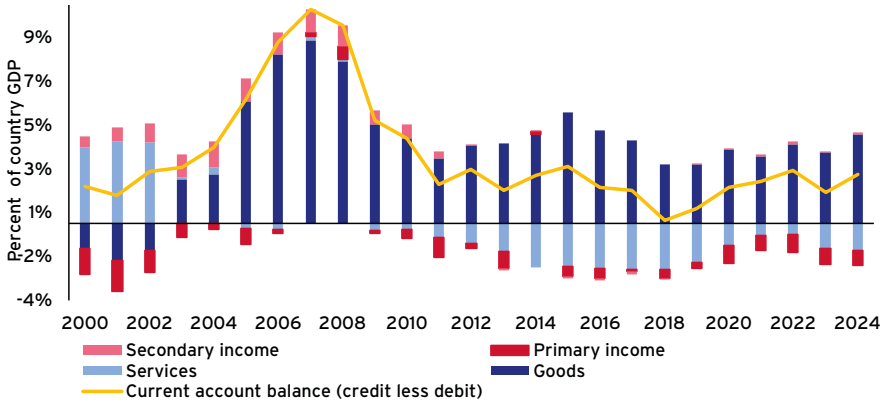
Source: Bruegel based on International Monetary Fund, Balance of Payment (BOP).

China's large overall current account surplus (2.3% of GDP in 2024) reflects an even larger goods surplus (4.1% of GDP in 2024), partially offset by a services deficit and a primary income deficit (Figure 5). As we will discuss in the next section, however, there are some measurement issues surrounding the goods and primary income balances.

In the case of the euro area (Figure 6), as discussed earlier, the overall current account went into significant surplus (peaking at 3.4% of GDP in 2017) once the European debtor countries unwound their external balances following the European sovereign debt crisis. Both the trade and primary income balances have been registering surpluses, although the latter can be volatile depending on profit repatriation flows from Ireland to the United States (as can the services balance depending on intellectual property royalty payments going in the other direction).

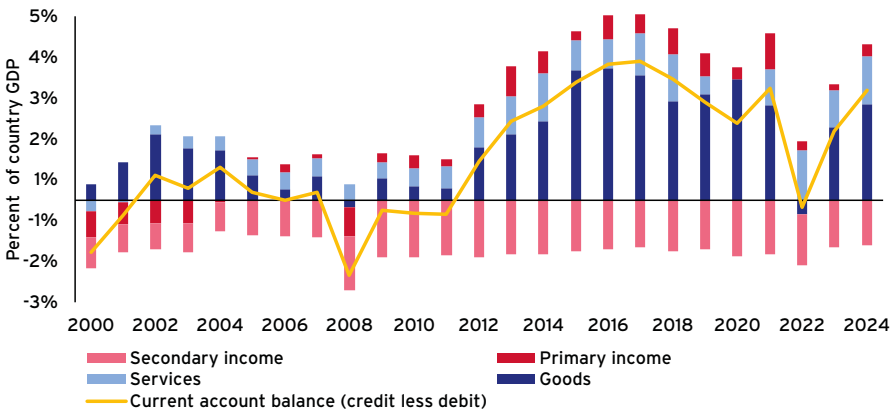
Japan is still running significant current account surpluses (4.8% of GDP in 2024), but the composition has changed over the years (Figure 7). The goods balance has gone into deficit (the services balance has always been in deficit), while the primary income surplus continues to grow given Japan's sizable NIIP (6.7% of GDP in 2024). And the latter has gone up significantly post-pandemic given the rise in global interest rates.

FIGURE 5 CHINA'S CURRENT ACCOUNT COMPOSITION



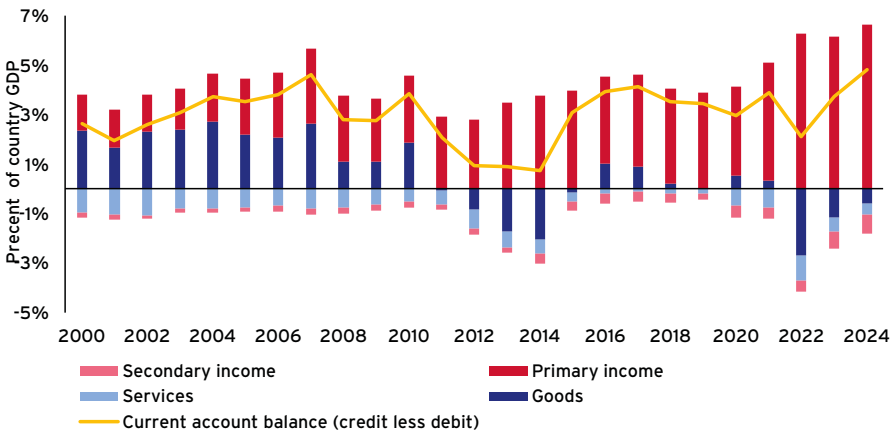
Source: Bruegel based on International Monetary Fund, Balance of Payments dataset (BOP).

FIGURE 6 EURO AREA CURRENT ACCOUNT COMPOSITION



Source: Bruegel based on International Monetary Fund, Balance of Payments dataset (BOP).

FIGURE 7 JAPAN'S CURRENT ACCOUNT COMPOSITION



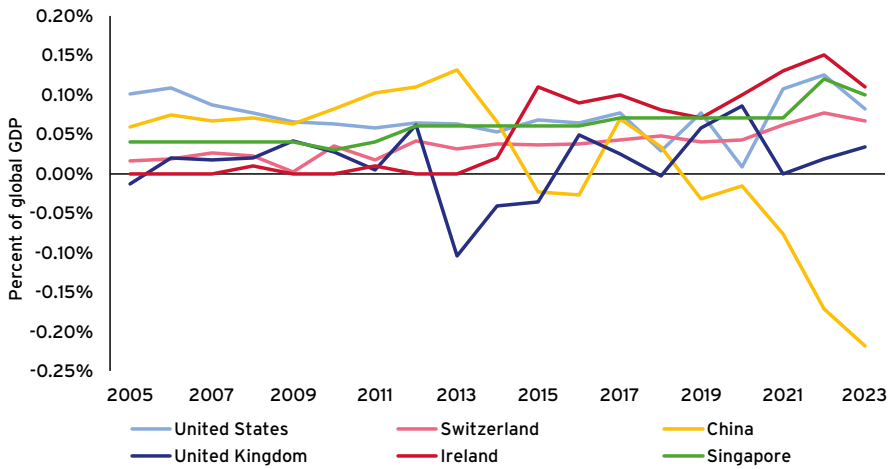
Source: Bruegel based on International Monetary Fund, Balance of Payments dataset (BOP).

### 3.4 Current account measurement Issues

There are some important measurement issues to consider when interpreting the current account data described in earlier sections.

The IMF's 2025 External Sector Report (IMF, 2025a) discusses some issues related to China's current account data. One concerns the difference between balance of payments (BoP) and customs data when production arrangements and corporate structures become complex. This goes beyond China (notable other country accounts impacted include the United States, the United Kingdom, Ireland, Singapore and Switzerland). But as the 2025 External Sector Report shows, the biggest discrepancy between BoP and customs data currently relates to China (Figure 8).

FIGURE 8 CUSTOMS-BOP TRADE BALANCE ADJUSTMENTS



Source: IMF (2025a).

Setser and Weilandt (2025) note a particularly large difference between BoP and customs data in China for 2025Q2, arguing that if one used China's pre-2021 customs-based BoP methodology, the country's current account surplus in the four quarters through 2025Q2 would be about 5% of GDP.

As factors such as merchanting, goods-for-processing and factoryless manufacturing (offshore contract manufacturing) have increased over the years, the complexity of adjusting customs data (measuring the physical movement of goods across borders) to the BoP concept (considering changes of ownership between residents and nonresidents) has increased beyond the traditional adjustment for transport and insurance.

An example of the complexity is the case of iPhones. The point at which ownership is transferred between contractors and Apple during the production process matters and is somewhat ambiguous given lack of visibility into the contracts. This leads to different treatment of iPhone exports in the BoP accounts of China and the United States. As discussed in Bayoumi and Gagnon (2025), China only includes the cost of Chinese

assembly as a service export, while in the United States the finished product is treated as a goods import. This reflects China having migrated to the sixth edition of the IMF BoP manual (BPM6), which recommends recording offshore contract manufacturing in line with the ownership principle. Given the complexity of the adjustment and a lack of information, however, the United States has not implemented the change of ownership principle.

The 2024 IMF *Article IV Report for China* (IMF, 2024a) analyses in detail the differences between BoP and customs data for goods trade. It argues that recording of imports and exports related to global production arrangements (e.g., factoryless manufacturing) may explain a significant chunk of the widening gap between Chinese BoP and customs. In their chapter in this report, however, Mai and Wei suggest other reasons for the discrepancy. They argue that over-reported exports related to incentives to claim VAT rebates on exports, and under-reported imports as importing firms try to evade import tariffs that were raised to retaliate against US tariffs, can explain a large part of the increase in the discrepancy between customs and BoP data.

Turning to the primary income balance, questions have also been raised over recent Chinese trends. In particular, the IMF 2025 *External Sector Report* notes a sizeable decline in the implied yield on China's foreign assets, in contrast to the trend seen in the rest of the top ten largest economies in the world. The latter is consistent with the global rise in interest rates during 2022-24.

All the above creates a wide range for China's current account surplus depending what methodology and data are used. In 2024, the IMF put the surplus at 2-4% of GDP (IMF, 2024b), and both BoP and customs data show that the trade surplus has grown further in 2025.

As noted earlier, however, China is not the only country that faces measurement issues. Another prominent issue is profit shifting and the rates of return on direct investment. As Bayoumi and Gagnon (2025) note, this has been a major issue for US-based corporations. Profits are shifted away from the United States by understating goods and services net exports and overstating investment income in subsidiaries (Guvenen et al., 2022). These offset each other, however, and so do not have an impact on the overall current balance.

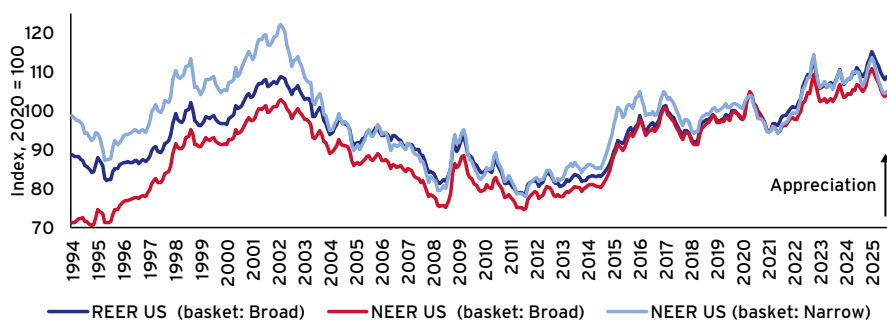
But as Bayoumi and Gagnon (2025) also argue, intellectual property (IP) depreciation can impact the quarterly pattern of current account balances. This is a known part of profit shifting among pharmaceutical and technology companies. The subsidiary in the low-tax jurisdiction buys IP from the parent, enabling the foreign subsidiary to book a larger share of group profits. This leads to significant volatility as IP payments are booked immediately as service exports while the income flows from the IP asset occur gradually over time.

Ireland is a clear case where this has created tremendous volatility in BoP accounts. Despite its small share of euro area GDP (3.7%), it saw the largest current account balance increase of any euro area country during 2024 (\$59 billion). This went into reverse in 2025H1, with profit repatriation from Ireland likely behind much of the primary income balance decline in the euro area (the overall income balance in Ireland worsened by over \$50 billion in 2025H1 relative to 2024H1).

#### 4 EXCHANGE RATE TRENDS

Dollar dynamics always receive a lot of attention, and this has certainly been the case since “Liberation Day” in early April 2025 when there were concerns that the United States would face an FX risk premium shock. Figure 9 shows dollar trends in effective terms since the mid-1990s. There have certainly been long swings. The dollar was on a long appreciation trend up until 2002, after which there was a sustained depreciation trend until the GFC. Importantly, the dollar depreciation in this period predated the blow out in the current account deficit pre-GFC, which indicates that other factors were driving the latter. Since the recovery from the GFC, the dollar has essentially been in another long appreciation phase, which peaked in January 2025. There has been a depreciation in real effective terms of about 7% since then, but that still leaves the dollar standing at around its 2002 peak (i.e., highly appreciated).

FIGURE 9 US DOLLAR EXCHANGE RATES

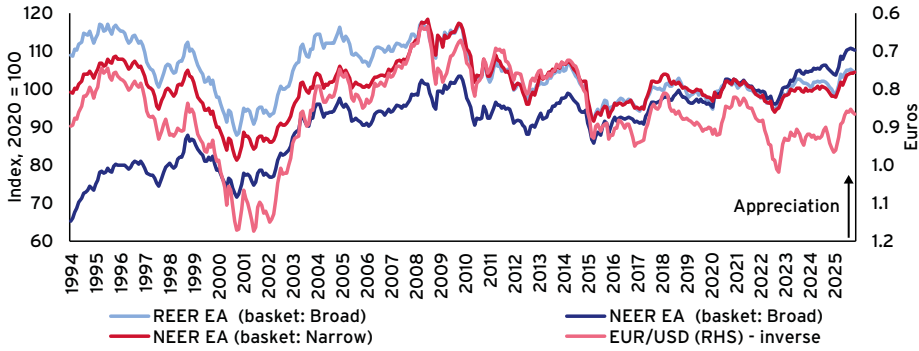


Note: Data for the US broad REER are unavailable for November 2025.

Source: Bruegel based on Bank for International Settlements, bilateral exchange rates, and effective exchange rates.

The euro has also appreciated significantly in real effective terms since the recovery from the sovereign debt crisis started in 2014, although the current account has remained in significant surplus (Figure 10). In broad nominal effective terms, the euro is at a historical high, although when using a narrow basket of advanced economy currencies, it is still significantly below the peak reached pre-GFC. Against the dollar, while having markedly appreciated since October 2022 (by over 15%), again the euro is still markedly below its pre-GFC peak.

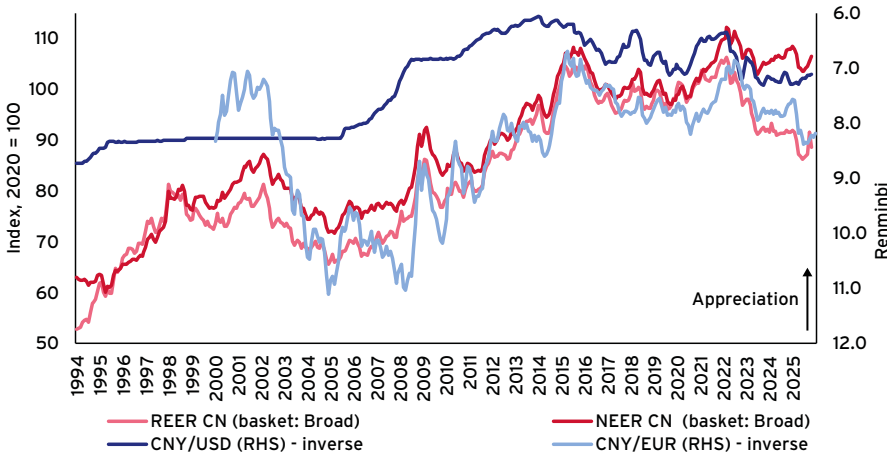
**FIGURE 10 EURO EXCHANGE RATES**



Source: Bruegel based on Bank for International Settlements, bilateral exchange rates, and effective exchange rates.

Turning to the renminbi (Figure 11), in effective terms, it was on a gradual and long appreciation trend from the mid-2000s to 2015. Another peak was reached in early 2022, after which there has been a depreciation of about 6% in nominal terms and nearly 20% in real terms. The recent depreciation in real terms has been more marked given relatively lower inflation in China versus its trading partners. Against the dollar, the renminbi has appreciated since January 2025 in line with other currencies, but to a lesser degree (around 3%).

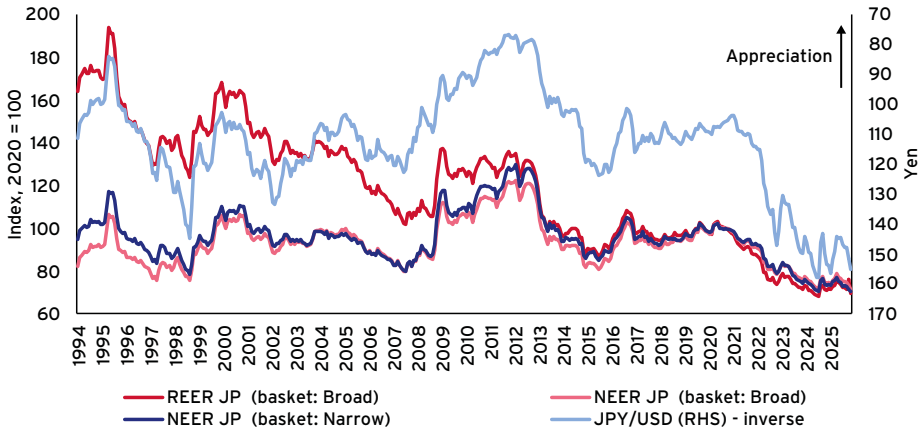
**FIGURE 11 RENMINBI EXCHANGE RATES**



Source: Bruegel based on BIS, Bilateral exchange rates and effective exchange rates, and European Central Bank.

The yen has generally been on a depreciating trend since the mid-1990s (Figure 12). This is especially clear when looking at the real effective exchange rate dynamics given low inflation.

FIGURE 12 JAPANESE YEN EXCHANGE RATES



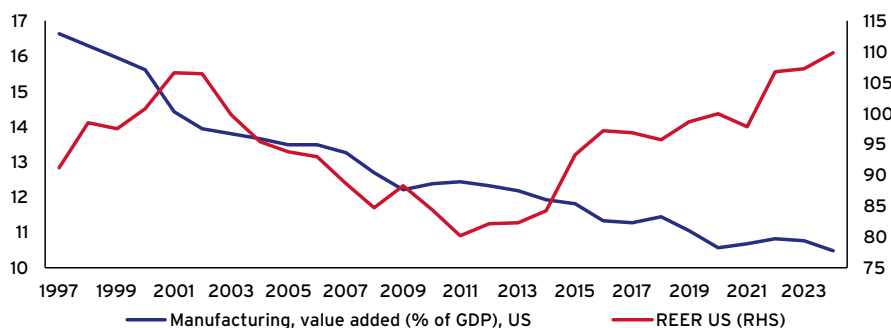
Source: Bruegel based on BIS, Bilateral exchange rates and effective exchange rate.

#### 4.1 Exchange rate dynamics and manufacturing

The fact that the dollar was depreciating in the mid-2000s while the US trade deficit was blowing out raises an important question about the relative importance of exchange rate movements in driving current account deficits. As Obstfeld (2025) notes, exchange rates are not a sufficient statistic for the trade balance, which can be driven by other factors including foreign demand and domestic spending. More generally, the shocks driving exchange rate movements are what will determine its impact on the trade balance. For example, the discovery of natural resources may lead to exchange rate appreciation and an increase in exports.

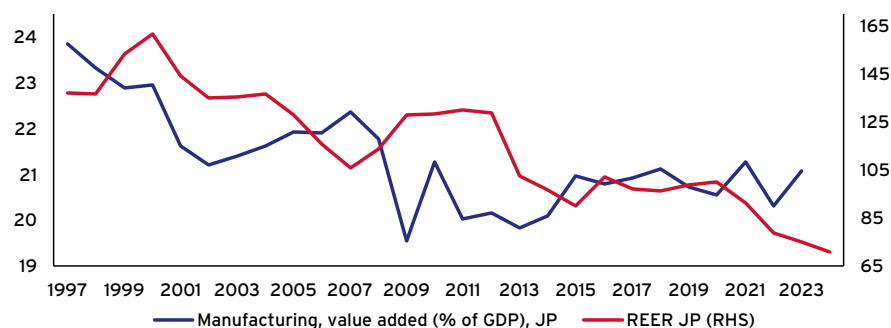
A natural question in the minds of many is whether dollar appreciation was a significant factor behind the contraction of the US manufacturing sector. Figure 13 looks at this issue by plotting the dollar real effective exchange rate (REER) against the share of the US manufacturing in GDP. There seems to be little relationship between the two. Essentially the manufacturing share of GDP has been on a secular decline since the later 1990s regardless of dollar depreciation or appreciation dynamics. A similar picture emerges for Japan: the yen has been on a secular real depreciation trend since late 1990s, yet the manufacturing share of GDP has continued to decline (Figure 14). Admittedly, much of this decline happened before 2010, but it does seem to confirm that structural drivers, including China’s entry into the WTO, have been significantly more important in driving the decline of manufacturing in advanced economies (Rowthorn and Ramaswamy, 1999; Autor et al., 2013).

**FIGURE 13 UNITED STATES: MANUFACTURING AND REER**



Source: Bruegel based on World Bank Development Indicators, BIS.

**FIGURE 14 JAPAN: MANUFACTURING AND REER**



Source: Bruegel based on World Bank Development Indicators, BIS.

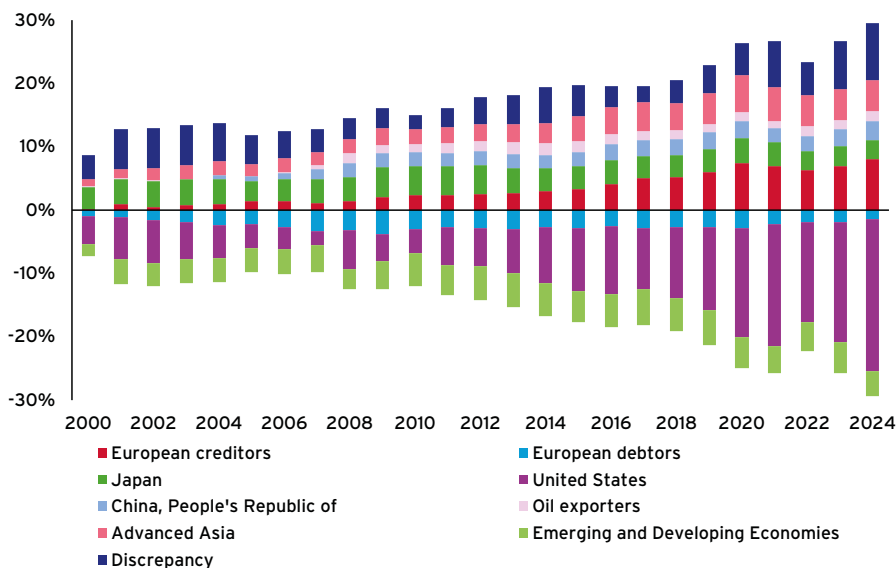
## 5 WHAT DOES ALL THIS MEAN FOR GLOBAL BALANCE SHEETS?

Current account surpluses and deficits translate into capital flows. This creates external assets and liabilities for countries. However, there is not a one-to-one mapping given valuation effects caused by asset price movements in the issuing currency and foreign exchange changes. Indeed, despite the reduction in global current account balances since the global financial crisis noted above, there has been a widening of global creditor and debtor positions (Figure 15).

Using the same country grouping as in Figure 2, on the debtor side most of the widening is driven by the US (-90% of US at end-2024). And as shown in the 2025 External Sector Report, this is not just because of large current deficits but also material valuation effects (Figure 16). The valuation effects reflect the tremendous rise in US stock prices and an appreciating dollar through January 2025. Indeed, the changing dynamics of valuation effects means that the United States’ ‘exorbitant privilege’ – higher returns on US external assets relative to its external liabilities – has effectively disappeared (Figure 17). This means that it can no longer run larger current account deficits without a meaningful deterioration in its NIIP, reversing the trend of the mid-2000s.

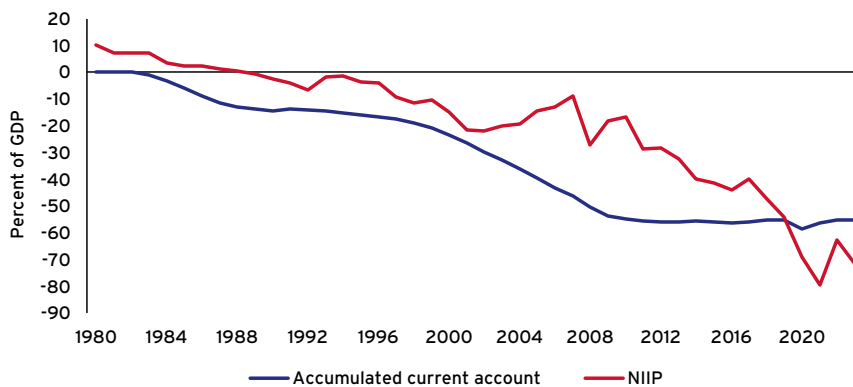
On the creditor side, the main counterparts have been advanced European and Asian countries, where net asset accumulation has been mainly driven by large current account surpluses. European surplus countries' net asset position as a share of global GDP has more than quadrupled to about 8% since the GFC, while that of European debtor countries has more than halved over the same period. Indeed, over ten years Italy has turned a significant net liability position to a net asset position. China and Japan have similar shares (around 3% of global GDP), although their trajectories have been different since the GFC: Japan's share has gradually declined, while China's share has gradually increased. China's increasing NIIP, despite its current account surplus having fallen as a share of domestic GDP since 2008, reflects its increasing share of global GDP. Within Asia, the "Advanced Asia" group has seen the biggest gains, with its NIIP more than doubling since the GFC to around 3.5% of global GDP.

FIGURE 15 NET INTERNATIONAL INVESTMENT POSITIONS (% OF WORLD GDP)



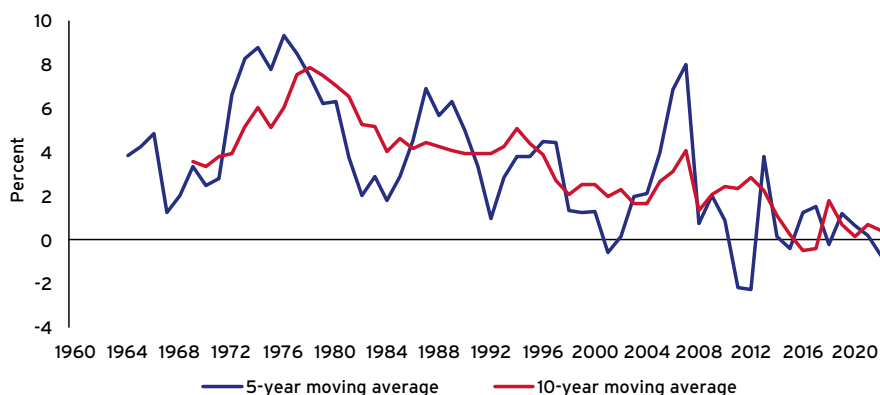
Source: Bruegel based on Milesi-Ferretti (2026).

FIGURE 16 US NIIP AND CUMULATED CURRENT ACCOUNT



Source: Bruegel based on Chapter 2 in IMF (2025a).

FIGURE 17 US EXCESS RETURNS ON GROSS EXTERNAL ASSETS AND GROSS LIABILITIES



Source: Bruegel based on Chapter 2 in IMF (2025a).

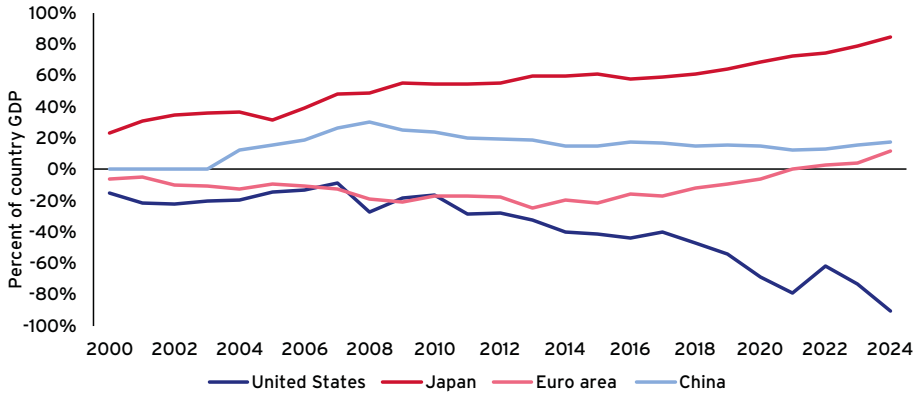
The discrepancy bar represents the measurement error in the IIP statistics. Since 2000, the discrepancy is telling us the sum of negative NIIP positions is greater than the sum of the positive positions. In other words, liabilities appear to be greater than assets. As discussed in Lane and Milesi Ferretti (2018), this likely reflects ‘missing assets’ in offshore financial centres. Milesi-Ferretti (2024) delves into this further, arguing that the equity discrepancy (i.e., cross-border portfolio equity liabilities being significantly larger than corresponding cross-border equity assets) arises primarily from equity holdings in Ireland, Luxembourg, and the United States. Differences in the methodology adopted for estimating the market value of foreign direct investment (FDI) also play a role.

In terms of valuation gains on the creditor side, gains on US assets have accrued mostly to countries with large equity and FDI positions in the United States, including most Anglo-Saxon countries (e.g., Canada) as well as countries with large sovereign wealth funds, including Norway and several oil exporters in the Middle East.

Zooming in on the latest data, external assets and liabilities as a percent of world GDP increased materially in 2024 relative to 2023 (by over 3.5% of global GDP). And the continued deterioration in the US NIIP is taking us into uncharted territory (Figure 18a). This is particularly clear when normalising by global GDP (Figure 18b). While measurement issues associated with the estimation of FDI positions in the United States may reduce the level of the negative US NIIP somewhat (Bayoumi and Gagnon, 2025; Milesi Ferretti, 2023), the size of US liabilities has undoubtedly risen sharply.

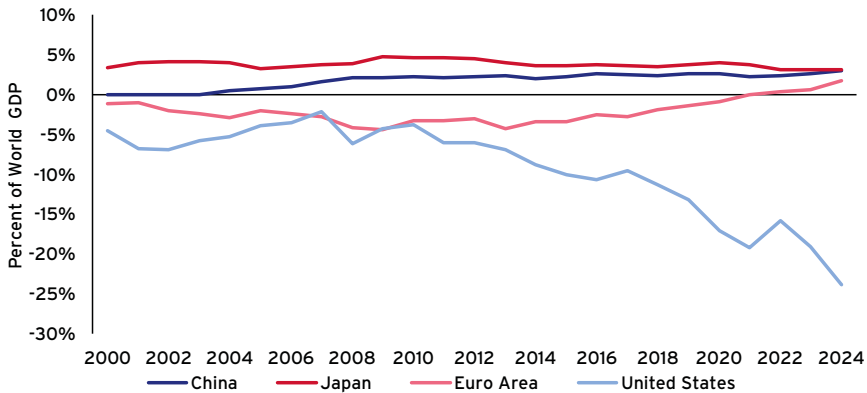
In the next sections, we will come back to the question of the extent to which the US external position poses risks, and how an adjustment process could unfold.

FIGURE 18A NET INTERNATIONAL INVESTMENT POSITIONS AS A PERCENT OF COUNTRY GDP



Source: Bruegel based on International Monetary Fund, World Economic Outlook and Balance of Payments and International Investment Position Statistics (BOP/IIP).

FIGURE 18B NET INTERNATIONAL INVESTMENT POSITIONS AS A PERCENT OF WORLD GDP



Source: Bruegel based on International Monetary Fund, World Economic Outlook and Balance of Payments and International Investment Position Statistics (BOP/IIP).

## 6 ARE IMBALANCES EXCESSIVE?

Determining whether imbalances are excessive or not is multifaceted and far from simple. There are various approaches, which we discuss below.

### 6.1 IMF External Balance Assessment

One approach is the External Balance Assessment (EBA) of the IMF (IMF, 2025a). The main workhorse of the EBA methodology is a model to produce medium-term current account benchmarks (“norms”) that are consistent with country fundamentals and desirable policies. These are used to produce current account gaps (the cyclically adjusted current account balance minus the norm). If the gaps are larger than +/- 1% of GDP, then a country will be assessed as stronger/weaker than implied by

fundamentals and desirable policies, with the degree depending on the size of the gap: “moderately stronger/weaker” (+/- 1% to +/-2%), “stronger/weaker” (+/- 2% to +/-4%), or “substantially stronger/weaker” (> +/-4%). A gap of < +/- 1% is considered “broadly in line” with fundamentals and desirable policies.

Essentially, IMF staff estimate regression models of current account balances to produce norms that reflect fundamental drivers of savings and investment (see Box 1 for more details on the EBA current account model). For example, economies with higher income and ageing populations typically have positive norms, whereas economies with younger populations and higher growth potential often have negative norms. Importantly, higher net foreign asset (NFA) positions lead to higher norms via their positive effect on primary income balances. The IMF norms also depend on desirable medium-term policies as judged by IMF staff. Moreover, adjustors are applied to both the norms and actual current account data to account for country-specific factors, including demographic factors, NIIP considerations, and measurement issues.

#### BOX 1 IMF EBA CURRENT ACCOUNT MODEL

A panel regression across 52 economies is the heart of the EBA current account model:

$$CA_{it} = \alpha + C'_{it}\beta + F'_{it}\lambda + P'_{it}\gamma + e_{it}$$

where  $CA_{it}$  is the current account balance to GDP ratio,  $C_{it}$  is a matrix of cyclical and temporary factors (output gap, commodity terms-of-trade interacted with trade openness, change in the REER);  $F_{it}$  is a matrix of medium-term macroeconomic and structural fundamentals (NFA position, output per worker, 5-years ahead expected real GDP growth, demographics, institutional quality, exhaustible oil and natural gas reserves); and  $P_{it}$  includes policy variables (fiscal policy, health spending, FX intervention interacted with capital controls, credit gap).

To address endogeneity and reverse causality issues, fiscal policy and FX intervention variables are instrumented, while health spending, the real effective exchange rate change, the net asset position, and productivity are lagged.

Medium-term current account (CA) norms (cyclically adjusted) are then calculated and compared to cyclically adjusted CA balances determine the CA gap. The CA norm is given by:

$$CA_{i,norm} = \hat{\alpha} + F'_{i}\hat{\lambda} + P'_{i}{}^*\hat{\gamma}$$

Where  $P^*$  are the desired policy settings in the medium term.

The total EBA CA gap is given by:

$$GAP = \tilde{CA} - CA_{norm} = Policy\ gap + Residual$$

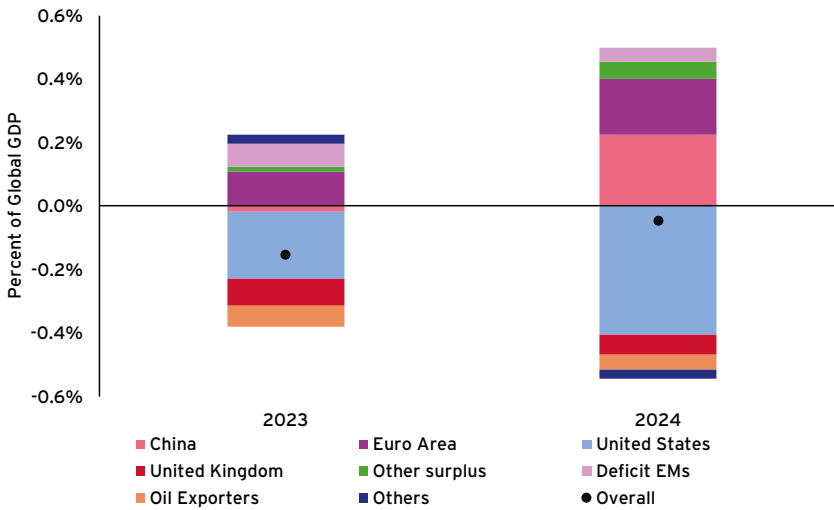
Where  $\tilde{CA}$  is the cyclically adjusted current account balance.

Note: See IMF (2023) for more details.

Ultimately, there is significant IMF staff judgement involved in arriving at the current account gaps that provide the basis for the IMF’s representation of multilaterally consistent assessment of the external positions for 30 of the world’s largest economies.

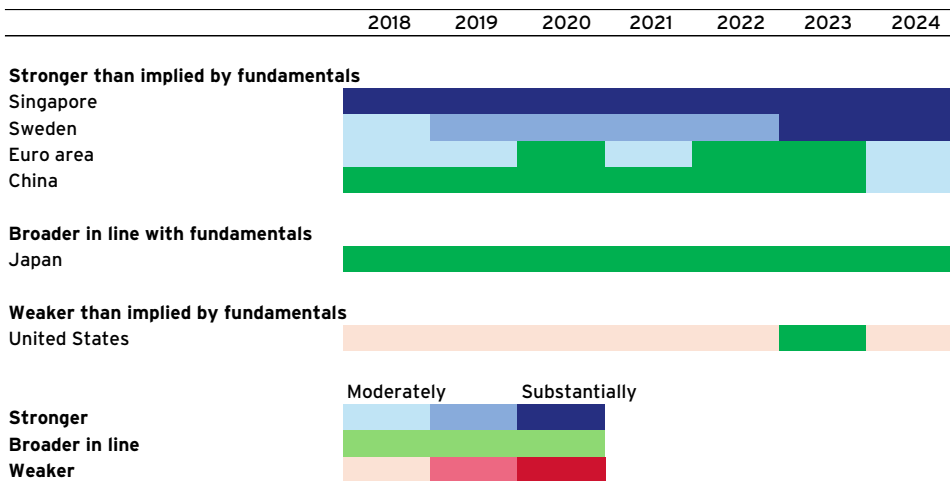
In 2024, about two-thirds of the widening in global current account balances was considered excessive (Figure 19). Moreover, the increase in excess balances (the increase in IMF current account gaps) was the largest in a decade in 2024, driven primarily by China (+0.24% of global GDP) and the United States (-0.20%), and more modestly by the euro area (+0.07%).

FIGURE 19 EXCESS CURRENT ACCOUNT BALANCES



Source: IMF (2025a).

TABLE 1 EVOLUTION OF IMF EXTERNAL SECTOR ASSESSMENT, 2018-2024



Source: IMF (2025a).

Notwithstanding this, the G3 2024 imbalances were judged to be moderate by IMF staff: “moderately weaker” than implied by fundamentals and desirable policies in the case of the United States, and “moderately stronger” in the case of China and the euro area. The US assessment has not changed over recent years, while China and the euro area assessments were “broadly in line” for 2022-2023 (Table 1). Only Singapore, Sweden, and the Netherlands were judged to have external positions “substantially stronger” than fundamentals and desirable policies, while no country was judged to be “substantially weaker”.

## 6.2 Other approaches

The European Commission produces a scoreboard of macroeconomic imbalances annually as part of its Macroeconomic Imbalance Procedure (MIP).<sup>3</sup> External thresholds include current account balances of less than -4% of GDP or greater than 6% of GDP (using three-year backward moving averages), and an NIIP of less than -35% of GDP for euro area countries. Based on the 2022-24 data, none of the G3 exceeded the current account threshold (even Germany did not), although the United States clearly way above the NIIP threshold.

The US Treasury also produces a semi-annual report titled *Macroeconomic and Foreign Exchange Rate Policies of Major Trading Partners of the United States* (US Treasury, 2026). It uses three thresholds to judge unfair currency practices: (i) a bilateral trade surplus with the US of at least \$15 billion; (ii) an overall current account surplus of at least 3% of GDP; and (iii) net purchases of foreign currency of at least 2% of GDP conducted in eight out of 12 months (one-sided intervention). In the January 2026 report, as no country breached all three thresholds, no country was labelled a “currency manipulator”. However, ten countries were put on the monitoring list, having breached two of the thresholds (China, Japan, Korea, Taiwan, Thailand, Singapore, Vietnam, Germany, Ireland, and Switzerland).

An external sustainability approach has been used by various analysts and reports over the years. Indeed, it is part of the IMF EBA suite of models but has been deemphasised in recent years. This approach essentially calculates current account balances that stabilise the NIIP as a percent of GDP at a specified desired level. Two problems with this approach are that (i) it is hard to determine a specific desirable NIIP-to-GDP ratio; and (ii) as Obstfeld (2025) notes, the increase in gross assets and liabilities implies that asset price moves cause changes in the NIIP via valuation effects that swamp those related to current account developments.

3 See [https://economy-finance.ec.europa.eu/economic-governance-framework/macroeconomic-imbalance-procedure/scoreboard\\_en](https://economy-finance.ec.europa.eu/economic-governance-framework/macroeconomic-imbalance-procedure/scoreboard_en)

A clear example of this is the United States. An NIIP of -90% of GDP is taking us into uncharted territory given the centrality of the United States and the dollar to the global economy and the international monetary system. The desirable level is likely less negative given the large share of external liabilities comprising US Treasuries. But it is surely more negative than the European Commission threshold of -35% of GDP, especially when considering the global role of the dollar. Moreover, as shown in Figure 16, much of the recent deterioration in the US NIIP has been caused by valuation effects, in particular related to US stock market gains. But that has also increased US wealth, and to the that extent it reflects higher productivity, this implies higher US potential growth. Those are definite positives for the United States, notwithstanding the related deterioration in its NIIP.

### 6.3 Mixed picture of current imbalances

Where does this leave us? Global imbalances picked up in 2024 and were driven by developments in the G3. This continued in 2025H1 for China and the United States, with frontloading of exports to the United States ahead of the scheduled imposition of US tariffs clearly playing a role. Beyond 2025H1, Chinese data suggest continued growth in its current account surplus. But for the United States and the euro area, 2025Q3 data point to a lower deficit and surplus, respectively. While frontloading has clearly played a role in these dynamics and some fog still surrounds its ultimate impact, the growing Chinese current account surplus and narrowing US current account deficit in 2025Q3 suggest other forces at play as well.

When we look over time, global current account balances are significantly below the peak of 2006 (3.6% versus 5.5% of global GDP). And the 2025 IMF External Sector Report did not point to major current account gaps in the G3 countries, although the latest IMF assessment of China's external position switched from "moderately stronger" to "stronger than the level implied by medium-term fundamentals and desirable policies" (IMF, 2026). There are some important caveats, however, which point to potentially material concerns regarding the path ahead for imbalances.

First, while the EBA current account model is an important benchmark and has been rigorously tested, it also tries to capture something inherently complex and with many moving parts. For example, a recent Bank of Italy paper (Depalo and Giordano, 2025) finds that different population projections can markedly change the positive contribution of demography to euro area current account norms. Combined with the addition of significant judgement being applied to designate "desired policies" and various adjustors, the results need to be interpreted with caution.

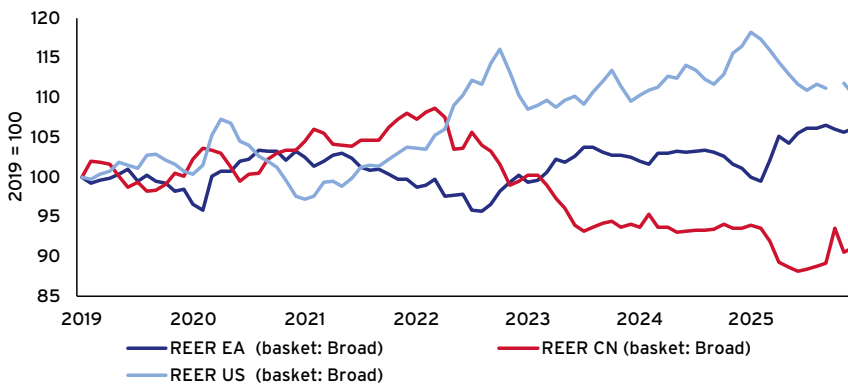
Second, there are some important outstanding measurement issues that cloud the imbalances picture. In particular, the large difference between balance-of-payments and customs data points to significant uncertainty surrounding China's actual current account surplus. Setser and Sobel (2025) suggest it could even be about 5% of GDP if we assume that the primary income balance is flat rather than negative given a large positive NIIP.

Third, there is clearly some warranted concern over the level and trajectory of the US NIIP. While much of this is driven by valuation effects that could reverse notwithstanding the decline of US exorbitant privilege, a large fiscal deficit (a general government deficit of over 8% of GDP according to the IMF) has increased the savings–investment imbalance and led to the US non-energy goods deficit exceeding the previous 2006 peak.

Fourth, exchange rate developments also give pause for thought (Figure 20). While having depreciated significantly since the January 2025 peak, the US dollar remains highly appreciated by any metric. And even as the euro area has retained a significant current account surplus after debtor countries adjusted following the sovereign debt crisis, the euro is at its most appreciated since recovery from that crisis started. On the other side of the ledger, in real effective terms the renminbi is now back to levels last seen in 2012 following a sustained depreciation since 2022. Certainly, the major change in exchange rate valuations of the G3 currencies since early 2022 is part of the imbalance debate and potentially fuelling further trade protectionist sentiment.

We next turn to how these imbalances may resolve themselves, with deeper analysis following in the subsequent chapters of this report.

FIGURE 20 REAL EFFECTIVE EXCHANGE RATE DYNAMICS FOR G3



Source: Bruegel based on BIS, effective exchange rates.

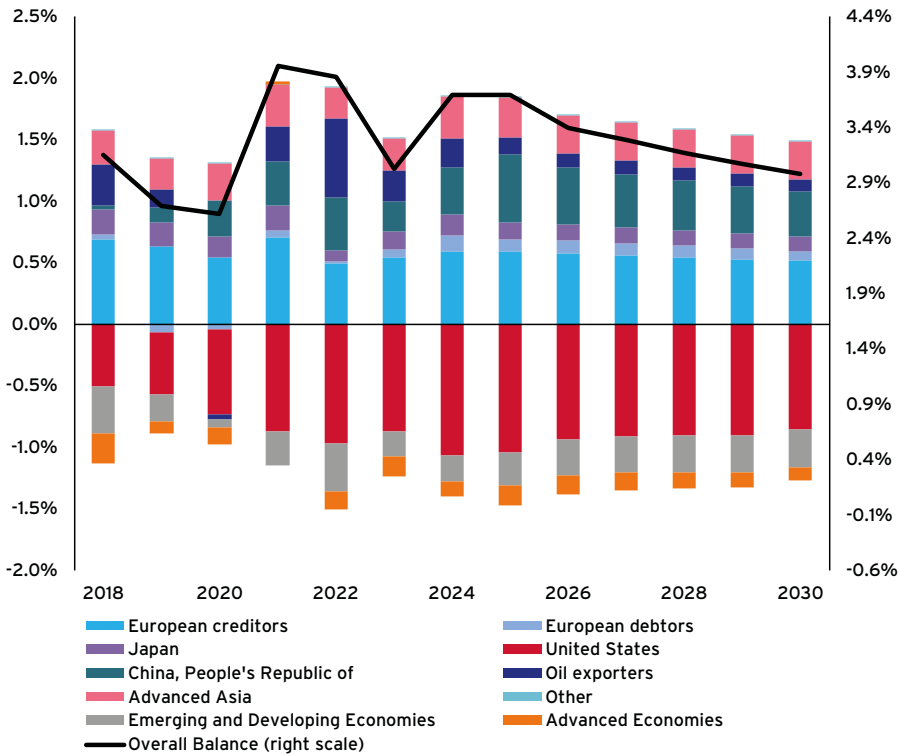
## 7 HOW ARE IMBALANCES LIKELY TO EVOLVE?

Imbalances are lower than pre-GFC following a significant decline until the pandemic. But 2024 saw a reversal in the trend. With heightened geopolitical and trade tensions, there are good reasons to be worried about the trajectory of future imbalances. Is this the start of a new period of rising imbalances? Or will they gradually decline as policy and productivity adjustments take place?

### 7.1 Benign IMF World Economic Outlook Baseline

A starting point is to look at the imbalances suggested by the October 2025 *World Economic Outlook* (WEO) forecasts. Figure 21 extends Figure 2 through the WEO forecast horizon (2025-2030). The mechanics of this are that, while frontloading of exports to the United States ahead of prospective tariffs has a sizable impact on 2025H1, this is expected to unwind from 2025H2 onwards. This still leads to a larger projected current account surplus in China in 2025 (3.3% of domestic GDP), but gradual declines in imbalances for the United States and the euro area in 2025 and declines for all the G3 in 2026 and beyond.

FIGURE 21 GLOBAL CURRENT ACCOUNT SURPLUSES AND DEFICITS: FORECAST (PERCENT OF WORLD GDP)



Source: Bruegel based on IMF World Economic Outlook.

## 7.2 Tariff impact likely limited

Beyond the dynamics associated with frontloading, the consensus is that tariffs should have a limited impact on current account balances. Tariffs can discourage imports. Everything else equal, this should increase the trade balance and the current account. But everything else is not equal, and this direct trade effect is only part of the general equilibrium effects that tariffs can have on the external balance. Ultimately, the full effect on the current account balance works through aggregate saving and investment. The logic for a limited impact is that tariffs act as a negative supply shock in the countries imposing the tariff. They reduce both investment, which is less profitable, and savings to smooth the income shock, with potentially limited impact on current account balances.

Obstfeld (2025) discusses some of the channels in more detail. As he notes, a tariff raises home demand for domestically produced import substitutes. The source of supply is likely to be the export sector, so exports will reduce in tandem with imports. Moreover, tariffs that fall on intermediate goods act as a tax on manufacturers, raising production costs for exports of final products and products that compete against imports, lowering the return to capital in a country. The typical exchange rate appreciation channel would also add to pressures for net exports to shrink, although that has not really been present so far in this round of US tariffs given various other macro and policy developments impacting the dollar.

The 2025 IMF *External Sector Report* illustrates the general equilibrium effects using model-based analysis. It finds import tariffs do not have a robust impact on the savings and investment balance, with varying short-term and longer-term current account responses in major economies. Consistent with this, existing empirical research tends to find that tariffs have had a limited impact on external balances in recent decades (e.g., Furceri et al., 2022). There is some recent theoretical research, however, that suggests tariffs can affect trade balances and are likely to reduce them (Costinot and Werning, 2025). Given the recent wave of US tariffs, this is likely to be an area of significant research focus.

## 7.3 Other less benign scenarios

The October 2025 IMF *World Economic Outlook* has a benign baseline of global current balances narrowing through 2030. But clearly, there is a high degree of uncertainty around this. The 2025 External Sector Report looks at two other scenarios using model-based analysis. The first one has growing domestic imbalances: weaker domestic demand in China, further fiscal expansion in the US, and lower productivity in the euro area. The second scenario has narrowing domestic imbalances: structural reforms and strengthening social safety nets in China, fiscal consolidation in the United States, and a sustained increase in public investment in the euro area.

Interestingly, the first scenario only has global imbalances widening by 0.12% of global GDP by 2030. This seems relatively small given the adjustment we saw in 2024 alone (0.6% of global GDP) and would mean imbalances would remain significantly below the peak of 2006.

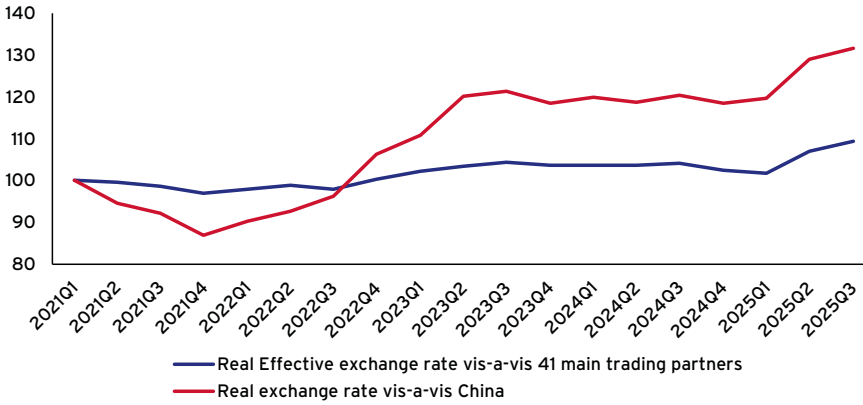
Could current account imbalances grow more than that? Certainly, that would seem possible. The October 2025 *World Economic Outlook* baseline suggests that the US general government deficit will decline from its peak of 8% of GDP in 2024 but remain above 7.5% of GDP by 2030. It seems hard to think that the US fiscal deficit could be higher than that, but you never know given current trends and policies (CBO, 2026). Perhaps of greater impact would be a continuation of the ongoing AI boom via massively increasing private investment. If you believe some of the bullish estimates (e.g., Goldman Sachs 2023), this could potentially add 2-3% of GDP to current levels of private investment. That would likely lead to a significant deterioration in the savings investment balance of the United States and hence a larger current account deficit. But to the extent it also increases productivity, potential growth, and equity portfolio wealth, it would be a 'good' widening of the US current account deficit.

Regarding China, measurement issues are important as they can make a difference in the order of 2% of GDP to China's current account surplus. Added to this, weaker domestic demand, further real effective depreciation of the renminbi, and a continued widening of China's competitive edge in growing new sectors such as EVs could increase the surplus, which already spiked up through 2025Q3. Clearly, frontloading adds a layer of fog regarding how much of this increase is structural or cyclical. But a further increase in the Chinese current account surplus would undoubtedly exacerbate trade and geopolitical tensions.

In the euro area, notwithstanding likely continued material current account surpluses in the euro area (see the chapter by Darvas et al. in this report), there is still great concern over increasing competition from China that has been magnified by trade diversion related to US tariffs. Indeed, the euro area's largest bilateral deficit is with China, and this grew substantially through 2025Q3. As noted in ECB (2024), China has accounted for virtually all of the euro's appreciation in real effective terms since 2021 when based on producer prices (Figure 22). And Chinese exports are becoming increasingly similar to euro area exports. Figure 23 shows the export similarity index for the euro area and China. Apart from during the GFC and European sovereign debt crisis, this has essentially steadily increased over the last 20 years.<sup>4</sup> Relatedly, ECB estimates (ECB, 2025) suggest that the broader impact of rising competitiveness of Chinese exports could extend to almost one-third of euro area employment.

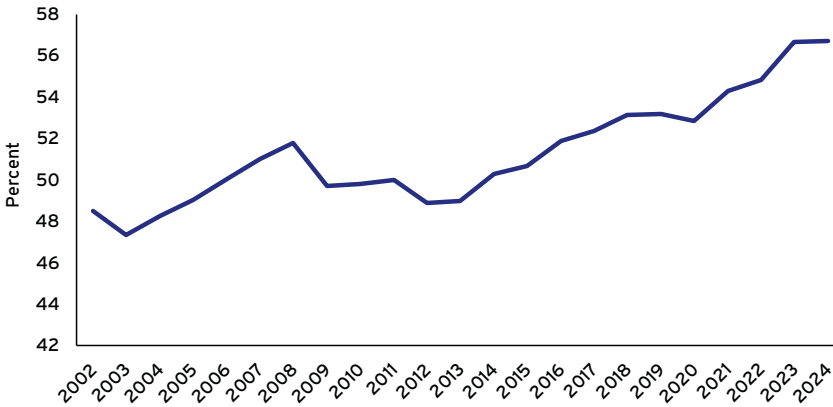
4 The export similarity index measures how similar export structures of two economies are by comparing the composition of their exports across countries. It is calculated using product-level export data by first expressing each export product as a share of total exports for each economy, and then summing across all the products the minimum of the two export shares. This gives a range between 0 (completely dissimilar export profiles) to 100 (when export profiles are identical).

**FIGURE 22 EURO REAL EXCHANGE RATES**



Source: Bruegel based on ECB and National Bureau of Statistics of China. Both the bilateral euro-China real exchange rate and the euro area effective exchange rate are deflated using producer price indices (PPI).

**FIGURE 23 EXPORT SIMILARITY INDEX BETWEEN CHINA AND THE EURO AREA**



Source: Bruegel based on UN Comtrade.

Given all this, it is understandable that European policymakers are focused on how best to respond to rising competition from China. Additional EU measures aimed at shielding European industries and labour markets from perceived unfair competition could well be on the cards (e.g., “Made in Europe” targets).

As flagged earlier, one area of clear concern is the trajectory of the US NIIP. We are already in uncharted territory for the country at the centre of the global economy and financial system. But valuation effects have been behind much of the recent rise in the US net external liabilities. They could easily reverse if US stock markets correct – for example, in response to an AI bubble – or if the dollar keeps depreciating. Of more concern is the sizeable part of gross US external liabilities that reflect portfolio debt instruments (>50% of GDP) in the context of US fiscal deficits that are expected to remain north of 5% of GDP under most potential scenarios. A sustained FX risk premium shock would reverberate around the world – and we got a taste of this in April 2025.

One development that would lead to a significant reduction in global current account imbalances is a US recession, which could be caused by a delayed response to tariffs, bursting of a potential AI bubble, or simply typical late cycle imbalances. Whatever the reason, a material US recession would not be a desirable way to reduce global imbalances given its implications for the global economy. So, the reasons behind changes in current account imbalances are crucial in determining whether they are welfare improving or not.

The chapters that follow in this report will take a deeper dive behind the snapshot of global imbalances provide above. This will include delving further into history, macro and trade developments, and the role of institutions and policies, including industrial policy. In so doing, they will provide further insights on likely scenarios and forward-looking policies that will shape global imbalances, and, importantly, how global imbalances will shape policies for the better and worse.

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## APPENDIX A: GROUPINGS

Group	Countries
Advanced Asia	Hong Kong SAR; Korea, Republic of; Macao SAR; Singapore; Taiwan Province of China
Advanced economies	Andorra; Australia; Canada; Croatia; Czech Republic; Estonia; France; Iceland; Israel; Latvia; Lithuania; Malta; New Zealand; San Marino; Slovak Republic; United Kingdom
China, People's Republic of	China, People's Republic of
Japan	Japan
United States	United States
Emerging and developing economies	Afghanistan; Albania; Angola; Antigua and Barbuda; Argentina; Armenia; Aruba; Bahamas, The; Bahrain; Bangladesh; Barbados; Belarus; Belize; Benin; Bhutan; Bolivia; Bosnia and Herzegovina; Botswana; Brazil; Brunei Darussalam; Bulgaria; Burkina Faso; Burundi; Cabo Verde; Cambodia; Cameroon; Chad; Chile; Colombia; Comoros; Congo, Dem. Rep. of the; Congo, Republic of; Costa Rica; Côte d'Ivoire; Djibouti; Dominica; Dominican Republic; Ecuador; Egypt; El Salvador; Equatorial Guinea; Eritrea; Eswatini; Ethiopia; Fiji; Gabon; Gambia, The; Georgia; Ghana; Grenada; Guatemala; Guinea; Guinea-Bissau; Guyana; Haiti; Honduras; Hungary; India; Indonesia; Iraq; Jamaica; Jordan; Kenya; Kiribati; Kosovo; Kyrgyz Republic; Lao P.D.R.; Lebanon; Lesotho; Liberia; Libya; Madagascar; Malawi; Malaysia; Maldives; Mali; Marshall Islands; Mauritania; Mauritius; Mexico; Micronesia, Fed. States of; Moldova; Mongolia; Montenegro; Morocco; Mozambique; Myanmar; Namibia; Nauru; Nepal; Nicaragua; Niger; North Macedonia; Pakistan; Palau; Panama; Papua New Guinea; Paraguay; Peru; Philippines; Poland; Romania; Rwanda; Saint Kitts and Nevis; Saint Lucia; Saint Vincent and the Grenadines; Samoa; São Tomé and Príncipe; Senegal; Serbia; Seychelles; Sierra Leone; Solomon Islands; Somalia; South Sudan, Republic of; Sri Lanka; Sudan; Suriname; Syria; Tajikistan; Tanzania; Thailand; Timor-Leste; Togo; Tonga; Trinidad and Tobago; Tunisia; Türkiye, Republic of; Turkmenistan; Tuvalu; Uganda; Ukraine; Uruguay; Uzbekistan; Vanuatu; Vietnam; West Bank and Gaza; Yemen; Zambia; Zimbabwe
European creditors	Austria; Belgium; Denmark; Finland; Germany; Italy; Luxembourg; Netherlands; Norway; Slovenia; Sweden; Switzerland
European debtors	Cyprus; Greece; Ireland; Portugal; Spain
Oil exporters	Algeria; Azerbaijan; Iran; Kazakhstan; Kuwait; Nigeria; Oman; Qatar; Russian Federation; Saudi Arabia; United Arab Emirates; Venezuela

## CHAPTER 3

# Historical perspectives

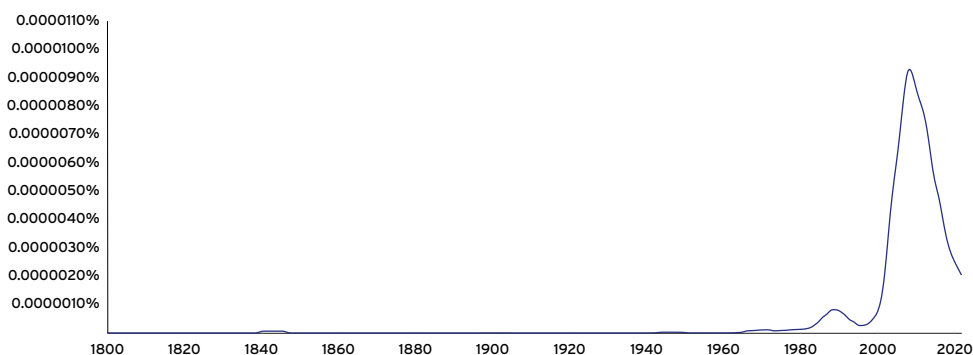
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Seeking historical precedents for today's problem of global imbalances risks turning into an exercise in historical anachronism. As Figure 1 shows, the term only begins appearing in the corpus of books comprising Google's Ngram Viewer in the second half of the 20th century.

**FIGURE 1 OCCURRENCE OF "GLOBAL IMBALANCES" IN PUBLICATIONS SINCE 1800**



Note: Figure shows the occurrence of the term "global imbalances" in the corpus of English-language books in Google's Ngram Viewer as a percentage of the total number of bigrams in the sample.

Source: Google Ngram Viewer.

Nonetheless, some insight into the current condition of the global economy can be gleaned from earlier episodes of large and persistent trade and current account imbalances. To this end, this chapter reviews four such episodes – two in which imbalances were largely benign and even contributed positively to global economic growth, and two where they were resolved less happily. The goal is to understand what circumstances and policy measures, if any, were responsible for these contrasting outcomes.

### 1 THE FIRST AGE OF GLOBALISATION

A prominent feature of the First Age of Globalisation (1870-1914) was persistent current account deficits of the so-called 'new world' economies – the United States, Canada, Australia, Argentina, among others – matched by the surpluses of the 'old world' economies of Europe, led by Britain (Edelstein, 1982). The first set of countries imported

capital on a large scale, helping to support the construction of railroads, ports, and urban infrastructure that could not be financed by domestic savings alone. Europe's overseas offshoots – and specifically Britain's overseas offshoots – ran the largest and most persistent imbalances, along with Argentina (eventually to become a notorious case). Compared to these others, the United States, another rapidly growing economy of recent European settlement, had always relied less on foreign finance for investment (Eichengreen, 2000), owing in part to its singular size. The US current account balance fluctuated year by year and strengthened over time; after running deficits averaging roughly 3% of GDP in the 1870s and 1880s, America's current balance swung into surplus in the 1890s, where it remained through World War I and thereafter.

Table 1 provides an analogous accounting for the principal surplus countries. In addition to Britain, which was the major surplus economy, it shows persistent surpluses over the period for France, Germany, the Netherlands, Belgium, and Switzerland. Two patterns stand out. First, the surpluses of these other countries are small as a share of GDP compared to Britain's. (At the same time, to put them in perspective, their surpluses in the range of 1-2% of GDP were not very different from China's today.) On the eve of World War I, Britain's overseas investments had reached perhaps 160% of its GDP and totalled more than twice those of France and three times those of Germany (Woodruff, 1967).<sup>1</sup>

TABLE 1 ANNUAL AVERAGE CURRENT ACCOUNT SURPLUSES AS PERCENT OF GDP, 1870-1913

Country	Average current account surplus (% of GDP)
United Kingdom	4–5%
France	~1.5–2%
Germany	~1% (after 1980s; earlier near balance)
Netherlands	~1–1.5%
Belgium	~0.5–1%
Switzerland	~1%

Source: Author's estimates based on Feis (1930), Edelstein (1982), and Stone (1999).

Second, lending by other countries was more concentrated geographically. France and Germany lent to allies in Eastern Europe and the Balkans, while Belgium and the Netherlands lent to formal colonies in the Congo and the Netherlands East and West Indies, whereas Britain lent to offshoots around the world.

1 Another way of putting this history in perspective is to note that the principal surplus country, Great Britain, accounted for roughly 10% of global GDP in 1890, midway through the period, compared to 20% for China today. If one combines the GDPs of the principal creditor countries Britain, France, Germany, the Netherlands, and Switzerland in 1890, one gets a global share on the order of 23% - not far off from China today.

Estimates of external debt-to-GDP ratios are disputed (Platt, 1989).<sup>2</sup> Table 2 shows what are perhaps the most reliable estimates. Ratios for countries with the heaviest external debts (Argentina, Australia, New Zealand, Greece) are in the same range as those for developing countries with the heaviest external debts today.<sup>3</sup>

The logic for these flows was straightforward. Britain had been investing in industrial development for the better part of a century, the other European creditor countries for somewhat shorter periods. In overseas regions of recent European settlement, capital stocks and savings rates were lower, investment opportunities more extensive (Cain and Hopkins, 2001, Cameron and Neal, 2003). Hence the incentive for large-scale capital transfer that enabled this latter set of countries to import more than they exported, including capital goods.

**TABLE 2 COUNTRIES WITH LARGE EXTERNAL DEBT/GDP RATIOS CIRCA 1913**

Country	External debt/GDP (approx.)
Argentina	~120–130%
Australia	~100–110%
New Zealand	~90–100%
Greece	~80–90%
Portugal	~70–80%
Ottoman Empire	~60–70%
Italy	~60%
Brazil	~50–60%
Russia	~40–50%
Mexico	~40–45%

Source: Author's estimates based on Mauro et al. (2002), Obstfeld and Taylor (2004), and Reinhart and Rogoff (2009).

That said, ample experience from other times and places has shown that incentive alone does not ensure that the process works smoothly. Imbalances that are not without logic can nonetheless give rise to instability. Countries can become excessively indebted and be unable to repay their debts. Capital inflows can give rise to financial booms and busts. Economies that rely heavily on external finance can experience sudden stops when the flow of external finance dries up abruptly, forcing a sharp compression of investment spending.

- 2 This is for several reasons. Direct investments are harder to track than new bond flotations in this early period. Underwriters often deducted substantial fees from the headline bond issue, and the bonds in question could be sold at substantial discounts. Finally, retirement of outstanding loans, which could be ongoing because of sinking-fund provisions, are similarly more difficult to track than new flotations.
- 3 A few outliers such as Mozambique notwithstanding to the contrary.

The question is why such problems were limited during this First Globalisation. The answer is “for several reasons”. First, lenders lent and borrowers borrowed for productive investments (Feis, 1930; Fishlow, 1985). European bond flotations for overseas borrowers financed primarily infrastructure investments – above all railways, but also ports, roads, canals, telegraph lines, and grain elevators – that enhanced productivity and economic growth in the borrowing regions. Unlike the modern period, there was a strong positive partial correlation between foreign borrowing on the one hand and investment and growth on the other (Schularick and Steger, 2006). In turn, this meant additional export capacity and with it the ability to earn the foreign exchange needed to service and repay external debts.<sup>4</sup>

Second, investors, when left to their own devices, preferred productive investments and had the capacity to identify them. Investment banks such as Rothschild and Barings had experience distinguishing reliable borrowers and projects. They had reputations to preserve, making it incentive compatible for bondholders to rely on their advice (Flandreau and Flores, 2009). When governments sought to influence the direction of lending for geopolitical reasons, however – when Paris encouraged lending to the Czarist government of Russia, or Berlin encouraged lending to the Balkans and Ottoman Empire – things could turn out less happily.

Third, not only capital but also labour was mobile. Capital and labour generally flowed in the same direction: from Europe to overseas regions of recent European settlement. This avoided destabilising changes in capital/labour ratios. Foreign capital had more local labour with which to cooperate. A larger labour force could generate more exports and earn more foreign exchange, other things equal. Hatton and Williamson (2006) argue that migration came first (that “capital chased after labour”), although Esteves and Khoudour-Casteras (2009) show that there was also an endogenous migratory response. The judicious conclusion would be that causality ran both ways.

Fourth, fiscal discipline was good, aside from wartime episodes where governments ran large deficits financed in part externally. This is another way of saying what was said above, namely, that capital flows financed (generally productive) investment, as opposed to current spending by governments. Government was small by 21st century standards. There was no theory of activist fiscal policy to encourage deficits. It was straightforward for governments to signal their commitment to fiscal and monetary prudence by adopting the gold standard “good housekeeping seal of approval” (Bordo and Rockoff, 1996).

Fifth, the gold standard facilitated adjustment to changes in trade and financial flows, even when these changes were pronounced. The credibility of the commitment to maintaining the pegged exchange rates of the gold standard meant that short-term capital tended to flow in stabilising directions, offsetting temporary departures

4 Admittedly, there were also loans to governments used for financing military adventures, conspicuous consumption and white elephants - loans that did not turn out as happily.

of the exchange rate from its gold standard parity caused by shifts in trade and long-term financial flows. When changes in trade and financial flows were too large to be financed, forcing the authorities to suspend gold convertibility and allow the exchange rate to depreciate, their commitment to restoring the preexisting gold parity once the shock dissipated prevented a self-fulfilling crisis of confidence (Bordo et al., 2001). The fact that wages and prices were relatively flexible by 20th and 21st century standards meant that adjustment was further facilitated by relative cost movements, à la price-specie flow mechanism, limiting pressures on the balance of payments (Bayoumi and Eichengreen, 1996).

Sixth and finally, central banks stood ready to backstop the market. This meant that there were relatively few current account reversals – few episodes marked by sharp compression and even reversal of the prevailing pattern of current account balances – in the period before 1913 (Adalet and Eichengreen, 2007). As early as 1866, when the investment bank Overend Gurney failed owing to large loans in the British West Indies, the Bank of England stepped in, purchasing and rediscounting securities to protect other banks and the London market from destabilisation. In 1890, the Bank of England lent Baring Brothers £7.5 million in cash when the firm and the London market were threatened by a failed loan to Argentina. International cooperation showed its importance in this episode.<sup>5</sup> The Bank's injection of cash might have weakened the sterling exchange rate, at the expense of confidence, but the Banque de France purchased British securities to support it (Eichengreen, 1992). In 1906, the French central bank did so again when an earthquake and fire in San Francisco forced British insurance companies to make large payments to policyholders, making for large capital outflows.

Several implications follow for today. For external creditors, such as China, policy lending directed as much by geopolitics as economics can be risky. For external borrowers, not least the United States, borrowing to finance government budget deficits driven by entitlement and healthcare spending, as opposed to investing in infrastructure and industrial capacity, can create problems for the future. Clamping down on immigration, if it makes the economy grow more slowly, can create challenges for debt sustainability. Finally, central banks, treasuries, and multilaterals need to stand ready to backstop the markets in periods of stress, by acting as liquidity providers of last resort domestically but also internationally. Back then this meant central bank loans and purchases of foreign securities; today it means currency swap lines and adequately funded IMF facilities.

5 These two failures are a reminder that even in this period of smooth capital transfer, not everything was smooth.

## 2 IMBALANCES IN THE 1920S

A contrasting episode was the 1920s. Table 3 shows the pattern of imbalances.<sup>6</sup> Evident there are large surpluses of the United Kingdom but also now of the United States. These have as their deficit counterparts Germany, Austria, and Poland (in Europe), Chile, Argentina, and Brazil (in Latin America), and Australia and New Zealand (in Oceania). These imbalances reflected two quite different phenomena, one old, one new. The old one was the ongoing process of capital transfer from high-income industrial countries to the developing Latin American and Oceania periphery, seeking to take advantage of growth opportunities in the late-developing world. This process broadly resembled that of the 1870-1913 period, except for the emergence now of the United States as an important surplus economy. The second, new phenomena superimposed on the first was the recycling of US surpluses to finance Europe's post-World War I reconstruction and revenue needs, where Germany, Austria, and Poland were among the prominent recipients.

**TABLE 3 CURRENT ACCOUNT BALANCES FOR MAJOR SURPLUS AND DEFICIT COUNTRIES (% OF GDP)**

Country	Average current account (% of GDP), 1920-29
1 United States	+3.0
2 United Kingdom	+2.5
3 Netherlands	+2.5
4 Sweden	+1.5
5 Switzerland	+1.2
6 Germany	-3.5
7 Austria	-5.5
8 Poland	-4.5
9 Italy	-2.5
10 Argentina	-3.5
11 Chile	-4.5
12 Brazil	-2.5
13 Uruguay	-2.5
14 Peru	-3.5
15 Australia	-5.0
16 New Zealand	-3.5

Source: Author's estimates based on League of Nations (1931), Diaz-Alejandro (1970), Bulmer-Thomas (2003), Butlin (1962), and Hawke (1985).

<sup>6</sup> Note that some of these figures are based on contemporary reports of, inter alia, the League of Nations (although these focused on the trade balance rather than the current account), while others are estimates reconstructed by subsequent historians.

Understanding the emergence of the United States as a surplus country is straightforward. The country's economic growth during World War I and the 1920s meant that savings rates were high.<sup>7</sup> Investment needs were limited by the fact that there was no wartime damage on the home front. Meanwhile, the United States developed the financial infrastructure needed to transfer funds abroad. The Federal Reserve Act allowed national banks to branch overseas for the first time. The existence of the Fed provided a lender and liquidity provider of last resort to backstop domestic and international financial markets, though the reliability of that backstop was yet to be proven. Reputable investment banks such as J.P. Morgan & Co. and Kuhn, Loeb & Co. led other US banks into the business of originating and underwriting foreign loans. The investing public had been acclimatised to adding bonds to their portfolios by the Liberty Loan campaigns of World War I.

The United States dominated the global imbalances story in the 1920s, although the United Kingdom was also a surplus country. But not only was the US surplus larger as a share of national income, as shown in Table 4, but the United States accounted for three times the share of global GDP (27% as opposed to 9% circa 1925, according to the standard Maddison estimates). United Nations (1949) puts US foreign capital issues between 1920 and 1931 as more than half again as large as their UK analogue.

On the deficit side, Germany, Austria, and Poland all suffered significant damage in World War I and had substantial reconstruction needs. In addition, Germany and Austria were liable for reparations payments, although Germany's reparations obligations were serially rescheduled, and Austria's were ultimately dropped. The three countries all suffered hyperinflations in the first half of the 1920s, which weakened their banking systems and bequeathed an environment of high interest rates. Those high interest rates were an obvious lure for American and British investors, given how domestic interest rates were lower.

That said, the fact that Latin America and Oceania as well as Germany, Austria, and Poland were on the deficit side of the equation indicates that the global imbalances of this period were not simply an idiosyncratic function of post-World War I reparations and reconstruction. As for why the creditor countries recycled their surpluses in Latin America, Australia, and New Zealand, the narrative remained the same as in 1870-1913 – that these economies had abundant land and natural resources and rosy growth prospects. While Australia and New Zealand continued to rely on British capital, Latin America now sourced external finance mainly in New York, US banks having established a beachhead in the hemisphere when British banks were sidelined by the war.

7 As we saw in the previous section, the United States had already begun moving from chronic external deficit to surplus in the decades preceding World War I. Some have suggested that increasing wealth and income inequality in the 1920s, combined with the stock market boom, further boosted US savings. However, only 5% of the population was invested in the stock market, and the best available estimates suggest that the overall national savings rate declined in the course of the 1920s, coincident with the stock market boom.

As is well known, this process of capital transfer turned out less happily than that of the preceding era.<sup>8</sup> US banks originating and underwriting foreign loans were less experienced and discriminating than their British counterparts. By 1870, when the lending boom of the First Globalisation got underway, British banks had already accumulated fully half a century of experience in the underwriting business, including periodic crises and reschedulings to remind them of the risks of excess. US banks new on the scene lacked analogous experience and even permanent employees in the field. They relied on independent contractors to originate their loans, paying those contractors according to the value of the bond issue and not its subsequent performance.

Second, and relatedly, borrowing was now more for general government revenues rather than infrastructure investment (Fishlow, 1985). Compared to the earlier era, a smaller share of security issues was for private companies, a larger share for governments (state and municipal as well as central and federal). When these loans went bad, contemporaries were quick to condemn borrowing governments for spending the money on “swimming baths, public libraries, and theatres which, although the raised the standard of life of the community, did not help very directly to increase the efficiency of the borrowing countries’ export industries” (Royal Institute, 1937).

Third, the policy environment was less supportive. The Federal Reserve, worried by excesses on Wall Street, raised interest rates sharply in the first half of 1928, causing US foreign lending to collapse and plunging the principal borrowers into recession before the Great Depression materialised in the United States (Lewis, 1949). After recovering in the immediate aftermath of the Wall Street boom, US lending imploded with the eruption of three major banking crises that the Fed did little to avert. In addition, central bank cooperation was more difficult to arrange than in the earlier era. World War I was still fresh in mind, and the reparations and war debt tangle was unresolved. The French government, angered by a plan for an Austro-German customs union in violation of the Versailles Treaty, vetoed a Bank for International Settlements loan to Austria in 1931, allowing the Austrian financial crisis to spread to Germany and other countries.

The backdrop to all these problems was fragile confidence. The credibility of the gold standard system was now less, owing to universal suffrage, strong unions, and high unemployment creating pressure for governments to prioritise goals other than exchange rate stability and gold convertibility. The implication was that short-term capital was now more apt to flow in destabilising directions. And with the rise of trade unionism and personnel departments with structured pay scales, wages became less flexible than in the earlier era, complicating balance of payments adjustment.<sup>9</sup>

<sup>8</sup> Adalet and Eichengreen (2007) document the exceptional incidence of current account reversals in this period.

<sup>9</sup> The rise of personnel departments associated with large multidivisional corporations was largely a US phenomenon in this period (Jacoby, 1985). On the increase in wage stickiness, see Dimsdale et al. (1989) and Lennard (2022). The extent of the decline in wage flexibility in this period is disputed (Allen, 1992).

Again, the implications for today are clear. China as a chronic surplus country is now a major lender to emerging markets and developing countries. The relative inexperience of its 'Big Four' banks, together with political pressure to lend in directions that Beijing regards as geopolitically advantageous, should be taken as warnings about the possible future performance of those loans. That countries such as the United States running chronic deficits are borrowing to finance large government budget deficits and AI-related data centres with uncertain prospects should raise red flags about the sustainability of those debts. And questions about the politicisation of central banks, together with doubts about the scope for central bank cooperation in a geopolitically fragmented world, make one wonder whether policy will be stabilising or destabilising when push comes to shove.

### 3 US SURPLUSES IN THE GOLDEN AGE

The quarter century ending around 1973 is often referred to as a golden age, when Western Europe and the United States grew at rates faster than ever before or since. For Western Europe, the challenges of the 1945-60 period in particular were strikingly similar to those of the 1920s. Yet the outcome was very different.

Growth in this period was fast despite the fact that the United States ran persistent current account surpluses nearly as large as China today: 1.5% of GDP in 1945-49, 1.2% of GDP in 1950-54, and 1.1% of GDP in 1955-60.<sup>10</sup> Importantly, however, some 60% of US exports to Western Europe took the form of capital goods. This was nearly double the share of capital goods in US exports to Europe in the 1920s. One can readily see how America providing its Western European partners with machinery and other capital equipment, as opposed to consumer goods, would have had a positive impact on the growth of productive and debt-service capacity in the recipient economies.

Notably, US current account surpluses were matched and in the early post-World War II years exceeded by US net lending. US net lending to Western Europe ran at 2.8% of US GDP in 1945-49, 1.5% of GDP in 1950-54, and 1.1% of GDP in 1955-60. (Compare the figures for US current account surpluses in these three subperiods immediately above.) Thus, US current account surpluses were benign because the country more than fully recycled its net export receipts as foreign loans and grants to the same economies to which it exported – loans and grants that were used to source capital goods.

The rationale for this lending was in part the same as in the 1920s. Western European countries suffered extensive losses of productive capacity, infrastructure, and housing during the war and had massive reconstruction needs. This damage to productive capacity also meant that Europe had relatively limited ability to generate the savings

10 Sandbu (2025) also pursues this comparison, though he takes it in a somewhat different direction.

needed to underwrite that investment. Equally, it had limited capacity to produce the exports needed to generate the foreign exchange required for purchasing US capital goods. This imbalance, known as the 'dollar shortage' (Kindleberger, 1950), provided a powerful incentive for US capital to flow to Europe.

Now in addition there was a geopolitical rationale: Western European economic reconstruction and political stabilisation became an American priority with the advent of the Cold War. This motivated continued US support for the United Nations Relief and Rehabilitation Administration (UNRRA) in 1945-47, for its provision of some \$13 billion through the Marshall Plan starting in 1948, and then for its extension of \$12 billion of official credits and aid to Western Europe (mainly Export-Import Bank loans and mutual security and military assistance) over the balance of the 1950s (that is, once the Marshall Plan was wound up in 1951).

As the preceding paragraph indicates, the composition of US lending was very different from the 1920s. Lending then had been mainly commercial. In the 1945-60 period, in contrast, some three-quarters of US net financial transfers to Western Europe (including grants) were official. These official flows were relatively stable, certainly in comparison with the precipitous drop in US commercial capital outflows between the first and second halves of 1928. There was, to be sure, a decline in official US net lending to Western Europe between 1951 and 1952, following the end of the Marshall Plan, but the new lower level was then maintained basically unchanged for the balance of the 1950s. Meanwhile, private net lending and investment recovered with the normalisation of economic and political conditions in Europe; after 1955, private lending and investment, the majority of which was FDI, regularly exceeded official lending and transfers. US FDI flows to Europe were stable in comparison with portfolio capital flows. To the extent that they took the form of greenfield investments and upgrading of existing manufacturing facilities, they again supported economic growth and augmented the export capacity of the recipient economies.<sup>11</sup>

Importantly, US capital goods and FDI came packaged with technology. America had opened up a formidable productivity lead over Europe in the 1930s and during World War II, pioneering modern mass production and managerial methods. As part of the Marshall Plan, thousands of European managers, technicians, and union leaders participated in US-sponsored study tours where they visited American factories to observe new management and production techniques.<sup>12</sup> FDI was another important source of technology transfer, as US firms such as General Motors, Ford, General Electric, IMB, and Dupont built or expanded subsidiaries that introduced into Europe modern mass-production systems and process-control technologies (Hilger, 2008).

11 This is not to say that US FDI was uncontroversial. The controversy over America's 'exorbitant privilege' originated in the negative reaction of Charles de Gaulle and Valéry Giscard d'Estaing, among others, to the country's purchases of European companies 'on the cheap'.

12 Giorelli (2019) finds that Italian firms participating in this program outperformed other firms for as long as 15 years after the Marshall Plan ended, and that the benefits were greatest for firms that received both managerial training and state-of-the-art American machinery.

Further conducive to a positive outcome was that US imbalances were gradually wound down as the period progressed. Not only was there the ongoing shift from official to private lending, which continued in the 1960s, but the US current account surplus continued to shrink as a share of US GDP to 0.9% in 1961-65, before moving into modest deficit of 0.4% of GDP in 1966-70, reflecting Vietnam War military expenditures abroad and loose monetary and fiscal policies. Evaluations of these Vietnam War expenditures and loose macroeconomic policies will differ. What is relevant here is that they prevented the indefinite persistence of large US surpluses, which would have placed additional pressure on European industry now that the latter had fully recovered.<sup>13</sup>

Again, the lessons for today are clear. Large current account surpluses are relatively benign when the country running them recycles its receipts through grants and loans. Those grants and loans will have the most positive effects when they are used to finance imports of machinery and capital equipment that come packaged with technology and managerial expertise. The positive effects will not be swamped by negative consequences if adjustment takes place – if those large current account surpluses narrow before it is too late.

#### 4 OPEC SURPLUSES AND PETRODOLLAR RECYCLING

The fourth episode considered in this chapter centres on the 1973 and 1979 oil shocks, the large current account surpluses of the OPEC countries, and petrodollar recycling. The longer-term backdrop to these events included the persistence of modest but chronic current account deficits in the United States, and large surpluses in West Germany and Japan now that their economies had fully recovered from the lingering effects of World War II. The US current account balance, having swung into deficit to the extent of 0.4% of GDP in 1966-70, as just seen, fluctuated in that range for the balance of the 1970s.<sup>14</sup> This relatively small deficit was not a problem from the point of view of global economic and financial stability.

In addition, however, the current account surpluses of West Germany and Japan expanded as the period progressed, from roughly 1% to 3% of GDP in Germany's case and from 1.5% to 4% in the case of Japan. Germany recycled its surpluses mainly through German bank purchases of Treasury securities both in the United States and on Eurodollar markets, but also through foreign direct investment by its automotive, machinery, and chemical industries, and lending to foreign banks, corporations, and

13 While the focus of this section is on how large, persistent US current account surpluses were successfully accommodated in the 1950s and then gradually wound down in the 1960s, there was also a less positive aspect, namely, US gold losses and the mounting crisis of confidence in the dollar, culminating in President Nixon's closure of the Gold Window in August 1971 and devaluation of the dollar shortly thereafter. However, these events were not driven by large US current account deficits (the deficit was a mere 0.4% of U.S. GDP in 1966-70, as noted above). Rather they were driven by the mounting imbalance between US foreign dollar liabilities and US gold reserves and doubts about whether the country was prepared to honor its commitment to convert dollars into gold at a fixed price of \$35.

14 An exception was in 1978, when the current account deficit rose to 0.8% of GDP, reflecting rising imports of goods owing to government spending and strong consumer demand, rising interest and dividend outflows as the United States accumulated net external liabilities, and continued high oil prices. But the deficit then fell sharply in 1979.

sovereigns via the Euromarkets. Japan's response was similar, although there was also some accumulation of foreign (mainly dollar) reserves by the Bank of Japan, while outward FDI by the automotive and electronics sectors and by heavy industry accounted for a larger share of recycled flows than in the case of Germany.

The United States complained about these surpluses, arguing that Germany and Japan were not doing enough to stimulate demand, and specifically their demands for US exports. President Jimmy Carter's Council of Economic Advisors chair Charles Schultze advanced a "locomotive theory" according to which more fiscal stimulus by the two countries would relax constraints on global economic growth, to no avail (Fischer, 1988). Still, conceding the point that global growth might have been faster with more policy stimulus from these two surplus countries, it is hard to see how their current account balances posed a threat to global economic and financial stability.

More consequential were the OPEC countries' very substantial current account surpluses. Saudi Arabia's current account balance averaged 28.5% of GDP between 1973 and 1979, Kuwait's 40.4%, the United Arab Emirates' 36.2%. Their revenues were then recycled by depositing them, generally in dollars, at money centre banks in New York and London, which on-lent the funds to sovereigns in Latin America and, to a lesser extent, Eastern Europe in the form of syndicated loans. These capital inflows allowed Latin American countries to finance substantial current account deficits of their own, the largest of which was, perhaps predictably, that of Argentina (4.1% of GDP), followed by Brazil (3.3% of GDP), Chile (2.4% of GDP), and Colombia (1.7% of GDP).<sup>15</sup> External borrowing rose as the decade progressed. In 1979 it reached 6% of Latin America's GDP, higher than in any other 1970s year (Reinhart et al., 1994).

This bonanza ended unhappily, as most bonanzas do. Governments on the receiving end of abundant finance grew indiscriminate in their spending. Latin American governments built gargantuan steel mills, petrochemical factories, and aluminium plants in the manner of import-substituting authorities everywhere. Brazil invested in gigantic atomic energy and gasohol facilities. Mexico built mega steel mills and petrochemical complexes, while Brazil and Mexico initiated massive hydroelectric projects. These investments reinforced the preexisting tendency toward capital-intensive development while adding minimally to employment and, once the construction boom ended, to economic growth. Between 1971 and 1981, the growth dividend (the additional GDP derived from additional investment) was barely half that of the preceding decade.<sup>16</sup> Few projects undertaken in the 1970s generated the foreign exchange needed to pay interest due on borrowed funds, much less to repay the principal.

15 All figures are annual averages for the 1973-79 period.

16 Figures are an unweighted average of returns for six large Latin American countries (Diaz-Alejandro, 1984, p. 338).

The denouement came in 1982, after Paul Volcker was installed as Federal Reserve chair and raised interest rates to double-digit levels in the effort to vanquish inflation (most lending to Latin American countries having been at floating rates), and once it became evident that a significant growth dividend had failed to materialise. By 1980, Mexico was already starting to lose access to foreign syndicated bank loans. In 1981, that loss of access was complete, and in 1982 the country lapsed into default. Other Latin American sovereigns followed. Current account deficits as large as 6% of GDP were now savagely compressed to barely 2% of GDP as capital-market access was lost, precipitating an investment slump and inaugurating the ‘lost decade’.

Thus, it can be argued that the large surpluses of the oil-exporting countries were a central factor in the Latin American debt crisis and lost decade that followed. To be sure, there was plenty of blame to go around. Latin American governments borrowed excessively and invested indiscriminately.<sup>17</sup> Money centre banks lent recklessly in the mistaken belief that sovereigns could always raise taxes to avoid default, or on the expectation that they would be bailed out by their regulators if things went wrong.<sup>18</sup> For their part, the oil-exporting countries engaging in petrodollar recycling might have better done due diligence on the banks that were custodians of their funds. Evidently, managing the consequences of large imbalances is a collective endeavour.

## 5 IMPLICATIONS FOR TODAY

This review of four historical episodes suggests that global imbalances can be supportive or corrosive of economic stability and growth. Imbalances can be sustainable or unsustainable. They are more likely to be supportive and sustainable when trade flows are accompanied by complementary flows of capital and labour. Specifically, they are more likely to be supportive and sustainable when the country or countries running large current account surpluses recycle their foreign earnings in the form of stable foreign investments, and when countries running current account deficits and on the receiving end of capital flows invest those funds productively. They are more likely to be supportive and sustainable when lending and borrowing are guided by economic rather than geopolitical motives. They are more likely to be supportive and sustainable when the underlying policy environment is stable, and when central banks and governments cooperate in managing disturbances. Finally, they are more likely to be supportive and sustainable when adjustment is allowed to take place – that is, when the imbalances in question do not persist indefinitely.

17 There were also some interesting exceptions, such as Colombia, where borrowing was relatively restrained (Luzardo-Luna, 2019).

18 Instead of being bailed out, the banks received the forbearance of their regulators, who gave them the better part of a decade to rebuild their capital and otherwise repair their balance sheets. A further problem was that there existed no single centralised source of data on sovereign indebtedness, allowing banks to lend without full knowledge of the borrowers’ existing financial obligations.

Much like the metaphor of stripping layers off an onion, each of these answers to the question of what renders global imbalances supportive of growth and stability only raises additional questions. To the point that the investments financed by current account deficits and recycled capital are more likely to be supportive when those investments are productive, one might ask why some such investments are more productive than others. Some will emphasise differences between private and public investments, distinguishing between, say, productive private investment in the New World before 1913 and unproductive public investment in Latin America after 1973. But there are also examples of private investments that did not pay and of public investments that did. We are now in a period when countries like the United States are financing costly private investments in AI data centres and public investments in semiconductor fabs, in part by running current account deficits and borrowing abroad. It is unclear which of these investments will yield a return that matches or exceeds the cost of borrowing.<sup>19</sup>

About the observation that imbalances are more likely to prove benign when adjustment is allowed to take place, one might ask why adjustment is more successful in some periods than others. Some will point to market flexibility – how wages and prices adjusted more flexibly and labour was allowed to move more freely across borders, so as to progressively narrow imbalances in the period of open and unstructured markets before 1913. Others will point to policy flexibility – how Western European countries moved from budget deficits in the second half of the 1940s to surpluses in the 1950s, helping to narrow persistent current account deficits, and how the United States concurrently moved from large current account surpluses toward balance. Such answers to these deeper questions of course only point to additional questions: what it is about markets that allows wages and prices to adjust more freely in some periods than others, and what is it about politics that facilitates successful fiscal adjustment sometimes but not others?

Similarly, about the point that imbalances financed by market-led, as opposed to government-led, lending are more likely to prove sustainable, there is the question of why lending is market-led in some periods but dominated by geopolitical imperatives in others. The pre-1913 contrast between Britain and Germany is suggestive of what we are seeing today. Britain, previously the dominant power, had a well-established global financial network but also an extensive colonial empire and geopolitical base in this period when Britannia ruled the waves. Countries like Germany were relative latecomers to global finance and more generally to the ‘global game’. For Germany to make headway against an entrenched incumbent, it needed government support for the creation of the relevant policy banks – the ‘d-banks’ (Deutsche Bank and Dresner Bank) created in 1870-2 to support merchandise and capital exports – and lending in support of geopolitical alliances in the Balkans and Near East to make headway against the British Empire.

19 More generally, this points to the question of how the new wave of industrial policies adopted by governments around the world will or will not feed into global imbalances.

The analogy with China today – how it employs its big public sector banks in lending, and how it uses that lending to build political as well as economic links – is suggestive. It suggests the possibility of future problems with loans extended with geopolitical motives in mind – the kind of loans history shows do not always pay. Losses on such loans could then diminish the appetite of China’s government-linked lenders for undertaking policy-related investments abroad. A reduction in China’s capital outflow and current account surplus would have to be matched by increased spending at home, either even more investment, which would be undesirable given the country’s already extraordinarily high investment rates, or more consumption, which would seem to be unlikely given China’s historic inability to boost consumption. A smaller Chinese current account surplus would also have to be mirrored by a smaller current account deficit elsewhere in the world, where elsewhere in practice means the United States.<sup>20</sup> That would mean a disorderly unwinding of global imbalances.

Whether today’s global imbalances are supportive and sustainable we are about to see.

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20 Even if China is no longer investing directly in the United States, such would be the general-equilibrium repercussions.

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## CHAPTER 4

# Global imbalances redux

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### INTRODUCTION

When the industrial countries abandoned fixed dollar exchange rates in 1973, some hoped that the automatic adjustment of floating rates would make global current account imbalances self-limiting, in analogy with Hume's (1752) celebrated account of the gold-specie-flow mechanism. However, the most celebrated proponents of exchange rate flexibility, such as Friedman (1953) and later Johnson (1969), had never promised this. All they asserted was that floating exchange rates would ensure overall balance-of-payments equilibrium, bringing equilibrium current account deficits into line with desired net capital inflows and equilibrium current account surpluses into line with desired net capital outflows.

What Friedman and Johnson did clearly and accurately predict was that floating would allow the lowering of restrictions on trade and payments, and in a sense, the accuracy of that prediction ensured that global balances could become wider and more persistent. This is exactly what happened in the decades after floating, as lower restrictions on trade as well as lower barriers to capital mobility allowed for expanded import and export volumes as well as easier financing of current account deficits.<sup>2</sup>

In trade, the General Agreement on Tariffs and Trade (GATT) Tokyo Round of tariff reductions started in 1973 (ending in 1979) and the Uruguay Round finished in 1994. In the latter 1980s and 1990s, less-developed countries increasingly liberalised trade and payments on the back of more flexible exchange rate regimes (Irwin, 2025). Regional trade agreements emerged, including deeper integration in Europe and pacts linking industrial and emerging market economies (such as the North Atlantic Free Trade Agreement (NAFTA)/United States–Mexico–Canada Agreement (USMCA) and the

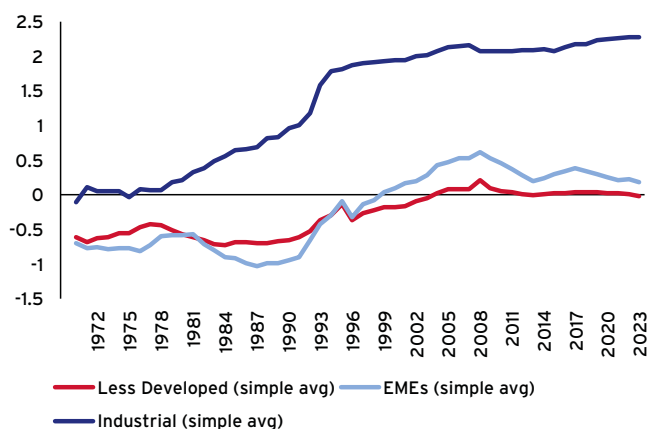
1 Thanks to Hiro Ito and Nishtha Agrawal for assistance with data, and to Vivek Arora, Agnès Bénassy-Quéré, Kimberly Clausing, Thomas Harr, Signe Krogstrup, Nicholas Lardy, Gian Maria Milesi-Ferretti, Hélène Rey, and Jeromin Zettelmeyer for helpful comments. I am also grateful for comments from other participants in this project. An early version of this chapter was presented at the Banque de France/Bruegel seminar on global imbalances at the Banque de France, Paris, 7 January 2026.

2 By 1973, international trade among the industrial countries was considerably liberalised, though trade reform for many poorer countries remained in the future. Obstfeld and Taylor (2004) interpret the liberalisation of global capital movements after 1973 through the lens of the open-economy monetary policy trilemma. Abdelal (2007), Helleiner (1994), and Obstfeld (2021) consider the political economy of capital account liberalisation.

Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP)). Apart from these policy developments, international transport costs fell relentlessly after the early 1970s (Hummels, 2007; Daudin et al., 2022). Later technological developments allowed the expansion of digital trade.

Capital account liberalisation proceeded at different paces for industrial countries after 1973, with the United States leading, while poorer countries, having initially eased somewhat, regressed during the debt crisis of the 1980s. But by the start of the 1990s, richer countries as a group had liberalised considerably and emerging and low-income countries had begun to return to greater openness (see Figure 1, which is based on Chinn and Ito, 2006). Some low- and middle-income countries partially retreated on capital mobility after the Global Financial Crisis (GFC).

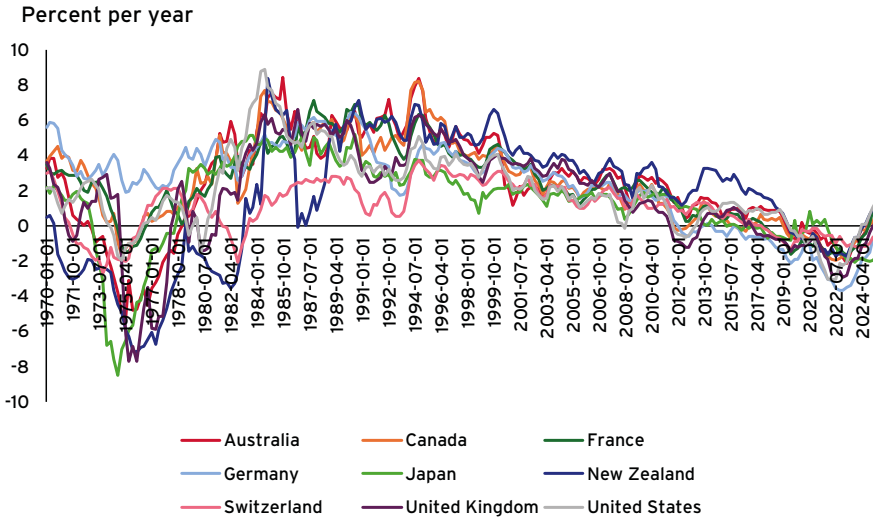
FIGURE 1 CHINN-ITO INDEX OF FINANCIAL OPENNESS, 1970-2023



Source: Chinn and Ito (2008) database ([https://web.pdx.edu/~ito/Chinn-Ito\\_website.htm](https://web.pdx.edu/~ito/Chinn-Ito_website.htm)).

Recent research suggests that declines in official trade barriers and other trade costs, by themselves, promote international borrowing and lending as well as international risk sharing (Obstfeld and Rogoff, 2001; Eaton et al., 2016). Thus, some recent studies tie the expansion of global imbalances over the floating-rate era even more to declines in intra-temporal trade barriers than to financial transaction barriers (Reyes-Heroles, 2016; Alessandria et al. 2024). Trade impediments lead to more real exchange-rate variability, allowing real interest rates to diverge even more widely than financial trade barriers alone would allow. At the same time, trade costs limit the scope for gains from international consumption risk sharing, as they make it more costly to transfer resources from economies where consumption is relatively abundant to those where it is scarcer. More broadly, lower volatility in government trade interventions may induce a compression of bond risk premia and greater insurability of national macro shocks. For a sample of industrial countries, Figure 2 shows how the dispersion of national real interest rates declined after the early 1970s.

**FIGURE 2 LONG-TERM REAL INTEREST RATES FOR NINE INDUSTRIAL COUNTRIES, 1970-2025**

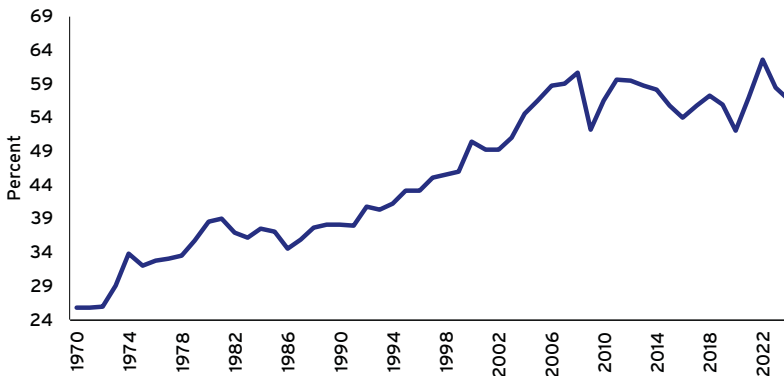


Source: FRED and author's calculations.

Exchange-rate volatility did not notably deter trade in goods and services, and it may have encouraged cross-border financial diversification. Figures 3 and 4 document how the varieties of trade expanded after the early 1970s, with a notable acceleration around 1990 as the Cold War's end marked the beginning of the 'hyper-globalisation era' through the GFC in 2008 (Subramanian and Kessler, 2014).

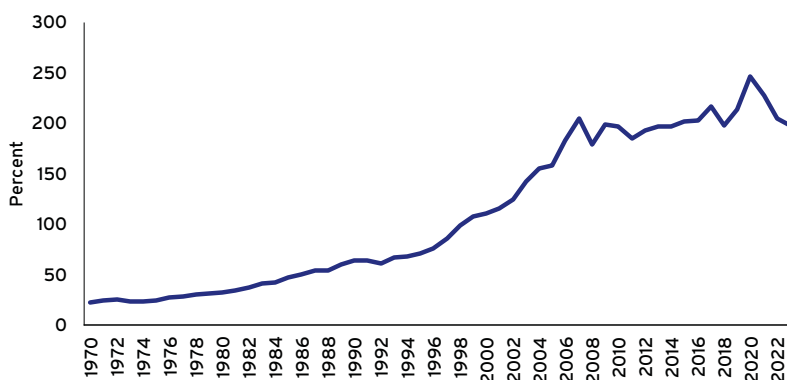
Given these developments and continuing macroeconomic shocks, it would have been surprising indeed if the much greater ease of financing current account imbalances had not led to an expansion in their scale and variability, notwithstanding any interaction between floating exchange rates and the balance of trade. In any case, the theoretical reasons for believing that exchange rates will move to balance current accounts over even the medium term are weak.

**FIGURE 3 GLOBAL TRADE (EXPORTS PLUS IMPORTS) AS A SHARE OF GDP, 1970-2024**



Source: World Bank.

FIGURE 4 AVERAGE OF WORLD EXTERNAL ASSETS AND LIABILITIES AS A SHARE OF GDP, 1970-2023



Source: EWN dataset (Milesi-Ferretti, 2025).

### EXCHANGE RATES, WEALTH, AND THE CURRENT ACCOUNT: A BRIEF THEORETICAL DETOUR

The American conservative commentator Oren Cass (2024) has castigated economists for arguing that trade balances are ‘self-correcting’ or ‘self-regulating’, such that imports necessarily are eventually brought into line with exports. To be sure, one can specify economic models and shock structures that imply this, such as the Humean paradigm, but even that was an oversimplified account of international trade and finance in the 18th century (Brezis, 1995), meant more as a cautionary allegory than as a literal description of reality. It certainly does not apply to today’s globalised markets.

Dornbusch and Fisher (1980) offer a modernised Humean story about external adjustment under floating exchange rates. The setting is a small open economy with flexible prices. Private saving depends negatively on wealth. As wealth is decumulated through a current account deficit, spending, which falls disproportionately on home-produced goods, falls and the terms of trade worsen. A stationary position is attained when saving, and hence the current account, reaches zero. As Dornbusch and Fischer acknowledge, however, the model is very stylised, as it abstracts from investment and from government transactions and taxes. It also abstracts from ongoing growth at home or abroad and finesses scrutiny of any interest cost of external debt. These omissions make the model a misleadingly partial picture of external adjustment.

Modern thinking about external adjustment starts with an intertemporal approach to the current account. The current account equals the difference between saving and investment. Resident firms and households make saving and investment decisions, as do the central and subnational governments. If one consolidates the lifetime budget constraints of all these actors, and of resident actors yet to be born or to arrive from abroad, one sees that the expected present discounted value of net goods and services

exports (net of capital transfers from abroad) must equal the country's initial net foreign liabilities. If the country can systematically earn more on its external assets than it pays on its external liabilities, that will expand its envelope for running trade deficits over time.

If households are dissaving because times are unusually bad, that will worsen the current account balance; similarly, they may dissave if an asset bubble inflates their wealth, perhaps regretting their spending and tightening the belt when the bubble collapses. The idea that households 'squander' wealth in this way by incurring debts to foreigners is possible, but not the only scenario.

A country with productive investment opportunities that it cannot easily finance out of its own savings may borrow savings from abroad. Such borrowing actually causes a net increase in national wealth, when the investment return exceeds the cost of foreign funding. Of course, not all investment pans out as planned either, but an expected increase in wealth can result from an investment-driven current account deficit, contrary to the mechanism modelled by Dornbusch and Fischer (1980). In general, what matters for consumption and saving is the overall increase in national wealth, not simply the rise in its net external component.

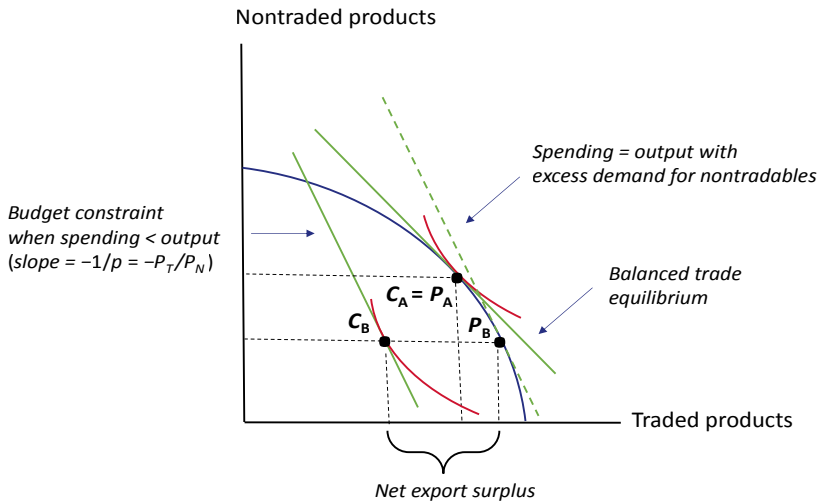
The sole 'automatic adjustment mechanism' is the requirement that foreign debts be repaid over time, which requires an indebted country to eventually have trade surpluses, unless it can permanently extract seigniorage from abroad by financing at low rates. Even without that advantage, the current account need never be in balance. For example, in a steady state with growth (and the interest rate on foreign borrowing  $r$  above the GDP growth rate  $g$ ), a permanent current account balance of  $-g NL/Y$  maintains a constant ratio of  $NL/Y$  of net foreign liabilities to output, with a trade balance surplus equal to  $(r - g)NL/Y$ . It is noteworthy that trade surpluses need not imply relatively low consumption, just that consumption plus investment eventually be below the economy's total output. Thus, foreign debt that finances productive investment and higher future output, far from being impoverishing, is likely to yield a higher future consumption path.

However, the equilibrium outcome of eventual trade surpluses reflects a constraint, not on the country but on its constituent decision makers – public and private. This points to the danger of focusing on the net international investment position (NIIP) as a summary of the international adjustment urgency a country faces. Some actors will have foreign assets, others foreign liabilities even more alarming than what the aggregate NIIP would indicate, and some in the end may fail to repay foreign debts. Whether this leads to a crisis will depend on how systemic the defaulters are. The biggest systemic actor is generally the central government, although there can easily be others in the financial sector.

It is a time-honoured critique of the international adjustment process that deficit and surplus countries have asymmetrical incentives to adjust: deficit countries are more likely to be shut out of international capital markets if they are perceived to borrow too much. This asymmetry has an analogue in the intertemporal context: debtor countries must repay their debts or depreciate those debts in some other way, whereas surplus countries are never literally obligated to consume their external wealth by running long-term trade deficits. Nonetheless, in market settings, we would expect ever-increasing external wealth eventually to raise spending above output. In countries where the government controls substantial external assets, such as China, the forces sustaining foreign wealth accumulation can be more persistent (Yang, 2012).

What relationship does this adjustment process have with the exchange rate, or more precisely, with the real exchange rate and the terms of trade? To generate trade surpluses under conditions of full employment, the economy must shift resources from the nontradable to the tradable sector, which requires a real currency depreciation – a fall in the price of nontradables relative to tradables,  $p = P_N/P_T$ . This logic follows from the fundamental ‘Australian model’ logic of Salter and Swan, illustrated in Figure 5 using Corden’s (1960) geometry.

FIGURE 5 A TRADE SURPLUS REQUIRES REAL DEPRECIATION AND SPENDING REDUCTION

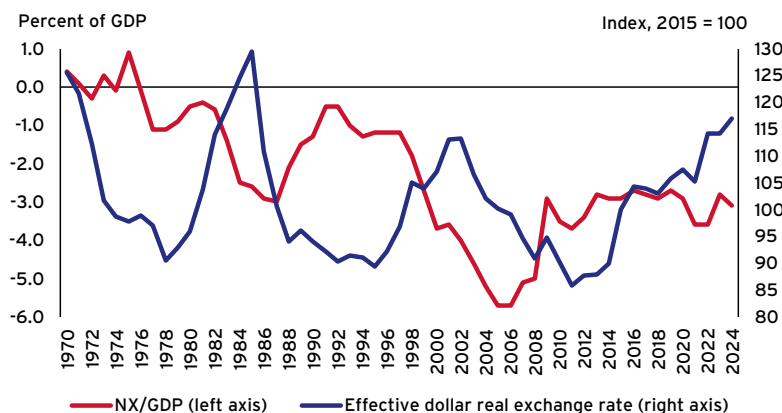


In the figure, the concave production possibilities frontier (PPF) shows the combinations of traded and nontraded goods that it is feasible for the economy to produce under conditions of full employment. (For convenience, the figure assumes zero net external assets.) Points labelled **A** denote the balanced-trade equilibrium. Profit-maximising firms will choose a production point (labelled  $P_A$ ) where the PPF is tangent to the relative price line (price of tradables in terms of nontradables) with slope  $-P_T/P_N$ . The convex indifference curves indicate consumers’ preferences over the two goods. At the point where the PPF is tangent to the highest indifference curve with which it intersects, consumption of both goods,  $C_A$ , equals their production,  $P_A$ , and so trade is balanced

(desired consumption of tradables equals production of tradables) and the market for nontradables is in equilibrium (domestic demand for nontradables equals domestic production of nontradables). For this economy to have a trade surplus, however, its consumption of tradables must be below its production of tradables, i.e., it must produce more of them and consume fewer, which requires a higher relative price  $P_T/P_N$ . But if consumers were to spend their full incomes when the economy's output is at point  $P_B$ , there would be an excess demand for nontradables, which would push up their relative price over time. The only way the economy can be in equilibrium with a trade surplus is with a consumption level  $C_B$  such that the market for nontradables clears.

Figure 6, for the United States, shows that the real exchange rate has typically been negatively correlated with the trade balance, sometimes with a lag – but not always. The period of the 2000s stands out for a falling real effective dollar and a sharply growing trade balance deficit, as I discuss later.

**FIGURE 6 THE US TRADE BALANCE AND THE US DOLLAR'S REAL EFFECTIVE EXCHANGE RATE, 1970-2025**



Source: FRED and OECD.

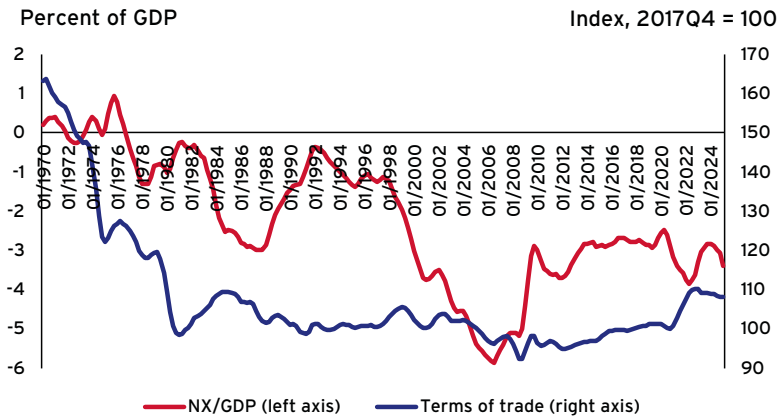
In reality, the idea that goods and services fall neatly into ‘tradable’ and ‘nontradable’ categories is oversimplified. As in the extended Ricardian model of Dornbusch et al. (1977), trade costs can endogenously determine which goods are traded, with higher costs implying a smaller range of traded goods and the need for a bigger real depreciation to move more products into economic tradability and close a given external deficit.

Whether a shift to bigger trade surpluses always requires a fall in the terms of trade (the relative price of exports in terms of imports) is more speculative. With equal growth rates at home and abroad, and the rest of the world running the counterpart trade imbalances, the logic of the classical transfer problem could apply. In that case, to persuade foreigners to buy more home exports and fewer of their own exportables, the relative price of home goods would have to fall. With foreign growth above domestic growth, however, demand for home exports grows relative to their supply over time and

the terms of trade need not decline. Alternatively, even with comparable growth rates at home and abroad, the home terms of trade need not decline if the economy's growth takes the form of new varieties of traded goods, which generate additional foreign demand (Krugman, 1989; Corsetti et al. 2013).

For the United States, over the floating rate period, there is no evidence that a terms-of-trade improvement facilitates higher net exports of goods and services (see Figure 7). After a precipitous fall in the terms of trade for a decade following the early 1970s, the price of US exports in terms of imports has been relatively trendless through 2025, despite big swings in the US trade and current account balances.<sup>3</sup>

**FIGURE 7 US NET EXPORTS AND TERMS OF TRADE, 1970-2024**



Note: Four-quarter moving averages of quarterly data.  
Source: BEA.

### GLOBAL IMBALANCES SINCE 1980

Figures 8a and 8b are alternative depictions of the pattern of global imbalances since 1980. Figure 8a shows *net* imbalances – that is, within country groups, the surpluses and deficits of the members are added to show the surplus or deficit of the group taken as a whole. Figure 8b shows *gross* imbalances – within country groups, the surpluses and deficits are shown separately.

Several features are notable:

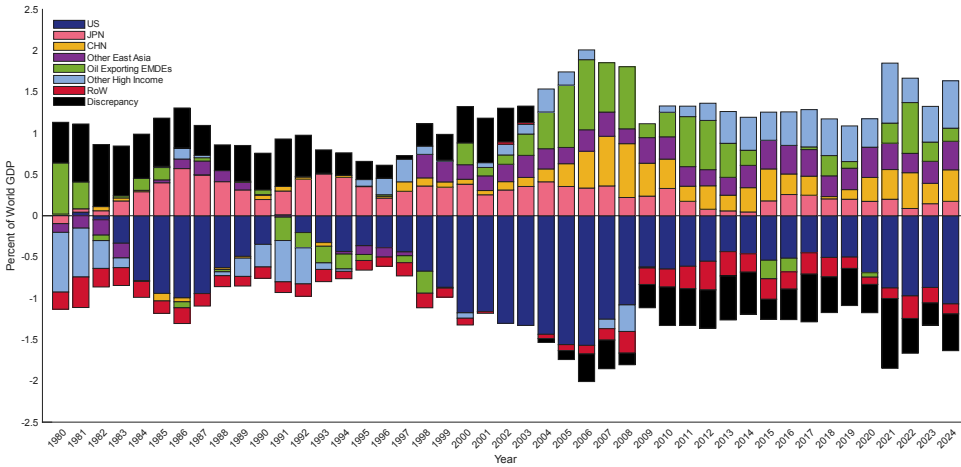
- There are oscillations in the amplitude of global imbalances. The period begins amid the oil crisis following the Iranian revolution. Emerging oil exporters' large surpluses were mirrored by large deficits of high-income countries not including the United States, which had a trade deficit but high earnings on a still-positive NIIP (see the chapter in this report by Eichengreen).

3 The levels correlation between the two series is positive. This pattern suggests that the preponderant shocks driving the US current account are shocks to world demand for US exports (rather than US export supply shocks) and shocks to US demand for imports (rather than shocks to world supply of US import goods).

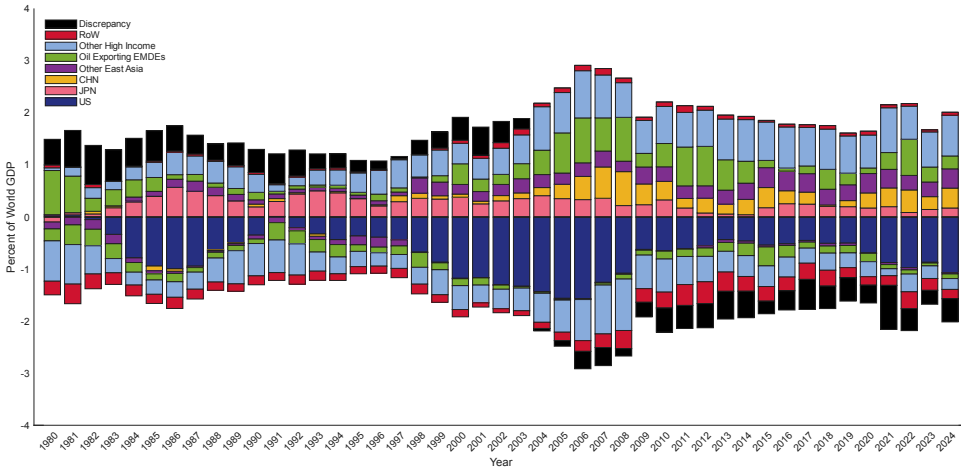
- Three further cycles of wider imbalances occur, peaking in the mid-1980s, the mid-2000s, and in the pandemic and post-pandemic years, 2021-2025. The most dramatic of these peaks two years before the GFC at around 3% of global GDP (Figure 8b).

**FIGURE 8 NET AND GROSS GLOBAL IMBALANCES, LARGE COUNTRIES AND COUNTRY GROUPS, 1980-2024**

(a) Net global imbalances



(b) Gross global imbalances



Source: World Economic Outlook database, October 2025.

- In all of the three further cycles, a dominating feature is a big expansion of the US deficit – about 1% of global GDP in the current episode but closer to 1.5% in the 2000s (see the chapter by Milesi-Ferretti).
- There is considerable heterogeneity within the high-income group (which here excludes the United States, Japan, and the East Asian NICs). Within that group, Germany, for example, has a persistent surplus (leaving aside the years around reunification), while the United Kingdom has a persistent deficit.

- Leaving aside China and (in most periods) oil exporters and East Asian countries, poorer countries (included in “RoW”) tend to run deficits, but they are small as a share of world GDP. Capital flows to these emerging and developing borrowers fell when the 1980s debt crisis started in 1982 and have only ticked up more significantly since the mid-2000s, but they remain comparatively small.
- There are sizable global discrepancies (the black bars): missing surpluses until the mid-2000s and missing deficits thereafter. These gaps make it hard in some periods to be sure of the global counterparts of the opposite-signed balances.

## CYCLES IN ATTENTION TO GLOBAL IMBALANCES

The concerns of economists and policymakers about large global imbalances have followed a cyclical pattern similar to those shown in Figures 8a and 8b, waxing and waning according to the amplitude of net global capital flows. Typically, however, there is disagreement on the causes of the imbalances, the justification for alarm, and the appropriate policy interventions. Imbalances can arise from different economic sources; even when those sources are potentially benign and channelled through largely undistorted markets, undesired collateral effects can arise.

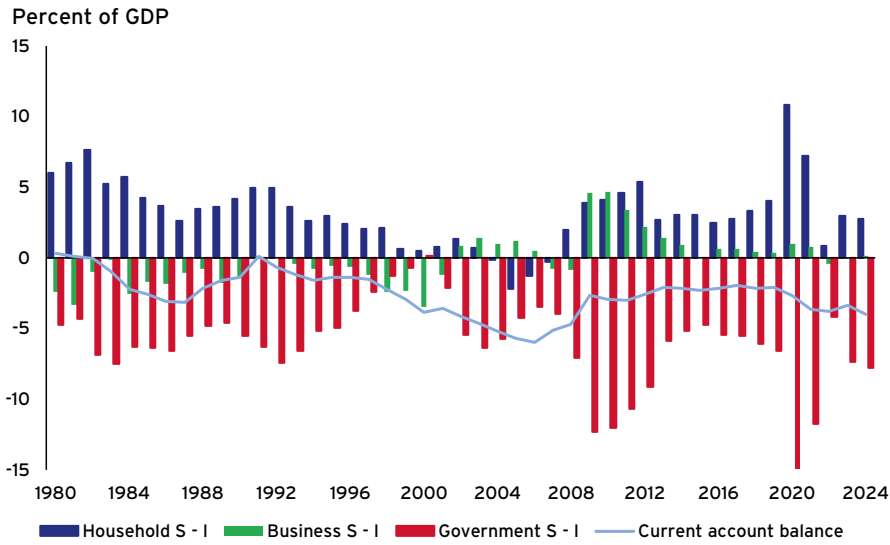
Of course, this is true of almost any economic shock – for example, the discovery of new technology. It is only because big external imbalances implicate multiple national jurisdictions that they lead to international tensions, including calls for trade restrictions and accusations (occasionally justified) of predatory behaviour by trade partners. Larger global imbalances have been a barometer of larger driving shocks and therefore a larger potential for disruptive side effects; and these, in turn, generate calls for solutions, both multilateral and nationalistic. The three global imbalance cycles since the early 1980s illustrate the senses in which large global imbalances can be hazardous and the different modes in which the imbalances have been addressed.<sup>4</sup>

As noted, each episode of salient global imbalances has featured a notable bulge in the US current account deficit as a share of world GDP; moreover, that deficit has been a constant for more than four decades and the US trade balance has been negative for five decades. These facts justify a particular focus on developments in the United States.

For reference, Figure 9 shows the US current account balance after 1980 together with the constituent saving–investment balances of the household, business, and government sectors. The chart shows clearly the three bulges in the US current account deficit.

4 For a more theoretical treatment of global imbalance risks, see Obstfeld (2012).

**FIGURE 9 US SECTORAL SAVING-INVESTMENT BALANCES AND OVERALL CURRENT ACCOUNT BALANCE, 1980-2024**



Source: BEA.

## The 1980s

The end of the 1970s saw an assault on high inflation in many countries, notably in the United States. Ronald Reagan's election as US president in 1980 also set the stage for a sizable fiscal expansion (Figure 9). Worldwide, real interest rates soared (Figure 2), despite the emergence of what would be a protracted developing country debt crisis in 1982 and the consequent contraction of developing country current account deficits. The real effective exchange rate of the US dollar rose by more than 35% between 1980 and its peak in 1985 (Figure 6). The initial stages of this movement were well explained by the monetary-fiscal policy mix, both elements of which pushed toward a stronger dollar. But some observers felt that the dollar's continuing appreciation between 1984 Q1 and 1985 Q1 was driven by a bubble dynamic (Frankel, 2016).

The American economy entered a recession and manufacturing employment, already trending downward, suffered the double blow of depressed domestic activity and the strong dollar. The US current account went into a growing deficit (Figure 9): through the mid-1980s, household saving fell, the government deficit rose, and residential investment increased somewhat as the economy recovered. Significantly, the strong dollar and the plight of the export sector led to increasing Congressional calls for protection.

Through the start of Reagan's second term in 1985, his administration's policy was largely one of 'benign neglect' of the exchange rate.<sup>5</sup> In the official account, the strong dollar reflected investor confidence in US prospects under a new, more market-oriented administration. However, political gravity could not be resisted forever, which led new US Treasury Secretary James Baker to seek international action to bring the dollar down, starting at his first Group of Five (G5) summit in January 1985.<sup>6</sup>

These efforts culminated in the Plaza Accord of 22 September 1985, where the G5 finance ministers announced their agreement on the need for further orderly depreciation of the dollar – the dollar had peaked the previous February – and followed through with coordinated foreign exchange intervention sales of dollars.

The G5 participants had a shared motive: to see a reduction in global imbalances and head off the protectionist storm brewing in the United States. In this they were only partially successful: the US current account deficit continued to grow, hitting the then-unprecedented high of 3.3% of GDP in 1987, while in 1988 Congress passed the Omnibus Trade and Competitiveness Act, launching the Treasury's annual assessments of US trade partners' currency policies. The episode did indicate, however, a major cost of very large imbalances, especially when accompanied by outsized currency appreciation: tradable-sector disruption leading to political backlash and risks of protection.

Eventually, the US current account deficit began to moderate after 1987. By that time, with the February 1987 Louvre Accord, the G5 had sought, ultimately unsuccessfully, to stabilise the dollar's exchange rates against other major currencies. One justification for the delayed US current account adjustment is that the effect of exchange rate changes simply takes time to appear – perhaps as much as two years (Krugman, 1991). However, the Plaza Accord was also light on supporting commitments regarding monetary and fiscal policies – and even the limited commitments that were made were not implemented. The United States became a net external debtor in 1989.

As Figure 10a shows, the US deficit, at its peak value of 0.9% of world GDP, was not far above the combined surpluses of Germany and Japan. Thus, policy follow-through on the Accord would depend most importantly on the actions of the United States, Germany, and Japan. Truman's (2016, pp. 155-156) concise assessment would be hard to improve:

*[T]he short-term effects of the policy coordination in the Plaza episode were impressive in terms of the subsequent correction in the dollar's foreign exchange value, even if the small amount of foreign exchange market intervention in the immediate aftermath had little directly to do with it. It is true that, with the further*

5 Prior US actions to address trade issues focused more on bilateral trade imbalances and measures to strengthen foreign currencies, rather than on reducing the overall strength of the dollar. Thus, Japan started opening its capital markets in 1984 under US prodding, a move the Regan administration believed would strengthen the yen and reduce Japan's big bilateral trade surplus with America (Frankel, 1984).

6 The G5 countries were France, Germany, Japan, the United Kingdom, and the United States. For accounts of exchange rate consultations in the 1980s, see Destler and Henning (1989), Funabashi (1989), Obstfeld (1990), Frankel (2016), and Truman (2016).

*decline of the dollar despite the effort to stabilize currencies via the Louvre Accord, the US current account deficit ultimately began to shrink. In terms of economic policy coordination, however, the longer-term effects were between minimal and nugatory, for two reasons.*

*First, the G-7 never reached full consensus on the diagnosis of the immediate problem they were trying to address. Yes, they were trying to depreciate the dollar, partly in response to the threat of protectionist threats derived again in part from the growing US current account deficit and drag of net exports on the US expansion. But the other parties saw the US fiscal deficit as the principal cause of the US current account deficit.*

*Second, partly because of this difference in diagnoses, no country took fiscal or structural policy actions designed to support the exchange rate changes that occurred, to increase domestic demand growth in the countries whose currencies were appreciating and reduce it in the United States, in part by reducing the fiscal deficit. A weaker dollar to blunt US protectionism was consistent with domestic politics in the United States and elsewhere; more fundamental changes in other policies were not.*

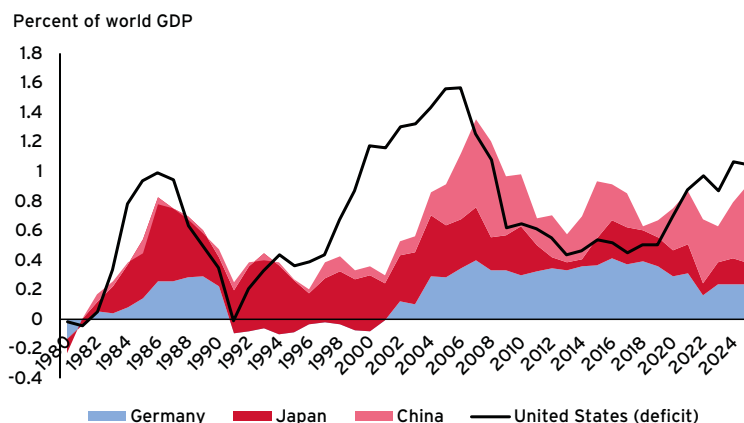
In the view of the United States, the more fundamental problem of current account adjustment was not for the United States to reduce its fiscal deficit, but for Germany and Japan to boost domestic growth. In truth, both sets of adjustment would have been helpful. In a prescient analysis within its April 1985 *World Economic Outlook* report (and thus, months before the Plaza Accord), the International Monetary Fund set out a coordinated policy package in which the United States and Canada reduced their fiscal deficits while structural reforms reduced the negative output gaps in Germany and other advanced economies (IMF, 1985, pp. 83-85).<sup>7</sup>

With these actions, the dollar was forecast to depreciate in real terms, global real interest rates to fall somewhat from the very high levels shown in Figure 2, investment and potential output growth to rise, and global current account imbalances to moderate. There were benefits for the developing world, too, due to lower borrowing rates, improved terms of trade, and a presumed easing of industrial country trade barriers. In the event, absent such policy adjustments, both the German and Japanese current account surpluses grew as shares of their GDP immediately after the Plaza (see Figure 10b), with Germany's ratio rising until 1989. The developing world's travails continued.

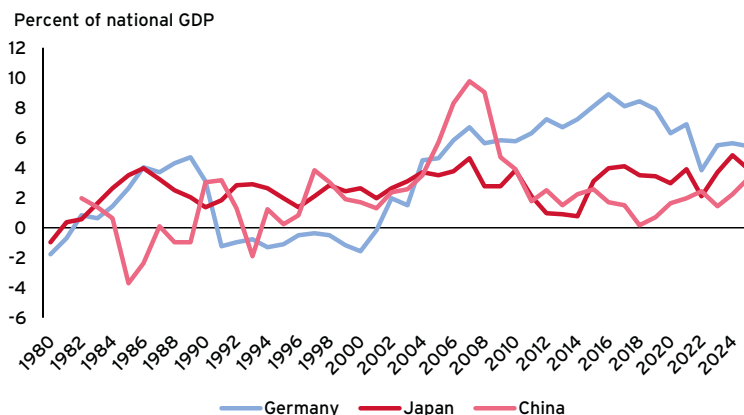
7 I am grateful to Pierre-Olivier Gourinchas for pointing me to this insightful analysis.

**FIGURE 10 CURRENT ACCOUNTS OF GERMANY, JAPAN, AND CHINA RELATIVE TO WORLD AND NATIONAL GDP, 1980-2025**

(a) Imbalances as shares of world GDP



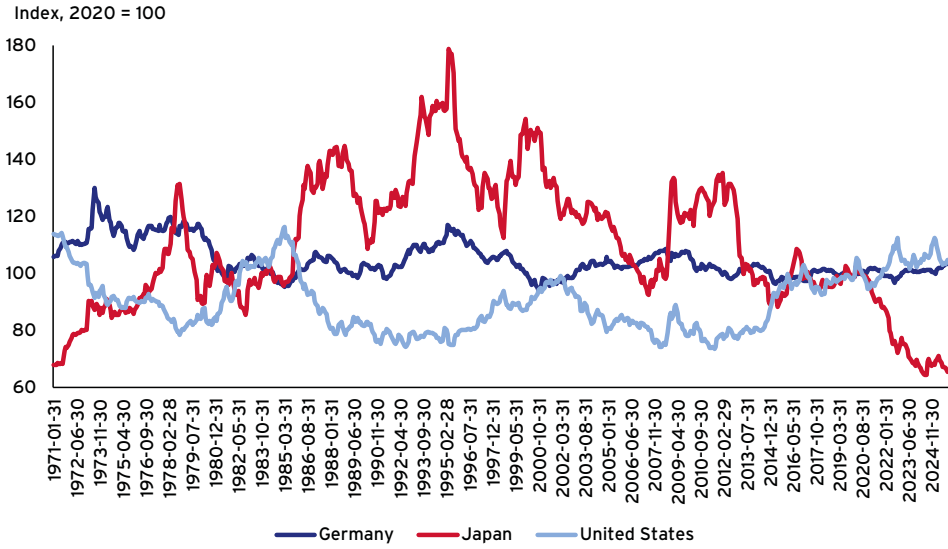
(b) Imbalances as shares of national GDP



Source: IMF, World Economic Outlook database, October 2025, and World Bank. Data for 2025 are IMF projections.

Between the Plaza and Louvre meetings, the Bank of Japan cut its discount rate by 250 basis points, to a postwar low of 2.5%, in a bid to fend off the contractionary effect of yen appreciation (see Figure 11). There the rate remained until May 1989 as the Japanese asset bubbles grew; wealth effects and surging real estate investment helped bring the current account surplus down. The decisive factor bringing the German current account down from its 1989 high of 4.7% of GDP was German reunification and the consequent fiscal expansion. The US recession of 1990-1991 was another element in reducing the imbalances of the 1980s.

**FIGURE 11 NARROW REAL EFFECTIVE EXCHANGE RATE INDEXES FOR GERMANY, JAPAN, AND THE UNITED STATES, 1971-2025**



Source: Bank for International Settlements.

The US fiscal balance improved between 1986 and 1989, in part the result of a series of measures which, despite cutting top marginal tax rates, broadened the tax base, closed loopholes, and reformed entitlements. President George H.W. Bush raised taxes in 1990, going back on his “read my lips” campaign promise. In the absence of more energetic fiscal retrenchment and monetary tightening – Federal Reserve discount-rate cuts continued through September 1987 – US CPI inflation picked up markedly, rising from 1.1% in 1986 to 4.4% in 1987. Thus, the dollar’s depreciation after the Plaza meeting, which continued after the Louvre Accord, did eventually allow some improvement in the current account, but only at the cost of growing domestic price pressures. This is another implication of Figure 5: interpreting it as Corden (1960) did, a depreciation that switches expenditure away from tradables toward nontradables requires a complementary expenditure-reducing policy (such as higher taxes) if an excess demand for nontradables, and hence domestic inflation, is to be avoided.<sup>8</sup> I will return to this theme below.

**The 2000s**

After briefly rising in 1989, the dollar depreciated through mid-1995 (Figure 6). One legacy of the Plaza Accord was an intensification of regular consultation among the G7 (the G5 augmented by Canada and Italy). These consultations have been most useful in informing markets when they have communicated broad consensus on economic

<sup>8</sup> Johnson (1958) is a seminal statement, and for a view from the 1980s, see Krugman (1988). With sticky wages and nontradable prices, the supply of nontradables may rise in the short run but the resulting deviation from full employment drives price changes that undo the initial effect of the nominal exchange rate change on the real exchange rate.

and financial market developments. Shortly after becoming US Treasury Secretary in January 1995, Robert Rubin stated that a weak dollar should not be a tool of US trade policy.<sup>9</sup> An April 1995 statement from G7 finance ministers and central bank governors effectively endorsed Rubin's 'strong dollar' policy in these terms:

*The ministers and governors expressed concerns about recent developments in exchange markets. They agreed that recent movements have gone beyond the levels justified by underlying economic conditions in the major countries. They also agreed that an orderly reversal of those movements is desirable, would provide a better basis for a continued expansion of international trade and investment, and would contribute to our common objectives of sustained, non-inflationary growth. They further agreed to strengthen their efforts in reducing internal and external imbalances and to continue to cooperate closely in exchange markets.*

In 1995, the US current account deficit was a moderate 1.4% of US GDP. From that point, however, the dollar appreciated sharply (see Figure 11 once again) and by 2000 the US external deficit had reached 3.9% of GDP, despite the complete elimination of the US fiscal deficit over 1995-2000. Higher productivity growth allowed more rapid output growth, which helped to reduce the fiscal deficit. At the same time, when coupled with relatively tight monetary policy, the growth strengthened the dollar and spilled over into imports. A key driver of US growth in the latter 1990s was exceptionally high business investment.

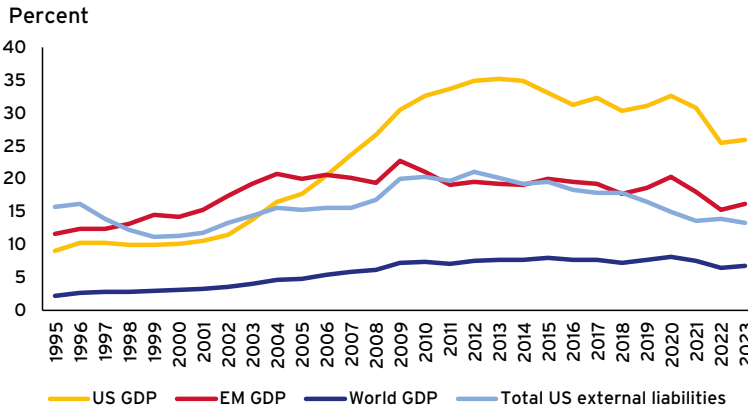
The strong dollar and much higher current account deficit sparked debate among economists. Some (for example, Ken Rogoff and I in a 2000 paper) argued that the external deficit might be a cause for concern. Others (e.g., Cooper, 2001) saw risks but were largely comfortable that the strong foreign demand for US assets would easily finance the US current account deficit. However, the US current account deficit was about to worsen much more: it reached the historically high level of 6% of GDP in 2006.

The unprecedented US external deficit sparked considerable discussion among economists. Almost the entire Spring 2005 issue of the *Brookings Papers on Economic Activity* was devoted to global imbalances. What were the causes? Would adjustment be benign or disorderly? And what would be the consequences for the dollar?

Here we can see emerging some of the major themes that still figure in current debates. Blanchard et al. (2005) focused on global portfolio demand for US assets, a trend clearly visible in the escalating accumulation of dollar reserves by foreign central banks (see Figure 12). In his comment on that paper, Bernanke (2005a) pointed to his then very recent – but now celebrated – speech on the 'global saving glut' (Bernanke, 2005b), which posited a sharp rise in foreign saving following the Asian crisis of the late 1990s and argued that the US deficit largely originated in the resulting capital inflows to the United States.

9 "Dollar Ends Mostly Higher, Helped by Official's Remarks", *New York Times*, 5 February 1997 (<https://www.nytimes.com/1997/02/05/business/dollar-ends-mostly-higher-helped-by-official-s-remarks.html>).

FIGURE 12 GLOBAL OFFICIAL CLAIMS ON THE UNITED STATES AS PERCENTAGES OF KEY VARIABLES



Source: EWN database (Milesi-Ferretti 2025), BEA, IMF World Economic Outlook, and FRED.

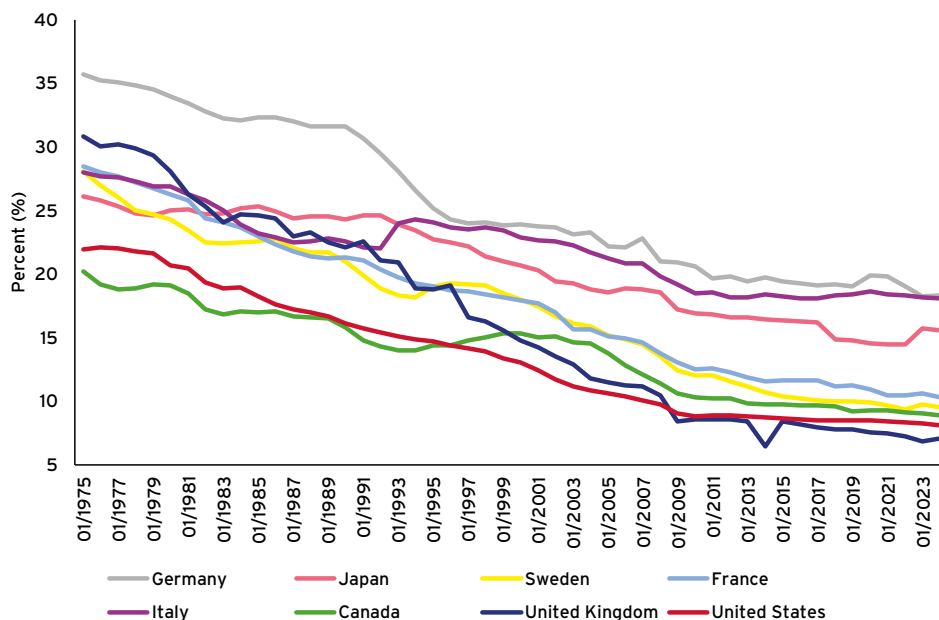
In the same issue of *Brookings Papers on Economic Activity*, Dooley and Garber (2005) likewise located the source of the US deficit abroad but linked it to China's desire to fuel export-led industrialisation on the back of an elastic supply of labour from the countryside. While they argued for the stability of this configuration, Obstfeld and Rogoff (2005) pointed to the quantitative implausibility, in 2005, of attributing the US deficit in any large degree to China (Figure 8a) and argued that several potential triggers, such as a US housing market collapse, could spark a disorderly current account adjustment. Commenting on that paper, Cooper (2005, p. 128) raised a theme that informed subsequent modelling efforts, notably by Caballero et al. (2008):

*I believe that the United States has comparative advantage at producing marketable assets. We sell these marketable assets to the rest of the world. As long as Americans use the proceeds of the sale of those marketable assets productively – and that is an important qualification, bearing on the desirability of the fiscal deficit – I do not see why that process cannot go on indefinitely*

A problem for the United States (and ultimately for the world) was that borrowed funds were not on the whole being deployed efficiently, as the subsequent financial crisis showed.

Mainstream academic discussions of imbalances during the 2000s, such as those at the Spring 2005 *Brookings Papers on Economic Activity* conference, paid scant attention to the precipitous fall in manufacturing employment that was happening at the same time (Figure 13) and the narrative that it was being fuelled by higher imports, some originating with producers who had moved offshore, including to China. Autor et al. (2013) deserve credit for elevating the disruptive local effects of Chinese import penetration into the academic economic establishment's consciousness. Earlier work by left-leaning economists such as Scott (2008) raised the issue but had methodological shortcomings that impeded widespread acceptance.

FIGURE 13 MANUFACTURING EMPLOYMENT SHARE IN EIGHT INDUSTRIAL ECONOMIES



Source: Spliced data from FRED and International Labor Organization, ILOSTAT.

China’s rise as an exporting superpower had its effects not only through import penetration per se, as documented by Autor et al., but also through Chinese competition with exporters in third markets, facilitated by China’s WTO entry in December 2001. The study by Pierce and Schott (2016) captured such effects in the US case. These channels of Chinese export performance were all amplified by low wages and aggressive export promotion policies, including an undervalued currency (Bergsten and Gagnon, 2017).

The commonality of manufacturing decline across advanced deficit and surplus countries suggests that global imbalances are not central to the story of deindustrialisation. In the United States, the import surge from China would have challenged competing domestic producers even if US trade had been balanced. (Indeed, growing Chinese exports to the European Union are held to be threatening despite the European Union’s current account surplus, while higher EU investment is viewed as a necessary defensive measure despite the likelihood that it reduces the bloc’s surplus; see, for example, Macron, 2025.) However, the US experience shows that layering a demand-driven trade deficit on top of a ‘China shock’ can worsen its disruptive effects, as formerly traded goods become less competitive internationally and as the need to shift resources into service industries accentuates disparate regional impacts and magnifies transitional unemployment (Dix-Carneiro et al., 2023).

The prevailing academic detachment about manufacturing decline and the resulting dislocations stood in sharp contrast to fierce political debates as anti-globalisation sentiment spread. Technological developments played at least as large a role as globalisation in advanced economies' deindustrialisation, and the blame placed on trade deficits, which are the endogenous result of complex macroeconomic factors, has always rested on shaky intellectual ground. (As Figure 13 shows, and as documented by Lawrence (2024), both surplus and deficit economies alike have experienced shrinking manufacturing employment.) But trade policy and exchange rate policies, unlike technology, are under direct government control, so it is there that much of the political attention focused.

Moreover, some advanced economy governments worldwide, having moved in a more market-dominant direction since the late 1970s, didn't rise to the challenge of cushioning disfavoured workers and regions from structural changes, whether due to technology or trade. The historian Tony Judt (1997) was prescient in drawing on the European, and especially UK, experiences to observe: "It is the gap between economic change and social adjustment, a gap that has already lasted half a generation and will probably endure for years to come, that is causing the current dilemma and has . . . become the critical issue of our time." Perhaps ironically, the end of the Cold War over 1989-1991, while reducing geopolitical tensions and thereby supporting globalisation, also undermined governments' incentives to guard social solidarity, which in contrast are enhanced by the prospect of having to call citizens to national defence. Judt's forebodings came home to roost three decades later in the forms of Brexit, Donald Trump's takeover of the Republican Party in the United States, and resurgent populism throughout Europe, although an aspect of structural change beyond trade and technology – immigration – has also played an important part.

In the United States, following the Reagan deficit cycle, the 1988 Democratic presidential primary campaign of Representative Richard A. Gephardt already placed<sup>10</sup> a populist focus on trade deficits, deindustrialisation, and regional decline (Alden, 2016). The 1990s saw a furious debate over NAFTA, as well as backlash to the further trade liberalisation and institution-building in the Uruguay Round.<sup>11</sup> The century closed with massive street protests at the WTO 1999 ministerial meeting in Seattle. In the US Senate, Charles Schumer of New York, later the Senate Democratic Leader, railed against China's bilateral surplus with the United States<sup>12</sup> and, together with Senator Lindsey Graham, introduced multiple bills that would have threatened a 27.5% across-the-board tariff on Chinese imports unless China revalued the yuan to a much stronger level.

10 "Gephardt Presses Double Theme: Nationalism and Economic Worry", *New York Times*, 3 March 1998 (<https://www.nytimes.com/1988/03/03/business/gephardt-presses-double-theme-nationalism-and-economic-worry.html>).

11 The Texas entrepreneur H. Ross Perot memorably predicted that NAFTA would generate a "giant sucking sound" of US industries moving to Mexico.

12 "Schumer: Dramatic Increase In Trade Deficit With China Shows Effects Of Currency Manipulation", press release, 2 August 2006 (<https://www.schumer.senate.gov/newsroom/press-releases/schumer-dramatic-increase-in-trade-deficit-with-china-shows-effects-of-currency-manipulation>).

In response to the outcry in the US Congress, China moved in July 2005 to slightly revalue the yuan from its previous dollar peg and then allow gradual appreciation over time. The George W. Bush administration opposed the Graham–Schumer legislation but was sensitive to the political perils of a growing US deficit. The Council of Economic Advisers, of which Bernanke was then chair, avoided highlighting the current account deficit in its 2006 *Economic Report of the President* while simultaneously nodding to Bernanke’s contention that the deficit largely originated outside America (Council of Economic Advisers, 2006). The report’s chapter on international financial matters was entitled “The U.S. Capital Account Surplus”.

While much attention was focused on China, Germany’s surplus became strongly positive in 2002 after having been negative for a decade after unification. From there it grew further, reaching 6.7% of GDP in 2007. There were three main ingredients. First, Germany’s peg to the euro gave its economy an exchange rate weaker than the Deutsche Mark would have been. Second, the country embraced renewed fiscal prudence after the expenditures of reunification. Third, the 2003-2005 Hartz reforms, together with other features of the German labour market, resulted in wage compression (Burda and Hunt, 2011; Dustmann et al., 2014).

Bernanke’s (2005b) global saving glut theory has been a dominant narrative about the US deficits of the 2000s, but in Obstfeld (2025) I argue that it doesn’t really fit the facts over the entire decade up to 2008.<sup>13</sup> In a simplified version of Bernanke’s account, precautionary saving from East Asian crisis countries and oil exporters flowed into US asset markets after the Asian Crisis, bidding up the dollar, bidding up asset prices, and generating a large trade deficit. Because US assets and asset markets were uniquely attractive, global current account surpluses flowed primarily to the United States. Problematically for the saving glut theory – as well as for the claim that a strong dollar is the root cause of US manufacturing decline – the dollar embarked on a steep years-long descent early in 2002 (Figure 6). While some aspects of the 1998-2001 experience are consistent with the saving glut theory, other factors explain the further growth in the US current account deficit over 2002-2006, a period when US manufacturing employment also plummeted (Figure 13).

13 A slightly earlier analysis with similar themes but a more balanced view of possible domestic causes of the US deficit was offered by the Congressional Budget Office (2004).

In those years, the US housing boom, fuelled by financial innovation and deregulation and an exceptionally accommodative Federal Reserve monetary policy, were key drivers of the US deficit, while foreign reserve purchases (Figure 12) helped keep US bond prices low.<sup>14</sup> Some reserve purchasing countries pegged exchange rates at artificially depreciated levels and suppressed spending in order to build up reserves. However, starting around 2002, foreign capital was more pulled in than pushed in to the United States, and US dollar bond issuance helped to drive the dollar down (Obstfeld, 2025). The pattern of a weakening dollar accompanying a growing deficit over a protracted period makes the deficit cycle of the 2000s different from those of the 1980s or 2020s. The dollar depreciation was accompanied by generalised over-optimism in global financial markets beyond the US housing boom, notably, bets on convergence prospects for the euro area periphery and for Central and Eastern European countries, which fuelled wider deficit imbalances beyond the US case.

The US administration's concerns about the American deficit found expression in its advocacy of a Multilateral Consultation process within the IMF. In reality a mechanism to pressure surplus countries and especially China, the Multilateral Consultation originated at the April 2006 meeting of the International Monetary and Financial Committee of finance ministers, which agreed to expand IMF surveillance to include Multilateral Consultations and to devote the first such consultation to reducing global imbalances. After an initial report (IMF, 2007), the consultative effort wound down without much policy impact as attention moved to the GFC and global cooperation through the G20.

Following on the US housing crash and the onset of the GFC, China rolled out a substantial fiscal stimulus that reduced its external surplus while supporting the global economy (Figure 10). Likewise, Japan's surplus fell markedly in the crisis as fiscal policy loosened and the US deficit corrected sharply as private saving rose and investment fell (Figure 9). As Figure 8 shows, the crisis induced a general narrowing of global imbalances (including the US imbalance) that more or less endured until the early 2020s.<sup>15</sup> However, the crisis barely dented Germany's surplus, which by 2012 had climbed to over 7% of its GDP (Figure 10b). Germany's 'debt brake', instituted in 2009, was a contributor.

14 Emerging market reserve purchases were positively correlated with higher saving by those countries but are conceptually distinct and could have occurred as a portfolio preference shift even absent a change in global saving. Caballero (2010) highlighted safe asset demand as a potential cause of the Global Financial Crisis, as distinct from a global saving glut. In fact, just as US financial markets were able to recycle petroleum surpluses after the first two OPEC shocks in the 1970s, emerging market reserve purchases of the 2000s, while substantial relative to US GDP, were a much smaller share of the United States' total incurrence of foreign liabilities, most of which was recycled through US financial markets (Figure 12). Over the 2000s, emerging market economies reformed and opened their capital accounts (Figure 1). Many grew strongly with declining debt-to-GDP ratios and benefited from ample global liquidity and buoyant commodity prices. In short, even if safe asset demand favored US liabilities, the resulting capital inflows could be readily recycled abroad into ample investment opportunities in emerging markets and other economies. There was no necessary reason for them to create corresponding US deficits. The through-flows did, however, leave a footprint in the form of higher prices for US safe assets such as Treasuries and GSE liabilities. US equity markets performed worse than those of Europe over much of the decade.

15 Milesi-Ferretti and Tille (2011) examine the immediate crisis effects on international capital flows.

The Lehman failure in September 2008 led to a short-lived strong dollar appreciation as global investors sought safety in dollars and dollar-dependent global banks scrambled for liquidity. But soon the dollar's descent continued as the US external deficit shrank (Figure 6). The dollar reached a post-1973 low in 2011, toward the end of the Fed's second post-GFC round of quantitative easing (QE2). In a role reversal compared with the 2000s, the weak dollar led some emerging market officials to charge the United States with seeking a competitive advantage through 'currency wars'.

Although global imbalances narrowed after the financial crisis, policymakers facing the effective lower bound on monetary policy rates were still concerned that countries' attempts to raise aggregate demand through weaker currencies and enhanced external balances might export deflation globally (for a theoretical treatment, see Caballero et al., 2021). Consistent with ongoing international collaboration through the G20, the IMF in 2012 adopted a new Decision on Bilateral and Multilateral Surveillance (or Integrated Surveillance Decision, ISD) aimed at elevating discussions of international spillovers within the Fund's surveillance activities (IMF, 2012a). In a sense, the ISD continued the agenda of the earlier Multilateral Consultations. Roughly at the same time in 2012, the IMF launched its External Sector Report (IMF, 2012b), which built on earlier analytical efforts since the 1980s in adopting a formal External Balance Assessment (EBA) methodology for current account and exchange rate norms.<sup>16</sup>

At the G20 level, national leaders declared in Moscow in 2013:

*We reiterate our commitments to move more rapidly toward more market-determined exchange rate systems and exchange rate flexibility to reflect underlying fundamentals, and avoid persistent exchange rate misalignments. We will refrain from competitive devaluation and will not target our exchange rates for competitive purposes. We will resist all forms of protectionism and keep our markets open.*

This declaration was the most forthright multilateral commitment to date of intentions to avoid foreign exchange intervention in pursuit of external competitive advantage. Subsequently, however, the principle has not always translated well into practice.

### **Recent experience**

Global imbalances widened in 2021 and 2022 amid the pandemic and Russia's invasion of Ukraine, receded in 2023, and widened again in 2024 (see the IMF data in Figure 8). Assessment of developments over 2020-2024 must be provisional because of the large missing global deficit, which became exceptionally large at the time of the pandemic in 2021. It is plausible, though, that the wider imbalances of 2021 owed to the aggressive US fiscal stimulus (bigger deficit), suppressed Chinese spending due to the harsh lockdown policy and the beginnings of a property market correction, and a rebound

16 See Ghosh and Postelnyak (forthcoming). The EBA methodology has been updated and revised periodically.

in oil exporter revenues after the exceptionally low oil prices of 2020. The surpluses of Japan and Germany have remained sizeable (Figure 10), but within the wider euro area, former ‘peripheral’ countries with large external deficits leading up to the euro crisis of the 2010s (for example, Spain) have sharply reduced their net foreign borrowing or even become net foreign lenders (see the chapter in this report by Darvas et al.).

In 2022, the Ukraine war led to further escalation in oil prices and a rotation in the external surplus from non-US high-income countries (spending more for energy) to emerging oil exporters; at the same time, both the US deficit and the Chinese surplus rose, as US fiscal policy remained expansive, China’s severe lockdown policy (contrasting with most other countries) remained in force, and its real estate crisis deepened. The lockdown was eased in 2023 and China’s surplus shrank, as did the oil exporters’ surpluses due to lower oil market prices. At the same time, US fiscal policy remained expansive and the government’s deficit grew in 2024 (Figure 9) while AI-related investment boomed. In 2023, pent-up Chinese consumption demand may have somewhat offset the negative wealth effects of the property market crisis, but the latter effects were partly behind China’s bigger surplus in 2024. Chinese investment has remained depressed, in part owing to a subdued level of foreign direct investment linked to geopolitical and trade tensions. The surpluses of non-US high-income countries and non-China East Asian countries expanded as well in 2024, but for the most part more modestly than the US and China imbalances did.

Amid these developments, a persuasive indication that US demand for foreign investment is currently playing a comparatively active rather than passive role in generating the current pattern of global imbalances is the rise in global long-term real interest rates since the pandemic, with the US Treasury in the top echelon of inflation-adjusted government borrowing rates (Figure 2).

The IMF’s first round of 2025 data was not available at the time of writing but considering record Chinese export surpluses and fiscal expansion in the United States, it seems unlikely that global imbalances will narrow much in the short run, rather than expanding, despite global trade tensions. Exceptional economic and geopolitical turbulence since 2020 makes it hard to know if the current surge in imbalances will endure – even the future direction of travel is unclear. The expansion of global imbalances has accompanied, and to some degree been caused by, economic shocks that warrant concern; it is less clear that the imbalances themselves should be the primary focus of policy action. To put it another way, there are opportunities for mutually advantageous policies, and their impact on global current account imbalances is not the main yardstick for their desirability.

In 2025, the dominating shock to the global economy was President Trump’s trade war and the resulting bilateral negotiations aimed at rectifying an alleged history of unfair treatment of the United States within the global economy. These actions have amplified inefficiencies in international trade, escalated trade uncertainty globally, and

upended the rules-based trade system based on the most-favoured nation principle. As noted above, Trump's initial ascent to power in 2017 and his return in 2025 owe much to inadequately addressed labour market and regional dislocations of the previous decades, which have also been at work in Europe.

To justify its approach to trade, the US administration has advanced linked grievances that portray the persistent US trade and current account deficits as *prima facie* evidence of victimisation by trade and strategic partners. In the view that various US policymakers have expressed, the deficits result from foreign trade discrimination including sovereign regulatory regimes and currency manipulation, and from the provision of open US capital markets and the dollar as unremunerated global public goods. In turn, they argue, the deficits have drained America of jobs, notably manufacturing jobs, and wealth. However, the validity of both the diagnosis and the primary suggested cure – tariffs – is questionable (Obstfeld, 2025). Unlike in the 1985 Plaza Accord, the current US administration sees tariffs as a tool to realign the global economy rather than a threat to be avoided through international cooperation.

President Trump's broad-based tariffs will do little, if anything, to shrink the US external deficit in the absence of overall US expenditure reduction, and the substantial tributary investment inflows that the Trump administration has demanded of Japan, Korea, the European Union, Switzerland, and others – if and when they materialise – would expand the US deficit further. Based on the overall set of policies that the United States has set in motion, the prognosis for global imbalances is more than usually uncertain. However, trade-restricting measures, especially if they spread globally, will reduce global trade volumes and diminish global resilience and welfare.

Much of the recent concern about global imbalances reflects growing Chinese exports, which reflect long-standing subsidisation as well as an intensification of industrial policies targeting key sectors that the leadership views as strategic. As Gourinchas et al. (2024) stress, however, the roots of China's surplus are largely macroeconomic:

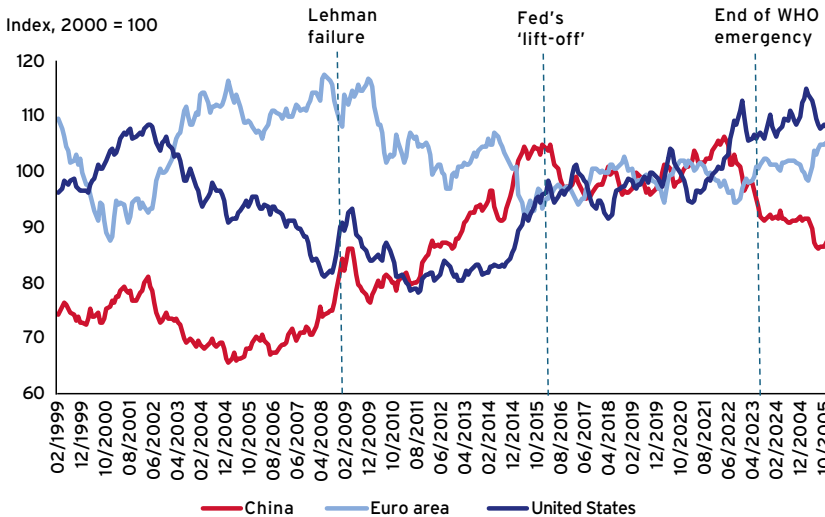
*China's subsidies are concentrated in priority sectors such as software, automobiles, transportation, semiconductors, and more recently, green technology. Yet, the country's manufacturing trade surplus is not concentrated among any specific industries and the share of the major sectoral contributors has remained fairly stable over time.*

However, higher general export levels do not affect all trade partners symmetrically, and surges that affect particular industries in particular partners – for example, electric vehicles (EVs) in Europe – can be very disruptive. China's aggregate external surplus per se may be a secondary concern, because even if China imported more, it would very possibly not be buying products from trade partners' most impacted sectors. The diversion of Chinese exports away from the United States since 2017 has had disruptive effects (with more on the way) that would not be much softened were China to purchase

more soybeans from the United States. A smaller Chinese surplus would not necessarily mitigate the disruptions unless it reflected more consumption of nontradable goods, which could be produced without inflationary effects only if China's economy produced fewer tradable goods and more nontradables, notably services.

But this rotation can only be accomplished if the relative price of nontradables rises to encourage their production. Instead, the yuan seems significantly undervalued – by 25%, according to an analysis by Goldman Sachs,<sup>17</sup> although only by 8.5% in the estimation of IMF staff (IMF 2025a, Annex Table 1.1.4). Figure 14 shows the evolution of the real effective exchange rates of the dollar, euro, and yuan since 1999. Since the July 2005 shift in China's exchange rate policy, inspired by fear of US protectionist legislation, the yuan has broadly appreciated in real terms. But since early 2022, it has depreciated by about 17%. China's reported international reserves have risen by only about \$220 billion over that time, and part of this rise is explained by slight dollar depreciation against the euro and a higher price of gold. But dollar purchases by state-owned banks have become increasingly important in managing the exchange rate (Setser and Sobel, 2025). China's system of capital account controls still gives it exceptional capacity to intervene for competitive advantage, notwithstanding the sentiments of prior G20 communiqués.

**FIGURE 14 BROAD REAL EFFECTIVE EXCHANGE RATES OF THE YUAN, EURO, AND DOLLAR, 1999-2025**

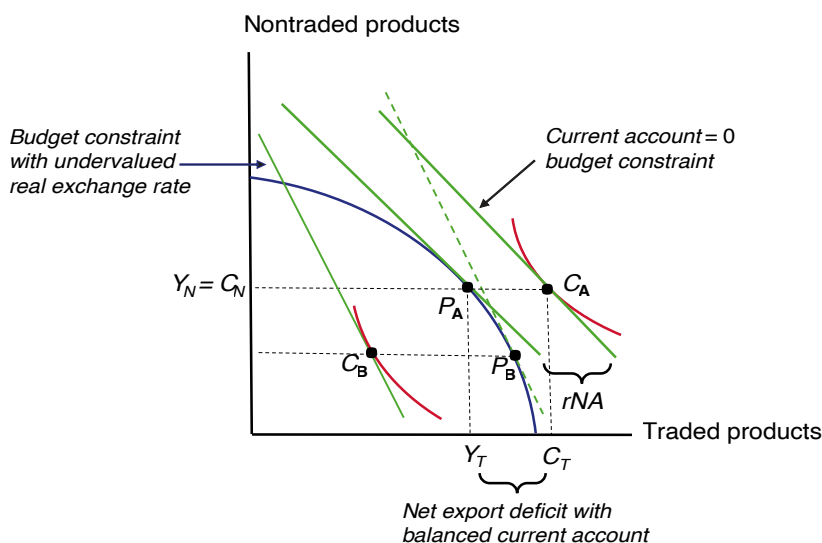


Source: Bank for International Settlements.

17 "China's Yuan Is 25% Undervalued on Trade Basis, Goldman Says", Bloomberg, 10 December 2025 (<https://www.bloomberg.com/news/articles/2025-12-10/china-s-yuan-is-25-undervalued-on-trade-basis-goldman-says?embedded-checkout=true>).

Renminbi undervaluation means that the price of tradables in the Chinese economy is artificially high. Figure 15 shows the equilibrium when the government enforces an artificially depreciated currency. The income on foreign net assets,  $NA$ , which is positive for China, is denoted by  $rNA$ . If the economy were to consume its income fully under conditions of full employment, resulting in a current account balance of zero, then the equilibrium would be characterised by the production and consumption points **A**, where output of nontradables,  $Y_N$ , equals consumption of nontradables  $C_N$  but there is a tradables deficit  $C_T - Y_T$  just equal to  $rNA$ .

FIGURE 15 CURRENCY UNDERVALUATION NEEDS EXPENDITURE COMPRESSION TO AVOID INFLATION



However, if the government wishes to enforce an artificially low value of  $P_N/P_T$  (a low real exchange rate in terms of Figure 15, which I assume is one that results in more tradables production than in the zero current account equilibrium), then the economy's spending must be compressed sufficiently to bring spending into line with the reduced supply of nontradables (giving the production and consumption points labelled **B**). Otherwise, inflation in tradables prices will undo the attempt to achieve a *real* depreciation. This point, already noted earlier in this chapter, reflects that eliminating a trade deficit through devaluation requires *expenditure-reducing* policies along with the *expenditure-switching* policy of a depreciated currency. In the undervaluation equilibrium **B** of Figure 15, there is not only a current account surplus but also a trade surplus.

Far from having inflation, China is currently experiencing deflationary forces, which have reinforced the yuan's real depreciation (IMF, 2025a). As noted, the unresolved real estate crisis is one driver, given the great importance of housing wealth in China. Related to the real estate problems is the high level of official debt (Huang, forthcoming). Also contributing are the effects of US trade policy, lower inward foreign investment,

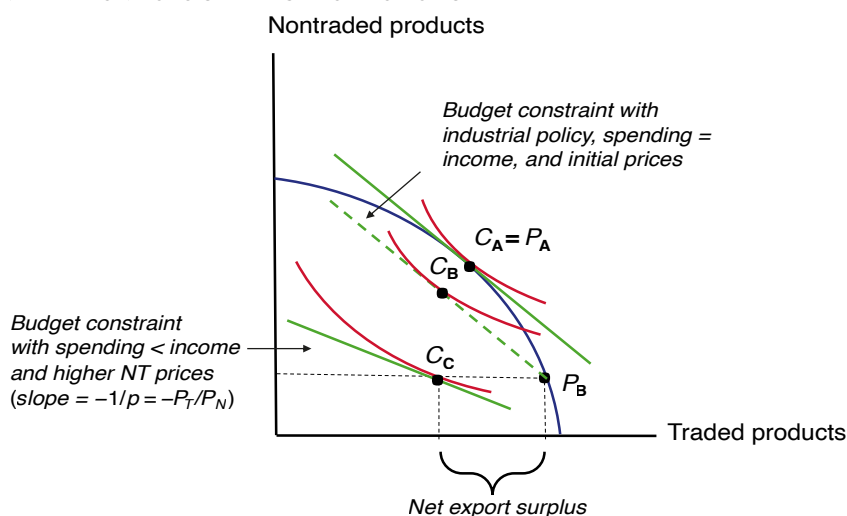
a shrinking and ageing population, and high youth unemployment (see the chapters in this report by Ma and Wei and by Huang). While China has expanded its social safety net over time (Lardy, 2025), its support systems still appear underdeveloped relative to most advanced economies. Finally, as Posen (2023) has observed, state encroachment on the private economy under President Xi Jinping – exemplified by, but not limited to, the government’s pandemic response – has hurt consumption, investment, productivity growth, and economic dynamism.

Thus, several forces – some policy-driven and some circumstantial – have contributed to depressed Chinese demand since the pandemic. Aggressively countering these would confront the government with internal political obstacles, yet China’s ability to export its manufacturing surplus abroad has reduced the domestic employment effects. This perspective again shows the complementarity between demand suppression and export promotion. However, the regime sees other reasons to promote manufacturing, such as cultivating various externalities in manufacturing production and exporting while pursuing technological supremacy and self-sufficiency in some areas.

In addition to maintain an undervalued currency, China supports traded goods production (and hence exports) through direct subsidies (industrial policies) – for example, cheap directed credit or subsidies to input prices. These policies help explain the export surge that worries the recipient countries. However, the preceding logic suggests that, in the face of these policies, too, China has to repress domestic spending (or allow it to remain depressed) in order to avoid inflation; this is the main mechanism through which industrial policies contribute to China’s trade and current account surpluses.

An extension of Corden’s geometric approach illustrates the logic. Assuming for convenience that  $NA = 0$ , Figure 16 shows the equilibrium when industrial policies move the production point from the balanced trade equilibrium  $P_A$  to  $P_B$ . Assuming tentatively that the prices consumers see do not change, the preferred consumption point  $C_B$  implies an excess demand for nontradables. To get to an equilibrium without excess demand for nontradables, the relative nontradables price  $P_T/P_N$  (the slope of the budget line) must fall, but also (because there is no supply response from the nontraded sector) spending must fall below income, resulting in a trade surplus (the implied consumption point is labelled  $C_C$ ). Thus, industrial policies to promote exports, as in China, can raise them above imports in the medium term without sparking inflation in nontradables prices because they are accompanied by contractionary policies that push consumption of nontradables into line with their diminished production.

FIGURE 16 INDUSTRIAL POLICIES LEAD TO A NET EXPORT SURPLUS THROUGH ACCOMPANYING MACRO STABILISATION POLICIES



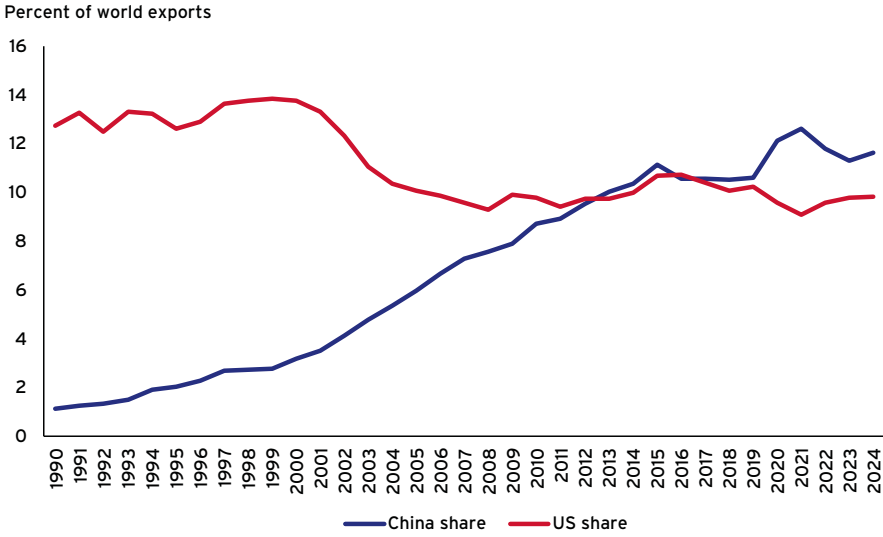
One motivation for industrial policies is to capture positive production externalities that are relatively stronger in the traded goods sector, such as learning by exporting.<sup>18</sup> Such policies, however, need not generate a higher current account balance. If they succeed in raising expected future productivity growth, industrial policies will encourage consumption and investment, reducing the current account. In that setting, industrial policies are more likely to result in a bigger external surplus when complemented with expenditure-reducing macroeconomic measures and real currency depreciation (Ottonello et al., 2024; Cesa-Bianchi et al., 2026).

China's policies of export promotion have helped to make it the world's leading exporter, while simultaneously inducing policies that repress consumption and thereby generate external surpluses. China's exports overtook those of the United States in value terms around 2012: China's share in world export value currently stands at around 12%, whereas the US share is about 10% (Figure 17). However, these numbers understate the impact of Chinese exports on competing producers abroad because the prices of China's exports have fallen steadily and dramatically since the mid-1990s (Figure 18).

This decline owes to several factors, including a range of export promotion policies, but also to economies in scale in production and learning by producing and exporting. Furthermore, the standard price indexes understate the price decline due to the increasing quality and sophistication of Chinese exports (Pula and Santabárbara, 2011). Thus, numbers on China's global export value share badly understate its impact on foreign producers of competing goods.

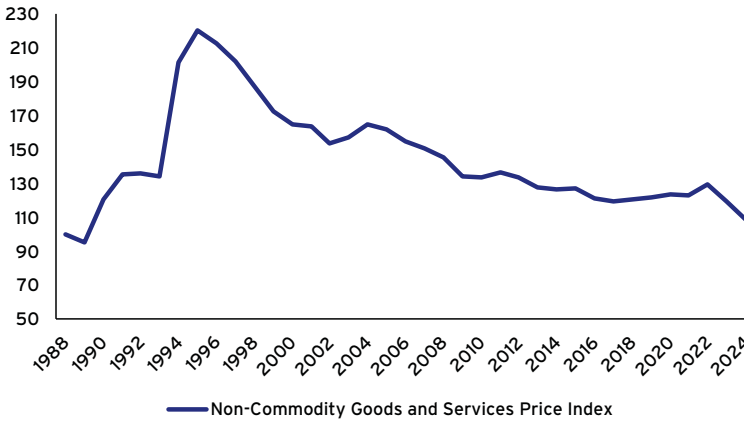
18 For example, see Redding (1999), Atkin et al. (2017), Aghion et al. (2024), and Liang et al. (2024).

**FIGURE 17 SHARES OF CHINA AND THE UNITED STATES IN WORLD EXPORTS**



Source: World Bank.

**FIGURE 18 DOLLAR PRICE INDEX FOR EXPORTS FROM CHINA**



Source: OECD.

**REDUCING GLOBAL IMBALANCES**

Current account imbalances, even large ones, are not necessarily bad in themselves. Residents of a country who are borrowing large amounts externally may find themselves unable to repay, leading to a financial crisis. But the *net* financing for a current account imbalance relies on larger *gross* capital inflows and outflows, and some borrowers may get into trouble even if the national current account is balanced. The composition of the external balance sheet – debt versus equity – is also relevant. A balanced current account is neither necessary nor sufficient to avoid crises related to foreign financial flows (see the chapter by Harr and Krogstrup in this report).

The same is true of trade-related industrial distress. Import surges can disrupt some industries even when they do not result from artificial subsidisation and even when trade accounts are balanced. That is why GATT and WTO rules have allowed safeguard and countervailing tariffs. Large surpluses may be correlated with such surges but are not a necessary accompaniment.

Large surpluses may be globally problematic in a deflationary world at the effective lower bound, where countries cannot offset foreign falls in aggregate demand through domestic monetary measures. Recently, however, real interest rates have risen globally and seem on track to remain above the levels that prevailed during much of the post-GFC period (Figure 2).

At the same time, policies that reduce imbalances may not be beneficial, either globally or to their implementers, and good policies may cause imbalances to widen. The effect on global imbalances should not be the primary metric for judging policies; rather, the metric should be whether the policies accurately target a more fundamental underlying problem in the economy (Blanchard and Milesi-Ferretti, 2012).

For example, higher trade costs, due to protectionism or geopolitical stresses, are likely to reduce global imbalances by effectively throwing sand in the wheels of financial markets.<sup>19</sup> This is not necessarily welfare-improving. Financial markets certainly are subject to distortions, but restrictions on intra-temporal trade are not an efficient way to address them – targeted interventions in financial markets would be better. Financial markets are already likely headed for more international fragmentation through additional channels, with uncertain consequences: Keynes's (1924) argument for limiting foreign investment has become more relevant given current geopolitical tensions, schemes to interfere in cross-border financial flows are more widely discussed, and a diminution of the dollar's global stature would fragment international finance as well as trade.<sup>20</sup>

For the United States, China, and the European Union, however, there are obvious actions that would contribute to domestic and world welfare. As Furman discusses in his chapter in this report, the US federal fiscal deficit is on an unsustainable course. Federal debt in the hands of the public is already 100% of GDP, and looming crises for Social Security and Medicare receive scant notice in Washington. Fiscal consolidation to ensure debt sustainability and the solvency of the key entitlement programmes would lower the very big US current account deficit. But fiscal retrenchment is important not so much because it reduces the external deficit, but because it reduces the risk of a government budgetary crisis down the road and rebalances intergenerational equity. Fiscal restraint would allow monetary easing, and a weaker dollar.

19 Trade impediments imply that current-account responses to shocks will be muted, but that is not the same saying that a country imposing a broad-based tariff – which is itself a shock – will necessarily see an improved current account as a result. The empirical evidence does not suggest a significant effect of tariff shocks on trade balances (Obstfeld, 2025).

20 See Chari et al. (2025) for analysis and discussion of recent trends.

The IMF's recent Article IV consultation with China (IMF, 2025b) sets out its to-do list:

*The key policy priority is to transition to a consumption-led growth model, which is one of the government's stated objectives in the 15th Five-Year Plan. In staff's view, this transition requires more urgent and forceful expansionary macroeconomic policies, reforms to reduce elevated household savings, and a scaling back of inefficient investment and unwarranted industrial policy support. Such a policy package will also reduce external imbalances.*

*Beyond these concerted policy efforts, tackling elevated risks and sustaining robust medium-term growth calls for: (i) reforms to fiscal and financial frameworks; (ii) balance sheet cleanup in the general government, property, and financial sectors; and (iii) advancing market-oriented reforms, including opening up the service sector and fostering competitive neutrality across firms.*

The Fund presents the reduction of external balances as a desirable side effect. But the main case for the preceding reform package is that it would remove distortions in China, while benefiting its trade partners.

Europe's challenge is to raise investment (including infrastructure investment), integrate internal markets, and promote a culture of innovation (as set out in the Draghi recommendations). A more extensive central fiscal capacity could enhance the European Union's ability to finance these initiatives, but their positive growth effects would in themselves support fiscal sustainability. Security imperatives also call for a big, coordinated investment in defence preparedness. These initiatives would be manifestly beneficial to Europe. That they would reduce its external surplus might ease commercial tensions with the Trump administration, but otherwise is secondary.

What should be the place of currency realignments? As Figure 14 shows, in the recent expansion of global imbalances, the dollar has appreciated in real terms, the euro has also appreciated but less strongly, and the yuan has depreciated sharply. (The Japanese yen has also fallen precipitously; see Figure 11.) Early months of the second Trump administration saw discussion of a 'new Plaza Accord' or 'Mar-a-Lago Accord' intended to realign exchange rates. However, history shows that such initiatives ultimately fail to remedy imbalances without complementary changes in macroeconomic fundamentals. All the economies in question are at approximate full employment, so expenditure-switching exchange rate changes would need to be accompanied by the expenditure-changing policies outlined earlier to have durable effects on current accounts. Conversely, under flexible exchange rates, the fundamental macro policies consistent with more balanced current accounts largely induce the desired exchange rate adjustments when monetary policy aims for price stability. Exchange rates should generally not be the targets of policy.

China is different owing to its capital controls, which allow more freedom to manage the yuan's value independent of macro policies. Yet, if China were to follow the IMF's advice by promoting consumption, some renminbi appreciation (as well as a bigger service sector) would be necessary to prevent inflation. A more flexible exchange rate regime would help and be consistent with the authorities' goal of furthering renminbi internationalisation.

There could be perils in an incomplete balancing effort where some, but not all, regions move to preferable policies. For example, in the absence of US fiscal consolidation, higher demand in the European Union and China would raise global real interest rates further but also lower the sustainability of US (and indeed, global) fiscal deficits and debts. The risks of global financial instability accordingly would rise.

One aspect of global imbalances frequently ignored in discussing the large countries' problems is the inadequate volume of capital flows to most middle- and low-income economies. Policies that promote these – on both the lender and borrower sides – could accelerate global growth while helping with other challenges, notably the green transition.

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# Global imbalances then and now: Should we be concerned?

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## 1 INTRODUCTION

Global imbalances in trade, income, and capital flows have been a persistent feature of the international financial system for the past 30 years. During this period, the United States and the United Kingdom have consistently run current account deficits, while oil exporters, China, Japan, and, more recently, the euro area have recorded surpluses. Global imbalances widened markedly in the years preceding the Global Financial Crisis (GFC) of 2007–2009 (Figure 1). This partly reflected increasing official savings in surplus countries, described as a ‘savings glut’ by Bernanke (2005), alongside credit-fuelled deficits, notably in the United States. Some, such as US Treasury Secretary Henry Paulsen, viewed global imbalances as a key contributor to the buildup of financial risks before the crisis (Guha, 2009). Others, including Obstfeld and Rogoff (2009), argued that this perspective overstates the role of imbalances and underplays the role of domestic US policies. Regardless of this debate, imbalances have contributed to protectionist sentiment in the United States (Wolf, 2023). As Figure 1 shows, global imbalances narrowed in the years after the GFC but have widened modestly again in recent years.

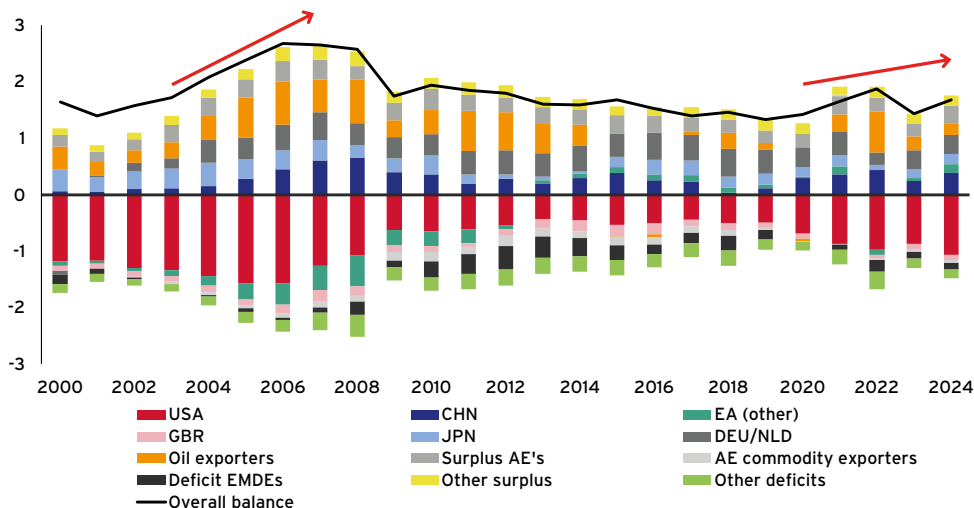
In this chapter, we ask whether the persistence and recent widening of global imbalances are causes for concern from a capital flows and financial stability perspective. We do not take a position on whether the current constellation and size of external surpluses and deficits in the global economy are desirable or excessive from a macroeconomic perspective, nor on whether they are primarily driven by excess savings in surplus countries or excess demand in deficit countries (for an in-depth treatment of this question, see Obstfeld, 2025, and also Obstfeld’s chapter in this report). In a purely macroeconomic sense, global imbalances can reflect desirable global risk sharing and intertemporal trade, as well as less desirable fiscal, trade, or industrial distortions.

1 We thank Cinzia Alcidi, Henrik Yde Andersen, Agnes Bénassy-Quéré, Oya Celasun, Renato Faccini, Niels-Jakob Hansen, Frederik Ole Lund-Thomsen, Anne Brolev Marcussen, Erik Fossing-Nielsen, Ulrik Nødgaard, Maurice Obstfeld, Helene Rey, Thomas Sangill, Morten Spange, Peter Storgaard, Rolf Strauch, Martin Wagner Toftdahl, and Christian Kettel Thomsen for helpful comments and suggestions, and Caroline Netterstrøm and Jakob Lunde Steffensen for excellent research assistance. The views expressed in this chapter are the personal views of the authors only.

Moreover, geopolitics, strategic autonomy and the resilience of supply chains are increasingly important considerations in assessing external imbalances. While these remain important areas for further analysis, this paper focuses on the capital-flow and global-financial-stability implications of persistent global imbalances.

**FIGURE 1 GLOBAL IMBALANCES ARE PERSISTENT AND WIDENING AGAIN**

Global current account surpluses and deficits (percent of world GDP)



Source: IMF (2025a).

To assess the risks, we compare the composition and drivers of current global imbalances with those observed before the GFC and illustrate how net international investment positions have continued to grow. We show that the set of deficit and surplus countries has remained largely unchanged since the years prior to the GFC, with a few notable exceptions. The associated accumulation of foreign financial assets and liabilities has therefore continued despite the narrowing of global imbalances in the years after the GFC.

The chapter highlights a shift in the origin of the savings of surplus countries – and thus a shift in the nature of the savings glut component of global imbalances – from official to private savings. Before the GFC, the rise in savings in surplus countries contributed, alongside demand expansion in deficit countries, to the widening of global imbalances, and these savings were to a significant extent driven by official sources. Official savings notably reflected the accumulation of foreign exchange reserves and the buildup of sovereign wealth funds in predominantly Asian economies and among oil exporters. Today, savings in surplus countries are driven by the private sector, whereas in deficit countries they are more closely associated with public dissaving and rising government debt. While demand expansion – particularly the US fiscal deficit – has played a role in driving imbalances alongside savings in surplus countries, our point is that the shift from official to private savings matters greatly for asset prices, risk premia, and safe interest rates.

In particular, the shift in the nature of the savings glut has coincided with a rise in non-bank financial intermediaries (NBFIs) in cross-border capital flows, a higher preference for risky over safe assets, and the emergence of new financial vulnerabilities. Earlier, foreign official savings were largely intermediated by official institutions and invested in US safe assets – most notably in US Treasuries – with a focus on liquidity and safety. By contrast, the cross-border intermediation of private savings today is dominated by NBFIs, such as investment and hedge funds, asset managers, and pension funds, which manage assets with returns and risk as their main objectives. This shift results in relatively higher demand for risky assets compared to safe assets, contributing to compressed risk premia and encouraging greater risk taking, while it may exert less downward pressure on safe rates than in the pre-GFC period. Emerging vulnerabilities relate to rising concentration risks and stretched asset valuations in tech-related assets, as well as increasing price sensitivity and greater use of leverage in government bond markets.

The buildup of net international investment positions – where the United States is becoming an ever-larger debtor to the world – combined with emerging financial vulnerabilities gives rise to concern. Global imbalances are unlikely to reverse and thus mitigate the accumulation of cross-border claims, as long as savings and investment patterns are not adjusting. Consequently, we argue that it is important to ensure the robustness of the global financial system in the face of these emerging vulnerabilities. Fiscal sustainability is a key prerequisite for financial stability, but important policies also include appropriate regulation of financial institutions and greater transparency in non-bank cross-border investment flows. Finally, financial regulation may help mitigate global imbalances by dampening the financial channel through which they propagate.

The chapter proceeds as follows. We first lay out some first principles about external imbalances based on national accounting identities. Section 3 presents the data on savings–investment imbalances for key countries, pointing to general trends and the shift from official to private savings. Section 4 lays out the main point of the chapter, namely, the shift from capital-flow intermediation of official savings by official institutions to the intermediation of private savings through NBFIs, and the associated effects on preferences for, and prices of, risk. We offer policy considerations in Section 5 before Section 6 concludes.

## **2 BACK TO THE TEXTBOOK: THREE PERSPECTIVES ON THE SAME IMBALANCE**

Global imbalances are, by definition, the sum of all countries' external imbalances. A country's external balance is simultaneously a current account balance, a savings–investment balance, and net capital flows, as illustrated by the accounting identities below. The first equation is the national income identity, which shows that a country's gross national income can be allocated to private consumption, government consumption, investment, net exports, and net income from abroad. Savings are defined

as the part of income not consumed by the private or public sector, which is captured by the second equation. The third equation links the current account – which equals the sum of net exports and net income – to the savings–investment balances and to net capital flows, as implied by the balance-of-payments identity.

$$GNP = C + I + G + NX + NI$$

$$S = GNP - C - G$$

$$\Rightarrow$$

$$CA = S - I = CF$$

where *GNP* is gross national product, *C* is private consumption, *I* is investment, *G* is government spending, *NX* is net exports, *NI* is net income, *CA* is current account, *S* is savings, and *CF* is net capital flows.

These identities show that a country's external balance is simultaneously (i) a current account imbalance, (ii) a savings–investment imbalance, and (iii) a net capital flow. These three external imbalances are not independent but represent different perspectives on the same underlying imbalance. Importantly, these relationships say nothing about causality. Imbalances can originate in, and be amplified by, any of these components. If a country consumes and invests more than it produces, it must import more than it exports and finance the difference through net capital inflows. A country's economic cycle, policies, and structural trends all influence the savings–investment balance, the current account balance, and capital flows. This accounting perspective underlines how trade policy alone is unlikely to resolve external imbalances unless it alters underlying savings and investment behaviour. We return to this point when we discuss policy in Section 5.

The identities also show that imbalances in one country affect, and are affected by, imbalances elsewhere. These cross-border impacts are transmitted through trade, capital movements, asset prices, and exchange rates. For instance, if the US current account deficit were to narrow, surpluses in other countries would also have to narrow. This would alter the global pattern of savings, investment, capital flows, and asset prices.

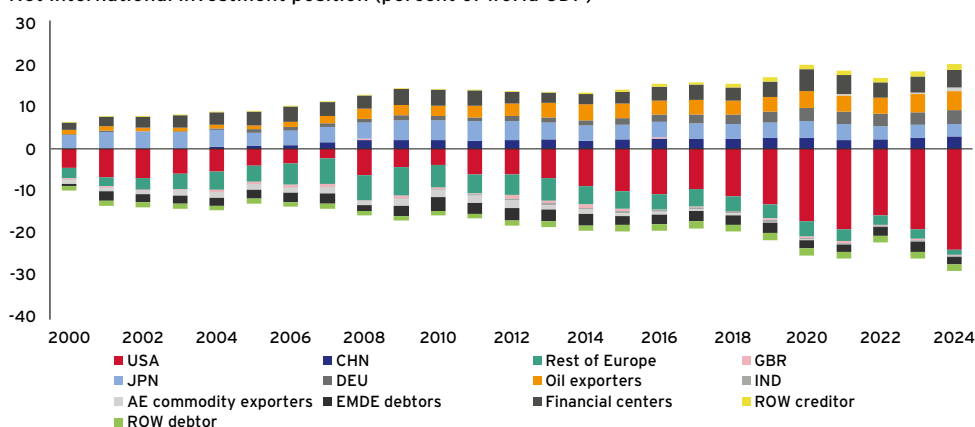
### 3 A ROTATION FROM OFFICIAL TO PRIVATE SAVINGS

Today's global imbalances share both similarities with, and differences from, those observed before the GFC. Below, we focus on savings–investment and capital flow imbalances and illustrate four stylised facts. To simplify, we primarily present developments in the key economies driving global imbalances: the United States, the euro area, China, and, occasionally, Japan.

First, global imbalances have been persistent, leading to a continued buildup of cross-border financial imbalances. The split between deficit and surplus countries has changed only modestly in the past decades (Figure 1). The United States remains the main deficit country, while China and Japan have maintained persistent surpluses. Only a few economies have shifted their external position since the GFC. The euro area has shifted from an overall balance to an external surplus. Meanwhile, the surpluses of small, open advanced economies in Asia and in non-euro area Europe have increased, while the role of energy exporters has diminished compared with the pre-GFC period. This persistence is reflected in the continued buildup of financial assets in surplus countries and liabilities in deficit countries (Figure 2).

**FIGURE 2 STOCK POSITIONS ARE INCREASING**

Net international investment position (percent of world GDP)

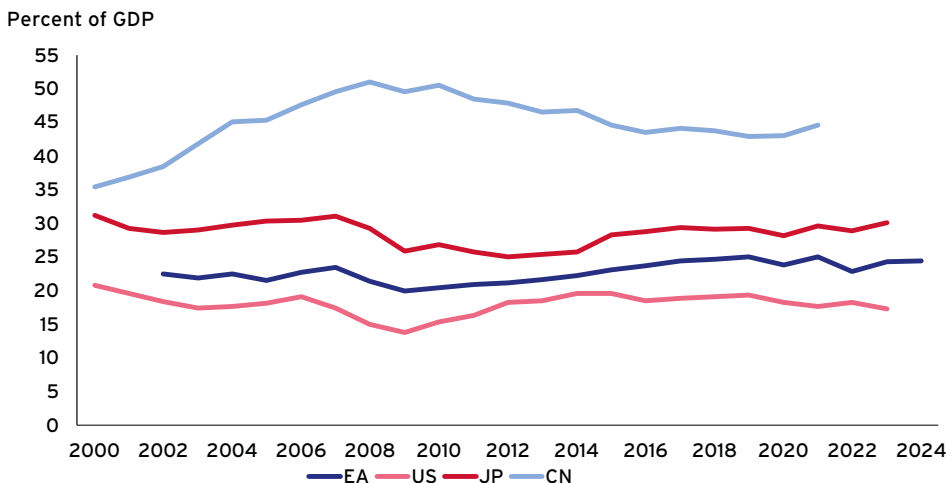


Source: OECD and ECB.

Second, global imbalances primarily reflect differences and changes over time in savings rates, and to lesser extent in investment rates (Figures 3 and 4). Countries with persistent external surpluses generally have high savings rates. Thus, investment rates in the euro area and the United States have been broadly similar, but savings have consistently been higher in the euro area than in the United States and have increased further since the GFC. In Japan and China, both savings and investment rates are high.

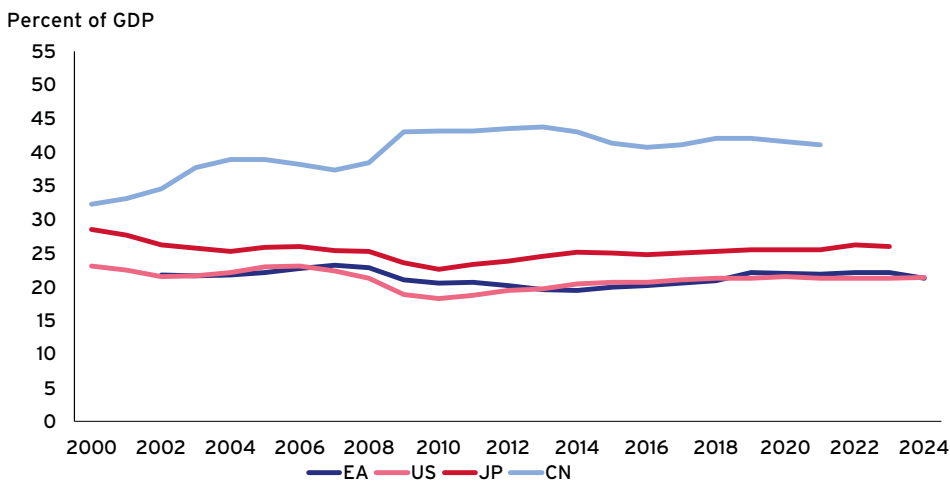
Third, the recent modest widening of global imbalances reflects countries' different responses to global shocks as well as underlying structural developments. The Covid pandemic triggered a temporary shift toward goods consumption, supply-chain disruptions, large stimulus packages, and rising fiscal deficits. The spike in energy prices following Russia's invasion of Ukraine led to large surpluses for oil exporters in 2022 (IMF, 2025a). The more recent moderate widening of imbalances also reflects structural drivers of saving, such as changing private saving behaviour and persistent government deficits.

**FIGURE 3 SAVINGS RATES VARY SUBSTANTIALLY ACROSS COUNTRIES**



Source: OECD and ECB.

**FIGURE 4 INVESTMENTS ARE AT A SIMILAR LEVEL IN THE UNITED STATES AND THE EURO AREA, SLIGHTLY HIGHER IN JAPAN, AND SIGNIFICANTLY HIGHER IN CHINA**



Source: OECD and BEA

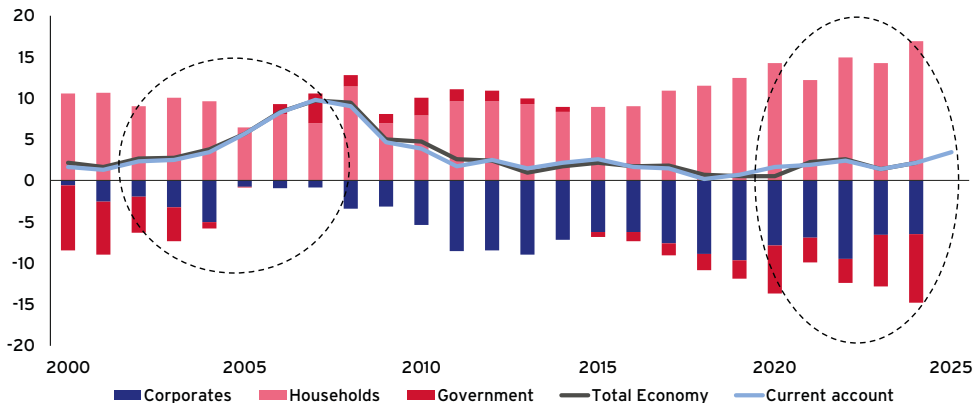
Fourth, many countries have seen a shift from public to private savings, along with an increase in government borrowing since the pre-GFC period. As a result, sectoral imbalances at the global level are now larger, with governments borrowing more while corporates and households save more. Higher household saving reflects ageing populations and incentives to save for retirement, as well as increased precautionary saving driven by more frequent global shocks and heightened geoeconomic uncertainty. Rising private saving may also be related to rising income inequality in some countries (Mian et al., 2025). While the rise in household saving and government dissaving is nearly universal across countries, corporate saving patterns differ markedly from one country to another.

These general trends have manifested in different ways across countries. In general, surplus countries have tended to see a rise in private saving that has offset an increase in government borrowing. In deficit countries, the rise in government borrowing has typically outweighed private saving, as we illustrate below for specific countries.

In China, household savings have increased sharply since the GFC, while both corporates and the government have become net borrowers (Figure 5). High and rising household savings in China reflect both structural factors – such as limited social safety nets and demographics – as well as cyclical factors, including the recent correction in the real estate market (e.g., Xu et al., 2025; IMF, 2024a). The property downturn has also been an important driver of higher government borrowing in recent years (e.g., IMF, 2024b), in contrast to the pre-GFC period, when large foreign exchange interventions supported both export-led growth and official saving.<sup>2</sup>

**FIGURE 5 IN CHINA, HOUSEHOLDS ARE THE BIG SAVERS, WHEREAS CORPORATES AND THE GOVERNMENT ARE NET BORROWERS**

Net lending by sector: Total and current account (percent of GDP)



Note: \*Sector-specific net lending/borrowing is calculated as the difference between their income and expenditure. Data were retrieved on 9 February 2026.

Source: National Bureau of Statistics China, People's Bank of China.

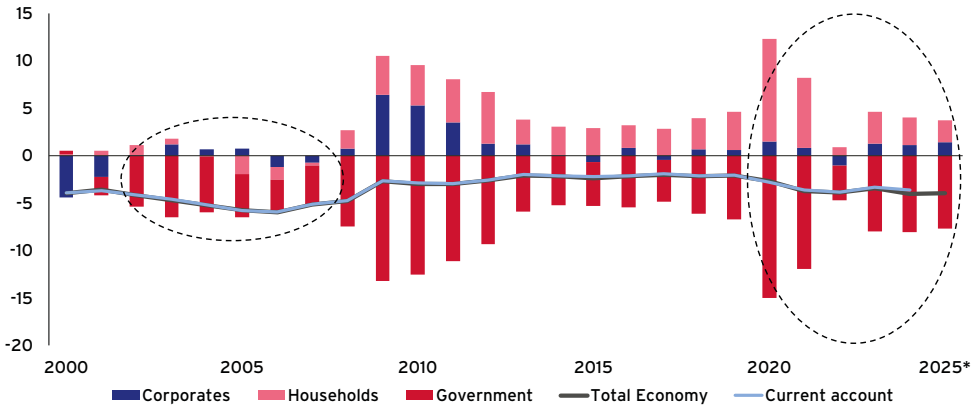
In the United States, net borrowing is now at its highest level since 2008, driven by increased government borrowing that is only partly offset by moderate private savings (Figure 6). This sectoral distribution of savings, dominated by government dissaving, contrasts from the period before the GFC, when dissaving was widespread across all

2 See the chapter by Ma and Wei in this report for a detailed analysis of China's current account imbalance. The reader may be surprised that the large stimulus package of about 4 trillion yuan announced by the Chinese government in November 2008 in response to the global financial crisis is not more visible in Figure 5. However, despite the size of the package, the increase in government net borrowing was significantly smaller, because a substantial share of the stimulus was implemented through state-owned enterprises, local-government financing vehicles, and bank credit rather than through on-budget government capital formation.

sectors. At that time, low interest rates, accommodating macroeconomic policies, and deregulation supported both consumption and investment. See the chapter by Milesi-Ferretti in this report for a comparison of the drivers of the United States' current account deficit pre-GFC and now.

**FIGURE 6 IN THE UNITED STATES, THE GOVERNMENT IS NOW A LARGER BORROWER THAN BEFORE THE GFC, WHILE HOUSEHOLDS ARE NET SAVERS**

Net lending by sector, in total and the CA (percent of GDP)



Note: \*2025 values are computed as the sum of flows in Q1, Q2 and Q3 as a percentage of the sum of quarterly GDP in Q1, Q2 and Q3

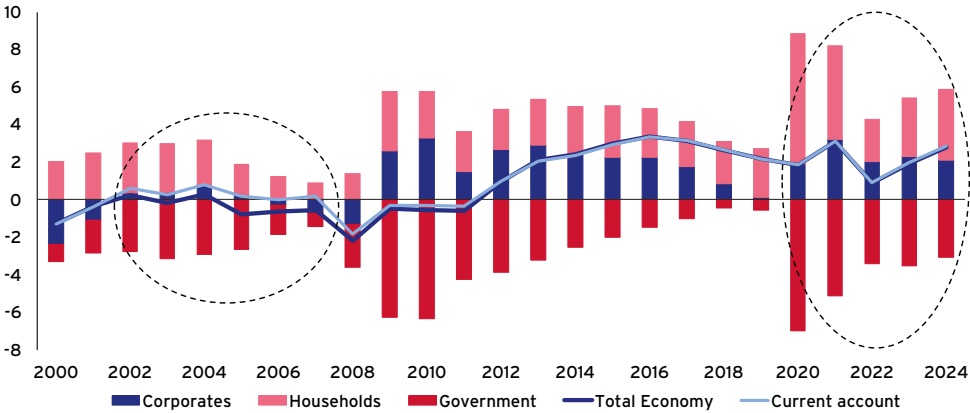
Source: U.S. Bureau of Economic Analysis (via Haver Analytics).

In the euro area, the shift to a current account surplus after the GFC reflected a rise in private savings by households and corporates, which more than offset higher government borrowing (Figure 7). The shift from a balanced current account before the GFC to a surplus in the mid-2010s is primarily explained by an increase in corporate net saving, driven by a decline in investment relative to savings, as noted by Darvas et al. in their chapter in this report.<sup>3</sup> The rise in corporate savings in the euro area since the GFC mirrors a broader trend across advanced economies reflecting a higher profit share and lower dividend payouts in large euro area economies such as Spain, Italy, and Germany (Dao and Maggi, 2018; OECD, 2025). In the 2020s, household savings in the euro area have risen sharply. Within the euro area, deficits in southern European countries and Ireland have narrowed, while surpluses in northern countries have persisted and, in some cases, increased since the GFC. Internal euro area imbalances have therefore eased significantly, although government borrowing is considerably higher than before the GFC, as in the United States and China.

3 The weak corporate investment in the euro area after the GFC likely reflected the euro area sovereign debt crisis, which constrained the supply of capital through the sovereign-bank doom loop (Acharya et al., 2018), while weak growth weighed on investment demand (Barkbu et al., 2015)

**FIGURE 7 THE EURO AREA HAS BEEN A NET SAVER SINCE THE 2010-2012 DEBT CRISIS, A SHIFT LED BY THE PRIVATE SECTOR**

Net lending by sector: Total and current account (percent of GDP)



Source: Eurostat, ECB (via Haver Analytics).

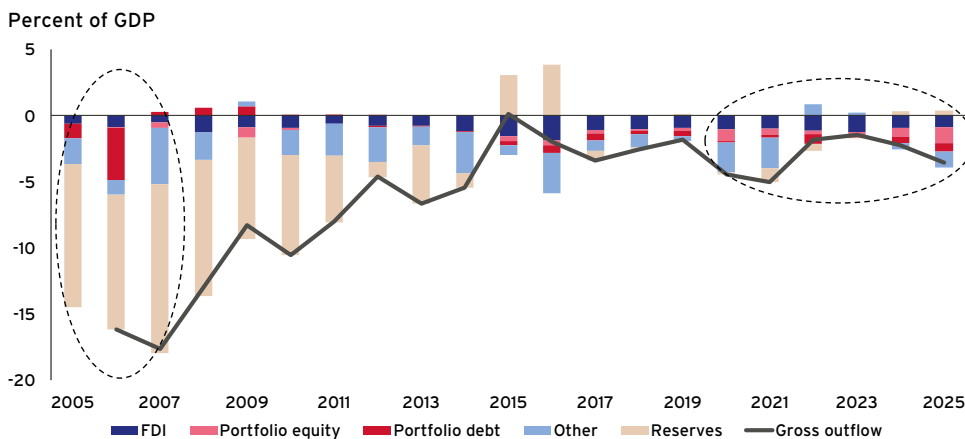
#### 4 THE RISE OF PRIVATE SAVINGS AND NBFIS IN INTERMEDIATING CAPITAL FLOWS

The shift from official to private savings has affected capital flows and influenced global imbalances and financial conditions since the GFC. To make this point, we revisit the ‘savings glut’ (Bernanke, 2005), comparing its nature before the GFC with its characteristics today and discussing the implications.

Before the GFC, foreign exchange reserve managers and sovereign wealth funds intermediated official savings into foreign safe assets, particularly in the United States. Asian economies and oil exporters in particular increased official savings in the years leading up to the crisis, contributing to large external surpluses. Several Asian economies accumulated substantial foreign exchange reserves, investing them in foreign currency assets. The motivation for this varied across countries, but for many it included the desire to self-insure against future currency crises following the Asian financial crisis in 1997-1998, as well as to support exchange rate policy objectives (Dooley et al., 2003).

In China, the undervalued yuan (IMF, 2006), together with expectations of its appreciation, contributed to the country’s large current account surplus as well as substantial gross capital inflows at the time. Extensive foreign exchange intervention limited the currency’s appreciation (Figure 8) but led to a substantial buildup of official foreign exchange reserves. Oil exporters also recorded large surpluses during these years, which were channelled into the creation of major commodities-based sovereign wealth funds to preserve wealth or accumulated as official foreign exchange reserves. Investments by central banks and sovereign wealth funds were guided primarily by considerations of safety, liquidity, and policy objectives rather than returns (Bernanke et al., 2011). As a result, these investments were relatively price-inelastic (e.g., Kaminska and Zinna, 2014; Krishnamurthy and Vissing-Jorgensen, 2012).

**FIGURE 8 BEFORE THE GFC, CHINA'S GROSS CAPITAL OUTFLOWS WERE LARGELY RECYCLED INTO US SAFE ASSETS THROUGH FOREIGN EXCHANGE INTERVENTION; THIS IS NO LONGER THE CASE**



Note: Numbers for 2025 are calculated from Q1, Q2 and Q3 numbers.

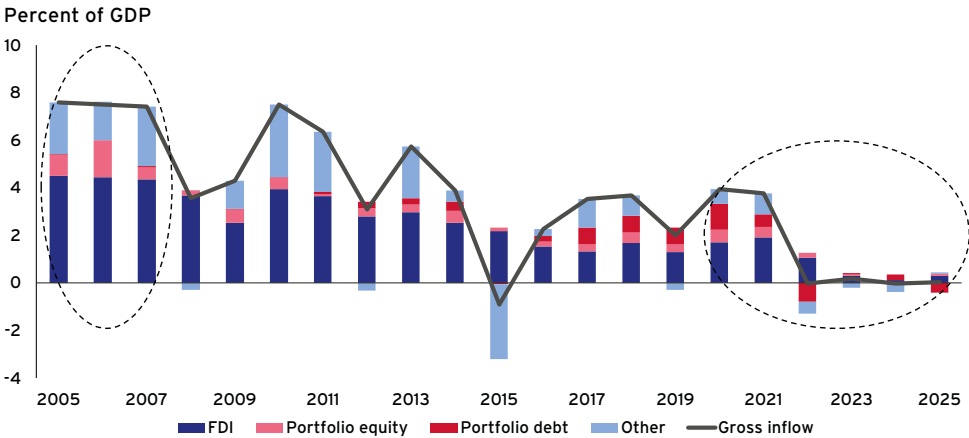
Source: IMF and OECD (via Haver Analytics).

The official savings glut may have amplified global imbalances prior to the GFC by lowering safe interest rates and stimulating demand in deficit countries (Bernanke, 2005).<sup>4</sup> Domestic factors in the United States prior to the GFC – such as deregulation and accommodative macroeconomic policies – also played important roles in driving low risk premia, dissaving, and the large US external deficit at the time (see also Obstfeld, 2025). However, the savings glut may have supported and amplified the US external deficit in several ways, although the magnitude of its impact remains debated.<sup>5</sup> The foreign official savings from Asian economies and oil exporters increased demand for safe assets, particularly US dollar-denominated assets such as US Treasuries and US agency debt (e.g. Chari et al., 2025). This demand put upward pressure on safe asset prices, lowered US safe yields, and thus further reduced the cost of financing in US dollars (e.g., Caballero et al., 2008; Mendoza et al., 2009; Warnock and Warnock, 2009). Strong demand for US safe assets may also have supported financial innovation, including efforts to create safe assets from mortgage debt through securitisation. This, in turn, may have further encouraged low saving and greater borrowing (Bernanke, 2005). Foreign official demand for US safe assets contributed to the higher convenience yield of US Treasuries and the so-called ‘exorbitant privilege’, with the United States functioning as the ‘world banker’ or ‘world venture capitalist’ (Gourinchas and Rey, 2007).

4 European banks – particularly those based in global financial centres – also played a significant role in intermediating gross capital flows prior to the GFC, thereby exacerbating global imbalances. As capital moved from northern surplus countries to southern deficit countries, this intermediation fueled credit expansion and asset price booms in both southern Europe and the United States (Borio and Disyatat, 2011).

5 The available data do not allow us to take a firm position on whether the saving-glut narrative played an important role in driving imbalances prior to the Global Financial Crisis. As pointed out by Obstfeld (2024), accommodating macroeconomic policies and a push toward deregulation also stimulated private demand in the United States and may have been more important in driving imbalances. The two views are not mutually exclusive.

**FIGURE 9 GROSS CAPITAL INFLOWS INTO CHINA WERE LARGE BEFORE THE GFC; THEY ARE MUCH SMALLER NOW**



Note: Numbers for 2025 are calculated from Q1, Q2 and Q3 numbers.

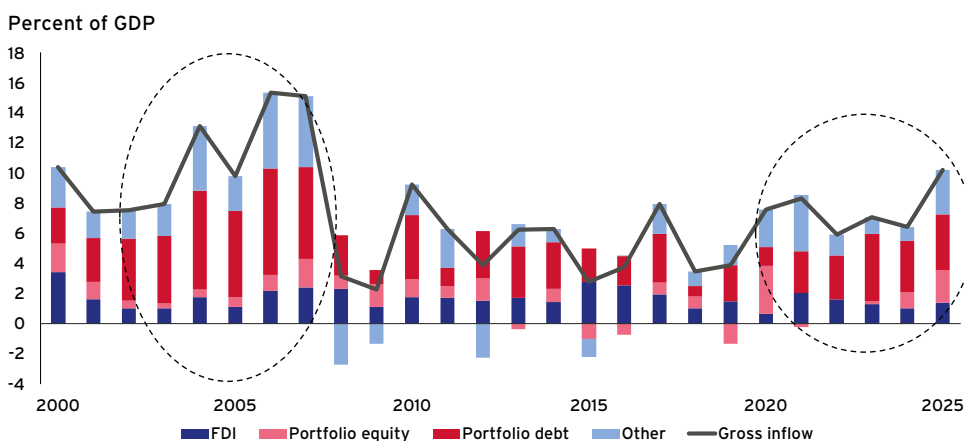
Source: IMF and OECD (via Haver Analytics).

Since the GFC, official flows into US safe assets and foreign official holdings of US Treasuries have declined. Asian economies continue to run external surpluses, but the savings invested abroad are now to a much greater extent of private origin. China’s gross outflows are smaller than before the GFC, reflecting both a reduced current account surplus and lower gross inflows into the country (Figure 9). Official data point to reduced Chinese foreign exchange interventions following the currency devaluation and the subsequent changes in the management of the yuan in 2015–16 (see also Goldberg and Krogstrup, 2023). As a result, Chinese gross capital outflows now reflect to a lesser extent official foreign exchange interventions (Figure 8), while a larger share is directed toward FDI, loans, deposits, and foreign equities across a wider range of currencies and countries (Chari et al., 2025). Nevertheless, Chinese outflows may still remain predominantly government-directed.<sup>6</sup> Similarly, oil-exporter surpluses and associated capital outflows have declined following lower oil prices, reducing demand from these countries for US safe assets. This is evident in the decline of foreign official holdings of US Treasuries – from roughly 37% before the GFC to about 15% today (US Treasury, 2025; Chari and Milesi-Ferretti, 2025).<sup>7</sup> There are also indications that official foreign reserves are being diversified away from US dollars, although data suggest that diversification remains moderate (ECB, 2025a).

6 A caveat is that data on gross private and official capital flows from China are often incomplete and difficult to interpret. Moreover, China’s capital outflows are shaped by domestic capital-flow restrictions that prevent households from investing directly abroad. Although recycling through central-bank foreign-exchange intervention has clearly diminished compared with the pre-GFC period, capital outflows may still, to a significant extent, be directed by the government and remain understated. For example, China has become a major creditor to developing countries, but a significant share of these claims does not appear in official debt statistics (Horn et al., 2021).

7 Some of the foreign official demand has been replaced by domestic official demand through quantitative easing. However, due to QT, this demand has dwindled. The combined share of foreign official holdings and Federal Reserve holdings of US Treasuries, measured as a proportion of total outstanding US Treasuries, is now substantially lower than it was before the GFC (Chari and Milesi-Ferretti, 2025).

FIGURE 10 GROSS CAPITAL INFLOWS INTO THE UNITED STATES WERE LARGER BEFORE THE GFC, BUT THEY ARE RISING AGAIN



Note: Numbers for 2025 are calculated from Q1, Q2 and Q3 numbers.

Source: IMF (via Haver Analytics).

Private capital flows intermediated by NBFIs now dominate international capital flows. Advanced economies in Europe and Asia have become the main sources of net capital inflows into the United States (Chari et al., 2025), largely reflecting private savings intermediated by NBFIs. The global expansion of the NBFIs sector over the past two decades has been driven by the growth of investment and hedge funds, accompanied by rising leverage (Banerjee et al., 2025).<sup>8</sup> In the euro area, banks continue to play an important role in intermediating private savings. However, since 1999 gross assets held by NBFIs have nearly tripled, increasing from 140% of GDP to almost 400% today.<sup>9</sup> This growth has been led primarily by investment funds, where leverage has been rising, though other types of NBFIs have expanded as well (Pelizzon et al., 2025). Similarly, NBFIs have grown sharply in advanced Asian surplus economies such as Japan, South Korea, and Taiwan, driven by similar forces (Pape, 2025). The increased role of NBFIs partly reflects higher private savings flowing into retirement schemes, pension funds, and investment and hedge funds. Households, insurance corporations and pension funds are now the main euro area investors in investment fund shares (Pelizzon et al., 2025). The rise of NBFIs may also be associated with the necessary post-GFC strengthening of bank regulation, which has increased bank resilience but may have pushed some risk-taking activities towards less-regulated financial institutions (e.g., Aramonte et al., 2022).

<sup>8</sup> Bank loans from abroad into the United States have also risen over the past couple of years, although they remain below pre-GFC levels (see Figure 10).

<sup>9</sup> The rise in the size of the NBFIs sector is a gross number and is partly driven by leverage. It may therefore overstate the sector's growing role in the net cross-border flows that are the focus of this chapter.

The increasing role of NBFIs has been accompanied by increased flows into riskier assets. The sharp expansion of investment funds and hedge funds has increased risk taking, reflected not only in strong equity performance but also in rising investments in corporate bonds (ECB, 2025b; FSB, 2025). While pension funds have not grown as rapidly as investment and hedge funds, their demand for risky assets may have also increased, in line with the shift toward defined-contribution products.<sup>10</sup> As a result, foreign portfolio flows into US equities have risen recently (see Figure 10). Consequently, the equity share of US foreign liabilities increased from 36% in 2005 to 51% in 2022, driven by higher US equity holdings among Asian and European investors (Bertaut et al., 2024).<sup>11</sup>

The rise in NBFIs has also been accompanied by increased leveraged bond financing amid rising public debt, which accentuates risks (Banerjee et al., 2025). Leveraged investment funds such as hedge funds have become more active in purchasing the rapidly growing supply of government bonds, using leverage obtained through repos in so-called ‘basis trades’, which may amplify the risk of sudden spikes in yields (De Cos 2025). As public debt in advanced economies reaches levels where sustainability can no longer be taken for granted, the likelihood of abrupt repricing of sovereign risk premia increases. Moreover, leverage magnifies the potential for spillovers. Consistent with this, there are indications that the convenience yield of US Treasuries has declined (Du et al., 2025).<sup>12</sup> Other recent and ongoing developments – though with uncertain impact – may support higher desired holdings of sovereign debt and thus debt sustainability. These include the issuance of stablecoins and the tightening of liquidity regulation for banks.

The shift from relatively *inelastic* official investors to *elastic* NBFIs suggests a greater impact on risk premia relative to safe rates. Before the GFC, the savings glut may have amplified global imbalances by lowering safe interest rates – particularly in the US – through the recycling of official savings by relatively price-insensitive investors such as central banks and sovereign wealth funds. Today, however, the rotation of capital flows toward riskier assets, combined with more price-elastic demand for safe assets from NBFIs, suggests that the effects of the savings glut are now likely to be more pronounced for risk premia than for safe rates compared with the pre-GFC period.<sup>13</sup> This is consistent with equity risk premia and credit spreads being more compressed than term premia on government bonds.<sup>14</sup>

10 The risk appetite of pension funds depends to a large extent on how they are set up – particularly whether they are based on defined-benefits or defined-contribution schemes, and whether they benefit from state guarantees or other forms of risk pooling. See Denmark's Nationalbanken (2025) for details on the Danish pension fund sector.

11 The rise partly reflects the outperformance of US stocks in recent years, as well as other valuation effects (e.g., Chari et al., 2025).

12 For US Treasuries, average duration has shortened in recent years as the share of Treasury bills has risen, altering the composition of buyers. Money market funds have been the dominant marginal buyers, in line with their strong demand for T-bills, but they have also been substantial buyers of longer-dated Treasury securities.

13 One caveat is that some liability- and regulatory-driven demand investors are major preferred-habitat buyers of long-duration bonds (Greenwood and Vissing-Jorgensen, 2018).

14 Our argument hinges on the comparison between official and NBFi recycling. Arguably, banks played a more dominant intermediation role before the GFC, which also put downward pressure on risk premia.

Currently, risk premia are indeed exceptionally low, and the use of leverage is increasing (IMF, 2025b). Equity prices are at historically high levels, and estimates of US equity premia are even lower than before the GFC (Federal Reserve, 2025), while corporate credit spreads are at their lowest levels since 1998.<sup>15</sup> In contrast, estimates of US term premia are close to their historical average and have been rising in recent years.<sup>16</sup> Risk premia in equity and credit markets in the euro area are also low (ECB, 2025b). Of course, accommodating macro policies and a push toward deregulation – especially in the United States – may be contributing to these buoyant financial conditions. Moreover, asset prices can become self-reinforcing, as rising prices relax risk constraints for financial firms. Still, the combination of record-high equity prices, low risk premia, and compressed credit spreads is striking given elevated geopolitical and trade uncertainty (IMF, 2025b). The private savings glut contributes to this compression of risk premia and the associated increase in risk taking.

Concentration risk and stretched asset valuations in tech-related assets currently add to the riskiness of capital flows. Inflows into the United States are increasingly concentrated in technology stocks and a handful of large firms. The ‘Magnificent Seven’ now account for around 33% of the S&P 500 — levels comparable to the dot-com bubble — and represent approximately 20-22% of global equity indices. The concentration risk is significantly higher today than during the dot-com bubble, as reflected in the Herfindahl–Hirschman concentration measure (IMF, 2025b). Moreover, the investments of the Magnificent Seven relative to their operating cash flows are higher than those of comparable firms during the dot-com era. However, standard valuation metrics indicate that IT company valuations in the dot-com period were higher than those of today’s AI firms. The strong performance of tech stocks, as well as US equities more generally, fuelled portfolio inflows into the United States in the latter part of 2025, particularly within the exchange-traded fund (ETF) segment, outpacing flows into European markets.<sup>17</sup> Equity valuations are stretched, and the risk of abrupt corrections remains high as the earnings implications of new technologies continue to unfold.<sup>18</sup>

The shift from official savings to private savings intermediated by NBFIs increases the risks of fire-sales and market dysfunction. NBFIs are heterogenous, with leverage levels varying widely across investor types and stress scenarios. Some NBFIs — such as hedge funds — often have strong linkages with banks, notably through the repo market. Although banks are better capitalized today than before the GFC, these linkages are often opaque, making the potential for spillovers difficult to assess. Liquidity mismatches within certain types of NBFIs may arise from redemptions, market-based

15 The low corporate bond spread may also reflect the high supply of US Treasuries and their low convenience yield (Krishnamurthy and Vissing-Jorgensen, 2012).

16 Other drivers behind the recent rise in US term premia are the increase in US government debt and the phasing-out of quantitative easing.

17 It is difficult to determine whether the excess supply of private savings intermediated by NBFIs has distorted risk premia in U.S. tech stocks, or whether the emergence of AI as a technological revolution explains the compressed risk premia. However, both the IMF (2025b) and the Bank for International Settlements (BIS, 2025a) argue that US tech stocks are overvalued.

18 The Bank for International Settlements argues that fund-flow data reveal that it is primarily retail investors who have recently been pouring money into US equities and also gold funds (BIS, 2025a).

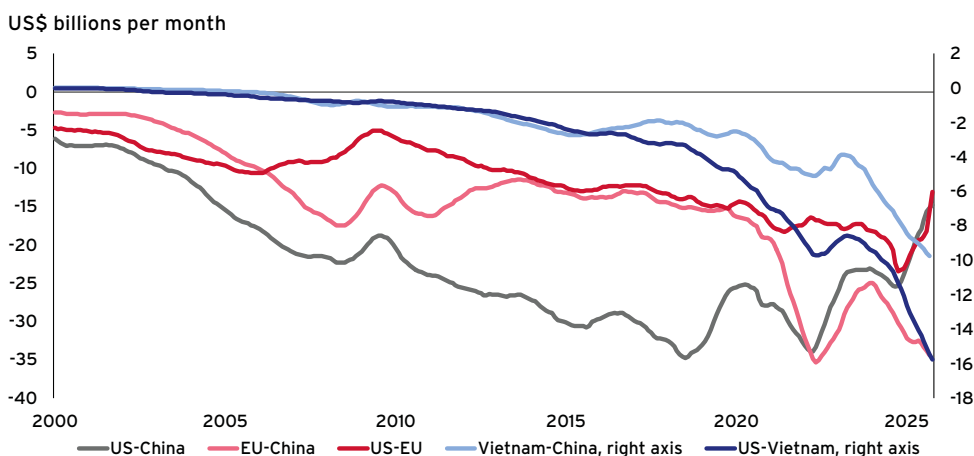
funding, and margin calls. Moreover, the concentration risks stemming from tech-heavy investor portfolios can cause negative shocks even if leverage is not involved. Sharp declines in the financial wealth of households whose assets are managed by these institutions could trigger a pullback in consumption, with potential spillovers to bank earnings and financial stability.

## 5 SOME POLICY CONSIDERATIONS

Altogether, the persistence of global imbalances – and the associated buildup of large external positions, increased price sensitivity, high concentration of investments in certain assets, rising leverage, and buoyant financial conditions – remains a cause for concern. While global financial integration brings clear benefits, it also heightens the risks of cross-border spillovers. As we argue below, neither trade policy nor exchange rate movements should be expected to attenuate global imbalances as long as underlying savings–investment imbalances persist. Moreover, the main financial risks stem from the accumulated stocks of foreign assets and liabilities, rather than from current account *flows*. Although a rebalancing of current account flows could help, policies must also focus on strengthening the resilience of the financial system, regardless of whether global imbalances widen or narrow from year to year.

From a flow perspective, trade policy and exchange rates should not be expected to mitigate current account imbalances if domestic savings–investment imbalances persist. Higher import prices may temporarily narrow the US trade deficit, but a sustained adjustment of US external imbalances is unlikely as long as government deficits remain large (see the chapter Obstfeld in this report). Bilateral trade patterns or trading partners may change, however, and we see evidence of such changes in Figure 11. The same holds true for China’s external surplus, which will only narrow if domestic demand increases — yet China’s surplus has instead been rising. In Europe, the direction of the savings–investment imbalance remains uncertain (for an analysis of the likely evolution of the EU external surplus, see the chapter by Darvas et al.). Increasing investments in productive domestic sectors, in line with the EU policy agenda for increasing competitiveness, would support growth, help reduce the external surplus, and provide more attractive domestic investment opportunities for large European private savings.

**FIGURE 11 SMALLER US-CHINA TRADE DEFICIT, BUT LARGER EU-CHINA AND VIETNAM-CHINA DEFICITS**



Note: Twelve-month moving average

Source: Macrobond.

Exchange rates can play a role in mitigating global imbalances, but they are not always allowed to adjust, and even if they do, it is not always helpful. Official interventions limited currency adjustments to some extent before the GFC (e.g., IMF, 2006). Although currency intervention is employed less frequently today, policies may still limit exchange rate flexibility, as the IMF argues is still the case in China (IMF, 2025c). In theory, a freely floating exchange rate should act as an equilibrating force for global investment and trade flows (e.g., Rodrik, 2008). However, empirical evidence does not confirm that exchange rates generally perform this role (e.g., Rossi, 2013). For example, the US dollar has typically been negatively correlated with the US trade balance, as noted by Obstfeld in his chapter in this report. Widespread dollar invoicing and the expansion of global value chains over the past 25 years have reduced the sensitivity of trade balances to exchange rate movements (Goldberg and Tille, 2006; Gopinath and Stein, 2021). Moreover, the increasing share of capital flows intermediated by price-elastic NBFIs may influence currency price formation and hedging behaviour.<sup>19</sup>

Policies should therefore focus on strengthening the resilience of the global financial system. In the current environment, fiscal discipline and fiscal sustainability are essential for financial stability. The role of government debt as a risk-free asset – and as the backbone of risk pricing in financial markets – can only be maintained through

<sup>19</sup> NBFIs now account for around half of daily foreign exchange market turnover – more than double their share 25 years ago – displacing banks from their traditionally dominant intermediary role. While their growing presence may enhance FX market liquidity, their trading strategies – often driven by leverage, high-frequency activity, and algorithmic trading – can also amplify market swings (IMF, 2025b). This stands in contrast with banks' more traditional intermediary functions. Hedging flows may also play a less prominent role in global FX markets, as NBFIs typically hedge only part of their FX exposures, with hedge ratios that vary by investor type, asset class, and over time (e.g., Danmarks Nationalbanken, 2024). By contrast, non-financial corporations – whose role in FX markets has diminished – tend to hedge transaction risk in a more mechanical manner.

sustainable fiscal developments and macroeconomic stability, particularly as foreign official demand for US safe assets has waned. Moreover, maintaining the fiscal powder dry to address future financial stability events will help support confidence and contain the repercussions should such events occur (Obstfeld, 2013).

Equally important are robust capital and liquidity buffers for institutions that are systemic, whether individually or collectively. Financial intermediaries that play a significant role in facilitating global capital flows should have sufficient loss-absorption capacity and liquidity to withstand future episodes of risk repricing without triggering spillovers or relying on public support.<sup>20</sup> Moreover, leverage could be contained also for currently unregulated but systemic entities. For example, it has been suggested that NBFIs should face larger haircuts in repo financing of their balance sheet (De Cos, 2025), which would help limit leverage. Enhancing the transparency of NBFIs' cross-border exposures would also be desirable, as complex products that obscure underlying risks can exacerbate problems when those risks materialise. In particular, we believe that efforts to harmonize and consolidate cross-border exposures of NBFIs – with a focus on granular, security-by-security and sector-by-sector data – would greatly assist policymakers. This also includes detailed information on NBFIs' exposures to key markets such as derivatives and repos (ESRB, 2026). Finally, financial regulation may also help curb the accumulation of global imbalances to the extent that it limits risk taking and the conditions that enable deficit financing in deficit countries.<sup>21</sup>

## 6 CONCLUSION

In this chapter, we have reviewed how global imbalances in trade, income, and capital flows have evolved over the past 25 years. We have focused on the persistence of imbalances and on how the recent shift from an official to a private saving glut may affect risk pricing.

We have illustrated that today's imbalances are fuelled by private savings intermediated by NBFIs, and government debt expansion. This is unlike the pre-GFC era, when official savings from Asian and oil-exporting countries played a more important role in global imbalances.

20 Some central banks have introduced lending facilities and policy tools to backstop NBFIs. For example, the Federal Reserve has supported NBFIs during major crises – most notably in 2008 and 2020 – through emergency programs under Section 13(3), including the Primary Dealer Credit Facility, the Term Securities Lending Facility, the Commercial Paper Funding Facility, the Money Market Mutual Fund Liquidity Facility, and the Term Asset-Backed Securities Loan Facility. Since 2015, the Federal Reserve has also allowed money market funds and other eligible NBFIs to place cash with the central bank in exchange for US Treasury securities. In addition, it has provided liquidity through repurchase agreement operations, serving as a backstop for primary dealers and other eligible counterparties.

21 A specific example is the emerging regulatory framework for stablecoins (BIS, 2025b; He et al., 2022). Increasing use of US dollar-based stablecoins could, over time, further entrench the dominance of the dollar and increase the demand for US Treasuries, thereby putting downward pressure on US safe interest rates and facilitating additional public-sector borrowing (Bénassy-Quéré, 2025). Implementing financial regulations that reduce the prevalence of dollar-based stablecoins outside the United States – for both monetary and financial stability reasons – may help counteract the rising demand for US Treasuries and could therefore dampen global imbalances, while also limiting the financial and monetary risks associated with them.

This shift from official to private savings gluts has contributed to lower risk premia relative to the pre-GFC period, introducing new global financial stability risks. The persistence of imbalances has also widened international investment positions, increasing the potential for cross-border spillovers. The growing presence of risk-sensitive and leveraged NBFIs in government bond markets further heightens these vulnerabilities.

It is therefore essential to ensure that the global financial system is robust to future risk events. Trade policies and exchange rates will not necessarily contain or narrow global imbalances going forward. And even if global imbalances were to narrow, the main risks stem from the accumulated stocks of foreign assets and liabilities. Key policies to strengthen resilience include fiscal discipline and fiscal sustainability to support sovereign bond pricing, as well as adequate loss-absorption capacity and liquidity among systemic financial institutions. Greater transparency in cross-border exposures is also crucial for identifying and managing risks.

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# Global imbalances: A progress report

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## 1 INTRODUCTION

Over the last several decades, the world economy has experienced a striking and persistent pattern of global current account imbalances. Large surplus economies – first Japan and Germany, more recently China, oil-exporting countries, and other emerging markets – have accumulated substantial net foreign asset positions, while the United States and a small group of advanced economies have run sustained and often widening deficits. The puzzling expansion, direction, and persistence of these current account positions has become known as ‘global imbalances’ and has attracted much attention from both researchers and policymakers. This chapter provides an integrated framework for interpreting the origins, consequences, and policy implications of global imbalances.

Our starting point is an organising perspective that decomposes the drivers of cross-border asset positions into global demand and global supply of stores of value. From this viewpoint, global imbalances arise because structural forces generate an excess demand for safe and risky assets that only a small subset of economies – chiefly the United States – are able to produce and willing to supply. Demographic transition, rising inequality, precautionary savings, commodity cycles, and reserve accumulation have boosted global savings, while the fiscal and securitisation capacities and the dynamism of the US economy have made the United States the primary absorber of these flows. In summary, global imbalances are best understood as the equilibrium outcome of a *worldwide* increasing demand for assets and highly *asymmetric* supply of credible stores of value across countries.<sup>2</sup>

The second major objective of this chapter is normative. While the term ‘imbalances’ suggests that something is economically amiss, the welfare implications of global imbalances are ambiguous. On the one hand, international capital flows allow countries to share risks, finance investment, smooth consumption, and pursue (perhaps

1 We thank Mark Aguiar, Nigel Chalk, Mai Dao, Charles Engel, Gita Gopinath, Pierre-Olivier Gourinchas, Jaewoo Lee, Maury Obstfeld, Hélène Rey, and Ken Rogoff for comments and stimulating conversations.

2 Below, we appeal to both flow and stock arguments with the understanding that changes in asset demand and supply (stocks) affect current accounts (flows). In addition, these shifts may generate cross-border valuation effects that further change net foreign asset positions of countries.

in a second-best way) industrial or macroprudential goals. On the other hand, global imbalances can amplify financial fragility and the zero lower bound on monetary policy, as well as create tension between national policy objectives and global stability. A comprehensive evaluation must weigh these benefits and costs rather than treating imbalances as inherently undesirable.

We then turn to the effects of government policies. Recent developments – including the sharp rise in US tariffs in 2025, renewed interest in protectionism, and rising geopolitical tensions – make it essential to revisit the interactions between global imbalances and trade and industrial policies. Tariffs have two distinct effects on external imbalances. On the one hand, by making international trade more costly, they reduce gross trade flows and thus also compress imbalances, specifically reducing both current trade deficits and future trade surpluses for a given country. This temporarily narrows imbalances but does not alter the present value of all future cumulated trade balances.

On the other hand, tariffs can also shift the permanent trade balance through their effects on cross-border asset valuations, in particular via exchange rate movements. Specifically, import tariffs appreciate the domestic currency, which raises the value of a country's external liabilities (assuming it is largely in local currency) relative to its foreign assets. The resulting decline in the net foreign asset position results in a smaller long-run trade deficit by virtue of the country's budget constraint. This also implies that existing external imbalances substantially reshape the optimal tariff policy: the associated valuation effects reduce the optimal size of import tariffs and weaken incentives to engage in trade wars. We also examine the role of industrial policies in shaping external positions, showing that they can influence imbalances when they affect sectoral productivity or expectations about future productivity, or when they generate on-impact valuation changes in countries' external balance sheets.

Finally, we examine the long-run sustainability of global imbalances and the possible paths through which they may unwind. Focusing on the United States – the only large economy to have sustained persistent trade deficits for decades – we argue that the future of imbalances depends critically on the evolution of global asset demand and supply. One possibility is a slow and gradual adjustment, in which accumulated US external liabilities eventually require higher net exports, but only over very long horizons due to valuation effects and the small share of net foreign assets in overall wealth. An alternative scenario is that imbalances remain effectively permanent, sustained by the United States' exorbitant privilege in the form of higher returns on foreign assets than on liabilities, provided the United States retains its role as a dominant issuer of safe and liquid assets and continues to invest abroad in risky assets. If these conditions fail – due to fiscal slippage, the erosion of safe-asset status, or adverse valuation shocks – adjustment could be faster and more disruptive, most likely occurring through

exchange-rate depreciation rather than explicit default. In this case, dollar depreciation would improve the US external position both by rebalancing trade flows and by generating favourable valuation effects, but at the cost of weakening future demand for US assets and undermining the foundation of exorbitant privilege.

## 2 SOURCES OF IMBALANCES

### 2.1 General framework

Understanding the origins of global imbalances is essential both for anticipating their future dynamics and for formulating effective policy responses. Since the current account surpluses of some countries necessarily mirror deficits elsewhere, a central question is whether the primary source of imbalance lies with creditor economies that supply savings or debtor economies that absorb them. A useful organising principle is to decompose shocks into those that affect the global demand for assets and those that affect their supply. The expected rate of return clears this market, and a country runs a current account surplus (deficit) whenever its savings exceed (fall short of) the value of local assets at that equilibrium return.

Within this framework, the persistent global imbalances of recent decades can be interpreted as the outcome of a sustained rise in global demand for assets, driven mainly by developing economies, combined with a limited expansion of the global asset supply concentrated in the United States. Indeed, both demand and supply forces can generate large cross-border positions, but the long-run decline in real interest rates suggests that rising demand for stores of value has been the primary driver (Caballero et al., 2008).

This does not imply that supply considerations were unimportant. Without a continuous expansion of US government liabilities and a booming equity market, global savings would have been absorbed by other countries or simply reduced through lower equilibrium returns. In practice, the ongoing increase in US public debt and the secular rise of US equity valuations have played a central role in accommodating the global savings glut (Obstfeld, 2025). The interaction of rising demand with highly asymmetric supply is therefore key to understanding the world economy of today (Caballero, 2015).

This framework also clarifies which explanations frequently invoked in policy debates lack theoretical foundations or empirical support. In particular, a common view attributes persistent external imbalances to monetary policy. For instance, the creation of the euro area is sometimes blamed for the German structural current account surplus due to an underappreciated exchange rate, while some observers argue that several developing economies deliberately weaken their currencies with easy monetary policy to sustain trade surpluses. However, the long horizon over which global imbalances persist is difficult to reconcile with the limited long-run real effects of standard monetary policy tools. Moreover, large adjustments in nominal and real wages during the euro area debt crisis, documented by Chodorow-Reich et al. (2023), suggest that nominal rigidities play only a secondary role in shaping external positions. This is not to claim that government policies are irrelevant. Monetary policy matters in the short

run, and as we discuss below, other government actions decisively influence long-run imbalances. The central point is that the structural nature of global imbalances is best understood through the joint evolution of global savings motives and global asset supply. We next turn to the specific forces driving the demand for and supply of assets in the international financial system.

## 2.2 Demand

The savings glut hypothesis argues that a rise in global demand for stores of value was the main driver of widening external imbalances in the 2000s (Bernanke, 2005; Dooley et al., 2004). Over the past two decades, this view has been supported by a broad body of theoretical and empirical research, identifying several independent forces contributing to elevated global savings.

A first and arguably quantitatively central force originates in demographic change. Population ageing and declining fertility rates imply that a growing share of households accumulate wealth for retirement. Although in steady state this effect should be offset by the dissaving of older cohorts, the transition path spans several decades during which the savings of the younger cohorts dominate. The quantitative analysis of Auclert et al. (2021) shows that demographic trends will continue to sustain global imbalances until the end of the twenty-first century, with rapidly ageing societies in emerging markets gradually replacing Europe, Japan, and China as the primary contributors to global savings. These flows may appear as private capital flows, with households directly saving for old age, or as public flows, with governments accumulating foreign assets on behalf of households. For example, many pension funds invest in domestic government bonds, while central banks and sovereign wealth funds offset these liabilities by holding foreign assets, as in Japan and Singapore (Chien et al., 2025).

A second driver is the rise in within-country inequality and the increase in precautionary savings motives. Since higher income households save a larger fraction of their income, rising inequality mechanically raises aggregate savings (Mian et al., 2020). Absent offsetting fiscal policies, this trend is likely to continue in the future. In addition, limited social insurance and exposure to idiosyncratic risk induce households to accumulate precautionary savings (Mendoza et al., 2009). These forces are particularly strong in developing economies, where income volatility is higher and social safety nets are weaker, generating elevated saving rates relative to advanced economies.

A third important source of global savings is commodity-exporting economies. These countries face two distinct incentives to accumulate foreign assets. First, they seek to smooth highly volatile commodity-driven business cycles by building reserves during periods of elevated prices. Second, they must hedge against long-run risks associated with the eventual depletion of natural resources or the prospect of structurally lower

future prices as global energy production shifts toward renewable sources. Saving part of commodity revenues therefore provides insurance against both cyclical and secular risks. The abnormally high commodity prices in the first quarter of the twenty-first century were among the key factors behind growing imbalances.

Finally, government reserve accumulation and related financial policies have contributed significantly to global demand for safe assets (Obstfeld et al., 2010). Following the Asian financial crisis of the late 1990s, many emerging market central banks adopted explicit reserve adequacy objectives aimed at deterring speculative attacks and ensuring financial stability. Maintaining ample reserves strengthens the government's ability to defend the exchange rate and avoid crises arising from self-fulfilling expectations (see Section 3). Governments also frequently employ capital controls and limit borrowing by private agents. While the motivations for such policies vary – from promoting exports to reducing the cost of public borrowing – they typically compress domestic consumption and raise national saving rates.

### 2.3 Supply

Although a global savings glut creates upward pressure on global demand for assets, large external imbalances only emerge when supply is uneven across countries. In principle, economies could satisfy most of the additional asset demand through local creation of stores of value. In practice, however, the global supply of both safe and risky assets is concentrated in the United States, which therefore absorbs the bulk of global savings and runs a persistently negative current account. Crucially, the United States provides both the world's dominant safe asset and a disproportionate share of global risky assets with persistently high returns.

#### *Safe assets*

The unique status of US Treasuries as the global safe asset has been widely documented. Several structural factors give the United States a comparative advantage in this role. First, the sheer scale of the US economy allows it to issue safe debt in quantities large enough to meet global demand. Even if sovereign debt issued by Switzerland or Germany were equally safe, its limited volume would generate sharply negative returns if investors attempted to substitute it for Treasuries (He et al., 2019). The market value of US Treasuries is roughly \$28.6 trillion, dwarfing that of the United Kingdom (\$3.6 trillion), Germany (\$1.6 trillion), and Switzerland (\$0.1 trillion). To some extent, this is due to significant moral hazard concerns that make it difficult for the euro area to issue common safe bonds. While the debt of Japan (\$13.4 trillion) is comparable to that of the United States, it mostly serves domestic savings. And although China has the economic size to issue large amounts of sovereign debt, it appears reluctant to assume this role, likely due to its export-oriented growth model and continued reliance on capital controls (Clayton et al., 2025).

Second, the ability to issue safe debt depends on fiscal capacity. While the US government debt-to-GDP ratio is higher than that of the European Union (about 120% against 80%), fiscal capacity is determined not only by current debt levels but also by the government's ability to raise additional revenues when needed (Jiang et al., 2026). On this margin, the United States may enjoy an advantage over many European economies, where tax rates are already close to the peak of the Laffer curve and further increases entail significant economic and political costs (Trabandt and Uhlig, 2011).

Third, financial and monetary factors reinforce the US position. The depth and liquidity of the US financial market generate a liquidity premium (Chahrour and Valchev, 2022). Moreover, US government debt benefits from implicit support from the Federal Reserve, which stabilises the real value of debt in normal times and can prevent self-fulfilling default dynamics in crises by purchasing Treasuries (Gourinchas and Jeanne, 2012). By contrast, euro area governments issue debt in a currency managed by the European Central Bank, whose mandate focuses on Union-wide conditions rather than country-specific shocks. On the downside, the sharp expansion in the supply of seemingly safe assets in the 2000s was facilitated by lax financial regulation and ultimately contributed to the 2008 financial crisis. This episode underscores that the supply of safe assets is endogenous to demand and to a broader set of government policies, well beyond fiscal and monetary policy alone (Caramp, 2025).

Finally, the United States enjoys a significant geoeconomic advantage. Its debt is perceived as safer during periods of global tension, and the low borrowing costs associated with its safe-asset role support high military capacity. This two-way interaction between geopolitical strength and safe asset provision further entrenches the global role of the US debt (Pflueger and Yared, 2024).

### *Risky assets*

The role of the United States in supplying risky assets is equally important but, until recently, has received less attention. The US financial market accounts for roughly two-thirds of global equity supply, with equity valuations around \$68 trillion and corporate debt of roughly \$12 trillion. These quantities far exceed the stock of US Treasuries and play a central role in satisfying global demand for stores of value. As in the safe asset market, scale, institutional strength, and financial development provide decisive advantages. Strong protections for property rights and relatively low political risk further differentiate the United States from many competing providers.

In addition, the United States has a long-standing comparative advantage in securitisation. A large share of US firms raise funds by issuing publicly traded debt and equity that can be purchased by both domestic and foreign investors. In contrast, European firms rely more heavily on bank finance, which provides credit but does not create marketable assets that increase global supply.

Differences in non-financial economic fundamentals amplify these patterns. Faster technological progress and higher sectoral dynamism in the US economy have contributed to its rising share of global equity markets. The expansion of the IT sector offers a clear illustration. High expected returns attract investors globally, while the unique properties of IT stocks make them essential components of diversified portfolios. They hedge against shifts in the labour and capital shares of income, generating both speculative and hedging demand for US equities. This sector, which currently drives both financial and physical investment, is largely lacking in Europe and is not securitised in China for global investors.

#### *Cross-asset spillovers*

Although safe and risky assets serve different purposes, important spillovers link these two types of assets. A central mechanism operates through the exchange rate. During periods of heightened uncertainty, global demand for safe assets rises, leading investors to purchase treasuries and driving an appreciation of the US dollar, as observed during the Global Financial Crisis. This appreciation raises the foreign-currency value of all dollar-denominated assets, including equities and corporate bonds. From the standpoint of foreign investors, US assets therefore carry a safety premium, which further raises global demand for them (Jiang et al., 2024).<sup>3</sup>

These mechanisms also affect asset issuance outside the United States. Other countries have incentives to issue dollar-denominated assets, which command higher valuations and lower yields.<sup>4</sup> However, the ability to do so is constrained. Local banks may issue dollar debt, but the resulting currency mismatch exposes them to sudden stops and tight regulation. Large exporters, in contrast, are naturally hedged through foreign-currency revenues and can issue dollar liabilities with lower risk (Christiano et al., 2021). Governments often issue dollar-denominated debt when local currency borrowing is constrained due to ‘original sin’ (Eichengreen and Hausmann, 1999), but such instruments are rarely safe and do not replicate the properties of the US Treasuries due to significant default risk.

### **3 NORMATIVE IMPLICATIONS**

While the term ‘imbalances’ often carries a negative connotation and suggests that international capital flows require correction, it is useful to step back and evaluate both their potential benefits and costs. Understanding these trade-offs is essential for assessing existing policies and designing new ones aimed at addressing global imbalances.

3 This channel is strengthened by the dominant role of the dollar in international trade, where prices are often set in dollars (Goldberg and Tille, 2008; Gopinath et al., 2020; Gopinath and Stein, 2021; Mukhin, 2022).

4 Relatedly, monetary authorities in other countries may stabilise their exchange rate vis-à-vis the dollar so that domestic assets inherit some of the desirable properties of the US debt (Hassan et al., 2023).

### 3.1 Positive effects

It is a widely held view in economics that just as countries gain from exchanging goods and services, they also gain from trading resources across time and states of the world. Free capital mobility enhances welfare by allowing economies to borrow and lend intertemporally. Countries with current account surpluses benefit from higher returns on foreign assets, and countries running deficits benefit from cheaper external financing. Foreign capital can finance large investment projects without requiring a contraction in domestic consumption, and governments can use international borrowing to smooth temporary fiscal shortfalls without crowding out private investment. Overall, international capital flows facilitate better consumption smoothing and improved diversification of macroeconomic risks. Even though financial frictions create distortions, as discussed below, the gains from intertemporal trade remain quantitatively important and should be weighed carefully when considering policies aimed at reducing global imbalances.

A second, less commonly recognised point is that global imbalances may serve as policy tools in a second-best environment. Large foreign reserve accumulation can improve international risk sharing in the presence of overborrowing by private agents (Arce et al., 2019), exposure to sudden stops (Chang and Velasco, 2001), vulnerability to rollover crises (Bianchi et al., 2018), or segmented currency markets (Itskhoki and Mukhin, 2023b). Governments may also seek to engineer current account surpluses to counteract distortions on the production side, such as learning-by-doing and R&D externalities (Krugman, 1987), firms borrowing constraints (Itskhoki and Moll, 2019), or ‘big push’-type coordination failures (Murphy et al., 1989). In such environments, global imbalances may arise not as a symptom of inefficiency, but as part of an optimal second-best policy mix. Lastly, global imbalances are often blamed for weakening strategic industries, undermining national security, and increasing dependence on potential adversaries. Rare earth metals have become a canonical example in recent debates. While trade deficits are often associated with deindustrialisation and the relocation of production abroad, the composition of domestic production between strategic and non-strategic sectors is driven primarily by trade fundamentals, such as relative production costs and returns to scale, rather than by the aggregate trade balance itself. As a result, the appropriate policy response is to target the underlying vulnerability directly – for example, through subsidies, procurement, or other support for critical sectors – rather than to pursue balanced trade as an objective in its own right.

### 3.2 Negative effects

Each argument in favour of capital mobility comes with important caveats. A large empirical literature documents several puzzles suggesting that international risk-sharing is far from complete. First, although countries share short-run macroeconomic risks reasonably well at annual frequencies, there is almost no insurance with respect to long-run growth (Heathcote and Perri, 2014; Aguiar et al., 2025). This lack of long-

horizon risk-sharing is consistent with moral hazard and other commitment problems that limit the scope of intertemporal transfers. Evidence on the effects of capital flows on productive efficiency is also mixed. On the one hand, returns to capital appear broadly equalised across economies (Caselli and Feyrer, 2007). On the other hand, large capital inflows during the financial integration of the early 2000s were associated with rising misallocation across firms in Southern Europe (Gopinath et al., 2017). However, the causal link remains uncertain, and the overall prevalence of such effects is still debated (Blanchard and Giavazzi, 2002; Cingano and Hassan, 2022; Bau and Matray, 2023).

Second, international capital often flows in the opposite direction than predicted by standard consumption-smoothing logic. Slow-growing emerging economies borrow more from abroad, while fast-growing countries tend to run persistent current account surpluses (Gourinchas and Jeanne, 2013). This ‘allocation puzzle’ is largely driven by government debt issuance and reserve accumulation and, as discussed above, may partly reflect policy responses to financial frictions and production externalities. Yet the same countries that rely more heavily on foreign borrowing also experience greater volatility in output, fiscal spending, and private consumption, suggesting that access to sovereign debt markets may amplify macroeconomic instability rather than dampen it (Aguiar, 2025). As many emerging economies in the past, the United States risks leaving a heavy burden of external debt to future generations, potentially undermining long-run growth and prosperity.

Third, the use of current account interventions as a second-best policy tool can generate negative spillovers at the global level. Policies that suppress consumption and promote reserve accumulation to expand the tradable sector and accelerate learning-by-doing may boost productivity growth domestically, but they imply trade deficits and slower technological progress elsewhere. If R&D in countries at the global frontier is weakened, the world economy as a whole can be worse off (Benigno et al., 2025). In the second-best world, de-industrialisation due to aggressive export-oriented growth in other countries may also undermine the resilience of economies (Grossman et al., 2024) and lead to first-order social costs such as unemployment, deaths of despair, and political polarisation (Autor et al., 2020).

Similarly, cross-country spillovers arise at business cycle frequencies. Large foreign current account surpluses provide abundant cheap funding and can increase the likelihood of speculative bubbles. For example, the global savings glut of the early 2000s possibly contributed to the US subprime mortgage crisis, with severe worldwide repercussions. A high global demand for safe assets also depressed interest rates and made the zero lower bound (ZLB) constraint more binding, reducing the effectiveness of monetary policy during the crisis (Caballero et al., 2021). A self-reinforcing cycle may emerge when countries adopt macroprudential policies to mitigate ZLB constraints. These policies raise global demand for safe assets, push interest rates even lower, and exacerbate the very forces they aim to contain (Fornaro and Romei, 2019).

### 3.3 'Global balances'

Conceptually, one of the main questions is which counterfactual corresponds to 'global balances' and should serve as a benchmark for policy analysis. Few economists would advocate fully balanced trade with no international borrowing or saving, while the first-best allocation is a more attractive, but perhaps unrealistic, alternative. One can instead appeal to a laissez-faire equilibrium with no government interventions such as exchange rate manipulation, capital controls, or industrial policies. While reasonable, this benchmark has important limitations. First, under this view, Germany's trade surplus appears perfectly natural, since there are few explicit government policies aimed at the country's external position. This contrasts sharply with economies such as China and Switzerland, but it also suggests that the role of policy in driving global imbalances may be overstated. Second, and related, it is difficult to determine which policies fall outside the laissez-faire benchmark. In particular, should one exclude large fiscal deficits and surpluses driven by domestic economic conditions and politics? What about other policies that aim at correcting market imperfections with consequences for global capital flows? More research is needed to answer these questions.

## 4 TRADE AND INDUSTRIAL POLICIES

After multiple decades of declining trade barriers worldwide, tariffs in the United States rose first in 2018 and then sharply in 2025. Although the Trump administration offered multiple justifications for this policy shift, widespread frustration with persistent US trade deficits appears to be a primary motivation. This concern also helps explain why the new tariffs introduced on "Liberation Day" were calibrated directly to bilateral trade deficits vis-à-vis US trading partners. Building on the analysis in Itskhoki and Mukhin (2025a), this section examines the two-way interaction between global imbalances and the recent resurgence of trade policy activism, focusing on two central questions: Can tariffs reduce external imbalances? And how do existing imbalances affect the design of optimal tariffs?<sup>5</sup> We conclude with the discussion of industrial policies that have been widely discussed as another force shaping global imbalances.

### 4.1 Organising framework

A simple accounting identity provides a powerful way to evaluate many claims currently made about the effects of tariffs on global imbalances. Consider the law of motion for a country's net foreign asset (NFA) position  $B_t$ , defined as the difference between its holdings of foreign assets and its foreign liabilities. We have:

$$B_t = \bar{R}B_{t-1} + (R_t - \bar{R})B_{t-1} + NX_t,$$

5 See also related analysis by Lorenzoni (2019) and Aguiar et al. (2025).

where  $R_t$  denotes the realised return on the country's portfolio of net foreign assets,  $\bar{R} > 1$  is the average return paid on its liabilities, and  $NX_t$  is the trade balance. In words, changes in the NFA position,  $\Delta B_t \equiv B_t - B_{t-1}$ , can arise from three sources: (i) the average return  $(\bar{R} - 1)B_{t-1}$  paid on the existing position, (ii) valuation effects captured by excess returns  $(R_t - \bar{R})B_{t-1}$ , and (iii) trade surpluses or deficits  $NX_t$ . Importantly, this expression is an accounting identity: it must hold in the data, up to a measurement error, and therefore must also be satisfied in any internally consistent theoretical model.<sup>6</sup>

Integrating this law of motion across periods, one gets the intertemporal budget constraint for the economy (Obstfeld and Rogoff, 1995; Gourinchas and Rey, 2007a):

$$-\underbrace{\sum_{t=0}^{\infty} \bar{R}^{-t} NX_t}_{\text{permanent trade deficit}} = \underbrace{\bar{R} B_{-1}}_{\text{exogenous initial NFA}} + \underbrace{(\mathcal{R}_0 - \bar{R}) B_{-1}}_{\text{on-impact valuation effect}} + \underbrace{\sum_{t=1}^{\infty} \bar{R}^{-t} (\mathcal{R}_t - \bar{R}) B_{t-1}}_{\text{future realized excess returns}}. \quad (1)$$

This identity highlights a critical distinction between temporary and permanent trade deficits. A temporary deficit arises when imports exceed exports in some periods but are fully offset by future trade surpluses. Under this scenario, any borrowing needed to finance today's deficit is repaid in later periods, and the discounted sum of trade balances on the left-hand side is equal to zero. In contrast, a permanent trade deficit occurs when future surpluses are insufficient to compensate for past deficits, making the left-hand side strictly positive. In this case, the country, in present value terms, consumes more than it produces over the entire horizon.

In practice, distinguishing temporary from permanent imbalances is notoriously difficult. The United States, for example, has run continuous trade deficits for roughly 50 years, yet it remains theoretically possible that it may run persistent trade surpluses in the future to satisfy its intertemporal budget constraint. Because the data do not allow a definitive classification, it is useful to analyse the impact of tariffs on both the temporary and permanent components of trade deficits.

## 4.2 Temporary deficits

Consider first the case in which the observed trade deficit is purely transitory and the initial asset position and future excess returns on the right-hand side of equation (1) are equal to zero. In this situation, permanent net exports must be zero and are therefore unaffected by tariffs. Nevertheless, trade policy can still modify the time path of net exports, even though it cannot change their present value.<sup>7</sup>

<sup>6</sup> For example, sovereign defaults or restructurings must show up as low or negative realised returns  $R_t$ .

<sup>7</sup> Naturally, even if they do not affect trade balances, tariffs reduce gross quantities of trade and can affect the terms of trade (unless the country is a price taker) - namely, tariffs can affect the terms of exchange of (real) exports for (real) imports, even when trade values are equalised under trade balance. These terms-of-trade effects are at the core of the optimal tariff analysis in international trade literature (e.g., Caliendo and Parro, 2022).

A permanent tariff raises the relative price of foreign goods for US consumers, thereby reducing imports. The decline in import demand lowers the demand for foreign currency, which leads to an appreciation of the dollar. The stronger dollar makes US goods more expensive abroad, reducing demand for exported goods. Because the intertemporal budget constraint requires that the trade balance be zero in present value, any reduction in imports must be offset by a corresponding reduction in exports. As a result, both imports and exports decline, and the overall volume of international trade contracts (Lerner, 1936). This compression tends to improve the trade balance in the short run, if the economy starts with a deficit, but simultaneously reduces trade surpluses that must occur in the future (Obstfeld and Rogoff, 2001; Dornbusch, 1983).<sup>8</sup>

Additional considerations arise when tariffs are temporary or when markets expect them to be removed in the future. In this case, the familiar Lerner symmetry between import and export taxes breaks down. A temporary export tax tends to worsen the current account: lower export revenues depress current income, and agents smooth consumption by borrowing against future income, thereby generating a deficit. In contrast, a temporary import tariff tends to improve the current account. Higher import prices induce households to postpone consumption of foreign goods until the tariff expires, raising savings and improving the trade balance in the near term (Razin and Svensson, 1983; Itskhoki and Mukhin, 2023a).

### 4.3 Permanent deficits

In practice, policymakers typically hope to reduce current trade deficits without eroding the future trade surpluses required to satisfy the country's external budget constraint. This raises a natural question: can tariffs eliminate permanent trade deficits and generate permanent surpluses? The three components on the right-hand side of the intertemporal budget constraint (1) provide a systematic way to answer this question.

First, a country running a permanent trade deficit may finance it through income on its net foreign assets,  $\bar{R}B_{-1}$ , accumulated through past surpluses. This term is predetermined and, by construction, does not respond to changes in trade policy. A useful benchmark is the case in which this is the only source of permanent imbalance. This benchmark sharply contradicts a widespread narrative, namely, that sufficiently high tariffs can eliminate imports and exports and therefore close a permanent trade deficit. Because the intertemporal budget constraint must hold, the exchange rate will always adjust so that the permanent trade balance equals the country's initial net foreign asset position. For example, consider a country with a positive initial NFA position and a negative trade balance that imposes an infinite import tariff. Its currency

<sup>8</sup> See also Costinot and Werning (2025) for a modern treatment, Itskhoki and Mukhin (2025b) for an application to sanctions, and Eaton et al. (2016) and Reyes-Heroles (2016) for quantitative analysis. The mechanism under export taxes is analogous except that the currency depreciates instead of appreciating. See also Ju et al. (2012).

will appreciate enough to keep the domestic price of foreign goods finite; imports remain positive, exports decline to zero (because domestically produced goods become prohibitively expensive abroad), and the permanent trade deficit remains unchanged.<sup>9</sup> Tariffs cannot undo the arithmetic of the intertemporal budget constraint.

Second, the opposite view – that permanent trade deficits are entirely exogenous and cannot be influenced by trade policy – is equally incorrect. In its more sophisticated version, this argument states that the current account equals savings minus investment, both of which are approximately unresponsive to permanent tariffs. What this reasoning misses is that, while the initial asset positions are predetermined, their valuations are endogenous to trade policy. This is captured by the second term in equation (1). Any policy that reduces the value of foreign assets held by domestic residents or increases the value of foreign claims on the domestic economy generates an implicit transfer to the rest of the world. This wealth transfer increases permanent net exports by lowering domestic absorption and raising foreign demand for domestic goods.

While several mechanisms can link tariffs to asset valuations, including effects on the profitability of exporters or import-competing firms, the most direct effect is via the exchange rate. An import tariff reduces demand for foreign goods and foreign currency, appreciating the domestic currency. Conversely, an export tax depresses demand for domestic goods and domestic currency, depreciating the exchange rate. These movements directly alter the relative price of domestic- and foreign-currency bonds, as well as the relative valuation of domestic and foreign equities. Since most countries – including the United States – hold long positions in foreign securities and short positions in domestic securities, an appreciation of the domestic currency increases the value of liabilities relative to assets and worsens the NFA position. As tariffs affect the exchange rate (see the previous subsection), the associated valuation effects imply that trade policy can be used to affect permanent trade deficits.<sup>10</sup>

The key insight is that closing permanent imbalances requires focusing on external asset positions rather than trade flows. This observation yields several important implications. First, eliminating a permanent trade deficit requires a negative valuation effect – that is, an increase in the value of the country's liabilities relative to its assets – which can be induced by an exchange rate appreciation. This sharply contrasts with the standard expenditure-switching logic under which improving the trade balance requires a depreciation. The trade balance improves despite the appreciation of the terms of trade because of both the direct effect of tariffs on consumer prices and a one-time redistribution of wealth, which increases foreign demand for home exports and lowers home demand for foreign goods.

9 Although our analysis focuses on the real exchange rate, the adjustment of the nominal exchange rates is the same as long as monetary policy stabilises local prices. Note also that balanced trade can be achieved if a country imposes a permanent embargo rather than tariffs, as this implies a default on international positions.

10 It should be emphasised that only unexpected changes in tariffs can generate such effects. A routine use of trade policy would be priced-in by financial markets and result in little valuation transfers between the economies.

Second, given the value of a country's foreign assets  $B^*$  (in foreign currency) and its foreign liabilities  $B$  (in domestic currency), the exchange rate appreciation needed to close the imbalance satisfies a simple condition:  $\Delta \log \varepsilon = NFA^*/B^*$ , where  $NFA^* \equiv B^* - BE$ .<sup>11</sup> Thus, the required appreciation depends only on asset positions and not on trade flows, trade elasticities, or input-output linkages. Table 1 reports numerical results from a model calibrated to the United States and the rest of the world (RoW).<sup>12</sup> Closing the US trade deficit requires a nearly 64% tariff, which induces roughly a 22% appreciation of the dollar and reduces US welfare by 1.6% in terms of permanent consumption.

TABLE 1 COMPARISON OF TARIFFS

	$\tau^I$	$\tau^{I*}$	$C$	$C^*$	$\varepsilon$	$T$	$NX$
<b>Baseline (with imbalances)</b>							
Closing imbalance	63.81	0.00	-1.60	-0.04	22.22	2.86	0.00
Unilateral	8.76	0.00	0.10	-0.05	4.37	1.02	-1.61
Trade war	6.75	6.78	-0.08	-0.02	0.22	0.76	-1.98
<b>No imbalances (zero gross asset positions)</b>							
Unilateral	35.31	0.00	0.95	-0.46	15.14	2.60	0.00
Trade war	34.90	40.48	-1.61	-0.29	-3.55	1.48	0.00

Note: The table shows import tariffs  $\tau^I$ ,  $\tau^{I*}$  in the two regions (the United States and RoW), and their implications for welfare  $C$ ,  $C^*$  (real consumption), the real exchange rate  $\varepsilon$ , fiscal revenues  $T$ , and the trade balance  $NX$  in a model calibrated to (i) global imbalances and (ii) balanced trade. "Unilateral" corresponds to optimal tariff in the United States, "trade war" to optimal tariffs in both economies, and "closing imbalances" to the tariff closing the US trade deficit.  $\tau^I$ ,  $\tau^{I*}$  are in percent,  $C$ ,  $C^*$  and  $\varepsilon$  are in percent changes,  $T$  and  $NX$  are in percent of initial GDP.

Third, because closing a permanent imbalance requires an appreciation, policymakers could in principle use either an import tariff or an export subsidy. This stands in stark contrast with the classical Lerner symmetry between import tariffs and export taxes. Lerner symmetry arises in models with balanced trade and relies on the fact that both instruments implement the same terms of trade. In the presence of imbalances, however, the relevant variable is the exchange rate, and import tariffs and export taxes push the exchange rate in opposite directions. The resulting allocation depends critically on the instrument chosen: an import tariff achieves balanced trade by lowering the total amount of trade, whereas an export subsidy does so by raising it with exports increasing faster than imports.

11 Although computing the tariff  $\tau^I$  that delivers this appreciation requires, in general, all parameters of the model, an approximation  $\Delta \log \varepsilon = \frac{1}{2} \Delta \log \tau^I$  is accurate in standard quantitative frameworks, where  $\varepsilon$  should be interpreted as the real exchange rate with an increase in  $\varepsilon$  corresponding to an appreciation.

12 We calibrate the external liabilities of the United States in terms of home assets to be approximately 175% of the GDP, or 7% in flow-value terms using the annual interest rate of 4% (close to the mean real returns on U.S. equity and debt combined). The size of the US external assets are harder to measure because of hidden wealth and profits (see Zucman, 2013; Coppola et al., 2021; Guvenen et al., 2022). Given the value of net foreign assets implied by the long-run trade deficit of 2% of GDP, we obtain that US external assets must equal 9% of US GDP in flow terms. This is much higher than the official numbers and implies a substantial 'dark matter', i.e., an unobserved external wealth of the United States, which in particular may reflect current and expect future 'convenience yield' on US liabilities.

Finally, external adjustment may be also attained via the last term in the budget constraint (1), which captures the difference between the returns earned on foreign assets and the returns paid on liabilities. As famously documented by Gourinchas and Rey (2007a), the United States earns positive excess returns – the so-called ‘exorbitant privilege’ – because it holds risky, high-return foreign assets while issuing safe, low-return liabilities (see also Gourinchas and Rey, 2014). This excess return allows the United States to sustain a permanent trade deficit. However, higher tariffs reduce international trade and also reduce the incentives for domestic households and firms to hold foreign assets. A smaller share of foreign goods in consumption implies lower benefits from diversifying into foreign currency assets. This retrenchment of cross border positions reduces the leverage of the US external portfolio and therefore diminishes the exorbitant privilege. Consequently, tariffs can indirectly shrink the excess return channel that supports permanent imbalances. In practice, they can also change expectations of investors and their demand for US assets, including hedging against future volatility in the exchange rate.

#### 4.4 Trade wars

So far, our analysis has focused on how tariffs affect global imbalances. Equally important, however, is the reverse question: do global imbalances increase the incentives to impose tariffs and engage in a trade war? Recent public discourse and US policy actions may suggest a positive answer. Advocates of this view argue that current account deficits destroy jobs in the tradable sector which must be protected with tariffs. They further claim that the excess of imports over exports weakens the country economically but simultaneously gives the United States greater leverage over its trading partners.

A more rigorous analysis, however, casts doubt on these arguments. First, regardless of initial imbalances, tariffs reduce the overall volume of global trade. This means that while tariffs reduce imports and may support import-competing industries, they also reduce exports, harming export-oriented firms and workers. The net effect is typically a contraction of the aggregate tradable sector. Thus, although trade restrictions can temporarily support industries competing with imported goods, supporting the aggregate tradable sector would require trade *subsidies*, not tariffs.

Second, the same valuation effects that enable tariffs to influence permanent trade imbalances simultaneously result in first-order implications for the optimal trade policy. An import tariff improves the terms of trade, and at the same time it appreciates the exchange rate. As discussed above, this appreciation raises the real value of the country’s net liabilities, generating a transfer to the rest of the world.<sup>13</sup> As a result, the optimal tariff under imbalances is strictly lower than in a world with balanced trade

13 From this perspective, it is indeed puzzling that countries rarely use export taxes, which improve the terms of trade while depreciating the exchange rate, thereby allowing the country to benefit from both terms-of-trade and valuation effects simultaneously.

and zero gross asset positions. A simple calibration illustrates the magnitude: in Table 1, valuation effects reduce the optimal tariff by a factor of four, from 35% to 9%, and reduce the welfare gains from the optimal tariffs by an order of magnitude, from 0.95% to 0.10% in permanent consumption terms.

This logic applies symmetrically to the rest of the world. Large gross liabilities in local currency make foreign economies reluctant to impose high tariffs on US goods, since doing so would also appreciate their currencies and worsen their net foreign asset positions. Consequently, the trade war Nash equilibrium with gross asset positions features a much lower level of tariffs relative to a trade war under financial autarky (see Table 1). In this sense, the rise of gross cross-border asset holdings over the past 50 years ('financial globalisation') has indirectly facilitated trade liberalisation by making tariffs more costly for all parties.

Finally, the valuation effects triggered by tariffs feed back into ex-ante portfolio decisions. Foreign investors have both strategic and non-strategic incentives to hold US assets as a hedge against a possible trade war. On the one hand, because import tariffs tend to appreciate the dollar, holding dollar-denominated assets provides a natural insurance: the value of these assets rises precisely when tariffs hurt the foreign economy. On the other hand, large countries such as China have strategic reasons to acquire US assets: by expanding US liabilities, they increase the valuation losses the United States would incur if it imposes tariffs, thereby raising the economic cost of protectionism. By contrast, the dollar may depreciate in response to tariffs if the primary adjustment margin is a reduction in the future exorbitant privilege. In this case, tariffs would generate valuation losses for foreign investors.

#### **4.5 Industrial policies**

Another policy instrument that has attracted considerable attention in recent years and is frequently blamed for widening trade imbalances is industrial policy. The broad toolkit of industrial policies includes production subsidies, subsidised credit, suppressed wages, preferential government procurement, investment in (transportation and export) infrastructure, targeted migration policies, and even monopoly-supporting interventions (Juhász et al., 2024). Historically, nearly all economies have relied on industrial policies at some stage of their development. Britain, continental Europe and the United States adopted such measures during the early phases of the Industrial Revolution, Japan and the Asian Tigers used them extensively in the postwar period, and China has done so more recently. Although these policies often entail significant social and fiscal costs, there is some evidence that they contributed to rapid industrialisation in these countries. At the same time, there is a long list of cases in which industrial policy failed to achieve its stated objectives, most notably in Latin American economies.

Industrial policy interacts with global imbalances in several important ways. On the one hand, as discussed above, promoting exports and supporting current account surpluses through foreign exchange interventions or capital controls is itself a common form of industrial policy (Ottonello et al., 2024). On the other hand, policies that do not explicitly target external balances can still have sizeable unintended effects on global imbalances. By making domestic manufacturers more competitive in local and foreign markets, these interventions improve the trade balance, all else equal. If the resulting increase in relative productivity were permanent, standard general equilibrium logic would imply that the currency should appreciate sufficiently to keep the trade balance unchanged.<sup>14</sup> In practice, however, this general equilibrium adjustment often appears incomplete or delayed. Many countries manage to sustain trade surpluses for extended periods following industrial policy interventions, thereby contributing to global imbalances.

What explains this apparent disconnect between theory and observed dynamics? One possibility is that industrial policies provide only a temporary advantage over foreign competitors and that markets anticipate eventual catch-up by other countries. Under the permanent income hypothesis, a temporary relative productivity gain should be absorbed mainly through changes in foreign asset positions rather than through higher contemporaneous imports. This mechanism would generate a period of trade surpluses if the productivity advantage is transitory.<sup>15</sup>

Perhaps a more realistic explanation to this seeming discrepancy is that industrial policies are usually combined with other policies to suppress consumption and inhibit exchange rate appreciation. Even absent active government intervention, financial frictions and limited risk sharing can depress domestic consumption enough to generate external imbalances (Cesa-Bianchi et al., 2026). More broadly, in the absence of such market imperfections and/or complementary government policies, it may be difficult to sustain a persistently larger tradable sector, since subsidies and other industrial policy tools would be largely offset by endogenous adjustments in relative prices, such as appreciation (Corden, 1960).

## 5 THE FUTURE OF IMBALANCES

This section turns to the future of global imbalances and focuses on two central questions. Will countries continue to run large and persistent trade deficits and surpluses in the long run? And if not, what will the transition away from today's imbalances look like? As with their origins, the answers to these questions depend critically on the future

14 In this context, real exchange rate appreciation follows the Balassa-Samuelson mechanism. In a model with only tradable goods, a positive productivity shock lowers the price of domestically produced goods and generates a real depreciation instead.

15 Another possibility, as in the case of tariffs, is that a policy-driven exchange rate appreciation raises the value of the country's net external liabilities. This effect may also come from rising asset and FDI valuations unrelated to the exchange rate. The resulting decline in net foreign wealth must be offset by a stream of trade surpluses. Unlike with a temporary productivity shock, this channel can generate a permanent trade surplus.

demand and supply of assets in the international financial system (Auclert et al., 2025). Given the scarcity of historical precedents and the fact that the current international financial system differs markedly from past episodes, analogies offer limited guidance. We therefore frame this discussion in terms of alternative forward-looking scenarios.

### 5.1 Long-run equilibrium

Can adjustment originate in surplus countries? In general, the economic pressure to reduce saving is limited, and it is not obvious that a transversality condition must bind for countries with large sovereign wealth funds. However, even if surpluses are sustainable, governments may still choose to reduce them for broader macroeconomic and strategic reasons. In particular, as China's share of world output has reached unprecedented levels, its export-oriented growth model appears to have faced diminishing returns over the past decade, amplified by overinvestment in manufacturing capacity and construction. In that environment, policies that suppress consumption and promote exports may yield little additional growth and could eventually be eased. At the same time, rising geopolitical risk and the expanded use of sanctions have made investment in US securities less attractive for China and other non-Western economies, encouraging portfolio diversification and supporting alternative investment channels in developing countries, including the Belt and Road Initiative, the Silk Road Fund, and the Global Development Initiative. By contrast, industrial policies will probably remain a central instrument of economic strategy and are unlikely to be rolled back in the near future.

Moving next to the United States as the only large economy that has sustained persistent trade deficits for decades, there are two scenarios depending on whether today's imbalances are ultimately temporary or not. In the former view, the global savings glut – driven by commodity exporters and high-saving Asian economies – has allowed the United States to borrow at low interest rates for several decades. Even if the rest of the world continues to demand US assets, however, the accumulation of external liabilities will eventually weigh on US consumption relative to the rest of the world. Over time, this implies lower US imports, higher exports, and a transition toward trade surpluses and a current account balance that accommodates the service of external debt (Caballero et al., 2008). Because the net foreign asset position represents only a small share of aggregate national wealth and can easily be dominated by valuation effects from movements in equity and housing prices, such an adjustment may be extremely gradual and unfold over several decades.

An alternative interpretation is that US imbalances are permanent, sustained by the country's role as a world banker and its exorbitant privilege. Under this scenario, a large trade deficit can persist indefinitely (aside from cyclical fluctuations). In particular, the United States may continue to run trade deficits financed by earning high returns on its foreign assets while paying low returns on external liabilities. This outcome, however, requires a demanding set of conditions. On the liability side, the United States must preserve its role as a dominant provider of global safe assets and, potentially, as a supplier of equity that trades at ever increasing valuations. This, in turn, requires fiscal

and monetary discipline, high global savings, and a lack of close substitutes for US assets abroad (Choi et al., 2024). On the asset side, the United States must continue to invest abroad in risky assets, which relies on a deep and sophisticated financial market and well-capitalised intermediaries. Crucially, foreign savings cannot be fully absorbed by US public and private debt financing government deficits and household consumption, but instead must be intermediated into outward foreign investment (Obstfeld, 2025).

If these conditions fail to hold at some point, the United States may no longer be able to sustain its current trade deficit and would face a necessary external adjustment. Weak fiscal policy is particularly problematic in this regard. On the one hand, it creates a mismatch in the quantity of US assets relative to liabilities, lowering the capacity to earn an exorbitant privilege on the external portfolio positions.<sup>16</sup> On the other hand, persistent low borrowing costs and strong demand for US Treasuries may encourage excessive public borrowing, eventually undermining the safe-asset status of the US debt – a modern incarnation of the Triffin dilemma formalised by Farhi and Maggiori (2018).<sup>17</sup>

In addition, the role of external equity positions is often underappreciated. Systematically higher returns on US equities relative to the rest of the world, paradoxically, erode the exorbitant privilege, as foreigners now obtain higher returns on their international portfolios relative to the American investors (Atkeson et al., 2025). For the time being, this is compensated by the inflow of new international funds into the US equity market. Were the recent superior performance of US equities to reverse, these funding inflows could quickly dry up, reducing international demand for US assets. At the same time, a bursting of the AI bubble would reduce US external liabilities via the valuation effect, reducing the required size of trade and financial adjustments, akin to a depreciation of the dollar.

## 5.2 Transition dynamics

The scenarios described above differ sharply in the speed and nature of the required adjustment. In adverse states of the world, adjustment could be rapid and disruptive. One extreme possibility is a default on US external liabilities. While default would generate an immediate positive valuation effect and could temporarily obviate the need for trade adjustment, it would severely undermine the credibility of US debt and permanently eliminate the ability to run trade deficits financed by issuing safe assets. That said, an explicit default is unlikely, given that most US government debt is held

16 It is notoriously difficult to forecast long-run interest rates: while recent decades have seen their secular decline, Treasury yields are on the rise recently (Rogoff et al., 2024; Gourinchas and Rey, 2019).

17 The composition of foreign investors also matters as they are split roughly evenly between private and official holders. While private investors may be more fickle, official holders are more responsive to geopolitical considerations, including US sanctions and trade policy.

domestically and that default would inflict severe damage on the US financial system. Nonetheless, the use of capital controls, financial repression, or other restrictions on capital outflows to prevent a sudden stop would be perceived by foreign investors as an implicit default.

Arguably, a more realistic adjustment path operates through fiscal consolidation. As US debt continues to rise, higher interest rates may eventually force the government to reduce spending and/or raise taxes. Under the ‘twin deficits’ hypothesis, the trade balance would then improve mainly through lower domestic absorption rather than through exchange rate movements or valuation effects (Corsetti and Müller, 2006). This scenario, however, is politically difficult and is unlikely to materialise absent external shocks, such as a reversal of the global savings glut or an increase in the supply of alternative safe assets in Europe or China.

Finally, the external adjustment can happen via the exchange rate depreciation. If foreign investors lose confidence in US assets and begin to rebalance their portfolios, demand for exchanging dollar proceeds into other currencies would rise (Mendoza, 2010; Itskhoki and Mukhin, 2025b). This would lead to a depreciation of the dollar that would improve the US external position through two mechanisms. On the trade side, a weaker dollar would raise exports and compress imports via relative price effects (Obstfeld and Rogoff, 2005; 2007). On the financial side, depreciation would reduce the real value of US external liabilities, improving the net foreign asset position (Gourinchas and Rey, 2007b; Gourinchas et al., 2019). As a result, trade deficits would eventually shrink, although the required adjustment may be modest if positive valuation effects from the depreciation are large. At the same time, lower dollar returns would weaken foreign demand for US assets, eliminating the force that fuelled the persistent trade deficits of the previous decades. The 2025 depreciation of the US dollar may be viewed as early evidence of such an adjustment mechanism.

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# An institutional and governance perspective to understanding external imbalances

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### 1 INTRODUCTION: THE GOVERNANCE OF GLOBAL IMBALANCES

The persistent asymmetries in current accounts and net external positions have long been viewed primarily as macroeconomic outcomes. They are understood to reflect divergent savings–investment balances or differences in productivity growth, or to be the by-product of a set of heterogeneous exchange rate regimes (Obstfeld, 2011; see also his chapter in this report).

Yet global external imbalances are outcomes not just of markets, but of policies. These, in turn, can reflect institutions and political bargains. They arise within an international system defined by power asymmetries and incomplete rules that are unevenly enforced. Global imbalances thus reflect, or are governed by, politics and by the architecture of international institutions (Eichengreen, 2008). Imbalances may persist because institutional mechanisms designed to facilitate global adjustment are weak or lack legitimacy. Adjustment requires policy changes by surplus countries (e.g., boosting domestic demand) or deficit countries (e.g., restoring competitiveness). Yet no international body has both the authority and the legitimacy to ensure this burden is shared fairly.

This institutional gap is the by-product of a historical evolution. The Bretton Woods system embedded clear expectations, surveillance mechanisms, and adjustment mechanisms; its collapse ushered in a system of floating exchange rates and financial globalisation while also weakening institutional control. Imbalances grew in a ‘non-system’ that neither constrained national policies nor provided credible norms of cooperative behaviour (Ocampo, 2017). It is within this evolving institutional architecture that today’s global imbalances between the United States and China, within the euro area, or between advanced and emerging economies need to be understood.

This chapter develops an institutional perspective on global imbalances. It builds on academic work and institutional reports on the governance of international economic interdependence as well as on recent work that provides an analytical framework for how the move from a period of confident interdependence to one of fragmented interdependence is reflected in distinct policy areas (Papaconstantinou and Pisani-Ferry, 2025). All this work to date offers a valuable lens for understanding the persistence of global imbalances, the shortcomings of surveillance and coordination mechanisms, and the challenges of governing adjustment in a more contested geopolitical environment.

The chapter is structured as follows. Section 2 briefly examines the evolution of the international monetary and financial architecture since Bretton Woods. Section 3 focuses on the IMF's role in governing global imbalances and on the overlapping global financial safety net. Section 4 looks at the WTO and the trade-macroeconomics disconnect when addressing global imbalances. Section 5 addresses the evolving political economy of adjustment in the context of a fragmented and weaponised institutional framework. Section 6 concludes with suggestions on policy reform to overcome global imbalances as a governance failure.

## **2 FROM BRETTON WOODS TO FRAGMENTATION: THE EVOLUTION OF THE INTERNATIONAL MONETARY AND FINANCIAL ARCHITECTURE**

From Bretton Woods, to the non-system of floating rates, all the way to the post-2008 patchwork and today's fragmented interdependence, each period has produced distinct adjustment incentives and governance gaps.

The Bretton Woods system architecture rested on three pillars: fixed but adjustable exchange rates, capital controls, and IMF surveillance of balance-of-payments sustainability. The system's logic – 'embedded liberalism' per Ruggie (1982) – relied on the ability of governments to pursue domestic economic goals while cooperating internationally through agreed rules.

Following the breakdown of fixed exchange rates, the world entered a 'non-system' period (Williamson, 1977): floating exchange rates for major currencies, managed exchange regimes or soft pegs for emerging markets, capital mobility, limited institutional oversight of macro spillovers. Cross-border capital flows exploded, driven by deregulation in advanced economies and financial liberalisation in emerging markets. This was fertile ground for persistent imbalances. Surpluses in emerging Asia, supported by undervalued exchange rates and large reserve accumulation, were mirrored by widening US deficits, facilitated by deep financial markets and dollar's position as the global reserve currency (Dooley et al., 2003).

From the mid-1990s to the Global Financial Crisis (GFC), globalisation accelerated dramatically – Rodrik's (2011) 'hyperglobalisation' – with capital mobility, trade integration, and financial deepening expanding faster than supervisory capacities. China's WTO accession in 2001 was a watershed moment: export-led growth, managed

exchange rates and reserve accumulation created a massive current account surplus (for the deeper causes, see the chapter by Huang in this report). Europe, too, with the creation of the euro, experienced rising internal imbalances that grew unchecked. By the late 2000s, global imbalances had reached historic proportions. As Obstfeld and Rogoff (2009) argued, these imbalances were symptoms of deeper structural distortions, including governance failures.

The GFC exposed the fragility of a global financial system built on unregulated flows, persistent imbalances, and regulatory forbearance (Helleiner, 2014). The institutional response brought some innovations, but no systemic redesign. Reforms at the IMF helped it regain analytical prominence through its early warnings on global current account imbalances; yet its role remained constrained by political limitations. The G20 was elevated to leaders' level and launched the Mutual Assessment Process (MAP) to identify and reduce imbalances. The Financial Stability Board (FSB) was created to coordinate on regulatory reforms. Still, these innovations were crisis-driven improvisations, not a coherent redesign of global governance.

In the current context, this system now faces even greater pressure. The proliferation of regional financing arrangements, reflecting structural shifts but also diverse preferences, intense US–China rivalry, and the head-on US challenge to rules-based multilateralism, create a highly unstable and volatile international environment. Institutional fragmentation is now a feature of the system that needs to be managed and that various parties can leverage (Papaconstantinou and Pisani-Ferry, 2025). Cooperation is more political and less rules-based, and finding ways to make the system work towards managing persistent global imbalances requires understanding the role, remit, and limits of the different economic and political institutions and dynamics at play.

### 3 THE IMF AND THE MULTI-LAYER GLOBAL FINANCIAL SAFETY NET

The IMF is formally the guardian of balance-of-payments stability and international monetary cooperation. Its technical expertise, strong governance, and the US role in it, meant that for decades it was able to serve as a crisis manager and guarantor of financial stability for the global economy. But the Fund's role in managing global imbalances has long been controversial as it has struggled to navigate a 'trilemma' (Obstfeld et al., 2010) of effectiveness (ability to influence systemically important countries), resources (financial firepower and policy credibility), and legitimacy (representative governance and acceptance as a fair voice).

The IMF mandate extends from *ex ante* prevention of imbalances to *ex post* mitigation of their consequences. In fulfilling that mandate, it has evolved by strengthening surveillance, emphasising exchange-rate misalignments and structural reforms (Chari et. al., 2025) and adopting new instruments such as the *External Sector Report* (ESR), External Balance Assessment (EBA) methodologies, and *Spillover Reports*. Yet surveillance remains constrained by political asymmetries: disciplining smaller debtor countries seeking financial support has proven easier than influencing policy in

large surplus economies (Truman, 2010). IMF calls on Germany and China to reduce surpluses or rebalance domestic demand have had limited policy traction. These asymmetries have long been recognised in proposals for reform of the international monetary system, including calls for more symmetric adjustment and stronger global liquidity provision (Farhi et al., 2011).

Reforms since 2010 improved IMF quota representation for emerging economies but did not fundamentally correct under-representation or soften US veto power. Leadership selection also remains politically driven. Nevertheless, it would be fair to acknowledge the efforts made by the Fund to address concerns of representation and legitimacy. But in a world of rising geopolitical tension, the IMF's position as a trusted arbiter has become more fragile. It still represents the cornerstone of the global financial safety net (GFSN), but in a context of a new multi-layer governance system that has gradually emerged.

This new system involves a four-level safety net. In addition to the IMF as global lender of last resort, the safety net includes regional arrangements in both Europe (the European Stability Mechanism) and East Asia (Chiang Mai Initiative, Asian Development Bank); bilateral credit lines (from China), and especially dollar swap lines (from US); and countries keeping foreign exchange reserves as self-insurance (Weder di Mauro and Zettelmeyer, 2017; Papaconstantinou and Pisani-Ferry, 2025).

The fragmentation started after the late-1990s Asian crises resulted in East Asian countries shifting to self-insurance through reserve accumulation and then launching an Asian financial safety net. A decade later, the euro area followed suit with the European Stability Mechanism (ESM). Another layer to the GFSN was added during the 2007-8 Global Financial Crisis. Although IMF shareholders quickly agreed on beefing up its intervention means for exceptional support, the US Federal Reserve was instrumental in maintaining foreign banks' access to dollar liquidity through swap lines to selected partner central banks. This revival of a long-lapsed instrument *de facto* created yet another financial safety net, further diminishing the centrality of the IMF.

The multiplication of financial safety nets is an unmistakable indication that centrifugal forces are at work. Together with the extraordinary expansion of bilateral Chinese lending within the framework of the Belt and Road Initiative and Beijing's refusal to join the Paris Club, it signals a drift away from multilateralism in what once constituted the core monetary and financial infrastructure of the global economy. The data show a remarkable picture: regional financing arrangements and swap lines have risen from around 2% to approximately 17% of the GFSN. In contrast, the relative importance of the IMF has diminished over time: from accounting for roughly one-third of the GFSN during the early post-World War II era, its share has declined to approximately 8% (Chari et al., 2025).

As this trend seems irreversible, the question is how this variable geometry can ensure a collective ability to meet future challenges. Technically, it is possible for the different layers of the new GFSN to adhere to common principles. Such principles relate to the availability of funding, where political or geopolitical considerations weigh on the choice of countries to which central banks provide liquidity lines; conditionality, where aims, maturity, and scope of loans may differ, and so will associated conditionality; terms of lending, where lenders may tailor lending conditions to programme countries; and debt relief to insolvent borrowers by bilateral or regional lenders based on economic or strategic interest, even seizing collateral.

Politically, the transition from a US and G7-centric model to a multipolar model is challenging. Following financial sector sanctions against Russia, this multi-layer network which already (pre-sanctions) was not a coherent system in terms of coverage, resources, capabilities, and predictability, is unlikely to evolve into one. Geopolitical considerations increasingly weigh on the choice of countries to which liquidity lines are being provided.

#### **4 THE WTO AND GLOBAL IMBALANCES: THE TRADE-MACROECONOMICS DISCONNECT**

In the post-World War II global governance blueprint, there was a clear division: the IMF would oversee external stability while the GATT/WTO would provide trade rules. The WTO was never designed to police exchange rate regimes, reserve accumulation strategies, or fiscal–monetary mixes (Low, 2011). Its rules are built around commitments to non-discrimination and market access. Hence, it is rarely treated as a core institution in the governance of global imbalances.

This is, however, a misleading distinction. Persistent global imbalances manifest through trade outcomes in the form of sustained surpluses or deficits in goods and services, while their macroeconomic drivers (exchange rates, capital flows, domestic-demand suppression, reserve accumulation) remain imperfectly disciplined in the monetary system (Baldwin, 2016). Trade rules hence structure the politics of response to imbalances; and the WTO is highly relevant, as its rules shape how countries can respond to persistent surpluses and deficits.

Adjustment asymmetry illustrates the WTO's relevance. Deficit countries are often pushed to adjust, while surplus countries face weaker pressure to expand domestic demand or allow currency appreciation. WTO rules can reinforce this asymmetry by limiting the range of trade instruments that deficit countries might deploy as substitutes for missing macro coordination. While the WTO does contain explicit balance-of-payments provisions that permit temporary import restrictions to 'safeguard' external financial positions, in practice this tool has not been used as a channel of adjustment

for deficit countries. This reinforces a broader pattern: macro adjustment is expected to occur via exchange rates, domestic demand management, and capital flows; these are all areas where international discipline is weaker and where the distribution of adjustment burdens is contested.

Perhaps the most direct link between the WTO and global imbalances concerns exchange rates. Persistent currency undervaluation affects trade volumes and current account outcomes. Yet the WTO does not adjudicate exchange rate policy as such. The result is a governance gap: exchange rate choices can affect trade outcomes but are outside the WTO's toolkit. In a world of large and persistent imbalances, this gap matters because it can generate political demands to treat macro policies as trade distortions that the WTO is structurally ill-equipped to absorb. The consequence is that when macro coordination fails, states resort to trade instruments (tariffs, trade remedies) under their control, even if the underlying problem is macroeconomic.

The WTO's disappearing enforcement capacity has amplified these tensions (Baldwin and Evenett, 2020). Since the Appellate Body became non-operational in 2019, and even more so more since Trump's "Liberation Day", the credibility of the rules-based trading system has eroded, increasing the scope for unilateral measures. When trusted adjudication weakens, disputes are more likely to spill into unilateral trade actions and macroeconomic conflict becomes trade conflict by other means. This is what we are currently witnessing.

In short, the WTO is central to the governance of global imbalances because it shapes the permitted repertoire of responses when macro adjustment is contested and coordination fails. Despite clear linkages between trade surpluses, exchange rates, and competitiveness, cooperation between the IMF and WTO has remained limited. The WTO has no mandate on exchange rate policy, and the IMF has no enforcement power regarding trade distortions. In an era of fragmented interdependence, this institutional separation contributes to persistent misalignment between macroeconomic and trade policies.

## **5 FROM FRAGMENTATION TO WEAPONISATION**

The discussion above illustrates the fact that no single institution 'governs' global imbalances; instead, governance is distributed across a patchwork of bodies with overlapping mandates. While the IMF remains the central balance-of-payments surveillance institution, macro outcomes and global imbalances emerge from the interaction of trade rules, financial regulation, and regional arrangements (Helleiner, 2014). Furthermore, political bodies and initiatives have for some time attempted to plug the governance holes left by institutions.

Already in the 1970s and 1980s ad hoc coordination mechanisms, notably the G<sub>5</sub>/G<sub>7</sub>, attempted to coordinate exchange rate policies among advanced economies, with agreements such as the Plaza (1985) and Louvre (1987) Accords. But they were episodic, crisis-driven, and non-binding, underscoring the absence of a stable institutional anchor for managing global imbalances. Political guidance and coordination found its apex in the GFC through the role of the G<sub>20</sub>. Its elevation to leaders' level and decisions such as the one to triple the IMF's lending capacity to stabilise the global economy was a recognition that global macro coordination could no longer be managed by a narrow group of advanced economies.

Early G<sub>20</sub> summits (2008–2011) produced a shared framework for strong, sustainable, and balanced growth (Bery, 2018). The G<sub>20</sub> Mutual Assessment Process (MAP) was meant to provide a cooperative framework to reduce global imbalances through peer-review exercises, common objectives, and analytical frameworks, combining IMF technical analysis with political endorsement. However, the MAP lacked institutionalisation. It had no binding commitments, no enforcement mechanisms, and no permanent secretariat beyond IMF support. As the immediate crisis faded and geopolitical tensions intensified, most notably the US–China rivalry, political incentives to cooperate weakened. During the COVID pandemic, the G<sub>20</sub> barely registered as a coordination instrument. Today, with the next host (the United States) choosing to exclude G<sub>20</sub> countries from the meeting, and with a sense of common purpose and trust lost, it risks falling into insignificance.

The G<sub>20</sub> did however produce institutional innovations through the creation of the Financial Stability Board in 2009. The FSB plays an important role in ensuring financial stability and reducing systemic risks. By addressing regulatory arbitrage, cross-border exposures, and systemic vulnerabilities, it indirectly influences the drivers of global imbalances. Together, the FSB and with the much older Bank for International Settlements (BIS), which provides key data and policy guidance on global liquidity and capital flows, represent two important institutional pillars. However, neither institution is designed to address external imbalances directly. Their mandates focus on financial stability rather than macroeconomic coordination (see Table 1)

Imbalances within the European Union/euro area are a clear illustration of how institutional design shapes external positions. Monetary union removed exchange rate risk, but without central fiscal, banking, and macroeconomic adjustment mechanisms. Capital flowed from core to periphery, widening current account deficits in some EU countries, while surplus countries accumulated large net external creditor positions. Post-crisis, adjustment occurred overwhelmingly via fiscal consolidation and internal devaluation in deficit countries. The EU governance framework thus reproduced at regional level the asymmetry observed globally: strong discipline on deficit countries, weak incentives for surplus countries to expand domestic demand or investment. Despite post-crisis reforms, the euro area still lacks effective tools for symmetric adjustment, making internal EU imbalances a structural feature rather than a transitional phenomenon.

TABLE 1 INSTITUTIONS RELEVANT TO THE GOVERNANCE OF GLOBAL IMBALANCES

Institution/body	Core responsibilities	Strengths	Key weaknesses/limitations
<b>IMF</b>	Surveillance of BoP sustainability; ER assessment; crisis lending; spillover analysis	Technical expertise; near-universal membership; analytical tools; crisis financing capacity	Limited leverage over large surplus economies; legitimacy and quota issues; asymmetric discipline
<b>WTO</b>	Trade rules; market access; dispute settlement; BoP provisions	Strong legal framework; transparency; formal BoP clauses	No macro mandate; ERs outside jurisdiction; dispute settlement paralysis
<b>FSB</b>	Coordination of global financial regulation; systemic risk oversight	Reduces financial amplification of imbalances; peer monitoring	No binding authority; indirect impact on macro adjustment
<b>BIS</b>	Central bank cooperation; monitoring global liquidity; research	High-quality data; trusted forum for central banks	Limited policy authority; narrow mandate
<b>Regional financing arrangements (ESM, CMIM, FLAR)</b>	Crisis lending; regional liquidity support	Faster response; regional ownership	Fragmentation of safety net; uneven governance standards
<b>Central bank swap line network</b>	Emergency liquidity provision in reserve currencies	Rapid crisis stabilisation; credibility	Selective and discretionary access; reinforces asymmetries
<b>G20</b>	Political coordination of macro policies; crisis management; peer review	Brings systemically important economies together; political visibility	Non-binding commitment; weak institutionalisation; declining effectiveness
<b>EU/euro area institutions</b>	Macroeconomic surveillance; fiscal rules; monetary policy; financial stability	Advanced supranational governance; internal surveillance mechanisms	Incomplete fiscal and banking union; asymmetric adjustment

Adjustment to global imbalances has always been political. Today, however, it has also become increasingly weaponised. As formal multilateral coordination mechanisms have weakened, and political bodies such as the G7/G20 no longer command the role they used to, states have turned to instruments of economic interdependence (trade, finance, technology, payments) as levers of strategic power. This weaponisation of interdependence fundamentally reshapes how adjustment occurs, who bears its costs, and how legitimacy is contested in the governance of global imbalances (Farrell and Newman, 2020).

Economic sanctions is a first case in point. In imposing financial sanctions against Russia (cutting off its banks from SWIFT or freezing the assets of the Russian central bank), the West has effectively ‘weaponised’ its control of the infrastructure of globalisation. It did so through the financial plumbing it controls and its unique position in terms of dominance in world currency markets. Irrespective of whether the policy goals are worthwhile or the actual tools effective, such financial weaponisation increases incentives for self-insurance and diversification and contributes to the persistence of global imbalances at the systemic level.

Trade weaponisation is another area. The main culprit here is the new US administration: its tariffs are increasingly deployed not merely to protect domestic industries, but to counter perceived macroeconomic unfairness elsewhere. Large surpluses (in China but also across the spectrum of US trading partners) are framed as evidence of unfair practices or strategic manipulation. Effective multilateral discipline is replaced by coercive instruments. The consequence is a feedback loop: macroeconomic imbalances fuel trade conflict, trade conflict undermines trust, and declining trust makes macro coordination even harder. What emerges is a paradox: efforts to reduce vulnerability at the national level increase systemic fragility.

Underlying this weaponisation is a diversification of preferences around the principles that should be guiding the world economic order and the response to global imbalances. Broadly speaking, there are three views: the ‘institutional’ European-led view, shared by the core of global organisations, that a rules-based order, albeit adapted to greater fragmentation, implies governance changes that can attempt to maintain ‘guardrails’ on global imbalances; an ‘extractive’ US view that the old rules no longer work, and imbalances are a problem when they threaten vital US interests; and a Chinese-led view that governing global imbalances is part of a broader agenda of rebalancing representation and power in the global economic order. It is only by navigating these three distinct approaches that we can hop to find practical reform solutions.

## 6 THE NEED FOR REALISM

In a context where the United States has transformed from a guarantor and main underwriter of the rules-based multilateral order to an extractor of unilateral gains, intent on rewriting global order rules, does coming forward with proposals for institutional reform in the governance of global imbalances actually make sense? After

all, in a world where finance and trade policies are increasingly weaponised, governing global imbalances requires more than technical fixes. It demands political and institutional designs that reduce incentives for coercion by restoring credible avenues for cooperation across trade and finance – a tall order in the current context.

Answering in the affirmative requires making an argument on two levels: on general policy principles, and on institution-specific reforms. On general policy principles, while weaponisation of policies is here to stay, there is still policy space for a ‘minimum viable governance’ – a set of arrangements that do not eliminate imbalances but at least prevent them from becoming destabilising or conflict-inducing. Better outcomes will not follow from deeper coordination and stronger multilateral discipline; we need to accept the goal of governing interdependence without assuming high levels of trust or convergence (Rodrik, 2011; Ocampo, 2017; Helleiner, 2014).

Under this category one can find efforts to reduce the need (and hence incentives) for self-insurance (leading to smaller structural surpluses and imbalances); improving transparency and predictability (for reduced volatility in capital flows and exchange rates); strengthening resilience rather than aiming for optimality; improving cross-institutional coherence to reduce policy contradictions; and even attempting to restore some symmetric adjustment norms for fairer burden sharing and rebuilding institutional legitimacy.

In terms of institution-specific reforms, the starting point must be a recognition of the difficulty of reforming institutions where the largest shareholder is absent or hostile and where emerging economies have legitimate representation arguments but also often do not follow internationally established norms and rules. Nevertheless, there is still space for changes, sometimes led by a ‘coalition of the willing’ that leaves out the United States. They are detailed in Table 2.

Some of these relate to the IMF, an institution that has for now been spared the wrath of the US administration. Expecting the Fund to enforce symmetric adjustment on large surplus and deficit countries is unrealistic. It would seem to be equally impossible politically in the current context to advance the necessary governance reform in terms of quotas, voting shares, and leadership – all actions that are necessary and that would sustain IMF credibility in a multipolar world. The same holds for making Special Drawing Right (SDR) allocations more systematic and predictable. While certainly desirable and a positive for addressing global imbalances, the difficulty with the 2021 SDR allocation reform (in a more positive environment) suggests that this cannot be a current policy priority.

For the moment, and until there is a shift in political winds, reform should instead aim to enhance the IMF's ex ante diagnostic authority, legitimacy, and conditionality, even with weak enforcement power. Several priorities stand out in this respect, and the Fund has indeed already moved in this direction: surveillance to continue to evolve toward greater multilateralism, by clearer communicating uncertainty, explicit scenario analysis, and links to global risk assessments; and IMF lending instruments to prioritise precautionary and stigma-free access.

A central lesson of the past decades is that weak and uneven crisis insurance fuels imbalances. Countries that doubt their access to liquidity in times of stress will self-insure. Strengthening today's fragmented global financial safety net is therefore one of the most direct ways to address the structural drivers of imbalances. Reform priorities include expanding the role of IMF precautionary facilities and clarifying the interaction between IMF lending and regional financing arrangements. The cooperation already under way between these institutions that together make up the global financial safety net is promising in this regard. Equally important is addressing the asymmetry of central bank swap lines, which currently leave many countries exposed and add to the perception that access to liquidity is politically contingent (an issue, however, that also risks becoming politically fraught under a new chair of the US Federal Reserve).

One of the defining weaknesses of the current system is the disconnect between macro surveillance, trade rules, and financial regulation. Global imbalances sit at the intersection of these domains, yet institutional interfaces remain weak. Reform here calls for structured cooperation and information sharing. IMF external sector assessments should systematically inform WTO trade policy reviews, providing macro context for trade outcomes. Conversely, persistent trade distortions identified within the WTO framework should feed back into IMF surveillance as potential sources of imbalance. Similarly, macro-financial spillovers identified by the IMF and BIS should be more closely integrated into FSB work on systemic risk.

In a world of weaponised interdependence, states will prioritise resilience and autonomy over efficiency and balance. Institutions can mitigate this logic. Predictable access to liquidity, credible dispute settlement, and transparent surveillance reduce the scope for surprise and coercion. In this context, legitimacy is paramount. Institutions perceived as instruments of dominant powers will accelerate fragmentation rather than contain it. Governance reform, inclusiveness, and procedural fairness are therefore central to any reform agenda.

TABLE 2 REFORMING THE GOVERNANCE OF GLOBAL IMBALANCES

## a) General reform objectives

Policy goal	Rationale/link to imbalances	Expected contribution
Reduce need/incentives for self-insurance	Weak crisis insurance pushes reserve accumulation	Smaller structural surpluses and imbalances
Restore symmetric adjustment norms	Stronger adjustment pressure for deficit than surplus countries	Fairer burden-sharing; improved legitimacy
Improve transparency and predictability	Uncertainty amplifies spillovers/defensive policies	Reduced volatility in flows and exchange rates
Strengthen resilience rather than enforce optimality	Full coordination is politically infeasible	Fewer crises triggered by imbalances
Rebuild institutional legitimacy	Perceived bias undermines cooperation	Greater traction of surveillance
Improve cross-institutional coherence	Macro, trade and finance governed separately	Fewer policy contradictions

## b) Institution-specific reform directions

Institution/body	Main proposed reforms	How this addresses global imbalances
IMF	Stronger surveillance; stigma-free precautionary instruments; quota/voting reform at a later stage	Enhances legitimacy; reduces reserve accumulation
WTO	Modernise BoP procedures; restore dispute settlement; IMF-WTO information exchange	Limits trade weaponization of macro tensions
FSB	Integrate macro-financial spillovers; deepen cooperation with IMF and BIS	Mitigates financial amplification of imbalances
BIS	Expand analysis of global liquidity and capital-flow spillovers	Improves anticipation of imbalance-related risks
GFSN	Regular SDR allocations; clearer IMF-RFA coordination; predictable swap lines	Reduces surplus bias driven by self-insurance
RFAs	Ensure interoperability with IMF; improve governance and transparency	Prevents fragmentation of adjustment
Central bank swap lines	Increase transparency; explore pre-qualification and multilateralisation	Reduces discretionary liquidity asymmetries
G20	Refocus coordination on limited, realistic objectives linked to IMF/OECD analysis	Restores political ownership of imbalance governance
Euro area institutions	Complete banking union; strengthen central fiscal capacity; symmetric adjustment tools	Reduces internal imbalances

International organisations aside, there is the question of the future of political formations such as the G20. It is clearly less important today than during the GFC, or even its weak self during COVID. As a purely political instrument, its reach will ultimately depend on the collective will of its members, and especially the United States. A G20 in which the United States does not constructively participate is better than nothing, but its decisions will obviously have implementation problems. The only way to sustain it until a change in political fortunes is to refocus coordination efforts on limited, realistic objectives linked to IMF/OECD analysis. Smaller formations, such as the G7 or other bilateral for a, may need to be the place for big political compromises until then.

In the absence of a large-scale overhaul of international institutions and the incapacity of the G20, a heavy burden of responsibility falls on the European Union, both to address its own internal imbalances but also in leading broader global reforms or at least resisting where possible policies that will worsen external imbalances. In terms of internal reforms, the list is familiar: completing banking union to reduce the tendency for imbalances to crystallise along national lines within the Union; a permanent central fiscal capacity at euro area level, oriented toward macroeconomic stabilisation and investment rather than conditional crisis support; joint EU borrowing and spending for European public goods. To these should be added the willingness to engage with partners around the world, especially in Asia, to push institutional reform in exchange for a rebalancing of quotas and governance that is closer to global GDP composition.

## 7 CONCLUDING REMARKS

The key message of this chapter is that global external imbalances are not just economic outcomes; they are institutional outcomes shaped by governance gaps, legitimacy deficits, and geopolitical tensions. The persistence of large imbalances between the United States and China, within the euro area, and between advanced and emerging economies, reflects a system where adjustment is asymmetric, coordination is weak, and surveillance politically constrained.

In a fragmented world, the challenge is not to return to the governance structures of the past, but to develop new frameworks anchored in reciprocity, legitimacy, and minimally intrusive rules that can sustain economic openness while respecting geopolitical realities. In the current context, this implies a shift from enforcing adjustment through rules to building resilience against imbalance-driven instability. This means recognising that adjustment will often be partial and politically constrained. Institutions should therefore focus on preventing imbalances from triggering crises, financial fragmentation, or geopolitical escalation. Through better diagnostics, safety nets, institutional interfaces and reducing incentives for weaponisation, governance can make persistent imbalances more manageable, even in the current hostile geopolitical environment.

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# The return of global imbalances? The US case

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## 1 INTRODUCTION

Global imbalances – large current account deficits and surpluses in different countries and regions – were a main topic of discussion in academic and policy circles during the period preceding the global financial crisis (GFC) of 2008-2009. A disorderly unwinding of such imbalances was at the time considered the major risk for the world economy. Indeed, the IMF conducted a “multilateral consultation” with China, the euro area, Japan, Saudi Arabia, and the United States to discuss the implementation of policies designed to reduce such imbalances (IMF, 2007). The GFC was triggered by a different factor – the bursting of a US housing market bubble – and brought to light the extent of financial excesses that had themselves contributed to the buildup in current account imbalances. As risk aversion mounted and cross-border financial flows shrank, global current account imbalances contracted sharply.

For the United States in particular, the current account deficit peaked in 2006 at over 6% of GDP but declined sharply during the GFC and in subsequent years, as US domestic demand remained subdued. In the period between 2013 and the onset of the COVID pandemic in early 2020, it hovered around 2% of GDP, less than a third of its pre-crisis level. The contraction in US net borrowing was mirrored by a generalised contraction in global current account deficits and surpluses, with deficits declining from a peak of 2.6% of global GDP in 2006 to less than half of that level in 2019, as documented in the chapter in this report by Balakrishnan.<sup>2</sup>

However, the US current account deficit has widened sharply since then (Figure 1). This chapter studies the factors explaining this development. It focuses both on drivers of the US current account balance and the evolution of the US net international investment position (NIIP) – the difference between financial claims and liabilities of US residents

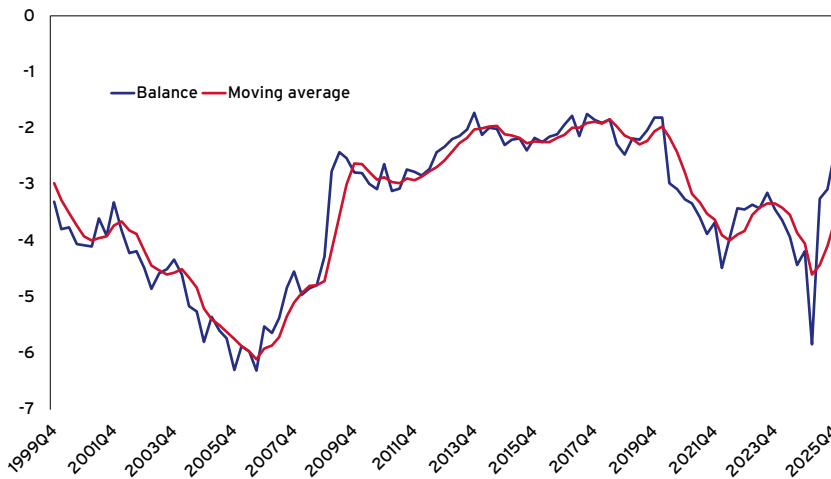
1 I am grateful to Maury Obstfeld, Hélène Rey, and participants at the Paris December 2025 workshop for useful comments and to Tristan Loa for helpful research assistance and fact checking.

2 Global current account deficits and surpluses, which in principle ought to be equal, have persistent differences in practice, with global surpluses exceeding global deficits from 2005 onwards. The so-called ‘global discrepancy’ (the difference between global surpluses and global deficits) has averaged ½ percent of global GDP since 2010.

vis-à-vis the rest of the world. Analysing the key factors explaining the US trade and current account deficits is particularly salient given how such deficits – including at the bilateral level – have become central in the political narrative of the current US administration, triggering the imposition of unprecedented tariffs on trading partners.

The literature on imbalances in recent years has focused primarily on the evolution of creditor and debtor positions – especially the sharp deterioration in the US external position (Atkeson et al., 2025; Bayoumi and Gagnon, 2025; Milesi-Ferretti, 2024a). Obstfeld (2025) provides a masterful analysis of the factors explaining the evolution of the US current account balance during the past few decades, highlighting the role of US-specific factors as well as developments in US trading partners. This chapter complements his analysis by focusing on the most recent period.

FIGURE 1 US CURRENT ACCOUNT BALANCE, 1999Q4-2025Q4 (PERCENT OF GDP)



Source: U.S. Bureau of Economic Analysis.

The remainder of the chapter is organised as follows. Section 2 discusses the evolution of the US NIIP in more detail and relates it to current account dynamics. Section 3 focuses on the macroeconomic factors explaining the worsening in the US current account balance since the onset of COVID. Section 4 discusses the counterparts to the US deficit, and Section 5 concludes.

## 2 THE US EXTERNAL POSITION

Understanding the evolution of the US external position to study global imbalances is important for at least two reasons. The first concerns the mechanical link between the external position and investment income flows, which are an important part of the current account. *Ceteris paribus*, a more negative external position and higher yields will imply a worsening investment income balance and hence a wider current account deficit. The second concerns more generally the macroeconomic and financial implications of the external position. For instance, larger foreign holdings of domestic

assets can imply a heightened sensitivity of domestic long-term interest rates and asset prices to shocks to foreign asset demand. These concerns are more salient in a global environment characterised by higher policy uncertainty and rising tensions with major trading partners.

The United States has had a negative net international investment position since 1989. As discussed more extensively in Milesi-Ferretti (2024a), Atkeson et al. (2025), and Bayoumi and Gagnon (2025), the US external position has deteriorated sharply since the GFC, driven by persistent current account deficits (albeit smaller than during the crisis) as well as valuation changes. Specifically, the spectacular rise in US stock prices (over 400% since the end of 2010 according to the MSCI stock market index for large US companies) has boosted the value of US shares held by nonresident investors, and an appreciating dollar has reduced the dollar value of US assets abroad denominated in foreign currency. As a result of these developments, the US NIIP stood at around -90% of US GDP at the end of September 2025, with FDI valued at market prices (Figure 2, panel a). Alternative – and arguably more realistic – valuations for FDI yield a net position of -66% of GDP (Figure 2, panel b).<sup>3</sup>

The figures highlight the deterioration in most components of the US external position, which is particularly notable for portfolio equity, where higher US stock prices have boosted the value of US equity held by foreign investors. But there is also a steady deterioration in net FDI (red bars) and other investment (light green bars). The only component that has shown a modest improvement is the net position in bonds (portfolio debt). This is explained by the increase in US long-term interest rates from 2021 onwards, which has reduced the market value of US bonds held by foreign investors. Overall, the US net position in non-FDI debt instruments (bonds and other investment) was around 50% of GDP at the end of 2024, with the remainder of the net liability position explained by equity instruments.

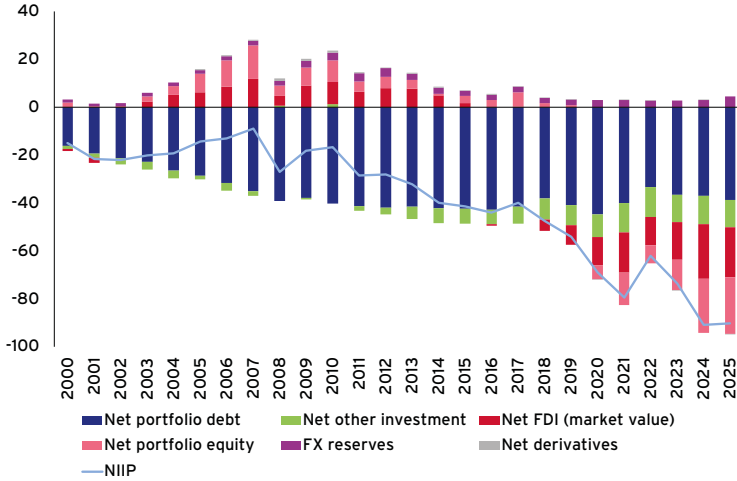
As discussed more extensively in Chari and Milesi-Ferretti (2025), risks posed by the equity component of US external liabilities are arguably less salient than those posed by its debt component. While gross portfolio equity liabilities at the end of 2024 were higher than portfolio debt liabilities, over 80% of US stocks are held by domestic residents according to the US financial accounts, and hence the deterioration of the net external position due to rising stock prices has been accompanied by a much larger increase in US domestic wealth. Given current equity valuations, the consequences of a sizeable stock market correction pose risks to the US outlook, including through wealth effects,

3 The more negative figures in the market value estimate are driven by the assumption adopted by the Bureau for Economic Analysis (BEA) that the market value of affiliates of multinational corporations evolves in line with the stock market prices of the country where such affiliates are located. The sharp rise of US equity prices during the past 15 years has therefore boosted the estimated value of inward FDI. However, this estimate is questionable for at least two reasons. The first is that inward FDI is concentrated in industries where US stock prices have increased much less sharply than the aggregate stock market index (think of cars and finance as compared to tech companies). The second is that US multinationals generate a hefty fraction of their profits abroad, and their stock market valuation reflects the value of their global franchise, which may be under-estimated using the local stock prices of the country where affiliates are located. See Milesi-Ferretti (2024a) for a fuller discussion.

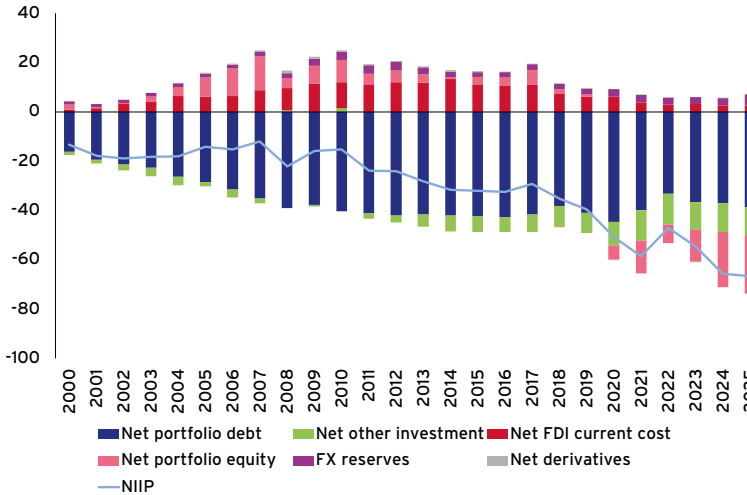
but the fact that some 20% of US stocks are held by nonresident investors reduces the impact of the shock. On the other hand, a stock market correction could be triggered by selling pressure from foreign investors, driven for instance by concerns about the dollar or about their tax treatment in the United States.

FIGURE 2 US NET INTERNATIONAL INVESTMENT POSITION (PERCENT OF GDP)

a) FDI at market value



b) FDI at current cost



Source: Author's calculation based on data from the Bureau of Economic Analysis.

Foreign holdings of US Treasury securities are the most relevant external exposure for the United States. According to US international investment position statistics and financial accounts, these holdings accounted for about 30% of GDP and around one-third of all outstanding Treasury securities. However, a recent paper by Barth et al. (2025) highlights a substantial undercount of US Treasury securities held by Cayman-

domiciled hedge funds (\$1.4 trillion in 2024). These holdings are currently attributed to US households, which are the residual category for Treasury holdings in US financial accounts. Attributing these data to foreign holdings raises their share by some 5 percentage points of GDP.

Foreign holdings of US Treasury securities used to be dominated by foreign central banks. Foreign official holdings accounted for about 40% of Treasury securities outstanding, and the total share of Treasury securities held by nonresidents exceeded 50% (Chari and Milesi-Ferretti, 2025). The share held by foreign official agencies has declined substantially since then. As discussed in Chari and Milesi-Ferretti (2025), many factors explain this decline: the pace of reserve accumulation has been much slower than the increase in US public debt, the appreciation of the dollar against other reserve currencies has led foreign central banks to shed Treasuries to stabilise currency shares, the dollar share of foreign reserves has declined, and holdings by the Federal Reserve have increased. At the same time, the share held by private foreign investors has risen. It is harder to pinpoint the key drivers of foreign private demand for US Treasuries. A substantial fraction of their holdings is intermediated by financial centres such as Ireland, Luxembourg, and the Cayman Islands, on behalf of international investors. But factors such as the increased holdings by hedge funds – many of which are based in the Cayman Islands – suggest that this investor base is much more sensitive to risk sentiment shocks and inherently more volatile than official holdings, as the March 2020 turmoil clearly illustrates (see, for instance, Kashyap et al. 2025).<sup>4</sup> While a fuller discussion of external risks for US Treasuries is beyond the scope of this chapter (see Chari and Milesi-Ferretti, 2025), rising geopolitical tensions and stresses between the United States and its allies, which are the largest holders of US securities, make this topic particularly salient.

As we will discuss in more detail in the next section, the worsening in the US NIIP in recent years has been one important factor driving a deterioration in the US investment income balance, which had been positive for the entire post-war period but turned marginally negative in 2024. The effect of a larger net debtor position has been compounded by higher long-term interest rates, in light of the large net debt position of the United States.

4 The cross-border dimension of the shock was related primarily to sales of Treasury securities by foreign central banks experiencing pressure on their foreign exchange reserves, since Cayman funds are mostly from the U.S. and cater primarily to U.S. investors. During the market turmoil in March 2020 the Federal Reserve Board activated a number of facilities designed to alleviate market stress, including for nonbank financial institutions (see <https://www.federalreserve.gov/funding-credit-liquidity-and-loan-facilities.htm>). Liang and Zhu (2025) discuss progress on reforms designed to increase the resilience of Treasury market liquidity.

### 3 GROWING EXTERNAL IMBALANCES: 2020 ONWARDS

We start by briefly highlighting the factors explaining the evolution of the US current account balance through the lens of the main macroeconomic variables in the United States as well as its export markets, before turning to the financial balance as well as income flows. The data are presented in Table 1. We divide the last 25 years into four periods: (1) the widening of global imbalances (2001-2006), (2) the adjustment with the global financial crisis (2007-12), (3) further current account compression (2013-19), and (4) the most recent period (2020-2024). We highlight the growth rate of GDP and domestic demand in the United States and its export markets, US saving and investment, US trade variables, and the terms of trade and the real effective exchange rate.

TABLE 1 THE MACROECONOMIC CONTEXT, 2001-2024

		2001- 2006	2007- 2012	2013- 2019	2020- 2024
<b>Percentage change per annum</b>					
Aggregate demand	United States	2.9	0.4	2.6	2.7
	All trading partners	3.7	2.2	2.6	2.0
GDP growth	United States	2.6	0.7	2.5	2.4
	All trading partners	3.6	2.0	2.7	2.0
Exports of G & S	United States	3.3	3.3	2.2	1.3
Imports of G & S	United States	5.0	0.6	3.3	3.5
Real effective exchange rate	United States	-1.3	-1.8	2.8	1.8
Terms of trade	United States	-0.6	-0.2	1.3	1.3
<b>Percent of GDP, period average</b>					
Current account balance	United States	-4.9	-3.4	-2.1	-3.5
National saving	United States	18.3	16.0	19.1	17.4
	Government	United States	-0.6	-5.1	-2.2
Private	United States	19.0	21.1	21.2	23.0
Domestic investment	United States	22.5	19.8	21.1	21.6

Source: Author's calculations based on US Bureau of Economic Analysis, Federal Reserve Board, and IMF, World Economic Outlook (October 2025).

During 2001-2006, US domestic demand was strong and imports grew rapidly, while US exports grew more slowly than external demand and the terms of trade deteriorated as the United States lost global export market share. The dollar weakened throughout the period in real effective terms. During 2007-12, domestic demand growth was very weak, with domestic investment dropping by 2.7 percentage points of GDP, and the

dollar exchange rate continued to weaken in real effective terms. As a result, import growth declined sharply, leading to a sizeable current account adjustment. The following period was characterised by a recovery in domestic demand, real appreciation, and stronger import growth. Interest rates declined, raising US net investment income, and the current account deficit shrank further, as import values were compressed by improving terms of trade.

During the period 2020-2024, US demand growth was much higher than demand growth in trading partners, despite the importance in that group of faster-growing economies such as China, and the dollar continued to appreciate in real effective terms. Expansionary fiscal policy to support the economy during the COVID pandemic and its aftermath, only partly offset by higher private saving, was a key driver of demand strength. Optimism on the productivity prospects arising from artificial intelligence has pushed stock market valuations further up, especially for tech firms, and triggered higher investment, particularly in data centres, as well as higher private consumption through wealth effects. As a result, the growth rate in US imports exceeded the growth rate in exports by 2.2 percentage points, but a sizeable improvement in the terms of trade has limited the deterioration in the current account balance.

Figure 3 highlights more clearly the importance of changes in the terms of trade (see also Figure 7 in the chapter in this report by Obstfeld). It shows how the current account imbalances during the period preceding the GFC were accompanied by a deterioration in the terms of trade, reflecting at least in part a decline in demand for US goods as China's exports rapidly gained market share (Obstfeld, 2025). In the period since 2014 there has been a trend improvement in the terms of trade as the real exchange rate has appreciated substantially, partially offsetting the higher growth rate of real imports compared to real exports.<sup>5</sup>

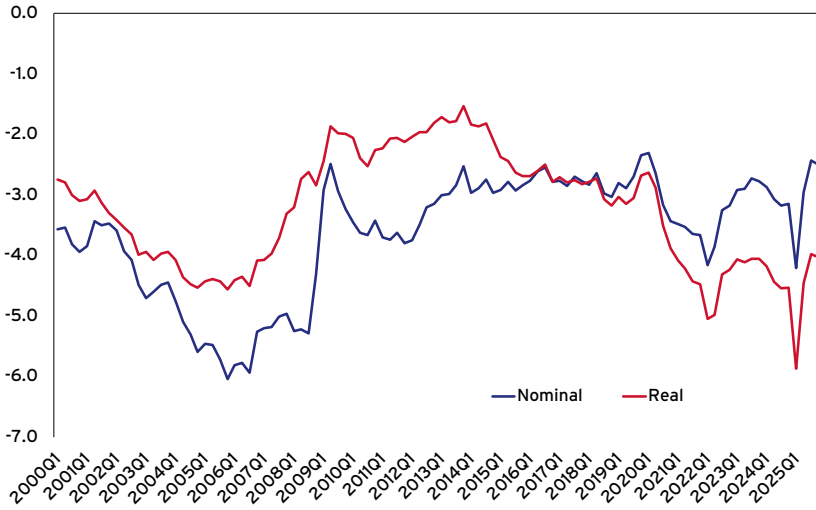
Figure 4 plots the evolution of the US investment income balance. The fact that the United States maintained a positive income balance for so long despite being a net debtor has triggered a vast literature on return differentials and 'exorbitant privilege', with authors emphasising factors such as the different instrument composition of assets and liabilities as well as return differentials within the same category.<sup>6</sup> As Figure 4 clearly shows, the most important factor driving the US income balance are returns on FDI.<sup>7</sup>

5 Movements in the terms of trade are correlated with the US exchange rate and also affected by the shift in the sensitivity to global energy prices as the United States has become a net energy exporter in the past decade. The chapter by Balakrishnan discusses in more detail the shift in the US energy balance.

6 See, for instance, Gourinchas and Rey (2007a) and Curcuru, Dvorak, and Warnock (2008; 2013) for pre-GFC evidence, and Bertaut et al. (2024) and Tabova and Warnock (2025) for recent evidence.

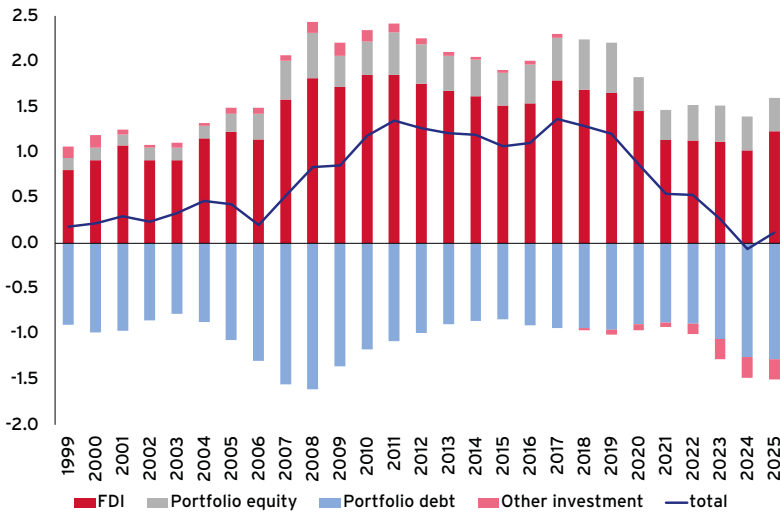
7 US multinationals have a tax incentive to book profits abroad. As shown for instance in Guvenen et al. (2022), this creates incentives to use transfer pricing to reduce net exports to foreign affiliates so as to book profits in those affiliates. This generates artificially higher yields for US FDI abroad at the expense of the US trade balance (see also the discussion in Bayoumi and Gagnon, 2025).

**FIGURE 3 US BALANCE ON GOODS AND SERVICES, NOMINAL AND REAL (PERCENT OF GDP)**



Source: Author's calculations based on U.S. Bureau of Economic Analysis.

**FIGURE 4 US INVESTMENT INCOME BALANCE (PERCENT OF GDP)**



Source: Authors' calculations based on data from the US Bureau of Economic Analysis.

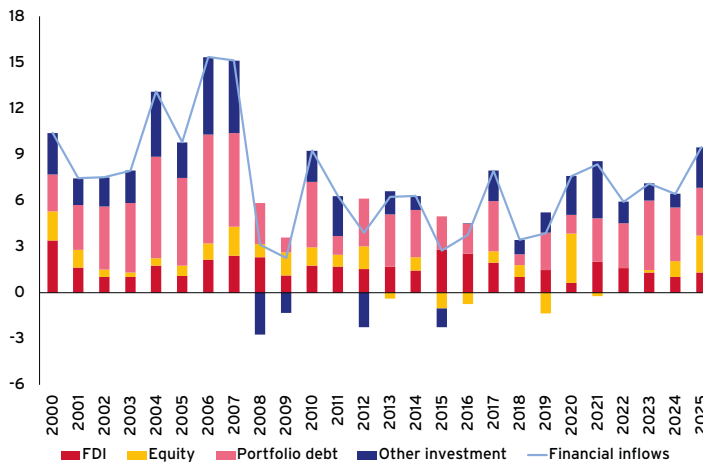
We focus here on the factors explaining the sharp worsening in the investment income balance, which has turned negative for the first time in 2024. In an accounting sense, the deterioration since 2019 (1.3 percentage points of GDP) is the main factor contributing to the worsening current account balance during this period. It reflects the worsening in the (still highly positive) balance on FDI income, as the net FDI position of the United States has been declining, as well as the higher interest burden associated with the large negative net debt position as short-term and long-term interest rates have risen from their historic lows in the late 2010s. Investment income outlays on the US bond portfolio may increase further: the average yield on US long-term debt liabilities held by nonresidents was 3.7% in 2024, well below the rate for newly issued

long-term bonds. As older debt issued at pre-2022 rates matures, the interest burden is likely to rise. In general, higher real interest rates imply a gradually larger transfer of resources abroad for a country with a large negative position in debt instruments such as the United States. On the other hand, during 2025 the depreciation in the US dollar increased the value of returns generated in foreign currency, with income earned by US multinationals on their FDI abroad rising sharply – as a result, the balance on investment income was modestly positive again in 2025.

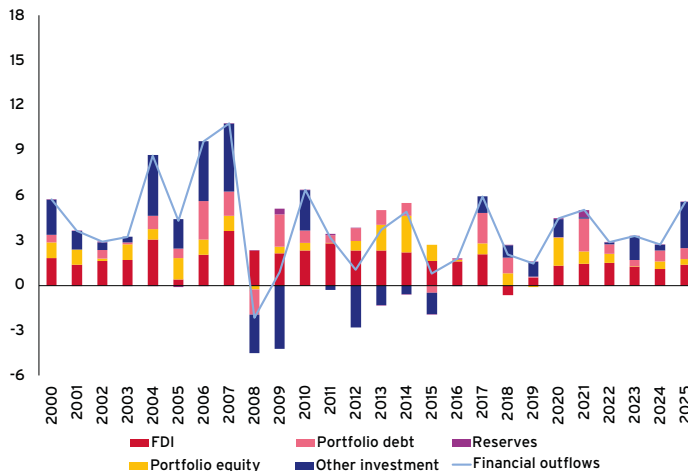
We turn now to the financing of the US current account deficit. Figure 5 comprises two panels depicting financial flows to and from the United States during the past 25 years. It shows how foreign purchases of US debt instruments, especially bonds, have been the main source of financial inflows and overall current account financing (compare the green bars in the inflows and outflows panels, which have the same scale). This dependence on net portfolio debt and other investment inflows has also been true within sub-periods, including the period prior to the global financial crisis as well as the last few years.

**FIGURE 5 US FINANCIAL INFLOWS AND OUTFLOWS (PERCENT OF GDP)**

a) Financial inflows



b) Financial outflows



Source: author's calculations based on data from the US Bureau of Economic Analysis.

The figure also documents how portfolio equity inflows have been relatively modest since 2010, even though they grew in 2025 – the increase in foreign holdings of US equities has been driven by higher equity prices. Indeed, during the past 15 years US portfolio investment in foreign equities has exceeded foreign purchases of US equities, while net FDI flows have been roughly balanced. Overall, the financial flows data thus confirm that net flows to the United States are primarily in ‘safe’ financial instruments (bond flows reflect purchases of US Treasury and agency debt securities, as well as highly rated corporate bonds) and that net US investment abroad in equity instruments has been positive (e.g., Gourinchas and Rey, 2007b; 2022). However, the latter has been quite modest and more than offset by the valuation effects discussed earlier, as highlighted in Section 2.

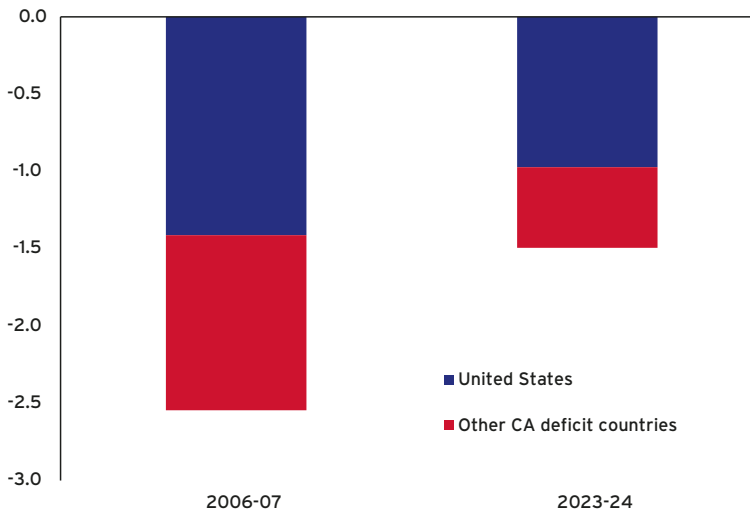
#### 4 THE GLOBAL ENVIRONMENT: COUNTERPARTS TO US IMBALANCES

So far, we have focused on the US current account and external position. But how do the US deficit and debtor position fit into the global pattern of imbalances, and which countries and regions are the United States’ main trade and financial counterparts? One useful statistic concerns the extent to which the US current account deficit is part of a global pattern of current account imbalances (Balakrishnan provides a fuller discussion in his chapter in this report). In Figure 6, we compare the data on global current account deficits with those prevailing during 2006-2007. For the current episode we focus on 2023 and 2024, because in 2022 imbalances were temporarily widened by the spike in global energy prices triggered by Russia’s invasion of Ukraine. Results are analogous if we extend the period to 2023-2025 (using the IMF World Economic Outlook forecast for 2025) and compare it to 2006-08.

The figure shows that global imbalances are much smaller now, and more concentrated in the United States compared to the pre-GFC period. This is also evident when one considers the size of current account deficits in other countries during the two periods when scaled by domestic GDP – the incidence of large deficits in countries of medium-to-large size in the most recent period (and even more so in the 2010-19 decade) is much smaller. Furthermore, the widening in the US current account deficit has been accompanied by rising global real interest rates, rather than a renewed ‘global savings glut’.<sup>8</sup> This evidence, albeit purely suggestive, supports the notion that US-specific factors play a particularly large role in explaining the widening US deficit during the current episode.

8 I am grateful to Maury Obstfeld for this point.

**FIGURE 6 GLOBAL CURRENT ACCOUNT DEFICITS, 2006-07 VERSUS 2023-24 (PERCENT OF GLOBAL GDP)**



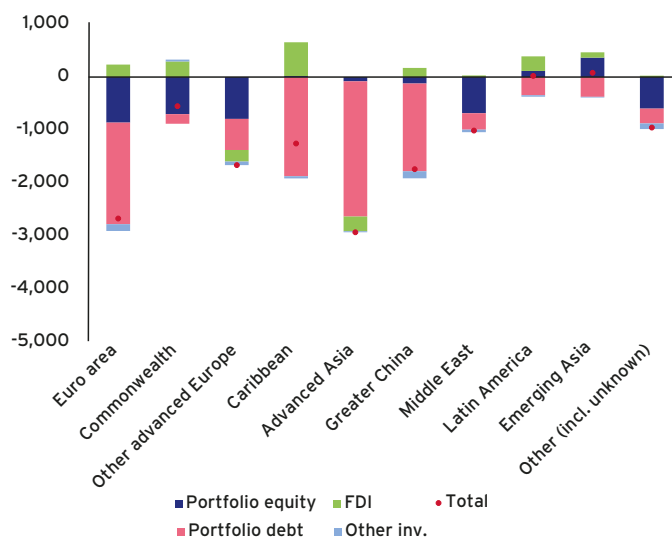
Source: Author's calculations based on IMF, World Economic Outlook database.

In his chapter, Balakrishnan shows which countries and regions have been running large current account surpluses since 2000. If we compare current account balances in 2019 with those prevailing in 2023-24, the most notable change has been the rising Chinese surplus (discussed also in the chapter by Ma and Wei). With all the necessary caveats related to measurement issues, as discussed also by Balakrishnan, this rise is less than half of the rise of the US deficit.

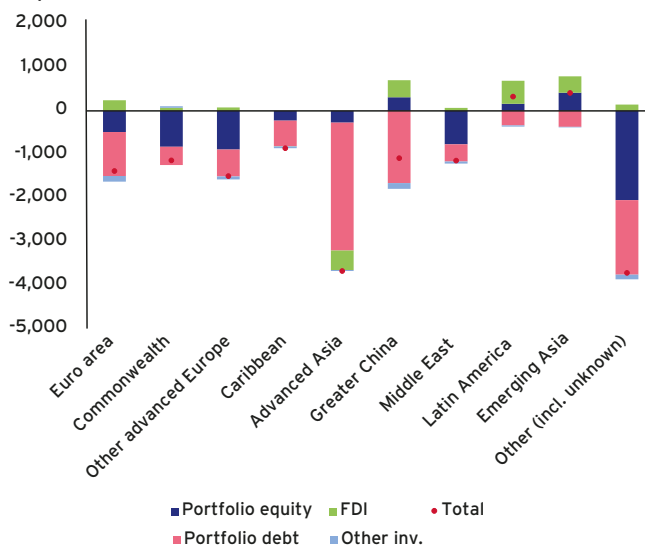
In light of the rise in geopolitical tensions in recent years and the emphasis of the current US administration on the US trade deficit in general, and bilateral balances in particular, it is useful to briefly characterise the geographical pattern of external balances (for a fuller discussion, see Chari et al., 2025; and Chari and Milesi-Ferretti, 2025). On a bilateral basis, the United States has run large trade deficits vis-à-vis China during the past decade, even though these deficits have declined as a share of US GDP in recent years alongside US imports from China. However, the pattern of net financial flows has differed sharply from trade patterns: net financing of the US current account deficit has come primarily from advanced economies, especially during the past decade (Milesi-Ferretti, 2025), as China has diversified its asset composition towards rising claims on other emerging and developing economies (Chari et al., 2025). Figure 7 summarises the US net external position by region for 2023, showing that advanced economies are the dominant net creditors of the United States.

**FIGURE 7 US NET INTERNATIONAL INVESTMENT POSITION BY REGION, 2023 (BILLIONS OF US\$)**

a) Residence basis



b) Partial nationality basis



Source: Chari et al. (2025).

Specifically, panel a shows the data on a residence basis, in line with balance-of-payments statistics and most available bilateral data. It shows differences in the size and composition of net claims on the United States. To interpret the evidence, it is important to keep in mind that US investors hold large portfolio equity claims on nonresidents, but relatively low portfolio debt claims. As a result, the net liability position for 2023 by instrument is largest for portfolio debt, even though gross portfolio equity liabilities exceeded gross portfolio debt liabilities.

Advanced economies are the largest net creditors and hold sizeable net portfolio equity claims, in addition to large net bond holdings. The net claims of Asian advanced economies and those of China are instead concentrated in bonds, reflecting their large foreign exchange reserves. In the immediate aftermath of the global financial crisis, foreign exchange reserve holdings by emerging markets in US financial instruments, especially Treasury securities, accounted for an important part of US external liabilities, and the United States had a net creditor position in portfolio equity instruments (as shown earlier in Figure 2). During the past 15 years, net purchases of US Treasuries by foreign central banks have declined sharply, for several reasons. Reserve accumulation has slowed, especially when compared to US Treasury issuance; dollar appreciation has increased the dollar share of reserves and hence encouraged sales of US bonds for rebalancing currency shares; and the share of the dollar in global reserves has declined (see Figure 12 in the chapter by Obstfeld). In contrast, purchases of Treasuries by private investors (primarily from advanced economies) have risen sharply (Chari and Milesi-Ferretti, 2025). And on the asset holding side, advanced economies were the main holders of US equities and hence have benefited substantially from the rise in US stock prices.

The bilateral statistics presented in panel a of Figure 7 do not always reflect the relevant financial exposures, because of the large intermediation role played by financial centres such as Ireland, Luxembourg, the United Kingdom, or the Cayman Islands on behalf of investors from other countries. The data presented in panel b reflect several corrections designed to attribute claims on the United States to the ultimate investing country, and US claims to the ultimate destination country (see the Appendix). As discussed more extensively in Chari et al. (2025) and Chari and Milesi-Ferretti (2025), the correction is only partial, given data limitations, and covers portfolio and FDI positions. The impact of the corrections is to reduce the role of financial centres that host intermediaries between the United States and the ultimate source or destination of investment. Examples include the Netherlands and Caribbean economies hosting holding companies for US FDI abroad to other ultimate destinations; Irish and Luxembourg funds that channel portfolio investment in the United States on behalf of international investors; and the Cayman Islands, which host hedge funds and private equity funds and hence are both an intermediate destination of US portfolio investment and a source of portfolio investment in the United States.

Instead, we see larger US FDI and portfolio investment in emerging market economies (whose entities issue bonds and equity from offshore financial centres), a much reduced but still sizeable creditor position of euro area countries, and a very large increase in US portfolio liabilities vis-à-vis investors whose residence cannot be ascertained (compare the last bar in panels A and B). This increase primarily reflects sizable portfolio investment in the United States by non-euro area investors through Irish and Luxembourg investment funds (often managed in London). As discussed in Beck et al. (2024) and Milesi-Ferretti (2024b), we lack information on the residence of such investors, and hence portfolio claims on the United States attributed to euro

area entities on a residence basis become are assigned to “unknown” investors on a nationality basis.<sup>9</sup> Positions vis-à-vis the Cayman Islands become much smaller on a nationality basis, since US claims on Cayman entities are matched by these entities’ claims on the United States (think of a Cayman-based hedge fund or private equity fund catering to US investors and investing in US assets).

A final issue concerns the extent to which crypto flows, and in particular the growth of stablecoins, are reflected in external accounts. The very nature of these flows makes them particularly difficult to measure, with studies on the subject relying on indirect measures of the potential residence of (anonymous) account holders (e.g., Cerutti et al., 2025). As for stablecoins, financial statistics should capture the holding of financial instruments (such as US Treasury bills) held as reserves to backstop outstanding stablecoins, but will not capture the holdings of such stablecoins by investors.<sup>10</sup>

The bilateral evidence presented in this section has three important implications. First, tight financial interconnections across advanced economies highlight the potential financial stability challenges resulting from rising geopolitical tensions within the advanced economies bloc. Second, there is an increase in uncertainty over the nature and residence of ultimate holders of US securities, especially when compared to the period before and immediately after the GFC. And third, the shift in the composition of investors in US financial instruments, particularly in the US Treasury market, suggests that investors’ response to shocks may well differ from we saw during the GFC and its aftermath.

How will these imbalances evolve over the next few years? And what scenarios may unfold under different assumptions about policy choices in the United States and elsewhere? The baseline projections in the IMF’s *October 2025 World Economic Outlook* (IMF, 2025a) envisage a modest contraction of current account imbalances in relation to world GDP and a broad stabilisation of net external positions (see the chapter by Balakrishnan). As discussed more extensively in the chapter by Obstfeld, factors that ease an adjustment of imbalances without taking a heavy toll in terms of growth can originate in trading partners or be domestic in nature. Among the former are policy shifts in key trading partners that boost external demand for US goods and services. These could include:

9 Reducing this uncertainty would require progress on the disclosure of third-party holdings by custodians of foreign securities held on behalf of nonresidents, a topic already discussed over 20 years ago in a report from the IMF Balance of Payments Committee (IMF, 2003) but becoming even more salient in recent years.

10 A good example is Treasury holdings by Tether, a major issuer of stablecoins. Following Tether’s shift of its domicile from the British Virgin Islands to El Salvador in early 2025, US statistics on cross-border holdings of short-term Treasury securities show an \$80 billion decline in such holdings in the British Virgin Islands and a similar increase in US short-term bank liabilities vis-à-vis El Salvador (the broader category in which short-term Treasury securities are included, since holdings of such securities are not reported separately for El Salvador).

- More rapid growth in domestic demand in the euro area, spurred by expansionary fiscal policy in Germany, a reduction in precautionary saving associated with declining geopolitical uncertainty, and progress on a capital market union, which could alleviate financial constraints on investment.<sup>11</sup>
- A policy rebalancing in China towards a consumption-led growth model, featuring expansionary macroeconomic policies, reforms to encourage private consumption, and reduced industrial policy support (IMF, 2025b).<sup>12</sup>

Turning to domestic factors consistent with more benign forms of current account rebalancing, a gradual reduction in the US fiscal deficit would reduce demand pressures and could be accompanied by monetary policy easing and a weaker dollar, raising external demand for US goods and services. The materialisation of a productivity boom triggered by technological advances such as AI could also boost US exports of services. However, the likelihood of fiscal adjustment in the United States appears now quite remote (as discussed in the chapter by Furman), and so does a policy correction in China.

A recent paper by Bayoumi and Gagnon (2026) challenges the view that global imbalances will decline, arguing that the forces underpinning the widening Chinese current account surplus will continue to operate, primarily at the expense of surpluses in other regions (such as the euro area). The authors view the prospects for the US current account balance as depending on the fate of the AI boom. Should the boom continue, the US current account deficit will remain sizeable, fuelling further trade tensions. An AI bust scenario, featuring a large reduction in investment and sharp correction in equity valuations, would instead push the US economy into recession, with negative global growth spillovers. While imbalances would narrow, this would come at a severe macroeconomic cost and with further policy challenges and cross-border tensions.

More generally, forecasting the evolution of imbalances is particularly difficult at this juncture. Uncertainty over economic prospects (including factors such as productivity developments, the evolution of real exchange rates, and market sentiment) is compounded by geopolitical tensions and policy uncertainty, including over the level and duration of US tariffs, China's policy stance, and the extent of global cooperation on cross-border challenges.

## 5 CONCLUSIONS

We have discussed the evolution of US current account and IIP imbalances in recent years and their main drivers. From a normative perspective, the logical questions are whether these imbalances are excessive and what are the appropriate policy prescriptions.

11 The chapter by Darvas et al. discusses in more detail the factors underpinning the euro area current account surplus and its likely evolution.

12 See the chapter by Ma and Wei.

We view the widening of US current account imbalances in recent years as resulting primarily from strong US demand. The fact that the widening in the US current account deficit has been accompanied by rising global real interest rates is consistent with this hypothesis. The strength of US aggregate demand has an important ‘fundamental’ component, related to expectations of strong productivity growth arising from AI, reflected in rapid asset price appreciation and investment spending. This bodes well for US growth prospects as well as for exports, as do other factors such as the scaling up of military expenditures in other advanced economies (given the prominence of the US arms industry) and the increase in energy exports, especially to Europe, as European countries curtail their energy purchases from Russia.

However, the widening of the US current account deficit comes at a delicate juncture. On the external front, the US NIIP is much more negative than during the period preceding the global financial crisis of 2008-2009, and gross external debt liabilities, particularly in the form of US Treasury bonds, are elevated. US fiscal policy remains very expansionary and domestic debt is on a rising trajectory in relation to GDP. While debt dynamics remain worrisome in many other advanced economies as well, US Treasury securities play a pivotal role in the global financial system, and nonresident private investors – including hedge funds and other investors arguably very sensitive to overall market conditions – have sizeable holdings of Treasury securities. These factors, together with geopolitical uncertainty and policies and pronouncements from the current US administration (including towards its main trading partners and geopolitical allies), make the global financial stability concerns of the current policy trajectory more salient. The April 2025 episode, featuring an increase in US long-term interest rates and dollar depreciation alongside global volatility, is an illustration of such risks.

In addition, high asset prices – in particular, stocks of the leading tech companies – have contributed to strong US consumption growth, especially at the top of the income distribution, as well as rising investment. With many metrics suggesting stretched valuations, scenarios featuring sharp asset price corrections need to be considered. A large decline in US stock prices would take a sizeable toll on US demand – even though some of the burden would be borne by foreign investors holding US equities, most US stocks are held domestically. In turn, this would trigger a painful US current account adjustment. The magnitude of this would also depend on the global repercussions of the asset price decline. And of course, a combination of declining asset prices and rising concerns about US fiscal dynamics would be even more worrisome.

The global financial crisis triggered a large current account adjustment in the United States, accelerating a process already under way. But worries about a disorderly unwinding of current account imbalances, featuring a sharp depreciation of the dollar and rising long-term risk premia (e.g., Faruquee et al., 2007; IMF, 2007), did not materialise. Financial stresses were elevated, but with rapid monetary policy easing by the Federal Reserve and flight to safety, interest rates on US Treasuries declined sharply. Should financial stresses re-emerge, a repeat of this scenario is possible, but the

risk of a different response of US long-term interest rates needs to be taken seriously. US federal debt is much higher and on a rising trajectory (with no apparent political willingness to tackle this challenge), US net external liabilities are much larger, and geopolitical tensions are much more elevated.

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## **APPENDIX: CONSTRUCTION OF BILATERAL DATA ON A PARTIAL NATIONALITY BASIS**

We implement data corrections for portfolio assets and liabilities and FDI assets and liabilities, as discussed in Chari et al. (2025).

### **Portfolio assets (equity and bonds)**

We make use of nationality-based statistics constructed by Bertaut et al. (2019) using information from the security-level survey of US portfolio assets. Holdings by US residents of foreign securities are reassigned to the country of origin of the entity issuing the security (for instance, the parent company of an offshore affiliate issuing a bond). US holdings of investment fund shares are reassigned based on estimates of the countries of destination of the investment undertaken by such funds.

### **Portfolio liabilities (equity and bonds)**

We undertake nationality-based corrections for US portfolio liabilities for three of the largest sources of investment fund holdings of US securities: Ireland, Luxembourg, and the Cayman Islands. For Irish and Luxembourg funds, we use data constructed by Beck et al. (2024) identifying whether holdings of such funds of US portfolio securities are associated with funds held by euro area investors or investors from the rest of the world. Holdings by funds held by euro area investors remain euro area holdings also on a nationality basis. Holdings by funds held by investors from outside the euro area (whose residence or nationality cannot be identified) are reassigned to the unidentified investors’ group, thus reducing euro area claims relative to the residence-based concept.

For US portfolio securities held by Cayman Islands-based funds, we make use of available information on the investors holding Cayman fund shares – the IMF’s Coordinated Portfolio Investment Survey, a survey by the Cayman Islands Monetary Authority, data on private funds with a US manager published by the US Securities and Exchange Commission, and estimates from Coppola et al. (2021) – to construct estimates of equity positions in Cayman-based funds (for details, see Chari et al., 2025). We then reattribute Cayman fund holdings of US securities to the countries holding their fund shares in proportion to their estimated size.

### **US FDI liabilities**

We use bilateral data published by the Bureau of Economic Analysis on the source of direct investment in the United States from an ultimate beneficial owner (UBO) basis, which identify the country of origin of the parent company controlling the entity investing in the United States.

### **US FDI abroad**

We make use of partner-country data on inward FDI from the United States on a UBO basis (analogous to what we use for US liabilities) for a few countries reporting such data, including France, Germany, Ireland, Italy, Japan, Spain, and Switzerland. For the remaining countries, we use data published by the Bureau of Economic Analysis on the operations of majority-owned foreign affiliates of US multinational corporations by foreign countries of operation, in particular net property, plant, and equipment; compensation of employees; and total sales.

We use the data to construct annual weights for partner countries. These weights have a correlation between 0.7 and 0.8 with weights constructed from the location of FDI by immediate host economy and are strongly correlated across the three measures of actual economic footprint in the host country.

We use these weights to redistribute total US FDI abroad net of the holdings by the countries reporting ultimate beneficial owner statistics mentioned above. With these weights, the role of Caribbean economies virtually disappears, and the role of European financial centres such as Luxembourg and the Netherlands is also sharply curtailed. In contrast, the weight of US investment in economies such as China and India rises substantially.

# Stablecoins and global imbalances: Attempting to preserve the US exorbitant privilege

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### INTRODUCTION

The support of the US administration for the development of stablecoins is massive. This does not merely reflect a generic interest in ensuring the United States controls the technological frontier across the board, including in the realm of means of payments. Promoting stablecoins is part of a cogent attempt to deal with some of the internal contradictions of the current US macroeconomic agenda.

So far, there has not been any significant contraction in the US current account deficit-to-GDP ratio, which over the first three quarters of 2025 remained in line with the post-Great Financial Crisis average. The United States needs to continue to attract massive flows of foreign savings.

The US administration wants low interest rates to ensure smooth funding of its rising fiscal deficit and to support domestic demand. Faced with heightened inflationary pressure, triggered by tariffs and a restriction in labour supply, the Federal Reserve is not ready to go as far – at least for now – as the White House would like. Attracting international savings towards US public debt at a zero interest rate is what a US success with stablecoins would achieve. In other words, the United States is trying to create a new source of ‘exorbitant privilege’.

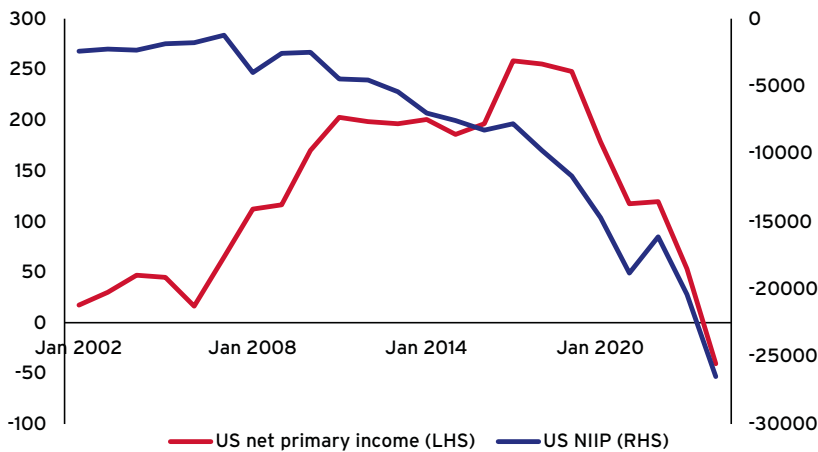
Such a strategy is not without risk for the United States itself. Historical examples of ‘narrow banking’ frameworks – which the unchecked growth of stablecoins could lead to – are not comforting. New financial stability risks could emerge in the United States itself. The global risks are also significant. A deposit flight from developing and emerging countries towards US-based, dollar-denominated stablecoins would hurt their financial development and could raise the frequency and gravity of financial crises.

Europe is not the main target of the US strategy. The European Union cannot, however, ignore the ramifications in terms of dollar dominance and heightened financial stability risks at the global level. Developing alternatives to US-based stablecoins – among other things through the supply of a central bank digital currency – should go together with a ‘robust discussion’ with Washington on the regulation and supervision of stablecoins. There should be interest, on both sides of the Atlantic, in comprehensive tracking of digital assets. This would be an entry point for regulatory cooperation.

### THE ‘OLD’ EXORBITANT PRIVILEGE IS LOSING ITS POWER

The radical macroeconomic experiment currently being conducted in the United States is happening precisely when signs are accumulating of heightened stress in the external financial position of the country. Indeed, the capacity of the United States to combine a highly negative net international investment position (NIIP) with a surplus in its income balance is no longer assured. In 2024, for the first time on record under the current definition of the US balance-of-payments data, the income balance posted a deficit, to the tune of \$41 billion (see Figure 1).

FIGURE 1 US NIIP AND NET PRIMARY INCOME (US\$ BILLION)

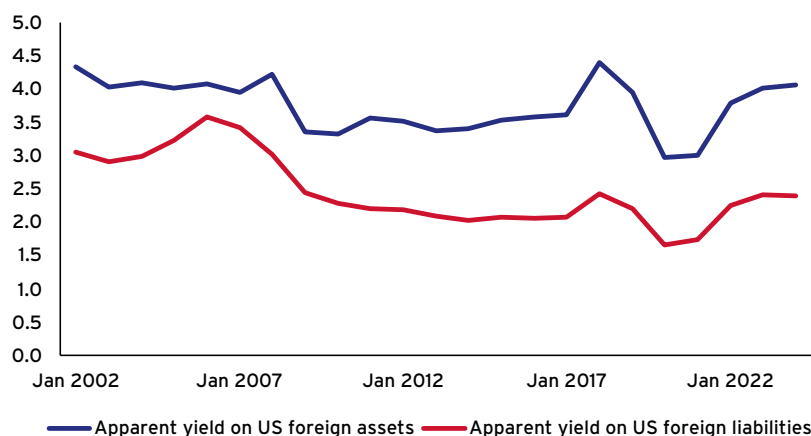


Source: IMF and AXA Group Research, November 2025.

This does not mean that the ‘exorbitant privilege’, in the sense of Gourinchas and Rey’s 2007 paper, is gone. The United States, as the issuer of the world’s most sought-after risk-free asset, continues to attract foreign savings willing to accept low returns in exchange for a high degree of safety and liquidity. There is no strong sign that non-residents – after a wobble in the spring of 2025 following the shock of the “Liberation Day” tariff-announcements – are actively reducing their exposure to US Treasury securities. At the same time, American savers continue to focus on foreign investments that are riskier but also more profitable (equities, direct investment). The gap in the remuneration on US assets and liabilities remains substantial. In 2024, using the BMP6 version of the US balance-of-payments data, the average yield on assets held abroad was 4.1%,

compared with 2.6% for US assets held by foreigners. The rest of the world continues to ‘pay the United States for insurance’. This is only marginally narrower than at its peak in 2018, when the average yield on US foreign assets stood at 4.4%, against 2.4% for the yield on US assets held by foreigners (see Figure 2).

FIGURE 2 RELATIVE YIELD ON US ASSETS AND LIABILITIES (%)



Source: IMF, US census, and AXA Group Research, November 2025.

The remuneration gap persists despite the fact that interest rates on risk-free assets have recently been significantly higher in the United States than in most other advanced economies, with 10-year yields on US treasuries still hovering around 4%, against around 3% in Germany and around 2% in Japan. Developments on the equity side may help explain the resilience in the overall yield gap. As technological companies account for a growing share of US equity indices, it should be expected that the income yield received by foreign investors – in the way it is measured in the balance of payments – falls. Indeed, tech companies typically pay little or no dividend and remunerate their shareholders through share buybacks. This pushes up the valuation of US liabilities without generating higher revenues for those asset holders.

Yet, the remuneration gap is no longer enough to keep the income balance above the flotation line, as the NIIP continued to deteriorate (by \$16 trillion between 2018 and 2024).

In principle, there are three options to address the sustainability risks the income deficit raises: (i) reduce the trade deficit, (ii) widen the income yield spread even further, or finally (iii) depreciate the exchange rate.

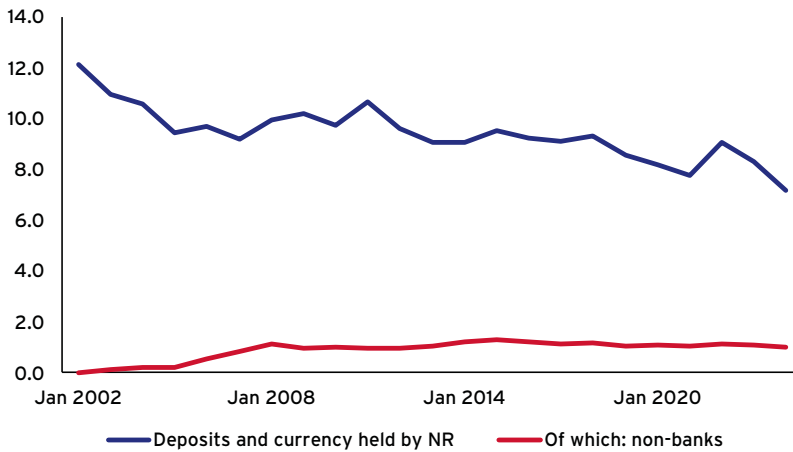
Reducing the trade deficit would likely require a slowdown in US demand – something the administration is understandably resisting, even if this is what the trade tariffs could ultimately deliver inadvertently. Increasing the income yield differential ‘spontaneously’ is difficult. It is also outside the control of the government, at least under the current institutional setup when the return of inflation forces the Federal Reserve to proceed very cautiously in its move back towards the neutral rate, and when the budget deficit – and more general policy volatility – keep 10-year yields above 4%. The dollar has

depreciated after “Liberation Day”, which should help improve the income balance by lifting the dollar value of foreign income. Yet, as much as the Trump administration initially contemplated pursuing a weak dollar policy, absent the kind of ‘Plaza Accord 2.0’ options that the chairman of the Council of Economic Advisors – and pro tempore Federal Reserve governor – Stephen Miran once proposed, controlling the exchange rate is not directly achievable by the United States through traditional policy means.

What emerges as a fourth option is the reshaping of foreigners’ asset allocation towards the lowest remunerating products.

Which asset can offer a return even lower than that of ‘risk-free’ assets? Deposits – especially if they are not remunerated. But today, deposits represent a marginal and declining share of US external debt (7% in 2024, compared with 10.6% in 2004; see Figure 3). This is how one can understand the US focus on stablecoins. This goes beyond the desire to control the global technological frontier, even in the realm of international payment systems. Stablecoins are – by law, since the Genius Act – non-interest-bearing.

FIGURE 3 SHARE OF DEPOSITS IN US FOREIGN LIABILITIES (%)



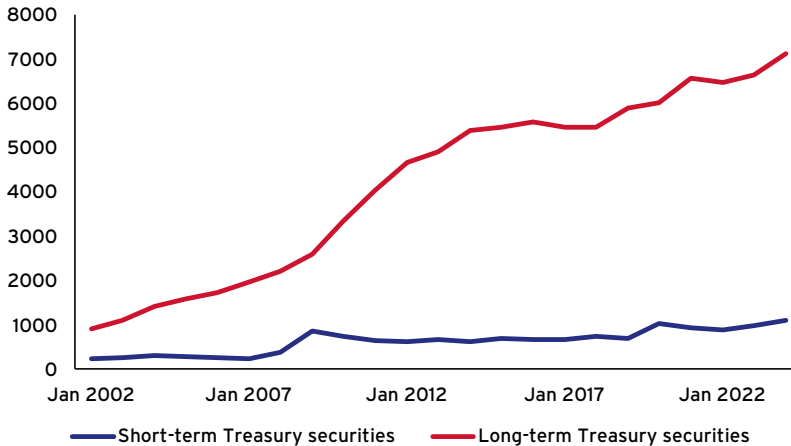
Source: IMF and AXA Group Research, November 2025.

Until recently, the use cases for stablecoins were prominently within the crypto ecosystem, helping with the settlement for trading in crypto currencies. Thanks to their technical features (near-instant settlement, lower fees), they are becoming increasingly attractive for cross-border transactions in the traditional financial sphere. The explicit objective pursued by the US administration is to attract large amounts of international liquidity to the United States, coming from investors seeking a substitute for the ‘traditional dollar’ to which they cannot always gain easy access, while benefitting from the high fluidity and other technical attributes of all digital currencies. Stephen Miran expressed this clearly in a recent speech: “*In many jurisdictions, low-friction*

*payment systems are not available. Banking services enabling the conversion of local currency or assets into dollars may be limited. Basic banking services themselves may be limited. And billions of people worldwide are subject to capital controls that prevent convertibility and access to dollars” (Miran, 2025).*

Short-term Treasury bills are by far the most prized form of collateral for stablecoin platforms. According to the US Genius Act passed – on a bipartisan basis – in the summer of 2025, issuers of stablecoins must hold “high quality liquid assets” on at least a one-to-one basis to back stablecoins. The Act explicitly mentions Treasury bills below 93-days maturity as an example. As of Q2 2025, Tether, the issuer of the USDT stablecoin and one of the two main platforms along with Circle (and one which tends to be more diversified in the allocation of its reserves relative to Circle, having recently invested in gold for example), reported \$127 billion in government securities holdings, against a circulation of USDT of \$157 billion. Non-residents are generally not attracted to short maturities (see Figure 4). Foreign stablecoin holders would thus, indirectly, become the source of a new demand for short-term securities – with the added benefit for the US economy that the interest payments would remain in US hands, should the main stablecoin platforms be domiciled in the United States (which Circle is). Tether is currently incorporated in Salvador, so technically, interest paid on the T-bills reserves would still be treated in the balance of payments as accruing to non-residents. Once the Genius Act is fully enforceable, all of the stablecoin platforms may relocate to the United States, but even if they remained outside of the US territory, their profits would likely be repatriated to the United States.

**FIGURE 4 FOREIGN HOLDINGS OF TREASURY SECURITIES BY MATURITY (US\$ BILLION)**



Source: US Treasury and AXA Group Research, November 2025.

The absence of remuneration is precisely what makes stablecoins attractive to digital entrepreneurs because of the simplicity of the business model: they come with a nice ‘carry’, generating the near entirety of the stablecoin platforms’ revenue (99% for Circle, according to data released at the time of its IPO). This a form of private seigniorage.

For the time being, the overall size of the stablecoin platforms (around \$280 billion) is relatively small compared to the T-bills market of \$6.2 trillion, but in terms of flows, they already matter. Indeed, the platforms grew in size by about \$100 billion in 2025, while net issuance of T-bills stood at \$360 billion. Assuming around 80% of their reserves consist of T-bills, stablecoin platforms last year absorbed on their own between 20% and 25% of net issuance. The platforms are already significant players. A note by the Bank for International Settlements (Ahmed and Aldasoro, 2025) suggests that a two standard deviation inflow into stablecoins moves US 3-month interest rates by between 2.5 and 3.5 basis points.

### **BALANCING THE RISKS IN THE UNITED STATES**

Stablecoins may nevertheless be a source of macroeconomic disruption and financial stability risks. Ignoring for now the international ramifications, a self-interested US government must balance the benefit from zero-cost foreign funding with the risks to internal long-term growth and financial stability these products entail.

Let's start with the growth issue. By partially crowding out traditional bank deposits, stablecoins could erode banks' intermediation margins and thus, over time, contribute to a slowdown in the supply of credit. This should revive painful memories in the United States, since stablecoins are reminiscent of the pre-1913 monetary arrangement. Indeed, if one ignores for now the technological aspects, a stablecoin can essentially be defined as a form of currency indirectly backed by the government, instead of being the liability of a bank (like a deposit) or of the central bank (like banknotes). For all their futuristic aspects, stablecoins would in fact return us to the monetary framework under which the United States operated between 1863 and 1913.

This arrangement was described in detail by Milton Friedman and Anna Schwartz in the first two chapters of their 1969 book *Monetary History of the United States*. Initially, the Union funded a part of its military spending during the Civil War by issuing non-interest-bearing debt certificates ('greenbacks') which would be directly used as currency in ordinary transactions – they had legal tender. There were no existing gold or silver reserves to back them. In the second half of the Civil War, the system became more sophisticated. The National Banking Acts of 1863 and 1864 established federally chartered national banks which could issue notes, printed by the government, backed by government bonds with an over-collateralisation of 10% (banks had to pledge 110 dollars of government securities to issue 100 dollars of notes). These national banks played the role of stablecoin platforms today – that of an intermediary between government debt and circulating currency, including in their basic business models. The platforms and the national banks would profit from the interest rate on government bills, while stablecoins, like bank notes, would not bear interests. A short paper recently issued by

the Federal Reserve of New York (Luck, 2025) drew the parallel between stablecoins and the national banks system, but curiously did not extend its exploration to the reasons behind its ultimate demise and replacement by the 1913 Federal Reserve System. We think they are worth looking at, given the current enthusiasm for the product.

If there is no other form of currency in circulation, under a 'national bank' system, ultimately the upper bound of the quantity of money in circulation will be the level of public debt – or in case of a maturity limit to the securities backing stablecoins or the bank notes, the level of short-term public debt. The system was designed in times of war to fund rapidly expanding public expenditure. By the end of the Civil War, the Union's debt stood at about 25% of GDP, about five times the Union's tax receipts. This would be equivalent to a public debt of 150% of GDP today. Initially, there was a large pool of public debt to use as collateral to expand money supply, allowing for the economic development of the United States. However, as fiscal rectitude was quickly re-established, money supply, mechanically, could not keep track with demand for money. This could contribute to episodes of deflation and financial crises, since there was no possibility to inject liquidity in the system.

National bank notes were not the only form of money available after the Civil War. Banks could also 'create' money, as they do today, by extending credit to their clients and thus expand the deposit base – and they increasingly did so. Credit was constrained, however, since banks had to maintain high reserves as a percentage of their deposit base (between 15% and 25% in New York and the other big cities), and these reserves consisted of government securities as well as gold. There again, ultimately, the gyrations in public debt had an impact on money creation via credit limits (the supply of gold was also inelastic). Ultimately, the national banks system was terminated in 1913 partly to deal with the inelastic money supply issue. Under the Federal Reserve System, a direct relationship between the pace of expansion of the economy and money supply was recreated by the possibility for banks to obtain central bank money by pledging commercial paper as collateral (this was the main collateral used at the beginning of the Federal Reserve System).

No-one is currently talking about replacing all existing currency and deposits by stablecoins. And in any case, given the size of public deficits, it would take a very long time for the entirety of the stock of US short-term debt to be purchased by the stablecoin platforms (according to the Bank for International Settlements, the two main issuers together currently hold about 4.5% of the overall stock of T-bills). Yet the parallel with the national banks system suggests that preserving, alongside stablecoins, a wide space for monetary creation via the banking sector is crucial. In the current configuration, the indirect link between stablecoins and credit origination would not exist. Banks are not required to hold stablecoins as part of their reserves, and a wide choice of collateral to borrow cash from the central bank is available.

It is true that in the United States private assets can be used only in the discount window, which in practice is used only in times of crisis, but since 2020 there has not been any reserve requirement for US banks (the requirement stands at only 1% in the euro area). Yet should a significant share of deposits ‘leak’ into stablecoins, the credit origination machine of the banking system would ultimately be hampered, since a major source of cheap funding would disappear.

This gets us to the ‘scalability’ of stablecoins. Their growth has been massive, but there is still uncertainty as to their potential development. Existing sell-side research point to a wide range of estimates (Citigroup estimates, for instance, range from \$900 billion in a bear case to 4,000 billion for the bull case (Ghose et al., 2025)). The larger the share of deposits moving to stablecoins, the bigger the impact on credit origination costs.

To ensure the development of stablecoins would not adversely affect the US economy, the buildup in stablecoins would essentially need to come from foreign deposits. This was a crucial point in Stephen Miran’s argumentation – that domestic players would be put off by the absence of remuneration and deposit insurance. This is debatable. Some domestic deposits are not or poorly remunerated, and large cash holders in any case are not protected (the cap is at \$250,000). Those may consider that holdings backed one for one by US government securities are actually safer than ordinary bank deposits.

Banks can compete with stablecoins by offering remuneration on deposits – and this remuneration will need to outstrip other advantages that stablecoin holders may enjoy relative to traditional deposits (ease of transfer, programmability, etc.).

The Genius Act makes it compulsory for permitted payment stablecoin issuers (PPSIs) to hold against the tokens “at least one for one” reserves of high-quality, short-dated assets. PPSIs could not lend or pledge those reserves, except in limited circumstances. They could not pay interest on the tokens (but the Act is silent on lending them back to affiliates of the PPSIs). PPSIs would be subject to minimum capital requirements, which regulators will need to specify at a later stage, together with liquidity and risk-management thresholds. PPSIs could be regulated and supervised by federal or state institutions, with several limits: state-only supervision would be open only when state regulation is “substantially similar” to the federal framework, as determined by a “Stablecoin Certification Review Committee”, and any state-regulated PPSI issuing more than \$10 billion would need to transition to federal regulation. PPSIs would also be subject to federal laws on money laundering, sanctions, and customer identification.

The prohibition of paying interest to stablecoins holders is also a key aspect of the EU Markets in Crypto-Assets Regulation (MiCA). The European Union understands remuneration in a very wide manner (including, for instance, “rebates”). Regulation and supervision will, however, need to be very precise. A very recent paper by the Bank for International Settlements (Ocampo, 2025) describes how holders could receive

interest indirectly by, for example, lending their stablecoins to other operators than the issuer. We will need to monitor carefully how the federal supervisors deliver on the regulatory specifics to assess how much of the compliance cost gap with traditional financial services firms is plugged.

Finding the right level of capital requirements will not be easy. In 2024, staffers from Circle published a quite intriguing paper (Liao et al., 2024) addressing many of the issues there, such as how to calibrate, based on the frequency of past events, the capital stablecoin platforms would need to hold to address the credit risk on their own reserves when they are not invested in federal securities (for instance, in bank deposits). But we found their proposal to address the technological risk – i.e., the possibility the stablecoin would find itself unable to redeem the tokens due to a “glitch” (for example, as the result of being hacked) – quite vague: “*these parameters are estimated based on event scenario inputs from subject matter experts*”. This sounds quite discretionary to us. It may take time for full information to be available on this front as regulators work through the precise rules. In any case, stablecoin platforms would benefit from a three-year grace period before having to fully comply with the new regulation. So, a legal framework is being built in the United States, but we don’t know yet how stringent it will be.

The risks are not theoretical. Stablecoin reserves could become so crucial for safe asset markets that a ‘run’ on the platforms would trigger an interest rate/liquidity shock for the entire financial system. Asset/liability mismatches for stablecoin platforms have already occurred. In 2022, the demise of Silicon Valley Bank (SVB) hit Circle, the second biggest stablecoin issuer in the United States, which held 8% of its reserves at SVB. At the height of that particular turmoil, USDC, Circle’s stablecoin, briefly ‘de-pegged’ from the dollar, down to 87 cents.

A specific issue with stablecoins is of course the absence of a direct lender of last resort. This is another interesting teaching from the national banks era. Indeed, Friedman and Schwartz mention that, in those days, if a bank failed it was put into receivership and the notes holders would be automatically ‘made good’ (the bonds held in reserve were automatically forfeited to the Treasury and the proceeds used to pay the notes). The Treasury was provided with a lien of the bank’s assets and its stockholders’ personal liability to cover any discrepancy between the notes and the (already over-collateralised) bonds. No such ‘bailout/bail-in’ system is put forward for stablecoins platforms. Supervision will need to be thorough.

Holders of stablecoins faced with the incapacity of a platform to provide fiat money in exchange for the tokens – for instance, because a platform finds it impossible to immediately liquify its reserves due to settlement delay, fraud, or a technical glitch – would have no immediate recourse. This applies to most financial assets, but a key difference here is that the tokens may have been used in lieu of fiat currency counterparties in the traditional financial system (for instance, as collateral). If the

risk became systemic, the only option would be for the central bank to ‘make good’ on the tokens and provide possibly uncollateralised fiat currency at par in an emergency intervention – or accept the tainted tokens as collateral, expecting eventually to receive the sales of the platform’s reserves.

Innovation is unlikely to stop at stablecoins. This product itself could be challenged by tokenised money market funds (TMMFs). These would also provide programmability and ease of transaction, the main difference with stablecoins being their remuneration (Barbaroux et al., 2025). In this case, assuming the holder is a non-resident, private seigniorage would disappear. This could still trigger inflows into the United States – thus helping to fund the current account deficit – but the US income balance would deteriorate, relative to stablecoins. Note that the development of TMMFs ‘in lieu’ of stablecoins would still pose a very real threat to the banking sector as it would also challenge their deposit base. It would displace the risks but not make them disappear.

### **REGULATORY ARBITRAGE AND INTERNATIONAL FINANCIAL STABILITY RISKS**

Assuming the United States manages to (i) minimise the risks to internal financial stability and (ii) avoid large-scale migration of domestic deposits to stablecoins to mitigate the ‘macro risk’ that stablecoins erode traditional credit intermediation, the risks would then be passed to the rest of the world.

If indeed a significant share of existing deposits in developing and emerging countries were to move to dollar-based stablecoins, this new form of rapid dollarisation could impair the development of their own credit intermediation systems. The national banks system harmed the United States. Here, the risk is to see such narrow banking model dominate at a time when investment needs in these countries are acute, ultimately raising their dependence on external funding. Another key risk is that the fluidity of cross-border movements that stablecoins allow raises the frequency and gravity of financial crises in developing and emerging economies. In turn, massive dollarisation via stablecoins would make these economies highly vulnerable to any incident on the platforms, without of course any capacity to intervene on them.

A key question, however, is how attractive stablecoins could ultimately be for depositors outside of the United States, and the answer to this question may lie in the extent to which stablecoins could help them to evade national regulations and tax liabilities, a risk highlighted notably by Rey (2025). But this question also needs to be addressed by the United States. If the US government considers this is a risk for itself, then it should opt for a stringent and cooperative regulatory and supervisory framework, open to large-scale international exchange of information on the activity on stablecoin platforms.

This issue is not yet resolved, but there is a shift of attitude in the United States – including in the current administration – towards information sharing as the financial system moves towards more digitalisation. The United States famously refused to join the OECD-led Common Reporting Standards (CRS), the general framework for the automatic exchange of financial account information. This refusal creates an asymmetry: while the United States expects foreign countries to comply with the US declaration system (FATCA), it refuses to provide similar information to other countries. In a nutshell, since the United States had already developed its own system and could impose on to the rest of the world, its administration saw little interest in participating in the CRS – they had what they needed to deal with their own tax evasion risks.

However, Washington maintains a more open attitude towards the OECD's Crypto-Asset Reporting Framework (CARF), possibly because the United States does not yet have a proper system providing for the crypto universe the same level of information as for traditional financial products and is aware of the inherent additional evasion risks posed by cryptos given their fluidity. The Biden administration committed to implementing CARF by 2028 for transactions occurring in 2027. So far, there has not been any signal from the Trump administration they intend to walk away. One needs to pay attention, however, to a specific US position during the CARF negotiations, namely, its readiness to contemplate a carve-out for decentralised finance operations. Some current stablecoin platforms such as DAI would fall under a possible definition of decentralised finance (DeFi). Although they are far from the requisites of the GENIUS Act, notably in terms of collateral quality, this is a conduit for regulatory arbitrage which calls for monitoring.

## POSSIBLE RAMIFICATIONS FOR EUROPE

European deposits are not – or at least not explicitly – the key target of the US attempt to 'vacuum' international liquidity with stablecoins. The presence of a well-diversified, thoroughly supervised financial system allowing for a high level of capital mobility does not make them a natural candidate, while from a macroeconomic point of view, the euro's good track record in preserving its purchasing power makes it less palatable for domestic depositors to search 'stability' in dollar-denominated, non-remunerated liquid assets. However, should the United States prove successful in its endeavour, this would further strengthen the dominance of the dollar in international economic relations. A concern notably expressed recently by Banque de France (Benassy-Quéré, 2025). The European response could be organised around two strategic axes.

The first is to offer an alternative to dollar-denominated stablecoins directing international liquidity to the United States. The development of a central bank digital currency (CBDC) by the ECB is more directed to the domestic market. The ECB has, however, expressed openness to cross-border use, if done in cooperation with other central banks (ECB, 2024). This could help to minimise volatility and capital flow

distortions. On top of a CBDC – which the Federal Reserve has been explicitly prevented from developing in the United States – some private sector initiatives are emerging to set up euro-denominated, EU-based stablecoins. The focus there should be on ensuring a high level of supervision to avoid the buildup of the kind of macroeconomic and financial stability risks in the European Union discussed above. However, we see no reason, in principle, why the European Union should deprive itself of a source of ‘private seigniorage’ at a time when its domestic investment needs are rising.

This gets us to the second axis. The European Union’s focus should be squarely on minimising the *global* disruption risks the development of stablecoins raises. This entails a form of regulation and supervision which would protect against risks arising from the development of EU-based platforms – for instance, those stemming from multi-issuance (Portes, 2025). But more fundamentally, this entails having a ‘robust’ discussion with the United States on the need to minimise opportunities for regulatory arbitrage. There is potentially a convergence of interest with the United States on the issue of the exchange of information.

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# Rebalancing of the Chinese economy: Challenges and policy options

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Almost two decades ago, then Premier Wen Jiabao argued that China's growth model was "unstable, uncoordinated, unbalanced" and was therefore unsustainable.<sup>1</sup> In using the word "unbalanced", Premier Wen was referring to the fact that Chinese economic growth relied too much on investment and exports. Since then, the Chinese government has been making efforts to rebalance the economy. The current account surplus actually shrank from 6% of GDP in 2003-2008 to 1.9% in 2020-2024; apparently, rebalancing of the Chinese economy is already happening. However, as the Chinese economy has grown significantly during the past decades, its current account surplus as a share of global GDP has risen, which poses challenges for the rest of the world.

This chapter attempts to offer an assessment of the dynamics of China's imbalance problem during the reform period, which started in 1978, by looking at the causes of the imbalances, the recent evolution of the problem, implications for international adjustments and domestic macroeconomic performance, and possible future policy options.

The general takeaways may be summarised as follows.

- First, the so-called gradualist, dual-track reform approach that the Chinese government adopted liberalised the market and introduced the private sector, while continuing some practices of central planning and maintaining state-owned enterprises (SOEs). The state still asserted significant influence on resource allocation in its pursuit of GDP growth and continued a policy preference for investment over consumption. In the meantime, the open-door policy promoted exports of labour-intensive manufacturing goods. But abundant labour supply further depressed the consumption share of GDP through stagnant wages and a declining household share of national income.

1 "Premier Wen stresses harmonious development", *China Daily*, 7 September 2007 ([www.chinadaily.com.cn/china/2007-09/07/content\\_6087860.htm](http://www.chinadaily.com.cn/china/2007-09/07/content_6087860.htm)).

- Second, rebalancing of the Chinese economy is already happening, with shares of investment, consumption, and the current account balance generally moving in the right direction – albeit slowly – in recent decades. But it is too earlier to declare that the mission of rebalancing has been accomplished. In fact, the adjustment trajectory has been volatile, with the trade surplus rebounding to 6.1% of GDP in 2025.
- Third, although China has reduced its economic imbalances relative to its own GDP, they have become bigger challenges for the rest of the world since China is now a ‘large country economy’. Concerns about their own industries and jobs could trigger other countries to erect trade barriers against Chinese exports.
- Fourth, if China was not able to expand its exports, the investment–consumption imbalance could have translated into excess capacity and deflationary risks. This was the rationale behind the Chinese government’s decision to re-orient economic growth from external demand towards domestic demand, aiming to shift a growth model relying mainly on external economic circulation to one relying mainly on domestic economic circulation.
- Finally, further rebalancing of the economy through both policy efforts and market adjustments appears possible, but this process will likely remain gradual.

The chapter concludes by discussing needed policy actions to (i) deepen market-oriented reforms to reduce the state’s influences over resource allocation and to grant more income to households; (ii) stabilise the housing market to contain the negative effects on household expectations and balance sheets of a tumbling property sector; (iii) boost domestic consumption, by introducing more fundamental reforms to support household income and confidence; (iv) develop the service sector by liberalising policy restrictions on education, finance, elderly care, and so on; and (v) devise new external economic policies, such as further liberalising the exchange rate and, more importantly, building an ecosystem for the Chinese economy to grow together with its economic partners.

### **CAUSES OF CHINA'S ECONOMIC IMBALANCES**

The expenditure approach decomposes GDP into consumption, fixed capital formation, and the current account balance, which in China accounted for 57.1%, 40.6% and 2.3% of GDP, respectively, in 2024. Compared with the world averages, China’s consumption share was at least 10 percentage points lower, while its investment share was higher by a similar margin. The share of the current account surplus was much higher in the 2000s, but looks more reasonable during the past decade.

When Premier Wen Jiabao said that the economy was “unbalanced”, he pointed to problems with both the domestic and external dimensions, i.e., an over-reliance of economic growth on investment and exports. Economic imbalances are common, but China’s problems are unique in at least two ways. First, its imbalance indicators are quantitatively high, especially when compared with other large economies. And second, as the second-largest economy in the world, the impacts of China’s imbalances on the rest of the world are already much greater.

So, what caused the outsized domestic and external economic imbalances in China? Two policy-related factors, among others, stand out: (i) the gradual, dual-track reform approach; and (ii) the labour-intensive, manufactured export-led growth strategy. The first of these factors meant that the government continued, in some ways, with pre-reform policy practices, especially direct interventions in resource allocation and a policy preference for investment over consumption, since it is much easier to rely on investment than on consumption to promote economic growth. This naturally gave rise to a domestic economic imbalance – i.e., over-investment and under-consumption. The second factor promoted exports of labour-intensive manufactured goods. As a result, the economy grew rapidly but wages stagnated due to surplus labour. This led to a sustained decline of household income relative to national income, which, in turn, not only further lowered the consumption share but also increased the current account surplus.

State mobilisation of national resources, especially capital, was regarded as a key advantage of centrally planned economies. A high investment share was a very common feature of such economies. In fact, the economy of the former Soviet Union grew very rapidly during the 1930s and the 1950s. Due to the absence of free market mechanisms, however, effective mobilisation of capital input was often accompanied by very low efficiency. Therefore, the marginal return to capital declined rapidly over time, which eventually led to the collapse of both economic growth and the political regime in the 1980s (Easterly and Fischer, 1994).

The pre-reform Chinese economy exhibited similar features to the Soviet Union economy, namely, a high investment share and low capital efficiency. In 1978, however, Chinese leader Deng Xiaoping decided to start economic reform, applying a gradualist, dual-track approach. Unlike the ‘big bang’ approach adopted by the Soviet Union, the Chinese reform policies were more gradual. For instance, in transitioning towards a market economy, the government adopted policies supporting the development of private enterprises and foreign invested firms. In order to maintain economic stability during the transition, the government maintained many of the SOEs.

As market mechanisms gained greater room to allocate resources over time, this generated a strong impetus for efficiency improvements and growth acceleration. GDP growth averaged 8.9% per year between 1979 and 2024, which was sometimes characterised as an ‘economic miracle’ (Lin et al., 1995).

The initially stated reform objective, however, was not to transition from central planning to a free market, but to improve economic efficiency by better incentivising individuals, enterprises, and local governments. In fact, the reform policy exhibited a clear pattern of ‘asymmetric liberalisation’: while product markets were almost completely liberalised during the early decades of economic reform, factor markets remain largely distorted even today (Huang, 2010). One initial motivation of factor market distortion was to support the dual-track reform approach by implicitly subsidising SOEs, as while these were less efficient than private and foreign firms, they were important for economic stability. For instance, costs of capital were estimated to be 3-4% of GDP below market equilibrium during the 2000s, due mainly to depression of interest rates. This could be viewed as an implicit subsidy for SOEs and an implicit tax on savers, including households (Huang and Tao, 2010).

One important initial reform step was decentralisation of decision making over resource allocation from the centre to the local level, which granted local governments greater autonomy. The central government also set a simple GDP growth target for all levels of government. Local governments officials were incentivised to boost economic growth, with officials of faster-growing regions often enjoying better chances of career promotion. This led to a GDP growth ‘beauty contest’, as regions competed with each other to pursue faster GDP growth (Li and Zhou, 2005). Furthermore, local governments also often found that it was easier to promote GDP growth by concentrating resources on investment projects than on consumption demand. Therefore, they allocated almost all resources that they could mobilise to building infrastructure projects or to supporting industrial development. This behaviour caused a macroeconomic situation of strong supply but weak demand.

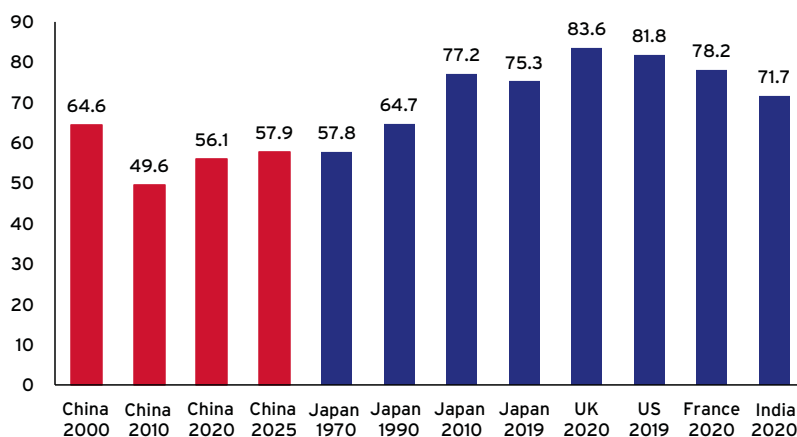
These factors were likely behind China’s *domestic* economic imbalance – i.e., too much investment and not enough consumption during the reform period. Fixed capital formation accounted for an average of 41.8% of GDP over the 2000-2024 period, which was significantly higher than the world average of 10-15%. But aggregate saving ratios were even higher, averaging 44.6% over the same period. Chinese households’ saving ratios were high due to an underdeveloped social welfare system. But the saving ratios of governments and SOEs, which captured large portions of national income, were even higher .

Another key feature of the post-reform Chinese economy, which resembled that of the other successful East Asian economies, including Japan and the newly industrialised economies (NIEs: Hong Kong, Korea, Singapore, and Taiwan), was growth led by exports of labour-intensive manufactured goods. One important policy step, alongside domestic reform, was the open-door policy, including the establishment of Special Economic Zones (SEZs). The SEZs attracted international investors, especially from the NIEs, who set up factories with their own capital and technology, produced

products taking advantage of local cheap labour and favourable policy support, and then exported them to the international market. This ‘external economic circulation’ became a successful business model for the East Coastal region. Exports were an important contributor to economic growth, especially during the 1990s and the 2000s.

China experienced what Japan and the NIEs had experienced before: a rise in the current account surplus and a decline in the consumption share of GDP. Abundant labour supply meant that not only was labour cheap but wages were stagnant, even as the economy grew rapidly. As a result, both the share of household income in national income and that of consumption in GDP actually declined. China had massive amounts of surplus labour during the early decades of economic reform and until immediately before the Global Financial Crisis, when the labour market experienced the ‘Lewis turning point’, after which a labour shortage occurred and wages grew more rapidly (Huang and Cai, 2013). The consumption share of GDP fell from 64.6% in 2000 to 49.6% in 2010, before gradually climbing to 56.1% in 2020 and 57.9% in 2025 (Figure 1). Similar changes had occurred before in Japan, when its consumption share rose from 57.8% in 1970 to 77.2% in 2010.

**FIGURE 1 CONSUMPTION SHARES OF GDP FOR CHINA AND SELECTED COUNTRIES**



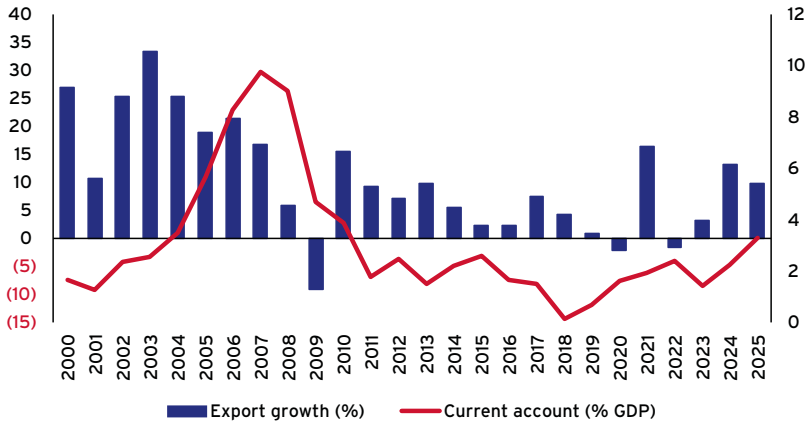
Source: IMF World Economic Outlook October 2025 Dataset.

## INTERNATIONAL AND MACROECONOMIC IMPLICATIONS

Clearly, rebalancing of the Chinese economy is already happening, despite continued complaints at home and abroad. Investment declined from 46.6% of GDP in 2011 to 40.6% in 2024, consumption rose from 49.6% of GDP in 2010 to 57.1% in 2024, and the current account surplus moderated from 9.8% of GDP in 2007 to 2.3% in 2024 (Figures 1 and 2). Although the current account surplus as a share of GDP picked up again after 2018, with the exception of 2025, it has remained around or below 2%. One might argue that the mission of external account rebalancing has been accomplished.

But the absolute size of the current account surplus is still quite large (much bigger than before, in fact), putting pressure on China's trading partners' own adjustment, especially as the surplus is disproportionately concentrated in certain bilateral relationships. And while the domestic imbalance is also improving as the investment share has declined and consumption share has risen, the problem has not gone away completely. Moreover, as export potential becomes more constrained, the risk of excess capacity has increased significantly.

FIGURE 2 CURRENT ACCOUNT BALANCE AND EXPORT GROWTH IN CHINA, 2000-2025



Source: IMF World Economic Outlook October 2025 Dataset.

One very important change over the past four and half decades was that China has grown from a 'small country economy' to a 'large country economy', which has materially changed the impacts that the Chinese economy, including its imbalances, has on the rest of the world ("whatever China sells today becomes cheaper in the international market, and whatever China buys becomes more expensive").

Between 1978 and 2024, China's GDP per capita rose from \$156 to \$13,440, according to the market price measures, while total GDP expanded from \$149.5 billion, or 1.7% of the world economy, to \$18.9 trillion, or 17.7% of global total. China is now the world's second-largest economy. However, the purchasing power parity (PPP) measures estimated by the World Bank and the International Monetary Fund put China's GDP at \$41.4 trillion in 2024, which was 1.42 times the GDP of the United States and accounted for 21% of the world economy. China has also been the world's largest trading nation for years now. Its current account surplus rose from \$371.8 billion in 2007 to \$422 billion in 2024, although its proportion to GDP shrank rapidly from 9.8% to 2.3% during the same period.

While the *relative* measures of China's economic imbalances, such as the investment, consumption, and current account balance shares of GDP, have all improved, measures of the *absolute magnitude* of its imbalances, such as net exports or the current account surplus, have actually expanded. The former confirm achievement in rebalancing, while the latter highlight increased difficulties for adjustment in the rest of the world.

The adjustment difficulties are compounded by China's dominance in the global manufacturing sector. In 2024, manufacturing accounted for 25% of the Chinese economy, down from a peak of 32% in 2012. The government indicated that it intends to maintain it at a level of 25%. More importantly, China is the largest global manufacturing power, accounting for 32% of global manufacturing production in 2024. This was greater than shares of the next three countries combined: the United States (16%), Japan (8%), and Germany (5%). While the United Kingdom and the United States have enjoyed even higher market manufacturing shares in the past – at 40% in 1860 and 50% in 1945, respectively – this was at a time when manufacturing activities were much less widely distributed across the world. China also has a very comprehensive set of supply chains, covering all categories and sub-categories of the United Nation's International Standard Industrial Classification of All Economic activities (United Nations, 2024).

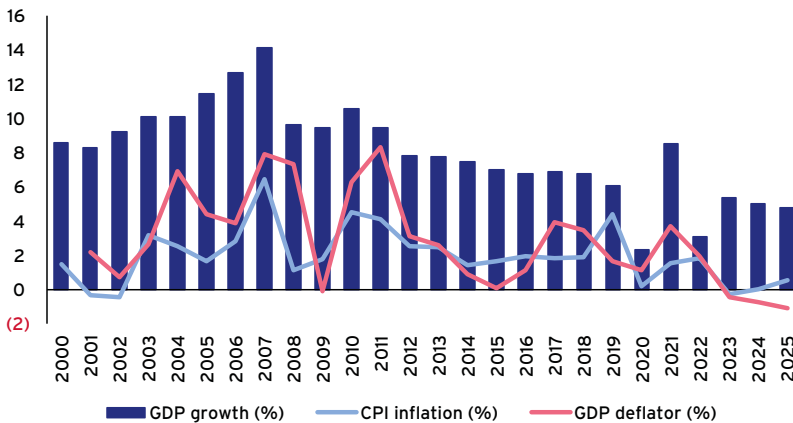
Several factors were likely responsible for China's rapid ascendancy as the global manufacturing giant. The first is the government's preference for industrial production over service activities, which started during the pre-reform period but continued in various forms during the reform era. In 2024, China's service sector accounted for 58% of GDP, compared to around 80% in both the United States and the United Kingdom and around 74% in Japan and Germany. The second factor is the size of the country, which enables China to develop many complete supply chains, such as for smart phones, electrical vehicles, robotics, and biotech. This not only reduces of cost of coordination but also improves the resilience of the supply chains. And the third factor is the China's well-developed physical and software infrastructure, including highways, high-speed rail, telecoms, and the internet.

Structural imbalances have existed in China for decades. One important characteristic is 'under-consumption'. Although the consumption share has picked up by around 10 percentage points from its lowest point, at under 60% it is still significantly lower than in the United States and the United Kingdom (both over 80%) and Japan and India (both over 70%). Strong investment and weak consumption could give rise to an excess capacity problem. But in the past, China was able to export its domestic excess capacity to the international market by dramatically expanding its export market share. Between 2001, when China joined the WTO, and 2008, when the subprime crisis hit, China's exports grew by an average of 28.3% per year. As a result, the imbalance problems did not prevent the country from achieving rapid economic growth. However, its external account surpluses grew significantly.

But as China has become a ‘large country economy’, it is now much more difficult to export out of its domestic excess capacity problem. The rest of the world’s reaction function to Chinese exports has changed. Compared to two decades ago, the world market is much less open. Some countries, particularly the United States, are actively erecting trade barriers, including tariffs. When China and the United States were actively engaged in negotiations over bilateral tariffs in 2025, other countries, especially those in the European Union and the ASEAN countries, became deeply concerned about the future destinations of Chinese exports, in case the China–US talks broke down.

As Chinese exports face more hurdles in the international market, the over-investment and under-consumption that are typically seen in China could directly translate into risks of excess capacity. Although the utilisation ratio of Chinese industrial production capacity is not particularly low, at 74.6% in 2025 (slightly below the average of 77.9% during 2016-2025), deflation risk has grown significantly recently. Since October 2022, the Producer Price Index (PPI) has been in negative territory for 39 months. The Consumer Price Index (CPI) has shown a similar pattern, although so far it has experienced fewer months of negative growth (Figure 3).

FIGURE 3 GDP GROWTH, CPI INFLATION, AND THE GDP DEFLATOR, 2000-2025



Source: IMF World Economic Outlook October 2025 Dataset.

Therefore, during the past decade or two, and despite the ongoing rebalancing process, worries about the consequences of China’s economic imbalances have grown significantly on at least two fronts. China’s trading partners worry that trade with China could potentially impose significant structural adjustment costs in terms of domestic industrial development and job opportunities. This contrasts with the usual ‘gains from trade’ perspective that has underpinned globalisation policies. Chinese products may be cheaper and better, but other countries may be concerned about the adjustment costs associated with trading with China simply because the Chinese economy is now bigger and the impacts of its exports have become greater. This could eventually lead to

an increase in trade barriers. In the meantime, if its export market potential becomes more limited and the investment–consumption gap remains (albeit narrower than before), China might also be worried about excess capacity and deflation, which could endanger the country’s ability to sustain its economic growth.

## LIKELY FUTURE TRAJECTORY

Although the 15th Five-Year Program (FYP) for 2026–2030 does not explicitly discuss the issue of rebalancing, the policy measures it contains should help this cause (State Council of the People’s Republic of China, 2025). One stated objective of this FYP is to support continued economic growth over the next five years, laying the foundation for building a moderately advanced country by 2035. The FYP identifies two key driving mechanisms for future economic growth: development of a new quality productive force and boosting domestic demand, by comprehensively deepening reform, achieving high-quality opening, and promoting the green energy transition. This policy framework intends to build a new growth model that relies more on innovation rather than on cheap inputs, and on ‘domestic economic circulation’ rather than on ‘external economic circulation’. In the past, thanks to its low-cost advantage and massive export market, China was able to export out of its excess capacity problem, which was created by the investment–consumption imbalance. Those days are probably over. Rebalancing of the Chinese economy, both domestically and externally, is a critical element in building its new growth model.

‘Domestic economic circulation’ has two pillars: supply (i.e. the new quality productive force) and demand (i.e., domestic demand, especially consumption). A key challenge on the supply side is a smooth upgrading of the industrial structure. Indeed, China’s economic development over the past four and half decades was a process of evolution of its industrial structure, from labour-intensive to capital-intensive and from low-tech to high-tech industries. China passed the Lewis turning point around 2006, when a labour surplus was replaced by a labour shortage, which caused wages to rise steadily. Since then, the population has also been ageing rapidly. With GDP per capita at \$13,440 in 2024, China has already lost its low-cost advantage. At the same time, the world is in the early stages of a new industrial revolution, centred around AI. The new FYP identifies a list of priority industries for the next five years, including AI, quantum information, robotics, biotech, 6G, low-altitude economy, and green energy.

A key task on the demand side is effective expansion of consumption demand. Whether as a result or as a trigger, weak consumption is an important link in China’s economic imbalance problems. Concentration of resources on investment reduces the income available for consumption, and weak consumption forces producers to seek demand from international markets. The new export difficulties, created either by concerns

about security or worries about jobs in China's trading partners, make a growth model relying mainly on 'external economic circulation' unsustainable. Boosting consumption is a must for building a new growth model relying instead mainly on 'domestic economic circulation'.

In early 2025, the government unveiled a plan for special initiatives to boost consumption, announcing 30 specific tasks in eight areas such as income growth, enhancement in the quality of service consumption, big-ticket consumption upgrading, and improvements in the consumption environment.<sup>2</sup> It is not an easy task to boost consumption. For example, at the beginning of 2025, the government adopted a 'trade-in policy' of subsidising the purchase of electronic products. This boosted consumption demand during the first half of the year, but the growth rate quickly came down. Effective policy boosting consumption depends critically on two factors: income and confidence. Household income as a share of national income remains low. Although wages have been rising gradually, there is a significant lack of asset-related income. The fact that the government still controls significant amounts of resources also depresses household income. In the meantime, household confidence is low due to a lack of sufficient social welfare coverage.

It is likely that rebalancing of the Chinese economy will continue, albeit at a gradual pace. In addition to the policies explored by the FYP, market mechanisms are also moving things in the same direction. Unlike the overcapacity problems that existed ten years ago in the steel industry, which was mainly owned by SOEs, today a lot of potential overcapacity, particularly in the green energy sector, is owned by private companies. As a result, industrial consolidation is happening much faster because private business owners cannot continuously swallow financial losses. Another new trend is for the Chinese companies to go abroad. China's outward foreign direct investment has been among the top three globally for the past fifteen years. This 'going abroad' trend has been caused by both a pull factor and a push factor. On the pull side, the US efforts to build near-shoring and friend-shoring supply chains and the raising of tariff rates have induced some companies previously operating in China to relocate to other destinations. On the push side, rising costs of production at home are prompting Chinese companies to find more profitable locations for their businesses. This could help ease imbalance pressures by reducing domestic production capacity.

It took Japan about three decades, from 1970 to 2020, to raise its consumption share of GDP from 58% to 77%. The adjustment in China will probably not be much faster. This means that some of the current problems will continue to exist in China, especially risks of excess capacity. Of the two tasks contained in the next FYP, the government

2 "China unveils plan on special initiatives to boost consumption", *Xinhua*, 16 March 2025 (<https://english.news.cn/20250316/c2296b3e1875445aac7cdf316af7e05b/c.html>).

appears to be more aggressive on the first than on the second. Therefore, over the next five to ten years, while China may see an improvement in the imbalance problem, excess capacity will not quickly disappear and inflation will probably stay at very low or even negative levels.

## NEEDED POLICY ACTIONS

The evolution of China's economic imbalances is the result of a set of unique and common economic and policy factors.

Most centrally planned economies, including the former Soviet Union, have a strong policy preference for investment over consumption, which gives rise to the problem of an investment–consumption misalignment. Pre-reform China had a similar problem. Moreover, the gradualist, dual-track approach of market-oriented reform maintained this policy bias toward investment to a large extent, particularly as it is much more effective for the government to expand investment than to boost consumption in its pursuit of rapid economic growth.

The open-door policy, in particular Special Economic Zones, allowed the Chinese economy to integrate into the world market. This, together with relatively weak domestic consumption, led to the formation of export-led growth. Because China had surplus labour during the early stages of economic reform, wages remained stagnant and household income share of national income actually declined. This exacerbated the over-reliance of economic growth on investment and exports.

Economic rebalancing has already taken place over the past decade or two. The consumption share of GDP has risen from its cyclical bottom in 2010 by about 10 percentage points. As a result, the investment share has declined. But the investment–consumption misalignment remains significant, with serious implications for excess capacity and deflation risk.

The current account surplus has stayed below 3% of GDP, on average, in recent years. While it may be argued that China has actually rebalanced its external account, the aggregate size of its current account surplus poses challenges for its trading partners, who may worry about the implications of trading with China for their own industrial development, jobs, income, and inequality.

So, while important progress has been made, the mission of economic rebalancing has not yet been fully accomplished. In fact, the remaining problems could seriously endanger the sustainability of China's growth. Decisive policy actions are needed in order to finish the tasks of rebalancing and of building a new growth model.

The first is to deepen market-oriented economic reform, in order to let the market, not the government, play the decisive role in resource allocation and to put more income into the hands of households. One important reform step that needs to be taken is further transformation of local government behaviour, especially local industrial policy. While

China's gradual reform approach has been successful in supporting economic growth, the government still controls too many resources, especially financial resources. Local governments have played an important role in accelerating the country's economic growth. But their massive industrial subsidies have not only worsened the 'involution' problem in certain industries but have also created serious public debt risks. The government, especially local governments, should refrain from direct intervention in economic activities and focus more on providing public goods services.

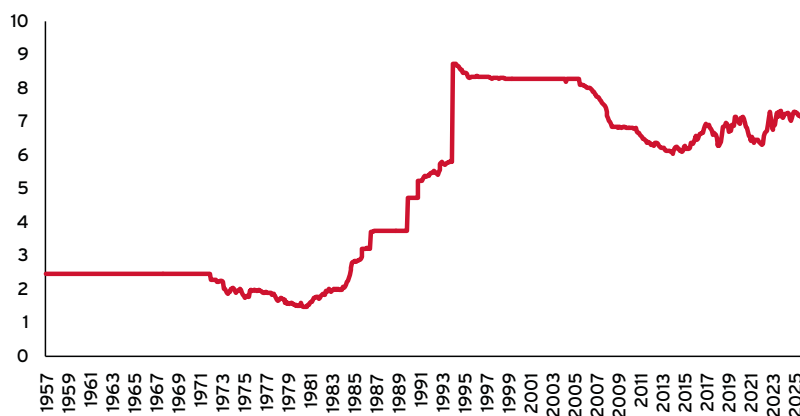
The second policy action is to expand domestic consumption. This is already a policy priority, as illustrated by the 15th FYP, and the consumption share is already on the rise. But the change is slow. If consumption demand is weak and exports face greater hurdles, China could easily suffer from a serious excess capacity problem. Effective expansion of consumption demand depends critically on improvement in two factors – income and confidence. At the moment, the government and the state-owned enterprises still capture too much income, which lead to a very high aggregated saving ratio. Further market-oriented reform should grant greater a share of national income to households. Social protection, which is significantly underdeveloped in China, especially for the rural population, is very important for consumer confidence. The central government may need to consider improving household balance sheets, including stabilisation of the property market, by increasing its own leverage and transferring sufficient state-owned assets to various social security funds.

The third policy action is to stabilise the housing market. Since mid-2021, China's property market has been tumbling, ending a boom that lasted more than two decades. This has tremendous implications for domestic demand, as housing previously accounted for a significant portion of household wealth and contributed a significant amount of local government revenue. The central government should consider adopting a policy package to stabilise the housing market, including setting up a grand state fund to purchase constructed apartments. At the moment, the central government's public debts are only a little over 20% of GDP. It has ample room to leverage up to repair the balance sheets of households, local governments, and even financial institutions.

The fourth policy action is to develop the service sector. China's manufacturing share of GDP peaked at 32% in 2012 and declined to 25% in 2024. The government intends to maintain this 25% level for the whole nation. This, however, might create additional problems for the economy. While manufacturing is important, it has very limited room for expansion in terms of consumption and employment. Over-concentration of resources on manufacturing production could also exacerbate the excess capacity problem, as Chinese manufacturing already accounts for a third of the world total. Development of the service sector, especially high value-added services, could be an important way of boosting consumption, providing jobs, and reducing economic imbalance.

The final policy action is to devise a new external economic policy framework. One simple option is to increase the flexibility of the renminbi exchange rate, which should provide an important mechanism for external account adjustment (Figure 4).

FIGURE 4 MONTHLY RENMINBI/US DOLLAR EXCHANGE RATE, 1957-2025



Source: Bank for International Settlements.

More importantly, as China has become a ‘large country economy’, it needs to adopt new policy thinking. Simple arguments based on cost and quality competitiveness are much less convincing today than before. As a ‘large country economy’, China needs to think about ways to grow together with its economic partners. For instance, the Global South Green Development Plan proposes that China support the green energy transition in the Global South by providing government aid, policy loans, and market-based funding. This would enable other countries to benefit from its vast green energy production capacity.

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# The Chinese current account imbalances: Puzzles, patterns, and possible causes

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## 1 INTRODUCTION

China has switched from having one of the world's largest current account deficits, in US dollar terms, for some years in the 1980s to the largest surplus in the 21st century. The size of the surplus has attracted global political and media attention and is considered a key part of what is known as global (current account) imbalances. As a share of its GDP, China's current account surplus peaked in 2007 (at 9.8%) and has since shrunk to about 2%. Because China is the largest economy in purchasing power parity (PPP) terms and the second largest in nominal dollar terms, even 2% of its GDP is a very large number in absolute terms.

It is important to note that, since China has been growing faster than most of its large trading partners, even if its trade surplus grows slightly less fast than its GDP, its bilateral surplus against a given trading partner (think of Europe) could still rise as a share of its trading partner's total imports or GDP.<sup>1</sup> Furthermore, because of uneven distribution of its imports and exports across trading partners, some partner countries may see a rise in China's share in their imports without a corresponding rise in its share in their exports, even if China's aggregate imports and exports increase at a similar speed.

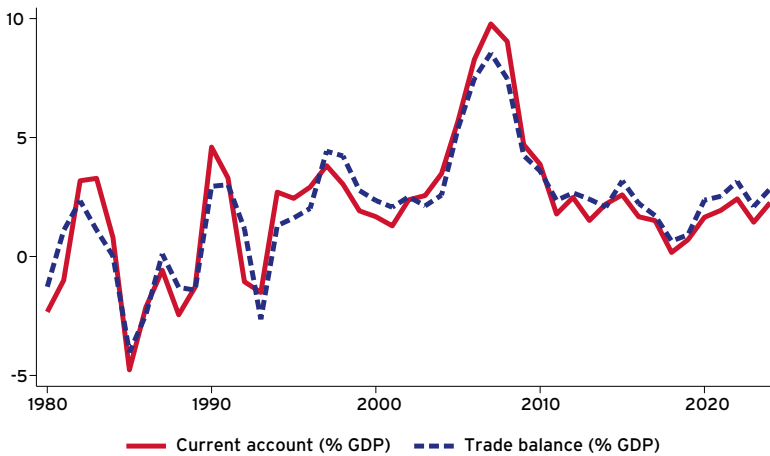
This chapter addresses four related sets of questions. First, how big have the Chinese current account surpluses been in recent years? Do the official statistics understate the true size of the surpluses? Second, what are the roles of industrial and trade policies in the country's current account surpluses? Third, what are the roles of structural factors such as the demographics and financial underdevelopment? Fourth, what are the roles of other factors, such as the housing market slump and exchange rate policy?

1 Yiping Huang makes a similar point in his chapter in this report. Even if China's current account or trade surplus stays at 2% of its GDP, it may still pose significant challenges for its trading partners.

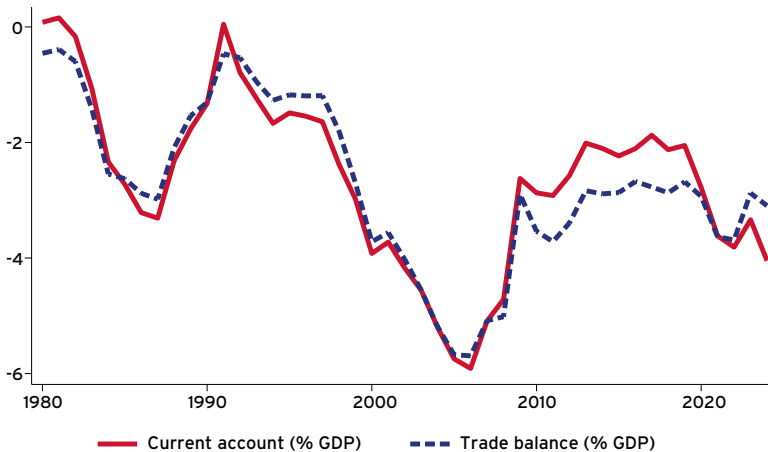
The Chinese current account balance-to-GDP ratio has exhibited interesting dynamics since 1980 (see Figure 1). In the 1980s, the ratio was low and even negative, averaging around  $-0.73\%$  of GDP. During the 1990s, it began to increase, reaching  $2.22\%$  of GDP on average. After China's accession to the WTO, the current account balance peaked in the 2000s, with an average of  $4.89\%$  of GDP and a peak of around  $10\%$  of GDP in 2007. This is a period of heated debate on China's contribution to global imbalances (Bernanke, 2005; Obstfeld, 2025). Following the Global Financial Crisis, the ratio started to decline, with a ten-year average of  $1.85\%$  between 2010 and 2019. As of 2024, China's current account-to-GDP ratio stands at  $2.26\%$ . According to IMF forecasts, this declining trend is expected to continue, with the ratio projected to average  $1.78\%$  over 2020–2030 based on the April 2025 edition of the IMF *World Economic Outlook*. Thus, China's current account balance is expected to fluctuate around  $2\%$  in the medium run.

FIGURE 1 CURRENT ACCOUNT: CHINA VERSUS THE UNITED STATES (% OF GDP)

a) China



b) United States



Note: The figure shows the current account balance and trade balance as a percentage of GDP for China and the United States, from 1980 to 2024.

Source: The data are taken from the IMF *World Economic Outlook*, October 2025 edition, and the World Development Indicators.

A mirror image of China's current account surplus is the US deficit. The US current account-to-GDP ratio has been negative in most years since 1980, reaching its largest deficit of -6% in 2006. Although the deficit has narrowed since the Global Financial Crisis, it remains sizable. As of 2024, it stands at -3.88% and it is projected to reach -2.4% in 2030 according to the IMF *World Economic Outlook*. Because China and the United States are the world's two largest economies, their current account imbalances have attracted substantial global attention.

The first set of questions concerns the true size of China's current account surplus. Recently, China's official trade balance statistics adopted a new methodology following IMF guidelines, which has raised concerns about the reliability of official data in measuring the true size of the surplus (Setser, 2025b). Moreover, China's net factor income has remained negative even during a period of rising global interest rates. These issues have led to questions regarding the accuracy of China's reported surplus figures. We will examine these concerns in detail.

The second set of questions focuses on the role of industrial and trade policies in shaping China's current account surplus, an issue closely linked to the broader US–China trade dispute. Figure 1 provides a partial perspective: movements in the current account in both countries closely mirror changes in their trade balances. By definition, the current account equals the trade balance plus net factor income, and trade balances appear to be the dominant driver of current account dynamics in both economies. Consequently, debates surrounding China's current account surplus are inherently intertwined with questions about industrial and trade policies – particularly whether such policies have distorted trade flows and contributed to persistent trade and current account imbalances. In addition, the recent US–China trade war likely influenced the evolution of bilateral current account positions.

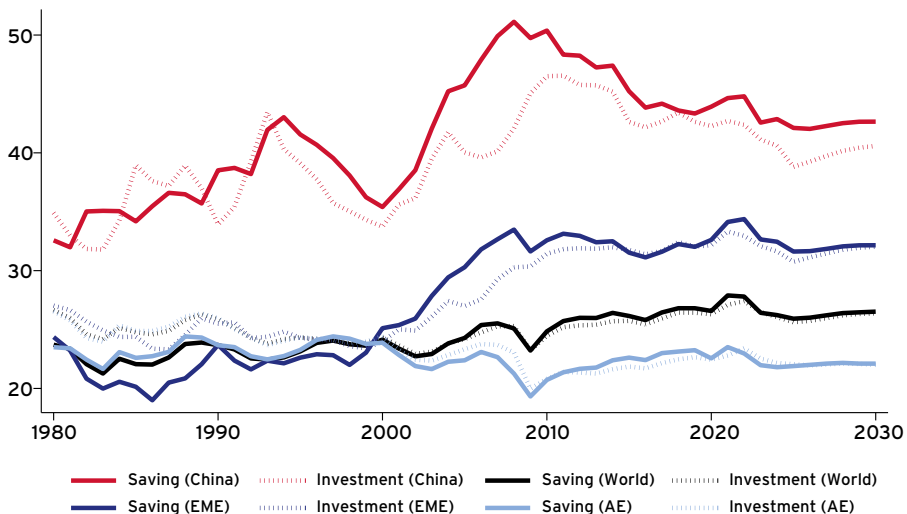
Structural factors have also played an important role in shaping China's surplus. A distinctive feature of China's current account position is that it coexists with exceptionally high levels of both savings and investment relative to GDP. Figure 2 compares China's savings and investment rates with those of other country groups. China stands out clearly: its savings rate exceeds 40%, while the global average remains below 30%. Even relative to other emerging market economies – and certainly compared with advanced economies – China's savings rate is markedly higher. A substantial literature explains China's high surplus by examining structural factors such as demographics and financial underdevelopment. We will analyse the roles of these factors in determining China's current account now and in the future.

Finally, we will also examine additional influences on China's surplus, including the recent slump in the real estate sector and exchange rate policies. We conclude the paper by discussing potential policy measures to reduce China's current account surplus.

## 2 HOW BIG IS CHINA'S CURRENT ACCOUNT SURPLUS?

The current account balance is equal to the sum of the goods trade balance, the service trade balance, and the net factor payment. In recent years, concerns have been raised recently about reliability with regard to the officially reported size of the trade balance and the primary income component of the net factor payment in China's official balance-of-payments data (Setser, 2025a, 2025b). We discuss each issue in turn.

FIGURE 2 CHINESE SAVING AND INVESTMENT (% OF GDP)



Note: The figure shows national savings and total investment as percentages of GDP, from 1980 to 2030. Data after 2024 are estimated by IMF staff.

Source: The data are taken from the IMF World Economic Outlook, October 2025 edition.

### 2.1 The size of the trade surplus

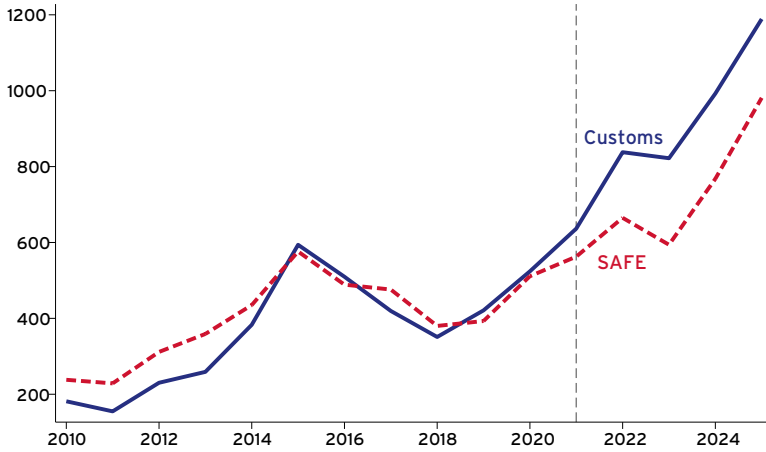
Goods trade surpluses are reported by both China Customs and the State Administration of Foreign Exchange (SAFE), but the two agencies rely on different methodologies. As a result, the goods trade balance reported by SAFE is generally smaller than that reported by China Customs. The discrepancy between the two series widened beginning in 2019 and appears to have continued to grow over time (top panel in Figure 3).

This widening gap coincided with a structural change in China's data-collection and reporting process that was took effect in 2022. Specifically, the goods trade component of China's official balance-of-payments (BOP) statistics switched from Customs-based data to SAFE-based data. This methodological change resulted in a smaller reported

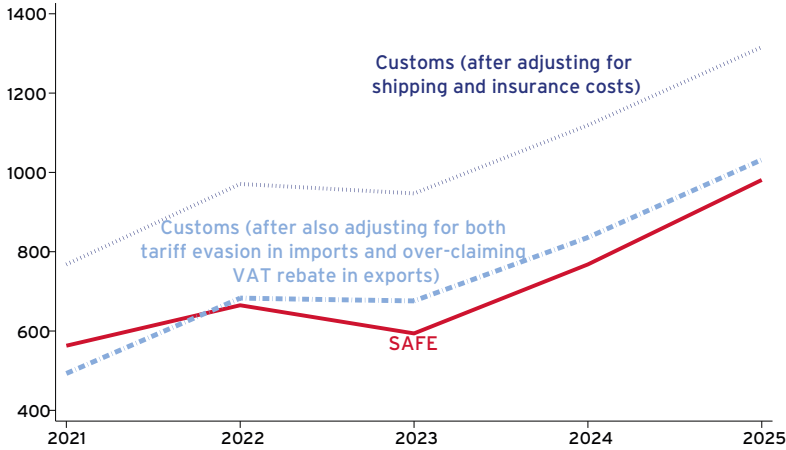
goods trade surplus – and consequently a smaller current account surplus – by roughly \$300 billion. Although the switch was recommended by the IMF, Setser (2025a) expressed scepticism about the SAFE figures, prompting both SAFE and the IMF to issue clarifications (Lardy and Huang, 2025).<sup>2</sup>

**FIGURE 3 TRADE BALANCE: SAFE VERSUS CHINA CUSTOMS (US\$ BILLIONS)**

a) Customs (raw data) versus SAFE



b) Adjusting for shipping and insurance (top blue line) and also for possible tariff-evasion in imports and over-claiming VAT rebate in exports (lower blue line) in Customs versus. SAFE



Note: The figure displays China’s trade balance data from the State Administration of Foreign Exchange (SAFE) and customs sources for the period 2010-2025. As the SAFE data for 2025 is only available for the first three quarters, we annualise the first three quarters’ data using the average share of the first three quarters within the full year during 2022-2024 to estimate the annual data for 2025.

Data source: WIND.

2 The data sources are SAFE (2024) and IMF (2024).

We now assess reasons for the data gap. We start with an uncontroversial adjustment. Because the value of imports recorded in the China Customs data includes shipping costs and transportation insurance (commonly known as the CIF value), which are conceptually part of services trade, we need to remove this part to obtain the value of goods imports (as recommended by the IMF). The Customs-recorded exports are on free-on-board (FOB) basis, which are free of shipping and insurance costs. The SAFE-reported goods imports and exports are already net of the shipping and insurance costs.

The shipping and insurance fees are about 4.9% of the import value globally (Fiallos et al., 2024). We use this number to adjust the Customs-reported import values downward in Table 1. While such an adjustment should not alter the size of the overall current account balance (since it only moves the same value from the goods trade part to the services trade part), it does enlarge the goods trade balance using the Customs data. In the bottom panel of Figure 3, we report the Chinese trade balance both according to the Customs data (after adjusting for shipping and insurance) in the top blue dotted line and according to SAFE in the bottom red solid line.

TABLE 1 ADJUST CUSTOMS IMPORT BY SHIPPING AND INSURANCE (US\$ BILLIONS)

	SAFE			Customs			Customs (adjusted)	
	X	M	X-M	X	M	X-M	M	X-M
2021	3216	2653	563	3316	2679	637	2548	768
2022	3347	2682	665	3544	2707	838	2574	971
2023	3179	2585	594	3379	2557	822	2432	947
2024	3409	2641	768	3576	2583	993	2457	1119
2025	3563	2582	981	3772	2583	1189	2456	1316

Note: The table displays China's trade balance data from the balance of payments (BOP) and customs sources for the period 2021-2025. As the SAFE data for 2025 are only available for the first three quarters, we annualise the first three quarters' data using the average share of the first three quarters within the full year during 2022-2024 to estimate the annual data for 2025. The last two columns adjust the Customs import data to account for shipping and insurance costs, which are estimated to average 4.9% according to Fiallos et al. (2024).

Data source: WIND.

What explains the gap in the trade balance in the two reporting sources? The IMF (2024) provides the following explanation based on the different statistical methodologies used by two Chinese agencies. Although both reflect the same nominal trade activity, they differ systematically, because SAFE measures trade in terms of monetary ownership transfers, whereas China Customs tracks physical cross-border movements of goods. Consequently, the two series are not directly commensurate.

First, SAFE adheres to the Sixth Edition of the IMF's *Balance of Payments and International Investment Position Manual* (BPM6), which is grounded in the change-of-ownership principle: a transaction is recorded once legal ownership has passed, regardless of whether the good physically crosses the border. By contrast, China Customs statistics follow the United Nations International Merchandise Trade

Statistics framework, which records flows when goods physically enter or exit the customs territory, irrespective of ownership. In modern trade, where global value chains, processing trade, and trans-shipment are common, these two perspectives often diverge. SAFE provides four examples of this:

1. **Processing trade.** Under this model, raw materials enter China and final products exit. Customs records the full value of both, but since ownership remains with foreign entities, the BOP does not record the trade. Instead, the processing fee is captured under BOP services.
2. **Global manufacturing arrangements.** Multinational firms outsource production to Chinese firms yet retain ownership. If production occurs in China but goods are sold domestically without crossing a border, Customs records nothing. However, ownership may still transfer (factory → MNC → distributor), and these transfers are recorded in the BOP. Since the factory price (transfer) is usually lower than the wholesale price, this tends to reduce the BOP goods surplus. Profits from domestic sales are ultimately repatriated, entering the BOP as investment income.
3. **Merchandising ('offshore trading')**, where goods never physically cross into China, but Chinese firms act as intermediaries in ownership transfers (buying from nonresidents and reselling to other nonresidents). Customs records zero, but the BOP records the net export based on ownership transfer.
4. **Cross-border warehousing and logistics.** Goods enter or exit China for storage or logistics, but ownership remains with nonresidents. While Customs records the physical flows, the BOP records no goods trade because legal ownership does not change.

Second, BOP statistics record transactions at actual prices between residents and nonresidents, whereas Customs statistics rely on declared customs values, which may diverge substantially.

However, Setser (2025b) argues that such an adjustment cannot be quantitatively very important. We believe an important source of the data gap not discussed by the IMF or Setser has to do with systematic mismeasurement of both imports and exports in the Customs data. In particular, importers may under-report the value of imports to evade import tariffs, and exporters may over-report the value of exports in order to over-claim VAT rebates. Importantly, both the incentive and the ability to misreport trade values may have increased in recent years.

There are three broad approaches to evade tariffs (Fisman and Wei, 2004): (i) under-reporting the unit value of the imports, (ii) under-reporting the physical quantities of imports, and (iii) mis-classifying the goods type from a higher-tariffed category to a lower-tariffed one. The first two approaches would lead to under-reported import values in the Customs data. By the baseline estimate in Fisman and Wei (2004), a one percentage point increase in the nominal tariff rate leads to a 3% under-reporting of the import values.

Beginning in the second half of 2018, China raised tariffs on US imports in several rounds, mirroring the three waves of US tariff increases on Chinese goods. Neither country made substantial adjustments to these nominal tariff levels during the Biden administration. During the second Trump administration, tariffs have escalated further on both sides. According to Bown (2023), China's average tariff on US goods rose from 21.2% in 2021 to 31.9% in 2025, while its tariff on non-US goods declined slightly from 6.6% to 6.5% over the same period.

Higher tariffs on US imports increase the incentive for customs under-reporting of those imports, whereas reductions in China's most-favoured nation (MFN) tariff rates diminish the incentive to under-report imports from other countries. To account for these opposing forces, we adjust the reported import values using an elasticity of three (from Fisman and Wei, 2004). This elasticity implies that the under-reporting of US imports increases by 32.1% ( $=3 \times 10.7\%$ ), while under-reporting of imports from the rest of the world decreases by 0.3% ( $=3 \times 0.1\%$ ). We therefore reduce the recorded imports from the United States and raise the recorded imports from the rest of the world accordingly. The adjusted numbers are presented in Table 2.

TABLE 2 ADJUSTING CUSTOMS' IMPORTS FOR TARIFF EVASION (US\$ BILLIONS)

	SAFE		Customs		Adjust M (Tax evasion)				Adjust M (Shipping, insurance and tax evasion)	
	X-M	X	M	X-M	M <sub>US</sub>	M <sub>Non-US</sub>	M	X-M	M	X-M
2021	563	3316	2679	637	180	2499	2757	559	2626	690
2022	665	3544	2707	838	178	2529	2783	761	2650	894
2023	594	3379	2557	822	164	2393	2627	752	2502	877
2024	768	3576	2583	993	164	2419	2654	922	2527	1049
2025	981	3772	2583	1189	140	2443	2642	1130	2515	1257

Note: The table displays China's trade balance data from the balance of payments (BOP) and Customs sources for the period 2021-2025. As the SAFE data for 2025 are only available for the first three quarters, we annualize the first three quarters' data using the average share of the first three quarters within the full year during 2022-2024 to estimate the annual data for 2025. The last two columns adjust the Customs import data to account for shipping and insurance costs, which are estimated to average 4.9% according to Fiallos et al. (2024).

Data source: WIND.

On the export side, Chinese exporting firms have an incentive to over-report the value of exports in order to claim larger VAT rebates. The strength of this incentive is not constant over time. In particular, the Chinese authorities typically rebate only a portion of the VAT revenue collected from exporters. In response to the Trump trade war, the authorities implemented two types of adjustments. First, the VAT rate for manufacturing exporters was reduced from 17% to 13%, which is likely to have boosted real exports; however, this change should not affect the reporting gap between SAFE and Customs. Second, the authorities progressively increased the share of VAT rebates returned to exporting firms over four waves. Together with the deteriorating financial health of firms caused by the trade war and domestic economic difficulties, this would have strengthened the incentive to over-report exports, thereby widening the reported goods trade balance between China Customs and SAFE. The fact that rebate rates were raised in four waves suggests that this gap could have grown over time.

Using information from Clark and Wong (2021), Chinese net VAT rates on exports (defined as the gross VAT rate minus the export VAT rebate, hereafter “net VAT”) declined substantially between 2017 and 2020, as authorities reduced the gross VAT rate from 17% to 13% and raised export rebate rates in four successive rounds during the trade conflict. As a result, the average net VAT rate fell from nearly 7% at the end of 2017 to about 2.5% in 2020, while the share of export products facing a zero net VAT rate rose sharply from 5% of all goods in 2017 to roughly 50% in 2020. If VAT rebates increased by 4.5%, and if the elasticity of overreporting exports is comparable to the elasticity of under-reporting imports – which is estimated by Fisman and Wei (2004) to be three – this implies roughly 13.5% over-reporting in Customs export data. Given that this incentive applies to about half of China’s reported exports (which could claim a VAT rebate), we therefore adjust only that portion of exports, while keeping the other half unchanged in Table 3. In the bottom panel of Figure 3, the Customs trade balance data after applying all the adjustments become closer to the SAFE-reported figures.

**TABLE 3 ADJUSTING EXPORTS FOR OVER-CLAIMING VAT REBATE (US\$ BILLIONS)**

	SAFE	Customs		Adjust X (Avoiding VAT)		All adjustment
	X-M	X	M	X-M	M	X-M
2021	563	3316	2679	637	3119	439
2022	665	3544	2707	838	3334	627
2023	594	3379	2557	822	3178	621
2024	768	3576	2583	993	3363	780
2025	981	3772	2583	1189	3548	965

Note: The table reports China’s trade balance data from both the balance of payments (BOP) and Customs sources for the period 2021-2025. As the SAFE data for 2025 are only available for the first three quarters, we annualise the first three quarters’ data using the average share of the first three quarters within the full year during 2022-2024 to estimate the annual data for 2025. Columns six and seven adjust the Customs export data to account for firms’ incentives to overreport exports in order to claim higher VAT rebates. The final column adjusts both imports and exports to account for shipping and insurance costs, tax evasion, and VAT-related over-reporting.

The remaining gap could potentially be due to the processing trade and ‘factoryless’ production that the IMF (2024) cited. Recall Setser’s assertion that the adjustment from ‘factoryless’ production is not quantitatively big. The discussion above suggests that one may not need a big adjustment from this factor to close the gap between the China Customs and SAFE reported goods trade balance.

In sum, one cannot reject the null that the SAFE and China Customs reported goods trade balance numbers are compatible with each other once one adjusts for potential over-reporting of the exports and under-reporting of the imports in the Customs data and for the different methods used by the two agencies in tracking goods flows by ‘factoryless’ production through bonded warehouses.

## 2.2 The sign and the size of primary income

In spite of China’s large gross foreign asset position, the country has reported negative earnings on the order of \$125 million in recent years. This seems surprising in an environment in which the return on US government bonds has risen in recent issues.

This issue was highlighted in the IMF’s 2025 External Sector Report. Since the global rise in interest rates beginning in 2021, primary-income inflows have increased in all major economies except China. In contrast, China’s implied yield declined in 2024 relative to 2021. Figure 4 illustrates this pattern. In absolute terms, the implied yield – defined as primary-income credit divided by lagged external assets – was 2.91% in 2024, which is 55 basis points lower than the 3.46% implied yield in 2021. Over the same period, the average federal funds rate rose sharply from 0.08% to 5.14%. This divergence has raised concerns about the quality of China’s primary-income data.

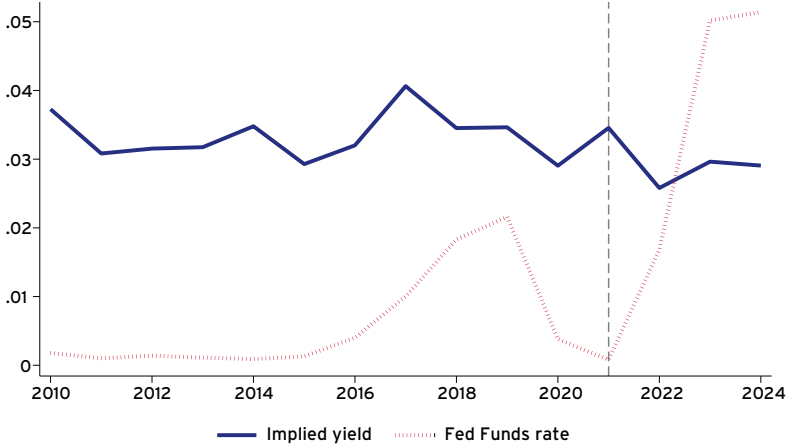
Conceptually, returns on external assets depend on the composition of China’s global investment portfolio. It is theoretically possible that China simply earned low returns globally, generating yields below even the US risk-free rate. The bottom panel of Figure 4 shows China’s external asset positions in 2023: \$3.45 trillion in reserve assets, \$2.96 trillion in FDI assets, \$2.10 trillion in other assets, and \$1.12 trillion in portfolio assets and derivatives, amounting to \$9.62 trillion in total. The implied yield of 2.91% in 2024 must therefore be accounted for by the asset class-specific returns weighted by their respective shares.

Precisely identifying the return on each asset category is challenging. We therefore conduct a simple back-of-the-envelope assessment of whether the BOP-implied yields appear plausible. For portfolio assets, we use the reported return of the China Investment Corporation (CIC), China’s sovereign wealth fund, as a proxy. CIC reported an average annual return of 6.57% over the past decade on its overseas portfolio in 2023. For reserve assets, detailed information on returns and currency composition is limited. A reasonable assumption is that most Chinese reserves are invested in US Treasury securities. According to US Treasury International Capital (TIC) data, China

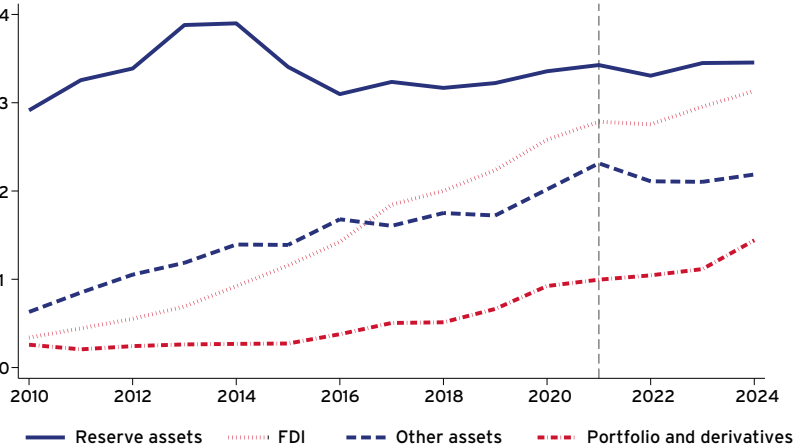
held \$780 billion in US Treasuries as of June 2024 (\$753 billion long-term and \$28 billion short-term). Foreign holdings have an average maturity of 6.3 years, so we proxy the reserve-asset return using the fitted yield on a six-year zero-coupon bond in 2024, which is 4.05%.

FIGURE 4 PRIMARY INCOME YIELDS AND EXTERNAL ASSETS

a) Primary income yield



b) External assets



Note: The top panel plots China's primary income yield - measured as primary-income credit divided by the lagged stock of total foreign assets - alongside the average federal funds rate from 2010 to 2024. The bottom panel shows the composition of China's foreign assets, including reserve assets, FDI, other assets, and portfolio assets plus derivatives, over the same period.

Data sources: SAFE and FRED.

Using these two inputs, we trace all combinations of FDI returns and other assets returns that, together with their 2023 asset shares, deliver an implied aggregate yield of 2.91%. This is shown in Table 4. Given that FDI is risky and its expected return should exceed the global risk-free rate (4.05%), the implied return on other assets must be negative to reconcile the aggregate return of 2.91%. While negative returns on other assets – such as bank loans and trade credit extended to developing countries, especially

under the Belt and Road Initiative – are plausible, the magnitude of the negative return (-2.5%) required to match a 2.91% aggregate yield appears unusually large. Evaluating whether China’s BOP primary-income flows are understated is potentially important. To gauge the scale, consider the gap implied by the above calculations. If the true return were equal to the return on the reserve assets of 4.05%, the implied under-reporting would be roughly 1.14 ( $=4.05-2.91$ ) percentage points. Applied to China’s \$9.62 trillion external asset position, this corresponds to approximately \$110 billion ( $=9620*1.14\%$ ) in under-reported income. This amount is comparable in magnitude to the discrepancy between China’s customs and BOP measures of the trade balance.

TABLE 4 NET INVESTMENT INCOME

	Portfolio assets	Reserve assets	FDI	Other assets
2023 value	1.1	3.4	3.0	2.1
% share in total	11.6	35.8	30.7	21.9
<b>A back-of-envelope calculation on implied return</b>				
<b>Known return</b>	<b>Total external assets</b>	<b>Portfolio assets</b>	<b>Reserve assets</b>	
	2.91	6.57	4.05	
<b>Assumption on FDI return</b>	<b>Inferred other assets return</b>			
1. Portfolio return: 6.57	-6.04			
2. Reserve assets return: 4.05	-2.50			
3. Total asset return: 2.91	-0.90			
4. Zero return: 0	3.19			

### 3 ROLES OF INDUSTRIAL AND TRADE POLICIES

China is known to have a large number of industrial policies. Data from the Global Trade Alert indicate that China implemented around 5,400 subsidy policies between 2009 and 2022, equivalent to roughly two-thirds of all such measures adopted by G20 advanced economies combined (Gourinchas et al., 2024). This pattern raises the question of whether industrial policies that subsidise the export sector have contributed to China’s large current account surplus by expanding the country’s manufacturing trade surplus. We argue that industrial policies can result in large sector-level trade surpluses, but are less likely to produce a significant economy-wide current account surplus. The basic logic is that the general equilibrium effects of industrial (or trade) policies can often differ from a partial equilibrium intuition. We will use the research on trade subsidies as an example.

### 3.1 Subsidies

There is growing empirical evidence on how subsidies in a given sector result in the expansion of that sector. For example, Barwick et al. (2025) examine the Chinese policy aiming to propel its shipbuilding industry to become the largest globally. They find that this policy led to a substantial increase in China's share of the global market in commercial shipbuilding. The programme has massively increased Chinese and global shipbuilding capacity, which has reduced freight costs and boosted both global imports and exports. Similarly, using cross-country, product-level import and export data in a difference-in-differences framework, Rotunno and Ruta (2024) find that subsidies promoted Chinese exports and limited imports for products targeted by industrial policy relative to those not covered. In his chapter in this report, Sébastien Jean also documents that, at the product or sector level, Chinese domestic subsidies have significantly raised its net exports in the same sectors while lowered its export prices relative to the world level.

While industrial policies can produce significant sector-level effects, several caveats are worth noting. First, these studies are largely partial-equilibrium in nature, particularly those based on difference-in-differences estimation, and thus face challenges in scaling up micro-level findings to the macroeconomic level. This aggregation problem, sometimes referred to as the 'missing intercept problem', complicates the link between micro and macro evidence.

The general equilibrium effect should start from the Lerner symmetry theorem. In an economy with full employment, an increase in import barriers tends to reduce both exports and imports. Higher import barriers make foreign-made products more expensive, hence imports would fall, and the previously uncompetitive domestic import-competing sector would expand. However, since the economy is at full employment, the only way the import-competing sector can expand is by taking resources away from other domestic sectors, including the exporting sectors. Thus, higher import barriers tend to depress domestic exports and imports. In the memorable language of the Lerner symmetry theorem, a tax on imports is a tax on exports. Higher import barriers can make an economy more closed in terms of both exports and imports, but may not reliably raise the country's trade surplus.

Similarly, a subsidy for the exporting sectors would generally raise both imports and exports. When the exporting sectors expand, they tend to take resources away from the rest of the economy, including domestic import-competing sectors. When the latter shrink, the country's imports rise. Because both exports and imports increase in response to an export subsidy, the subsidy may not reliably boost the trade surplus. This logic also helps us understand why China's efforts to subsidise imports through its government-sponsored annual Import Expo since 2017 have not significantly reduced its trade surplus either.

Note that the strict version of the Lerner symmetry theorem assumes full employment (i.e., no slack in the economy). When there is slack, a portion of the economy's response to an industrial policy subsidy may be a reduction in the slack. Nonetheless, the general equilibrium effect implied by the Lerner symmetry theorem would still be present, but with a somewhat weaker force.

To summarise, while sector-specific subsidies succeed in generating trade surpluses at the sector level, these effects may not translate into a significant aggregate current account surplus once the general equilibrium effects due to the logic of the Lerner symmetry theorem are considered. Fully accounting for these general equilibrium effects likely requires a structural model to quantify the overall impact of industrial policy on the current account.

### **3.2 Did China's unilateral trade liberalisation contribute to a rise in the trade surplus?**

While a partial equilibrium effect of import liberalisation raises a country's imports, the general equilibrium effect of the same import liberalisation by a developing country can even promote exports more than it does imports. This is the point made by Ju et al. (2021) in their study of the effect of China's accession to the WTO.

Their model is a dynamic Heckscher-Ohlin model with a Uzawa-style endogenous discount rate. According to the model, a reduction in the import barriers by a typical developing country (whose capital stock per person is below the world average) generally leads to an increase in its exports by a greater amount than the increase in imports, resulting in an improvement in the trade balance. Of course, along the way, the country's savings rate goes up by more than the change in the investment rate.

Here is the intuition. Before the trade liberalisation, domestic and international interest rates were in equilibrium (after accounting for the cost of moving capital across borders). Now consider a unilateral reduction in import barriers. The key is to realise that the surge in imports is in capital-intensive goods, and the import surge tends to put downward pressure on the domestic interest rate, which produces an incentive for part of the domestic savings to be exported abroad. The way the equilibrium is restored is for the country to run a current account (and trade account) surplus. This means that, following the trade liberalisation, not only would both exports and imports increase (as the Lerner symmetry theorem would tell us), but the increase in exports must be greater than the increase in imports. So, this is like the Lerner symmetry theorem on steroids.

If this were a static model (in which capital endowment is fixed), what is described above is essentially the Stolper-Samuelson theorem. Once we go to an infinite horizon with an endogenous capital stock, the existing literature does not tell us what would happen. In fact, there is an interest rate over-determination problem that needs to be solved. On the one hand, the standard intertemporal problem ties the interest rate

to the subjective discount factor. On the other hand, the Heckscher-Ohlin structure connects the interest rate to goods prices only without any reference to the preference parameter. Ju et al.'s (2021) model resolves this conflict by incorporating a Uzawa-style endogenous discount factor.

Note that for a typical developed country whose per capita capital stock is above the world average, a similar import liberalisation would produce a deterioration of the trade balance. So the prediction for developed countries is less surprising. In China's case, the sharp rise in the current account surplus in the early 2000s coincided with its accession to the WTO. A central feature of this liberalisation was a significant unilateral reduction in import tariffs. From a partial-equilibrium perspective, lower import tariffs should raise imports and thus worsen the trade balance. However, the general equilibrium forces described in Ju et al.'s model operate in the opposite direction, generating outcomes consistent with China's experience. By the way, by this logic, an increase in import barriers could lead to a reduction rather than an increase in trade surplus in general equilibrium.

Alessandria et al. (2017) also study factors that account for China's trade balance and accumulation of foreign assets, using a two-country DSGE framework with dynamic exporting decisions, pricing-to-market, incomplete financial markets, and aggregate shocks to trade barriers, productivity, and preferences. Their model allows changes in technology, trade costs, and preferences to jointly explain the dynamics of China's gross and net trade flows, export participation, real exchange rate, and output growth from 1990 to 2014. It is important to note that this model does not take into account differences in factor intensity between exportable and import-competing sectors. The authors find that changes in trade barriers are a key determinant of China's trade balance and foreign asset accumulation, estimating that reductions in trade barriers alone account for 70% of the foreign assets accumulated by 2014.

This literature highlights the limitations of static or partial-equilibrium frameworks when evaluating the effects of industrial or trade policy interventions on the current account. General equilibrium adjustments can overturn partial-equilibrium predictions. For instance, although import liberalisation mechanically reduces the trade balance by increasing imports, this effect may be offset if the resulting decline in the return to capital induces higher savings, thereby raising the current account balance. Consequently, understanding the macroeconomic implications of trade policy requires a framework that fully incorporates these general equilibrium mechanisms.

In summary, industrial policies such as sector-specific import subsidies are unlikely to have played a major role in shaping China's current account balance. Instead, large structural changes in trade costs – most notably, the extensive trade liberalisation of the 2000s – are more plausibly linked to the emergence of China's current account surplus. Reductions in import costs can generate a current account surplus precisely through general-equilibrium adjustments, including changes in relative prices, export participation, and savings behaviour. Consistent with this mechanism, the sharp

increase in China's current account surplus from 2000 to 2007 coincides with the period of import liberalisation following WTO accession, and the subsequent decline in the surplus aligns with the gradual fading of these effects. Thus, import liberalisation appears to have been an important contributor to China's current account dynamics.

## 4 STRUCTURAL FACTORS

Long-run structural factors help explain the patterns and dynamics of China's current account balance. For example, demographic characteristics – such as the age structure and gender composition of the population – affect household saving behaviour, which in turn influences aggregate saving and thus the evolution of the current account. Indeed, Figure 2 shows that China's savings rate has risen markedly since the early 2000s. Consequently, many studies that seek to explain China's saving patterns can also be used to shed light on the behaviour of its current account.

### 4.1 Unbalanced sex ratio

A growing literature highlights demographic forces as a key driver of China's elevated household saving rate, with the skewed sex ratio receiving particular attention. Wei and Zhang (2011) propose a 'competitive savings' theory: one motivation for personal or household savings is to raise one's competitiveness in the dating and marriage market. This component of savings tends to rise with an increase in the imbalance of the male–female ratio in the marriage age cohort (in either direction). In China's case, a rise in the male–female ratio in the youth cohort since the 1990s has translated into a powerful force to lift the household savings rate.

The mechanism is as follows. As the marriage market becomes increasingly competitive for young men, parents with a son raise their savings to improve his relative standing in the relative market. At the same time, parents with a daughter face conflicting incentives on savings. On the one hand, they can reduce their savings to take advantage of the increased probability of marriage of their daughter. On the other hand, they may wish to raise their savings to preserve their daughter's bargaining power within marriage.

In the data, Wei and Zhang find strong evidence that a combination of having a son at home and living in a region with a skewed sex ratio greatly pushes up the household savings rate. In contrast, savings by households with a daughter are not systematically related to the local sex ratio. Across regions, the local sex ratio in the youth cohort strongly predicts the local household savings rate. Their estimates suggest that this mechanism accounts for more than half of the increase in China's household saving rate between 1990 and 2007.

Building on this insight, Du and Wei (2013) develop a quantitative model linking China's unbalanced sex ratio directly to its current account dynamics. In their framework, an increasingly competitive marriage market induces young individuals – particularly men, but also women – to accumulate more savings in order to improve their marriage prospects. This upward pressure on savings, combined with relatively stable investment demand, generates persistent excess savings and a higher current account surplus. The authors' calibrated model indicates that this marriage market mechanism is quantitatively significant and can account for a substantial portion of China's elevated savings and, consequently, its sustained current account surplus.

The unbalanced sex ratio in China, as a structural determinant of household saving behaviour, is thus likely to have been an important contributor to China's current account dynamics. The literature shows that the rising sex ratio imbalance helped explain much of the increase in China's current account surplus prior to 2007. More recently, the gradual improvement in the sex ratio aligns with the decline in China's current account surplus after 2010, consistent with the view that demographic pressures in the marriage market have eased over time.

#### **4.2 Fertility and the social safety net**

Aside from the sex ratio, changes in the fertility rate and the age structure can also affect the economy-wide savings rate. In a structural overlapping-generations model, Curtis et al. (2015) highlight three such mechanisms. First, a decline in the fertility rate following the one-child policy reduced the burden on the families supporting dependent children, allowing them to allocate a larger share of income to saving. Their quantitative exercises show that holding the family size at its 1970 level would have lowered the saving rate in 2009 by seven percentage points. Second, an increase in the share of individuals of prime working age in the population from the 1970s to the 2000s could have raised the savings rate. Third, a decline in the number of children per family implies that today's workers will face more limited support from their children in their retirement. In the absence of a correspondingly improving social safety net, this could trigger an increase in the precautionary savings rate. The authors claim that together these channels could explain more than half of the observed increase in the savings rate between 1955 and 2009.

Niemeläinen (2021) provides another formulation of the role of precautionary savings by emphasising an interaction between rising life expectancy and limited social security coverage. Between 1980 and 2015, China experienced an increase in life expectancy, approaching levels observed in advanced economies. Despite this rapid ageing, however, China's public spending on old-age social security remained comparatively low. Faced with longer expected retirement periods and limited pension support, households responded by increasing their savings, thereby strengthening the current account and contributing to the accumulation of foreign assets. Using a life-cycle model, the author quantifies the contribution of population ageing and pension income to China's external

balance. The results show that the combination of rising longevity and modest pension benefits can account for a substantial share of China's high saving rate and sustained current account surpluses – effects that more than offset the downward pressure on the current account associated with China's high productivity growth.

It is important to note that the Chinese social safety net, however imperfect it may be relative to those of the advanced economies, has been improving substantially over the last thirty years. The improvement in old-age pensions, subsidised medical care, and other benefits is reflected in both ever-expanding coverage of the population as well as a rise in the generosity of the coverage. This improvement in the social safety net should have led to a reduction in the precautionary savings, and therefore a rise in the consumption rate. As the above two papers take the (imperfection of the) social safety net as given, they may have exaggerated the role of precautionary savings in the rise in the economy-wide savings rate.

It is also useful to note that public expenditure as a share of GDP tends to be strongly positively correlated with the income level of a country. While China's social safety net expenditure (as a share of GDP) is not as generous as in France or Norway, for example, it is comparable to other countries at a similar level of economic development, such as Mexico or Brazil (Lardy, 2025). For this reason, it is not obvious that massively raising public expenditure on the social safety net is the socially efficient thing to do, especially if additional such spending could compromise the rate of economic growth.

#### **4.3 Financial development**

Financial market imperfections are another structural factor behind China's high national savings rate. Since the banking system favours state-owned firms, many non-state-owned but high-productivity firms have difficulty with access to finance and therefore save for their own investment. This leads to a higher level of corporate savings.

A key theme in the global imbalances literature is that differences in domestic financial market development can shape international capital flows. For example, Caballero et al. (2008) highlight the role of an economy's capacity to supply safe assets: as fast-growing but financially underdeveloped economies expand, they are unable to generate sufficient domestic safe assets and therefore demand those supplied by advanced economies. In this framework, countries like the United States supply safe assets, while less financially developed economies run current account surpluses to acquire them. Similarly, Mendoza et al. (2009) model financial development as the share of income that residents can divert from creditors, which determines the country's borrowing capacity. They show that, following financial integration, differences in financial development across countries naturally generate global imbalances. These mechanisms have direct implications for China: its rapid economic growth, limited domestic financial development, and deepening global integration coincided with the period during which China's current account surplus expanded.

The model of Song et al. (2011) features two types of firms: high-TFP firms that face severe financial frictions and must finance investment through internal savings, and low-TFP firms with better access to external credit. During the transition towards the long-run steady state, as high-TFP firms expand, they outgrow the low-TFP firms, but financial frictions force them to rely heavily on internal funds to support investment. As a result, the model generates high growth, high savings, and a current account surplus – consistent with China’s experience. This mechanism is particularly salient for China, where financially constrained high-TFP firms – especially in the private sector – have long played a central role in aggregate dynamics.

Financial frictions facing households can also raise household savings. Coeurdacier et al. (2015) show in an open-economy OLG framework that the interaction between growth differentials and household credit constraints – which are more severe in fast-growing economies – can help explain capital outflows from emerging to advanced economies. The intuition is as follows. Faster growth in emerging economies lowers the global interest rate, which encourages borrowing by young households, especially in advanced economies with looser credit constraints. Middle-aged households increase their savings due to a dominant income effect, and this effect is stronger in economies with fewer borrowing constraints. Consequently, savings rise more sharply in emerging markets, generating net capital outflows toward advanced economies. This mechanism is relevant for China, where households face well-documented and substantial credit constraints.

The financial development story should predict a rise in the savings rate in the 1990s and early 2000s and a decline in more recent years. Specifically, severe financial frictions on both the household and firm sides in the earlier periods likely contributed to elevated household and corporate savings, consistent with the rise in China’s current account surplus before 2008. Since then, these frictions have generally eased, particularly with the expansion of FinTech, which has significantly improved household access to credit through mortgages and consumer loans. FinTech also allows firms to obtain funding that they would not have access to previously, as in the case of Ant Financial’s loans to micro and small firms. Although private firms continue to face substantial financing constraints, their access to alternative funding sources is also better than it was two decades ago. These developments align with the predictions of financial development theories regarding the evolution of China’s current account.

## 5 OTHER FACTORS

### 5.1 Housing market

The discussion thus far has emphasised structural factors, but cyclical conditions also play an important role at any given point in time. Around two years ago, China's aggregate demand was weak and the economy was close to a low-level deflationary equilibrium. Because most households are net creditors, deflation reduces household wealth and depresses consumption by more than it affects current income. This dynamic, in turn, lowers demand for foreign goods, leading to fewer imports than would be implied by structural factors alone.

Weakness in the housing market has further weighed on aggregate demand by eroding household balance sheets and self-assessed wealth, thereby suppressing import demand and raising the trade surplus. The current housing downturn can be traced back to the introduction of stringent regulatory measures in 2020 aimed at curbing leverage among real estate developers. These policies marked the onset of a prolonged housing slump, with significant negative spillovers to the broader economy (Chen et al., 2024). Anderson (2025) argues that housing market weakness has been an important contributor to China's trade surplus, particularly through its effect on imports. Indeed, while China's export growth does not appear unusual relative to other emerging market economies, imports have declined sharply, in contrast to the rising import demand observed elsewhere. This pattern is consistent with contracting domestic demand, especially reduced household spending related to housing purchases.

Although the housing downturn has been a meaningful contributor to China's current account surplus in recent years, it is unlikely to be an enduring driver. A sluggish housing market in recent years has weakened household demand and amplified the pessimism of consumers, but it does not explain the sizeable current account surpluses before 2019, when the housing market was expanding robustly. The recent boom–bust cycle in real estate has acted as a cyclical amplifier. Deeper structural forces remain the primary determinants of China's high saving rate and persistent trade surpluses.

### 5.2 Exchange rate

Exchange rate policy can be used to influence the path of consumption – and thus savings – in an economy. For example, in a model with both tradable and non-tradable goods, the real exchange rate is positively linked to the ratio of tradable to non-tradable consumption. Any policy that distorts this ratio can potentially alter the trade balance and, in turn, the current account.

Altering this ratio by an exchange rate policy can be welfare improving if there is scale economies (or positive externalities) in the tradable sector. To stimulate growth in this sector, the government has an incentive to depress tradable consumption and thereby lower the real exchange rate. As a result, resources such as labour shift from

the non-tradable to the tradable sector. Tradable production increases while tradable consumption is restrained, leading to a trade surplus (and a current account surplus). In other words, the real exchange rate policy itself generates the surplus in the current account.

There are specific examples in the literature that show how to use different policies to affect the real exchange rate and thus current account balances. For example, Jeanne (2013) presents a simple model to show that by accumulating reserves and imposing capital controls, the government can control the current account balance and also the real exchange rate. This is because reserves force private agents to hold domestic bonds and capital controls prevent them from undoing this through borrowing from the rest of the world. Therefore, a suitably chosen combination of reserves and capital controls can implement any path of tradable consumption in the economy, and thus the real exchange rate and current account.

Similarly, Benigno et al. (2022) develop a two-sector model with endogenous growth in the tradable sector. In their framework, the government has an incentive to use reserve accumulation to influence the real exchange rate and, consequently, the current account. Because of financial frictions, private agents cannot fully offset the effects of the government's reserve accumulation. In this setting, a real exchange rate depreciation policy is consistent with higher growth, a current account surplus, and sustained reserve accumulation patterns.

Because China has extensive capital controls, has been accumulating foreign exchange reserves, and exhibits a high level of growth especially in its tradable sectors, the models described above offer a plausible interpretation of the Chinese experience.

While exchange rate manipulation is a popular charge levied against China, its role in China's current account surplus may be exaggerated. In particular, the structural factors discussed in the previous section can produce observationally equivalent outcomes as the hypothesised exchange rate policy. For example, Du and Wei (2016) show that an unbalanced sex ratio increases economy-wide savings, thereby reducing consumption of both tradable and nontradable goods. Because the price of tradable goods is tied down by the world market, a sex ratio shock produces a decline in the relative price of nontradable goods. As a result, the real exchange rate depreciates, since it is closely linked to the price of nontradable goods.

Moreover, demographic pressures may influence labour supply. A higher male-to-female ratio can induce men and parents with an unmarried son to supply more labour in order to improve their competitiveness in the marriage market. If the nontradable sector is relatively labour-intensive, this additional labour supply further depresses nontradable prices and strengthens the negative effect on the real exchange rate. Thus, the appearance of 'real exchange rate undervaluation' may arise from structural demographic forces rather than solely from deliberate government policy.

In a country with capital controls (such as China), the enforcement of such controls requires exporting firms to surrender their foreign exchange earnings to the central bank. This involves the central bank using the local currency to purchase dollars. Such a transaction is observationally equivalent to the standard description of the foreign exchange intervention, even though the root cause is a rise in the sex ratio.

To summarise, although current account surpluses and real exchange rate undervaluation are theoretically linked, the direction of causality can run both ways, reflecting a combination of policy interventions and structural factors such as demographics. Consequently, attempting to determine whether an undervalued renminbi caused China's current account surplus, or vice versa, is often uninformative. This discussion does not suggest no foreign exchange intervention by the Chinese authorities. Rather, the relative importance of structural factors versus exchange rate policy cannot be determined by merely observing the central bank's behaviour.

A separate point is related to the (mis-)measurement of effective real exchange rates in a world of global supply chains. A commonly used indicator is some weighted average of bilateral exchange rates where the weights are typically proportional to the volume of bilateral trade, but this measure can be misleading. For example, if the only trade among China, Japan, and the United States is China buying intermediate inputs from Japan, and combining them with domestic inputs to produce products that are exported to the United States, the conceptually correct measure of China's effective exchange rate should assign a negative weight to the volume of trade between China and Japan, because an appreciation of the yuan against the yen would raise rather than diminish China's competitiveness. Yet, no standard measures of effectively exchange rate adopted by the IMF, the Bank for International Settlements, or other international bodies would take into account such supply chain structures.

As sectors participate differently in international trade, sector-specific price movements also play an important role in determining the real exchange rate, as shown by Patel et al. (2019). The authors also show that China's effective real exchange rate, when adjusted for the structure of global supply chains, has appreciated much faster than the standard measures that do not take into account supply chains. For these reasons, assessing the causal relationship between China's current account dynamics and the real exchange rate is inherently difficult: both variables are endogenous and jointly shaped by deeper forces, and the measurement of the real exchange rate introduces an additional layer of complexity.

### **5.3 Assessing an interplay hypothesis regarding housing market, industrial, and macro policies**

One popular hypothesis relates China's recent surge in trade and current account surpluses (in US dollar terms, though not as a share of its GDP) to the housing market and macroeconomic policies. It goes as follows. First, the weakness in China's housing market since 2021 has reduced household wealth, leading to a reduction in both

domestic consumption and imports. Second, the Chinese government has responded to this problem by ramping up subsidies and bank loans to firms to keep them afloat, resulting in an increase in their production capacity, an increase in the country's trade surplus, and deflation. Third, because the authorities intervene in the currency market to prevent a meaningful appreciation of the renminbi that would have been warranted by the increased trade surplus and deflation, the Chinese real exchange rate becomes more undervalued, leading to a further increase in its trade and current account surpluses. This hypothesis stresses an interplay among the housing market and various policies and its effect on the trade surplus and other outcome variables.

To assess the validity and economic significance of this hypothesis, we start by observing that the first part of the hypothesis aligns well with the data. However, as discussed in Section 2 above, there has been no sharp surge in either the trade surplus or the current account surplus as a share of China's GDP since 2021. More precisely, if we only look at the goods trade balance as reported by China Customs, there appears to be a noticeable uptick since 2018. While it has not reached the previous peak in 2007, one cannot reject the null hypothesis of an upward trend. Because China runs a persistent service trade deficit, and because the Customs data may exaggerate the magnitude of the goods trade surplus, the combined goods and service trade balance as a share of GDP, as reported in the Chinese balance-of-payments data, has not exhibited a strong surge in recent years, and is much lower than the previous peak. Even with slack in the economy, the general equilibrium effect of the subsidies on the trade surplus still differs sharply from the partial equilibrium intuition. The rise in China's share in the imports of Europe or other trading partners is mostly driven by relatively faster growth in China than in the partner countries.

Many of China's subsidy programmes have likely generated distortions. Wei et al. (2023) is one of the papers that quantify these distortions. China can also benefit from a more market-determined exchange rate. Furthermore, China needs more expansionary monetary and fiscal policies to both move the economy away from a deflationary trap and raise its imports as a share of GDP in the short run. Nonetheless, the data do not appear to support the interplay hypothesis as stated above.

## **6 HOW CAN CHINA'S REDUCE ITS CURRENT ACCOUNT SURPLUSES?**

The economics literature has pointed to many reasons why people tend to under-save, including due to a hyperbolic utility function. Many behavioural interventions in the literature are designed to raise people's savings rate. Therefore, there is a presumption that most households in most countries probably save less than what is socially optimal. For this reason, one cannot conclude that the Chinese savings rate is inefficiently high just because it is higher than in other countries.

Nonetheless, the additional household saving (and the resulting extra current account surplus) due to a skewed sex ratio is socially inefficient (Wei and Zhang, 2011). However, policies aiming at subsidising consumption or promoting imports do not address the root cause of the competitive savings motive. Raising the social and economic status of women and correcting the sex ratio imbalance at birth are the necessary policy remedies in the long run.

A part of the extra corporate sector savings is a second-best response to the difficulty of access to finance for high-productivity, non-state-owned firms. Financial sector reforms that improve the allocation of capital towards high-productivity firms could reduce the excessive corporate sector savings. A subsidy for consumption and an artificial revaluation of the Chinese exchange rate would not address the root cause of this part of the extra savings.

Raising the level of generosity of the social safety net would seem to be one way to reduce the precautionary savings of households. However, since China's public expenditure on its social safety net as a share of GDP is roughly comparable to that of other countries with a similar level of income, it is not obvious that there is tremendous room to raise expenditure further. Importantly, generous social safety programmes such as those in Western Europe are a possible reason behind stagnant economic growth rates and high natural rates of unemployment in many European countries. One needs to be vigilant to the risk of using a cure to reduce the savings rate that could create a more serious problem in the long run.

While many of the industrial and trade policies may be distortionary and a factor behind sector-level trade imbalances, they are unlikely to be quantitatively important for economy-wide trade or current account surpluses.

Weak aggregate demand due to deflation and a soft housing market is an important cyclical factor that puts downward pressure on Chinese consumption and imports. Therefore, a more aggressive package of monetary and fiscal stimulus that aims at resolving deflation and the housing market problem would help with boosting domestic demand in the short run. In the long run, the country needs policy reforms that address the structural factors behind the excessive savings problem. These would include reforms that aim at eliminating a skewed sex ratio at birth and improving financial access for non-state-owned firms with a high growth potential. While such reforms may not lead to an immediate reduction in the national savings rate and current account surplus, they are needed now so we will not have to deal with the same excessive savings problem a decade from now.

## 7 CONCLUSION

This chapter examines the determinants of, and measurement issues surrounding, China's current account surplus. It shows that many popular conclusions on the causes of the country's large trade and current account surpluses may need significant qualifications. These qualifications would help to revise our views of what policy reforms are effective or ineffective at reducing the surpluses.

Over-reported exports due to an elevated desire by exporting firms to over-claim VAT rebates in recent years, and under-reported imports due to an elevated desire by importing firms to evade import tariffs that have been raised to retaliate against Trump's tariffs, suggest an increase in the upward bias in the goods trade surplus as recorded by China Customs. We find that correcting these mismeasurements can greatly shrink the gap between the Customs-recorded and SAFE-recorded goods trade surplus. The small remaining gap may be accounted for by the differences in the accounting approaches between China Customs and SAFE in dealing with bonded zones and processing trade. In sum, we cannot reject the null that the SAFE-reported goods trade surpluses are compatible with the Customs-reported numbers after suitable adjustments to the latter.

China's reported net investment incomes in recent years are low relative to the experiences of other countries. Whether such incomes are understated or not depends critically on the returns on "other assets", including Belt and Road projects. For example, if many such projects have experienced large negative returns such that the overall returns on "other assets" are -3% per annum, then the overall net investment income in the balance-of-payments data could be rationalised. One needs additional disaggregated data from the authorities to fully resolve the question on net investment incomes.

We also show that industrial policies, including sector-level subsidies, and trade policies, such as import barriers, have significant effects at the sector level but likely play a limited role in shaping the economy-wide current account imbalance. Consistent with the Lerner symmetry theorem, subsidies tend to boost both exports and imports, which may help explain why Chinese import-to-GDP ratios are higher than those of the United States. The existence of slack in the labour market in recent years may weaken the Lerner symmetry theorem force somewhat, but the fundamental insight is still there: the general equilibrium effect of a given industrial or trade policy on the trade or current account surplus can be very different from the partial equilibrium intuition. Import barriers, by the logic and evidence presented in Ju et al. (2021), may have reduced rather than enlarged China's trade surplus.

Structural factors, most notably a worsening sex ratio imbalance in the last two decades and financial underdevelopment, are some key drivers of China's excess household and corporate savings that produce a current account surplus. The rise in the sex ratio explains roughly half of the increase in household savings, while constraints on non-state-owned firms' access to finance, combined with productivity growth, have contributed to higher corporate savings rates.

These findings carry important implications for policy discussions. Efforts to address China's current account surplus need to take structural determinants seriously, rather than focusing solely on trade or industrial policies. While short-run macroeconomic stimulus aiming at addressing housing market weakness and deflation can help boost consumption and reduce the trade surplus in the short run, policy reforms aiming at addressing structural factors underlying excess household and corporate savings are needed as part of a sustained long-term solution.

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# Global imbalances, industrial policies, and the challenge of surging Chinese trade surpluses

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## 1 INTRODUCTION

The analysis of global imbalances faces a paradox: while the analytical focus has for decades been on the sustainability of current account deficits, out of concerns about their financial consequences, international political tensions stem mainly from enduring trade surpluses and their industrial impacts. Beyond President Trump's outbursts, fears about the consequences of China's trade surpluses are increasingly widespread. They give rise to concerns related to deindustrialisation and its consequences in the European Union, leading for instance President von der Leyen to declare that, "[a]s we said to the Chinese leadership, for trade to remain mutually beneficial, it must become more balanced".<sup>2</sup> And they lead an increasing number of emerging countries to apply trade remedies protecting their own industry against Chinese exports.<sup>3</sup> Analytically, Autor et al. (2013; 2016; 2024) have convincingly illustrated both the importance of the social and local impacts of China's competition as well as their political consequences – they are now emphasising the risk of a 'China shock 2.0' (Autor and Hanson, 2025). Meanwhile, the use of industrial policies is spreading, and they are becoming an important issue for international coordination (e.g., Evenett et al., 2024).

Given that the analytical literature on global imbalances through the lens of current accounts is sound and rich, how should this apparent mismatch be interpreted? In addressing this question, this chapter reconsiders the merits of a complementary focus on trade surpluses (as opposed to the traditional focus on current deficits). From an

1 I am grateful to Jean Pisani-Ferry, H el ene Rey, Beatrice Weder di Mauro and Jeromin Zettelmeyer, as well as other participants in this project, for helpful comments on previous versions.

2 Statement following the EU-China Summit in Beijing in July 2025 ([www.eeas.europa.eu/delegations/china/statement-president-von-der-leyen-joint-press-conference-president-ant%C3%B3nio-costa-following-eu-china\\_en](http://www.eeas.europa.eu/delegations/china/statement-president-von-der-leyen-joint-press-conference-president-ant%C3%B3nio-costa-following-eu-china_en)).

3 Fifty-two of the world's 70 largest economies (including the EU27) in 2025 launched new trade defence measures and investigations against imports from China (Gunter and Soong, 2026). According to an analysis by China's Ministry of Commerce of data collected by the WTO's Trade Remedy Information Center, the number of emerging economies applying trade remedies against China was 91 as of October 27 2024, up 82% from the 2023 number of 50 (reported by [www.chinatradedemonitor.com](http://www.chinatradedemonitor.com)).

analytical point of view, does it make sense to focus on this specific sub-dimension of the balance of payments? On practical grounds, does it lead to a meaningfully different picture? To what extent are outcomes in this area related to industrial policy practices? Does it matter for international coordination purposes?

To address these questions, this chapter first recalls the standard focus in the analysis of global imbalances, where the current account takes centre stage. It then reconsiders the reasons why trade surpluses may be a legitimate concern in their own right, arguing that they need not be innocuous, temporary, or the natural outcome of market mechanisms, as is often assumed. The geopolitical sensitivity of the issue is also emphasised.

Turning to the empirical evidence, I document a global landscape of trade imbalances increasingly dominated by China's surplus, especially in manufactured goods, and examine how it relates to deliberate policy choices — both in macroeconomic management and in exchange rate policy.

Another issue is the role of industrial policies. While they could contribute to the overall size of the trade surplus to the extent that they favour tradable goods (manufactured ones in particular) with respect to nontradables, the main concern is about their sectoral impacts for partners. To address this, I analyse empirically China's net exports by product, through both graphical and econometric methods, and find that they are significantly and substantially boosted by domestic subsidies. The analysis of prices is consistent with these findings. As such, these policies de facto make trading partners the adjustment variables of China's policy priorities — exactly what international coordination (and, for that matter, the WTO Agreement on Subsidies and Countervailing Measures) is supposed to prevent.

In focusing on trade imbalances and the challenge they represent for international coordination, this analysis does not warrant, even less argue for, a confrontational approach to dealing with these imbalances. On the contrary, it is rooted in the belief that a shared understanding of the causes and consequences of imbalances is a prerequisite for any successful coordination.

## **2 FROM FINANCIAL DEFICITS TO REAL SURPLUSES: SHIFTING THE FOCUS OF GLOBAL IMBALANCES ANALYSIS TO FIT POLITICAL CONCERNS**

Global imbalances are inevitable, and they reflect in large part healthy intertemporal and cross-country trade-offs ensuing from differences in consumption, savings, and investment behaviours. They may turn into a serious concern when the financing of current account deficits risks becoming problematic. This has occasionally been the case for various emerging and developing countries, and for the euro area during its recent sovereign debt crisis. At the global level, however, the US deficit has long been the central concern, because it raised questions about its long-term sustainability and the adjustments it may trigger, or, in the words of Obstfeld and Rogoff (2005), about “unbalanced financial positions that leave the world economy vulnerable to financial

meltdown in the face of sharp exchange rate swings” (p. 72). A few years later, Blanchard and Milesi-Ferretti (2012) also pointed out that “large current account deficits—particularly in countries that are large and/or with extensive cross-border financial links—increase systemic risk” (p. 7).

Underlying this is the concern that, as Herbert Stein famously emphasised, “[i]f something cannot go on forever, it will stop”, meaning, in the present case, that if the financing of such deficits is not sustainable, it will at some point trigger adjustments, which may be destabilising due to their magnitude and potential suddenness. Obstfeld and Rogoff’s (2005) assessment of the order of magnitude (a 33% depreciation of the dollar in real effective terms) has been abundantly debated, with for instance Dekle et al. (2007) arguing, based on micro-founded gravity model estimates, that a “10 percent decline in the value of the US dollar relative to the currencies of the big surplus countries” would be enough.

Corsetti et al. (2013) show that the endogeneity of the number of varieties produced is key to assessing the magnitude of an adjustment: in a fixed-variety framework, large price movements may be required, because the adjustment only happens along the intensive margin; but the modern trade literature has amply shown that varieties are endogenous, and that the extensive margin may play an important role as well. Accordingly, the price adjustment required for a given rebalancing may be reduced by a factor of between two and four when endogeneity of the varieties is factored in.

As Corsetti et al. (2013) point out, these debates are reminiscent of the Keynes–Ohlin controversy over the transfer problem. The question has shifted from German reparations to US current account rebalancing, but both ultimately concern the same underlying problem: how to assess the economic consequences of large international financial transfers.

These and related works are thus centred around the sustainability of current account deficits, and in particular of the US deficit, with two important consequences. One is that the problem is primarily financial in nature, rather than real; the other is that it is fundamentally a macroeconomic problem, since a country’s current account balance by definition equals its net savings. In this context, trade surpluses are not that relevant in and of themselves. As a matter of fact, they could even be interpreted (at least in a static framework) as negative transfers, to the extent that a country’s resident does not make immediate full use of their purchasing power. When they are not accompanied by sizeable current account deficits, trade deficits are also less prone to unexpected damages or ‘accidents’, such as sudden stops.

The trade dimension is not altogether absent in this literature and the accompanying debates. For instance, Blanchard and Milesi-Ferretti (2012) mention that “[w]orries about unfair competitive advantage may justify restrictions on undervaluation and current account surpluses, but implementation is likely to be difficult” (p. 11). But unfair

competition and undervaluation of a currency are difficult to define and even more so to constrain, not to speak about the “export-led strategies” also questioned by Blanchard and Milesi-Ferretti (2012). As a result, as is apparent in this quote, the trade dimension remains secondary.

In sum, from an analytical point of view, the now-traditional focus on financial deficits makes full sense. Why, then, does it sound so disconnected from the political context, as emphasised above? Addressing this question warrants a fresh look at global imbalances, through the lens of trade surpluses, their determinants, and their consequences.

### 3 INNOCUOUS, TEMPORARY, NATURAL? WHY LARGE TRADE SURPLUSES MAY BE A CONCERN AFTER ALL

The deeper reason for the secondary importance of trade surpluses in the analytical literature on global imbalances is probably that, from the point of view of standard economic theory, it does not need to be an issue of concern: they can be considered as *innocuous*, *temporary*, and *natural*.

They could be considered *innocuous* because, according to trade theories, at least in a static framework, a trade surplus can be thought of as a transfer of purchasing power to the partner country (and subsidised exports as subsidies to foreign consumers). Worse, a logical conclusion of Keynes' (1929) argument in the ‘transfer problem’ controversy is that this transfer is compounded by a terms-of-trade deterioration. In Keynes' words, “there are two problems, and not – as those maintain who belittle the difficulties of transfer – one problem” (p. 4). In other words, a necessary condition to be able to sustain a trade surplus is to compress domestic prices, and this deteriorates terms of trade, impacting negatively the purchasing power of residents and positively the purchasing power of non-residents. Hence, partners' trade surpluses should not be a subject of concern at all; they should be considered innocuous, if not beneficial.

They could be considered *temporary* because significant surpluses may unleash adjustment mechanisms, in particular through a real exchange appreciation. In addition, if a trade surplus is costly for the countries practicing them, as mentioned above, then there is no reason to expect it to be pursued in the long term; it should be a self-defeating strategy.

Finally, they could be considered *natural* because they can simply reflect market mechanisms. Cyclically, this is the case when lagging demand in a downturn compresses imports, without much impact on exports (and possibly even boosting them through ‘venting out’ mechanisms; e.g. Almunia et al., 2021, or Al-Haschimi et al., 2025). More structurally, when a country's comparative advantages lie in products as opposed to services, its merchandise trade surplus may be more or less the counterpart of its deficit in services trade.

To understand the political tensions surrounding trade surpluses, each of these arguments needs to be reconsidered – and the scope of the analysis needs to be broadened beyond standard economic analysis, to account for the geopolitical dimension of trade.

### 3.1 Are trade surpluses innocuous and temporary?

A straightforward reason why trade surpluses may be considered harmful is that partner countries may view them as a beggar-thy-neighbour strategy to deal with insufficient demand. And this is not necessarily a short-term concern only.

Beyond this macroeconomic argument, though, the conclusion that trade surpluses are bound to be detrimental may be overturned in a dynamic perspective. Indeed, a trade surplus may spur entry of new producers and growth of existing ones, creating a favourable industrial ecosystem. Epifani and Gancia (2017) make this argument theoretically, in a context of imperfect competition with intermediate goods. They show that as a result of the expansion in the tradable sector, “a trade surplus may lead to an appreciation of the exchange rate, to a terms-of-trade improvement and even to a welfare increase” (p. 99). More generally, similar conclusions are likely as soon as a sector is subject to Marshallian externalities, which refer to pecuniary and non-pecuniary benefits a sector draw from the size of its local activity. And they are often significant. For instance, Gerarden et al. (2025) point out the case of the solar industry, where “technological progress (...) has taken the form of incremental cost reductions through incremental improvements in energy conversion efficiency, materials, and manufacturing process improvements” (p. 3), stressing the key importance, in such a context, of Marshallian externalities.

More generally, analysing modern technological and industrial competition requires taking into account external economies of scale, as exemplified by recent studies such as Kucheryavyy et al. (2023), Bartelme et al. (2025a; 2025b) or Cuñat and Zymek (2025). As a matter of fact, when reviewing how industrial policies contributed to the ‘Asian miracle’, Cherif and Hasanov (2025) point to “exports, exports, exports” as one of the three main ingredients. There is nothing automatic in such gains; their realisation requires carefully crafted, coherent economic policies. Still, several Asian countries, not least China, have shown that it is possible to draw ample benefits from exports surpluses (and therefore size), in terms of productivity and competitiveness. There is nothing wrong with such successful policies – on the contrary. However, it logically raises questions for partner countries, which may fear suffering from the opposite effects from being on the wrong side of Marshallian externalities – in this case, that trade deficits may weaken the industrial sectors concerned.

Such arguments may turn upside down Keynes’ argument about the transfer problem, whereby he was arguing that the cost of transfer itself was compounded by a second ‘problem’, namely, a deterioration of terms of trade. In the present case, the trade surplus does transfer purchasing power abroad, which is a loss (at least in consumption,

which is not necessarily to government's main objective), but it also allows gains through improved productivity and competitiveness. Conversely, the 'recipient' of this transfer – here the partner, deficit country – risks suffering from a welfare loss resulting from decreased productivity.

This is not to suggest that trade surpluses are necessarily beneficial; they are not, and successfully including them in a consistent policy package is very challenging. The point is only that they can be beneficial – and that they can be detrimental to partners.

Once trade surpluses are no longer seen as necessarily harmful to the country running them, there is no reason to assume they will not be pursued on a permanent basis. The remaining safeguard – that adjustment mechanisms will eventually kick in – runs into an obvious objection: they may simply be blocked before they can operate. This can be the case when a country manages its exchange rate, in a context where domestic prices remain under control. Of course, as soon as these trade surpluses are not balanced by other items in the current account, such as trade in services and investment income, doing so requires accumulating foreign assets. In the present context of financial globalisation, though, such accumulation is possible, even at a very large scale, meaning that such a blockage may be sustainable for a long time.

### **3.2 Are trade surpluses the 'normal' outcome of market mechanisms?**

While market mechanisms may indeed give rise to trade surpluses, the latter may also be the result of deliberate policies. Irrespective of their merits from a national point of view, such policies become a cause of concern for international coordination as soon as they are seen as prejudicial to partner countries.

Domestic policies may influence trade surpluses in two ways: their overall magnitude, and their distribution across sectors. Since the trade balance is part of the current account balance, policies impacting the latter are also likely to affect the former. Accordingly, any policy significantly influencing the balance between savings and investment, between demand and supply, or between tradables and non-tradables may be relevant in this context – as is the case with discussions about current account imbalances more in general. The problem, in practice, is that establishing intent and causality is all but straightforward. As Blanchard and Milesi-Ferretti (2012) put it, “the practical issue is that, while an export-led growth strategy is likely to show up in a large current account surplus, a current account surplus is no proof of a deliberate export-led growth strategy. Proving intent—namely, that surpluses reflect a deliberate strategy designed to gain competitive advantage—is likely to be difficult. Ignoring intent may be politically unacceptable.”

The second channel is more specific to trade imbalances: it refers to domestic policies which may influence the distribution of trade imbalances across sectors. The concern, here, is that countries do not want to bear the brunt of their partners' priorities. This is the whole logic of the WTO Subsidies and Countervailing Measures (SCM) agreement, which states that “[n]o Member should cause, through the use of any subsidy (...), adverse effects to the interests of other Members, [including] injury to the domestic industry of another Member” (Article 5).

For trading partners, surpluses thus become especially contentious – and a genuine source of dispute – when they can be credibly attributed, in their magnitude or in their distribution, to deliberate policy choices that generate adverse spillover effects.

### 3.3 Beyond standard economic theory: Geopolitical sensitivity

Making sense of the political concerns surrounding trade surpluses also requires taking into account their geopolitical dimension, especially in the present context of international tensions. Trade deficits are generally associated with lower domestic manufacturing output, as shown for instance by Dekle et al. (2007) and Epifani and Gancia (2017), and the manufacturing sector is important in several respects from a geopolitical point of view. Many of its products are of high value (for consumers as well as producers and states) with poor substitutes, and it frequently concentrates a large proportion of private R&D, hence significantly influencing world innovation and output.

As emphasised by Clayton et al. (2023), this makes many manufacturing sectors good candidates to be strategic, in what they define as both a micro sense (“supply inputs that are widely used, with high value added for targets, and with poor substitutes”) and a macro sense (“have a high influence on world output due to endogenous amplification”). This does not mean that manufacturing sectors are the only strategic ones, nor even that they would be the only relevant ones from a technological point of view – far from it. Still, many manufacturing sectors are seen by policymakers as strategically important and have played a central role in the rise of industrial policies observed over recent years (Juhász et al., 2024; 2025). Manufacturing exports also accounted for 71% of world merchandise trade in 2024, making them in any case a central trade concern.<sup>4</sup>

From this geopolitical and technological point of view, trade imbalances can easily be seen as sector-level indicators of competitive strength. In sectors which are considered of strategic interest, this may raise concerns over any situation considered excessively imbalanced. This is especially the case as soon as the outcome can be interpreted, at least for some products, as a dominant position which could be used for political leverage.

4 Source: World Bank and WTO.

#### 4 THE GLOBAL TRADE IMBALANCES LANDSCAPE IS MARKED BY CHINA'S SURGING SURPLUSES

Even if concerns about trade imbalances are legitimate in principle, emphasising their specificity with regard to current account imbalances might seem over the top. Merchandises accounted for 74% of world trade in 2024, and income revenues are in most cases of a lower order of magnitude. Aren't current account and trade imbalances closely related? The answer is yes, to a large extent, in most cases. But not in the Chinese case, which is central to the questions at stake here. For the rolling year up to the third quarter of 2025 – the latest one for which statistics are published at the time of writing – China's current account surplus was \$657 billion, with a surplus of trade in goods worth \$976 billion according to balance-of-payments data (from the State Administration of Foreign Exchange, or SAFE), and \$1143 billion according to customs data.

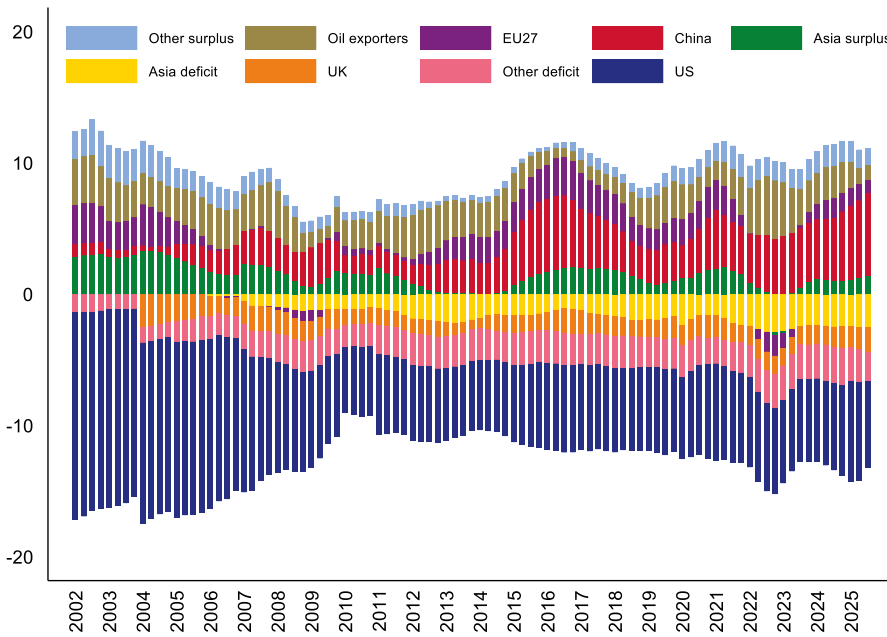
This very large gap (which has been even larger in recent years) between the trade balance as reflected in customs statistics and the current account as measured in balance-of-payments statistics is linked to three main factors. One is the large deficit in trade in services (\$203 billion for the year to 2025Q3), entirely attributable to the deficit in tourism ("travel services" in the balance of payments, with a deficit worth \$204 billion). Another is that China's balance-of-payments statistics exhibit a significant negative investment income (\$154 billion for the year to 2025Q3), in spite of its very large positive net international investment position. The third factor is that trade in goods statistics in the balance of payments rely on the change of legal ownership between residents and non-residents, while customs statistics rely on physical transfers across borders.

Each of these factors has been debated over recent years (e.g., Setser, 2016, 2024, 2025; Wong, 2017; IMF, 2025), and measurement issues are discussed in this report by Ma and Wei, who point out possible reasons for differences and the difficulty in assessing the relative merits of different concepts and methods.

The purpose of this chapter is not to make a judgement about these issues. However, I argue that trade imbalances deserve specific attention in their own right, in relation to their consequences for production. A logical consequence is to focus on statistics related to trade in goods, and on concepts related to physical location of production, rather than legal ownership. Accordingly, this chapter focuses on customs statistics in what follows.

The global distribution of trade imbalances based on customs statistics is dominated by one large deficit – the US one (-7.5% of world trade in the year to the second quarter of 2025) – and one surplus – the Chinese one (+5.9%, up from 2.9% in 2019; Figure 1). China is not the country exhibiting the largest trade surplus as a share of GDP, but in absolute terms its trade surpluses is overwhelming (and as illustrated in Figure 2, relying on SAFE statistics for trade in goods does not alter qualitatively this picture).

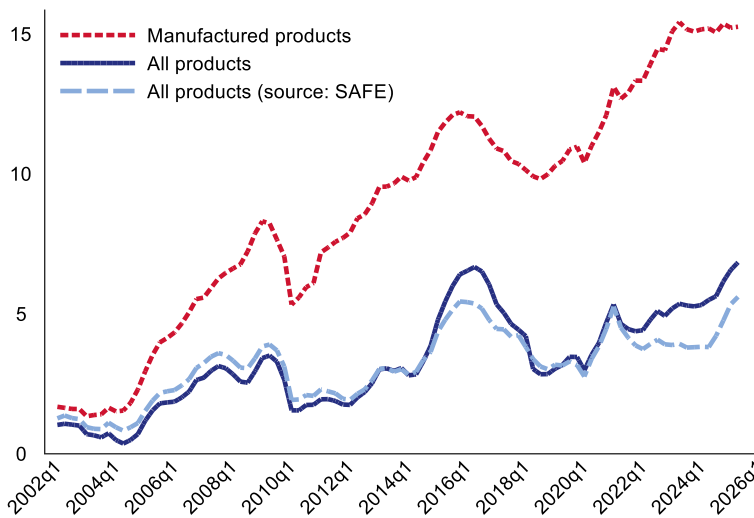
**FIGURE 1 THE DISTRIBUTION OF TRADE IMBALANCES (% OF WORLD IMPORTS, EXCLUDING INTRA-EU TRADE, BY ROLLING YEAR)**



Note: Rolling four-quarter sum. Scope: all merchandises.

Source: Author's calculations based on customs statistics, as collected by Global Trade Tracker.

**FIGURE 2 CHINA'S TRADE SURPLUS AS A SHARE OF REST OF WORLD IMPORTS (% , BY ROLLING YEAR, EXCLUDING INTRA-EU TRADE)**



Note: Rolling four-quarter sum. Manufactured products are defined as those belonging to Harmonized System's sections 6 to 20, excluding Section 19 ("Arms and ammunitions", for which the data lack reliability) and Section 14 ("Natural or Cultured Pearls, Precious or Semi-Precious Stones, Precious Metals, Metals clad with Precious Metal, and articles thereof; Imitation Jewellery; Coin", which is strongly dominated by gold and jewellery in China's trade). SAFE does not provide statistics detailed by product category. The last observation is for 2025Q2, the latest quarter for which statistics are available for most countries.

Source: Author's calculations based on customs statistics, as collected by Global Trade Tracker; except for the series "All products (source: SAFE)", which follows the balance of payment concepts and is sourced from the State Administration of Foreign Exchange (SAFE).

In the manufacturing sector, China's surplus is even more striking: measured as a share of rest-of-the-world imports (excluding intra-EU imports), it reached 15.3% in the year to the second quarter of 2025, compared to 6.8% for all products (Figure 2). The recent increase is especially striking: before COVID (and, perhaps more importantly, the concomitant bursting of the property bubble in China), in 2019, the surplus was 'only' 11.0% of rest-of-the-world imports for manufactured products, and 3.5% for all products.<sup>5</sup> For the world market of manufactured products, this surge has been a major shock.

There are also good reasons to question the consequences of this situation in terms of political leverage. Defining a product-level dominant position as a share of more than 50% of worldwide exports, Jean et al. (2023) show that China already held a dominant position in almost 600 products out of some 5,000 in 2019. This is at least six times greater than the equivalent number for the United States, Japan, or any other country, and twice the number for the European Union considered as a whole. This large number of dominant positions held by China is atypical by historical standards, at least since the 1970s, even when China's global market share is accounted for. China's position in clean technologies is also overwhelming: according to the International Energy Agency (IEA), the country had the largest manufacturing capacities in the world in each of the 18 technological segments, holding more than 80% of world capacities in all solar PVs and batteries' subsegments (IEA, 2024, p. 46). Hence the agency's conclusion that "manufacturing capacity for clean technologies and materials today is highly concentrated geographically, with China the largest single producer in all cases".

As is widely documented, the most striking dominant position held by China is now in the refining of critical minerals, in particular of rare earth elements and their applications to magnet manufacturing (e.g., Kim et al., 2025), and it has been repeatedly subject to politically motivated export controls, in particular since 2023. No wonder this situation is increasingly seen as problematic by its partners.

## 5 CHINA'S POLICIES AND TRADE SURPLUSES

As emphasised above, attributing trade surpluses to deliberate policy choices — whether in their magnitude or geographical distribution — matters greatly for international coordination. Without prejudging the long-term structural factors discussed in this volume in the chapters by Ma and Wei and by Huang, the more specific question here is how far policy choices have driven and shaped the surge in China's surplus since 2019.

5 It is noteworthy that the surplus already surged massively, by more than 4 percentage points of rest-of-the-world imports of manufactured products, between early 2012 and end-2015. This increase (even more striking for all products) was mainly due to a pronounced slowdown of imports, itself partly related to weakened investment (Kang and Liao, 2016), as well as significant price effects (against a backdrop of collapse in oil prices), and it was half-reversed during the 15 months that followed.

### 5.1 China's macroeconomic policies since 2019: The pro-supply side bias

The COVID-19 pandemic hit a Chinese economy that was already facing serious challenges, with an outlook summarised in the IMF's Article IV consultation in 2019 as "slower growth, rising debt, higher uncertainty" (IMF, 2019, p. 17) and ongoing financial regulatory strengthening. While rebalancing had been discussed at least since 2006, when "shifting the composition of growth away from exports and investment towards increased consumption" was described to the IMF as "a key element of the government's overall strategy to rebalance growth" (IMF, 2006, p. 5; see also Blanchard and Giavazzi, 2006), imbalances remained obvious in 2019, still characterised *inter alia* by exceptionally high savings and low consumption.

Responses to the pandemic, in a context also marked by a severe adjustment in the housing market, only made these imbalances worse. Government support to the economy has focused on the supply side, while consumer confidence was plummeting (partly in response to strict and prolonged lockdown policies). Indeed, like all economies with the capacity to do so, China supported its economy massively in response to the acute crisis ensuing from extended lockdowns, even though, by advanced economy standards, its fiscal expenditures remained rather limited and short-lived.<sup>6</sup> This support included increased disbursement and coverage of unemployment insurance as well as personal income tax cuts. However, given the limited coverage of the social safety net and the lack of additional income support for vulnerable households, public support was, in fact, overwhelmingly directed toward the supply side, through a combination of tax and financial relief, liquidity provisions, and waived social contributions. No global assessment of the supply-demand balance is available, to my knowledge, but the repetition of recommendations in IMF's Article IV annual consultations is telling in itself: "Shortcomings in the social protection system have added to widening income inequality and the halting recovery of household demand (...), [t]he investment-driven recovery has reversed earlier, hard-won progress in rebalancing" (2021 consultation, IMF, 2022, p. 12); "it will take the systematic strengthening of the social protection system to sustain high-quality growth" (2022 consultation, IMF, 2023, p. 21); "[The Directors] recommended a budget neutral reorientation of expenditures toward households to support consumption" (2023 consultation, IMF, 2024, p. 3); "The aggregate household saving ratio remains high as upgrades to the social safety net have been modest, and leverage is still increasing in many sectors amid the authorities' continued focus on supply-side policies" (2024 consultation, IMF, 2024b, p. 10); "Transitioning to a consumption-led growth model should be the overarching priority (...). The composition of spending should shift towards greater support for consumption and the property sector and away from inefficient investment" (2025 Consultation, IMF, 2026, p. 3).

6 By the IMF's reckoning, China's additional spending and forgone revenue in 2020-2021 was approximately 5%, compared to an average of more than 10% for the G20 (IMF, 2021, p. 10).

The bottom line is that the share of final consumption in GDP fell from 56.5% in 2019 to 54.4% in 2022, before bouncing back to 56.6% in 2024. Of course, this is significantly above the all-time low of 2010 (49.4%), as emphasised by Huang in this volume. However, it remains very close to the 2005 level (54.8%), when the rebalancing debate began in earnest, and it cannot be considered a short-term upward trend.<sup>7</sup>

A last, and central, dimension of this political choice is China's exchange rate policy. The renminbi has substantially depreciated over recent years, in a context where its exchange rate is managed by the People's Bank of China (PBOC), resulting in a level that many characterise as a substantial undervaluation (e.g., Brooks, 2025). By January 2026, China's real effective exchange rate had depreciated by 10% since January 2020 and by 16% since March 2022.<sup>8</sup> Given the already mentioned surplus, this outcome suggests that the exchange rate management carried out by the PBOC is not only about short-term stabilisation; instead, market adjustment mechanisms seem to be blocked for all practical purposes.

## 5.2 The pro-manufacturing bias

As regards the manufacturing sector more specifically, several studies suggest that China largely outweighs other countries in terms of industrial policy expenditures (DiPippo et al., 2022; OECD, 2023; Garcia-Macia et al., 2025). And these policies might even have intensified in the response to the pandemic. Beyond the general pro-supply side bias, the manufacturing sector seems to have specifically benefited from targeted support measures. Quasi-fiscal operations such as temporarily reducing electricity tariffs or waiving port fees are examples (IMF, 2021, p. 10). But the central dimension of this specific pro-manufacturing bias is probably financing, in a country where the banking sector is dominated by state-owned enterprises (SOEs), and where credit is known to be strongly influenced – in both prices and quantities – by political objectives and affiliations.<sup>9</sup> In the past, housing and infrastructure investment have been favourite recipients of policy-led credit expansions designed to sustain growth. But both were largely incapacitated in recent years, due to the unfolding correction on the housing market and to the already sky-high level reached by Chinese infrastructure investments. The result has been an extraordinary growth of lending to the manufacturing sector, constantly exceeding 30% year-on-year from the autumn of 2020 until the end of 2023.<sup>10</sup>

7 Source: World Bank. Meanwhile, the gross national savings rate, already as high as 43.3% of GDP in 2019, increased to 44.8% in 2022, and fell back to 42.9% in 2024.

8 Source: Bank for International Settlements, Real effective exchange rate (Broad basket), accessed 9 January 2026.

9 This bias is, for instance, directly illustrated in Harrison et al. (2019) for state-owned enterprises, and by Garcia-Macia et al. (2025) for the manufacturing sector. See also, for instance, Song et al. (2011) or Hachem (2018).

10 Source: People's Bank of China. See, for instance, Monetary Policy Analysis Group of the People's Bank of China (2024), and previous quarterly reports, as well as Durfee et al. (2023). As emphasised by the latter, the headline growth rate for financing into manufacturing has often been lower, due to the slowdown of financing through bonds, but it remained very high (the figure of 18% is cited for the third quarter of 2023).

These outcomes were to be expected. They logically stem from the 14th Five-Year Plan, published in 2021, which explicitly sets the objective to “maintain the basic stability of the proportion of the economy taken up by the manufacturing industry, enhance the competitive advantage of the manufacturing industry”,<sup>11</sup> in contrast to the calls in the two previous plans for rebalancing in favour of services. Given that deindustrialisation is a logical consequence of structural change beyond intermediate wealth level, reaching this target warranted special efforts.

The political priority given to the manufacturing sector is also visible in the preferences openly expressed by China’s leader. Xi Jinping underlined the necessity to grasp key and core technologies “in [China’s] own hands”, for the country to guarantee economic security, in an explicit focus on technological self-reliance;<sup>12</sup> he emphasised that “high-quality development” required “continu[ing] to focus on the real economy” and “boost[ing] China’s strength in manufacturing”.<sup>13</sup> More recently, his new political slogan has been even more explicit, with a call to mobilise “new quality productive forces”, while he made clear that “developing new productive forces does not mean neglecting or abandoning traditional industries”.<sup>14</sup> Meanwhile, Xi Jinping also made clear his reluctance to “provide excessive guarantees, in order not to fall into the trap of ‘welfarism’ that encourages laziness.”<sup>15</sup> Taken together, these declarations make clear that the manufacturing push evident from trade data and apparent from the supply-side bias in macroeconomic policies is a deliberate political choice.

## 6 LINKING TRADE SURPLUSES TO INDUSTRIAL POLICIES: AN EMPIRICAL ANALYSIS

Beyond intent, questions remain about the practical significance of these policy choices. It is difficult to answer these from a macroeconomic point of view, even though the discussion above suggests that internal imbalances, resulting at least partly from deliberate policy choices, contributed significantly to external imbalances.

### 6.1 Data and method

Having emphasised the peculiar importance of the manufacturing sector and of the sectoral distribution of trade surpluses, though, it is also worth evaluating empirically a more specific question: to what extent have industrial policies shaped these trade surpluses?

11 Article VIII of the plan; as translated by CSET (Xinhua News Agency, 2021, p. 19).

12 2018 speech at the Chinese Academy of Sciences and Chinese Academy of Engineering, as reported in *Qiushi Journal*, and translated in Meinhardt and Sebastian (2021, p. 2).

13 Report to the 20th National Congress of the Communist Party of China ([www.idcpc.org.cn](http://www.idcpc.org.cn)).

14 “Xi Wants ‘New Productive Forces’ to Fit Local Conditions”, Bloomberg News, March 5, 2024 ([www.bloomberg.com](http://www.bloomberg.com)).

15 Address about China’s commitment on common prosperity at the 10th meeting of the Central Committee for Financial and Economic Affairs, August 2021.

Doing so requires assessing the extent of industrial policies, a notoriously challenging task given the variety of forms, and even of definitions, that industrial policies might take. This is even truer in the case of China, which is known for its extensive, multifaceted, and frequently opaque interventions.

Still, the Global Trade Alert database is a valuable resource to monitor potentially trade-distortive measures on a country basis, identifying their nature and scope (Evenett and Fritz, 2025). Rotunno and Ruta (2024) use the database to analyse econometrically whether the existence of subsidies for a given product is related to contemporaneous exports and imports, which they find to be the case in general, and for China in particular. The relationship is found to be of a very small order of magnitude, in particular for China, where the existence of subsidies is associated with a 0.9% increase in exports and a 0.9% decline in imports.

These results are insightful, but the discussion above leads me to favour different choices in three respects: cross-country comparability, measurement of subsidies, and assumptions about impact over time.

Countries vary widely in the type of measures they apply, as well as in their modalities. As a result, a simple comparison of the number of measures is unlikely to provide a sound basis for comparison. For the European Union, for instance, free allowances of emission permits for firms subject to the Emission Trading System account for a large share of measures counted as subsidies, but they are hardly comparable in magnitude and impact to China's industrial policies mentioned above. Transparency may be an additional concern for that purpose, as Juhász et al. (2024, p. 10) point out: "Many forms of government intervention may violate countries' commitments to multilateral institutions such as the WTO or supranational institutions such as the EU. Consequently, policymakers may choose measures that evade detection more easily, making measurement even harder." Against this background, I do not consider that these data can be meaningfully used to compare the intensity of industrial policies across countries; my working assumption is that they should only be used for cross-product comparisons within a given country, in which case the biases should be less glaring.

Regarding the measurement of subsidies, the widespread use of industrial policies, especially in China's case, means that it is necessary to go beyond the mere distinction between the existence or not of subsidising measures. While the Global Trade Alert database does not provide information about the monetary value of subsidies, I use the number of announced domestic subsidy measures as an indicator of the intensity of industrial policy intervention, by tariff heading (4-digit level of the Harmonised System classification). To make it comparable across classification categories which may be of variable scope, I measure intensity of intervention as the number of interventions

divided by the value of world trade (measured in 2019).<sup>16</sup> This can be thought of as an index of ‘intervention per dollar’. As a benchmark, I focus on measures identified as ‘domestic subsidies’,<sup>17</sup> in order to avoid mixing together measures which are potentially very different.

The impact of subsidies on trade flows is not necessarily immediate, since they are likely to foster entry and production capacities, with lagged transmission over exports and imports. The following analysis thus relies on the premise that these impacts may be reflected in trade outcomes in the following years.

Accordingly, to give a first overview of the possible link, I categorise manufactured products into three groups (of equal size in world trade in 2019), depending on the intensity of intervention. Having emphasised the sudden increase in China’s net exports since COVID, I use this categorisation to analyse evolutions since then. The industrial policy measures accounted for are those announced in the three preceding years (from 2017 to 2019), and China’s net exports, measured as a percentage of rest-of-the-world imports (excluding intra-EU trade), are rebased to 2019q4 for each category.

## 6.2 Results for net exports

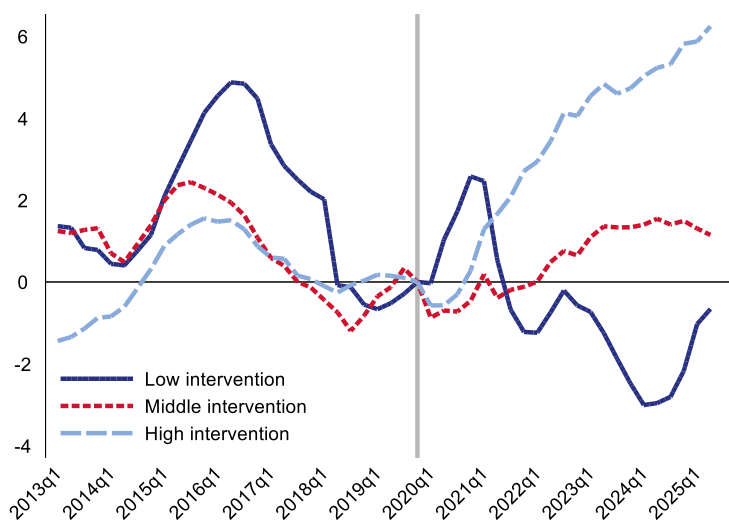
The results are striking (Figure 3). Applying this method to all products shows that the increase in China’s net exports is spectacular for products supported by a high level of intervention (an increase of 6.2 percentage points of rest-of-the-world imports), while it is limited to 1.1 percentage points for intermediate levels of intervention, and it is negative (-0.7 percentage points) for low-intervention products. The contrast is less pronounced, but of the same nature, when the analysis is restricted to manufactured products.

16 In the econometric analysis below, I take instead the average share of each HS4 category in world trade over the estimation period.

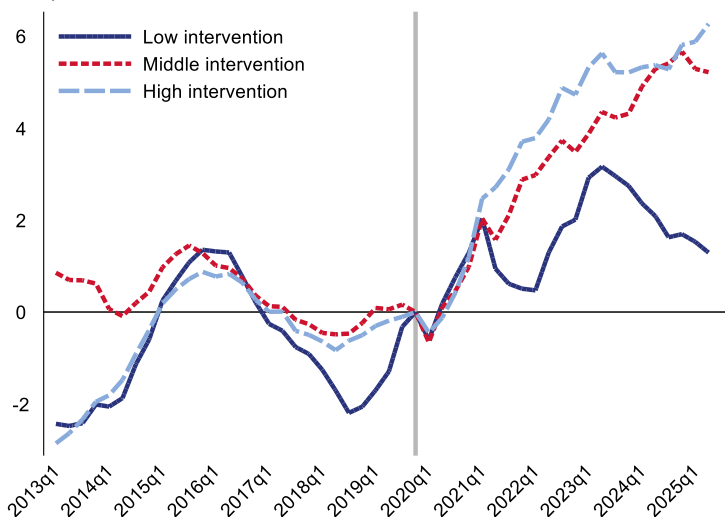
17 This category includes the following types of measures: capital injection and equity stakes (including bailouts), financial grant, in-kind grant, tax or social insurance relief, production subsidy, interest payment subsidy, loan guarantee, import incentive, price stabilization, state loan, state aid n.e.s., state aid unspecified.

**FIGURE 3 CHINA'S NET EXPORTS BY LEVEL OF POLICY INTERVENTION  
(AS A PERCENT OF REST-OF-THE-WORLD IMPORTS, REBASED 2019Q4=0)**

a) All products



b) Manufactured products



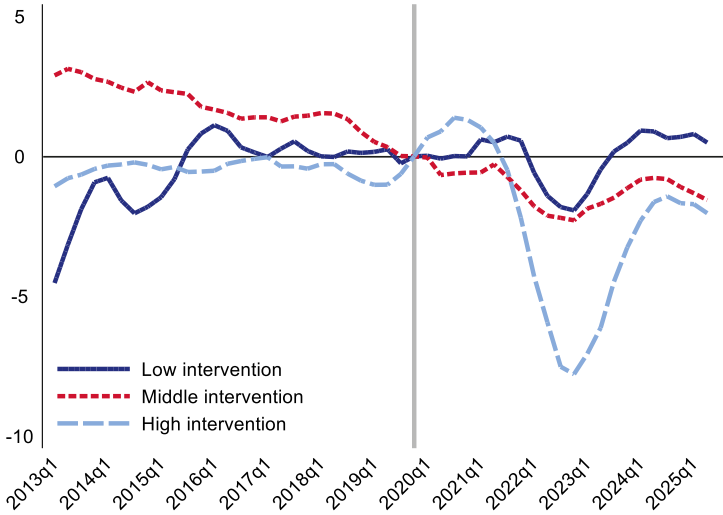
Note: Rolling four-quarter sum. Manufactured products defined as in Figure 2. The intensity of intervention is measured by HS4 tariff heading as the number of domestic subsidy policies measures, divided by the value of world imports.

Source: Author's calculations based on customs statistics, as collected by Global Trade Tracker, and of Global Trade Alert for industrial policy measures.

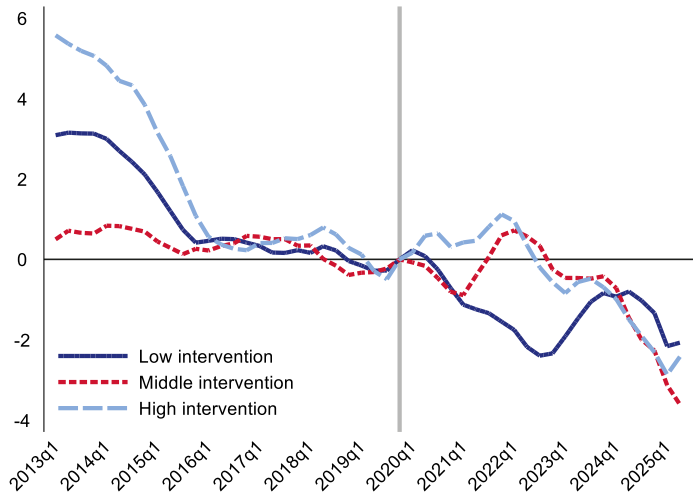
One might wonder whether such patterns are widespread and, to some extent, natural, since the objective of subsidies is precisely to boost the domestic sector. To address this question, I reproduce the same analysis for the EU27 and for the United States (Figure 4). Nothing comparable is found: the categories are not significantly contrasted and, if any relationship appears between the intensity of intervention and changes in net exports, it is negative. In other words, no discernible impact of domestic subsidies on net exports is found for the European Union or the United States.

**FIGURE 4 EU AND US NET EXPORTS BY LEVEL OF POLICY INTERVENTION  
(AS A PERCENT OF REST-OF-THE-WORLD IMPORTS, REBASED 2019Q4=0)**

a) EU27



b) United States

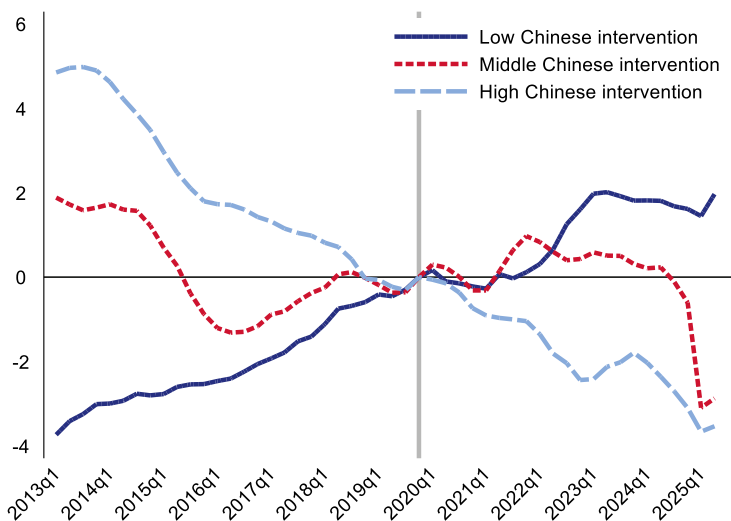


Note: Rolling four-quarter sum. Manufactured products defined as in Figure 2. The intensity of intervention is measured by HS4 tariff heading as the number of domestic subsidy policies measures, divided by the value of world imports  
Source: Author's calculations based on customs statistics, as collected by Global Trade Tracker, and of Global Trade Alert for industrial policy measures.

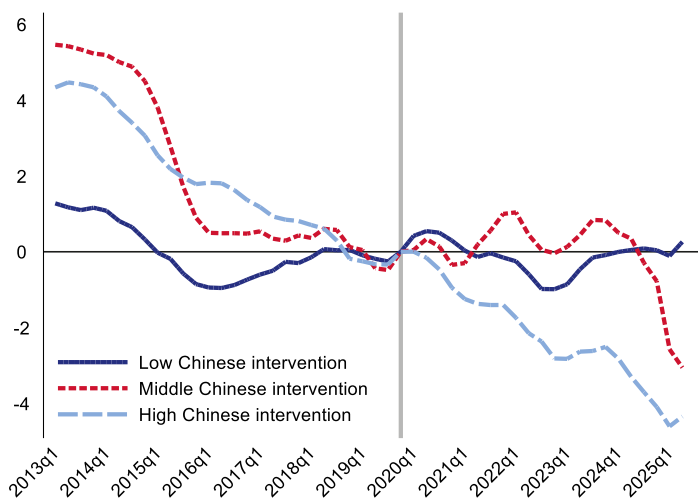
Does this matter for individual trading partners? Figure 5 addresses this by relating EU and US net exports to the intensity of policy intervention in China. The answer is unambiguous: net exports declined far more sharply in those product categories where Chinese domestic subsidy intervention was most intensive.

**FIGURE 5 EU AND US NET EXPORTS, BY LEVEL OF POLICY INTERVENTION IN CHINA (AS A PERCENT OF REST-OF-THE-WORLD IMPORTS, REBASED 2019Q4=0)**

a) EU27



b) United States



Note: Rolling four-quarter sum. Manufactured products defined as in Figure 2. The intensity of intervention is measured by HS4 tariff heading as the number of domestic subsidy policy measures, divided by the value of world imports.

Source: Author's calculations based on customs statistics, as collected by Global Trade Tracker, and of Global Trade Alert for industrial policy measures.

Given the challenge of accurately monitoring the reality and magnitude of industrial policies, it is difficult to attempt to establish a more precise and general relationship with trade outcomes. Still, the figures above are suggestive of a significant and substantial impact of Chinese subsidies on trade flows, which is not immediate but rather spread over a few years.

To investigate this possible relationship in a more general way, I then turn to econometric estimates, based on the following econometric, estimated using differences over three years:

$$\Delta_3 \ln(X_{CN,p,t}/X_{W,D,p,t}) = \alpha + \beta \text{Subsidies}_{p[t-5,t-3]} + \delta_t + \epsilon_{p,t} \quad (1)$$

where  $\Delta_3$  refers to differences over three years (i.e.,  $\Delta_3 \ln(X_{p,t})$ ;  $X_{CN,p,t}$  are China's exports of product  $p$  (defined at the HS4 level),  $X_{W,D,p,t}$  are world exports (excluding intra-EU trade). Given this definition, the dependant variable is expressed as a difference-in-differences, namely, a difference over time (over three years here) of differences between China and world exports.  $\text{Subsidies}_{p[t-5,t-3]}$  refers to the number of domestic subsidies announced by China for product  $p$  over the three-year period ending in  $t - 3$  (i.e.,  $[t - 5, t - 3]$ )<sup>18</sup>,  $\delta_t$  are year fixed effects, and  $\epsilon$  is an error term. *Mutatis mutandis*, the same equation is also estimated using differences over two or four years, instead of three.<sup>19</sup> Finally, as an alternative to this subsidy variable, estimates are carried out using instead the share of HS6 products within each HS4 position prioritised in the ongoing Five-Year Plan.<sup>20</sup> The same specification is used to analyse imports.

The estimates, carried out using yearly data covering the period 2009–2024, uncover a positive and significant relationship between subsidy measures and exports (Table 1). It is not precisely estimated, which is not a surprise given the already mentioned measurement issues, but it is consistent across the use of different time differences and of the two alternative measures of policy intervention. Taking a three-year transmission lag as a benchmark (columns 2 and 5) suggests that intensive policy intervention is reflected in an increase in exports by 7–9%, compared to products without intervention.

Applying the same analysis to imports mirrors these results, consistent with a significant trade impact of policy interventions. In this case, intense policy intervention is associated, three years down the road, with a 9–18% decline in imports (Table 2). Again, the estimates are consistent across different time lags and measurements of policy intervention. Taken together, these two sets of estimates are consistent with a significant and substantial impact of domestic subsidies on Chinese net exports.

18 As before, intensity is measured in proportion to the value of world trade for the product. The variable, expressed as  $\ln(1 + nb\_subsidies)$ , is normalised to take a value between 0 and 1.

19 For differences over two years, the variable is defined based on two-year differences, and subsidies are measured over the two-year period ending in  $t - 2$ .

20 These data are drawn from hand-collected data on the Five-Year Plans from official documents provided by the State Council of China, following Chen et al.'s (2017) definition of government-supported industries.

**TABLE 1 ECONOMETRIC ESTIMATES OF THE IMPACT OF CHINA'S DOMESTIC SUBSIDIES ON EXPORTS**

	(1)	(2)	(3)	(4)	(5)	(6)
No. of subsidy measures in [t-5; t-3]	0.049** (2.04)	0.088** (2.36)	0.136** (2.43)			
Share of key products in the FYP in t-3				0.20 (1.04)	0.072*** (2.60)	0.071* (1.84)
R-squared	0.006	0.004	0.003	0.007	0.010	0.013
N	15,505	13,106	10,726	9,656	8,788	7,929
Difference over	2 years	3 years	4 years	2 years	3 years	4 years

Note: Estimates based on equation (1). The dependent variable is the change in China's exports of product  $p$  (defined at the HS4 level), expressed as the log of its value, in percent of rest-of-the-world imports (excluding intra-EU trade), over 2 or 3 years. Year fixed effects are included in all estimates. The subsidies variable is normalised to take values between 0 and 1. Estimates based on yearly data over the period 2009-2024. Robust t-statistics, clustered by product, are in parenthesis. Statistical significance: \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ .

**TABLE 2 ECONOMETRIC ESTIMATES OF THE IMPACT OF CHINA'S SUBSIDIES ON IMPORTS**

	(1)	(2)	(3)	(4)	(5)	(6)
No. of subsidy measures in [t-5; t-3]	-0.08*** (-3.13)	-0.9** (-2.15)	-0.12** (-2.23)			
Share of key products in the FYP in t-3				-1.10*** (-4.38)	-1.18*** (-5.32)	-0.23*** (-4.98)
R-squared	0.019	0.021	0.025	0.025	0.036	0.039
N	15,472	13,066	10,675	9,647	8,775	7,913
Difference over	2 years	3 years	4 years	2 years	3 years	4 years

Note: Estimates based on equation (1). The dependent variable is the change in China's imports of product  $p$  (defined at the HS4 level), expressed as the log of its value, in percent of rest-of-the-world imports (excluding intra-EU trade), over 2 or 3 years. Year fixed effects are included in all estimates. The subsidies variable is normalised to take values between 0 and 1. Estimates based on yearly data over the period 2009-2024. Robust t-statistics, clustered by product, are in parenthesis. Statistical significance: \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ .

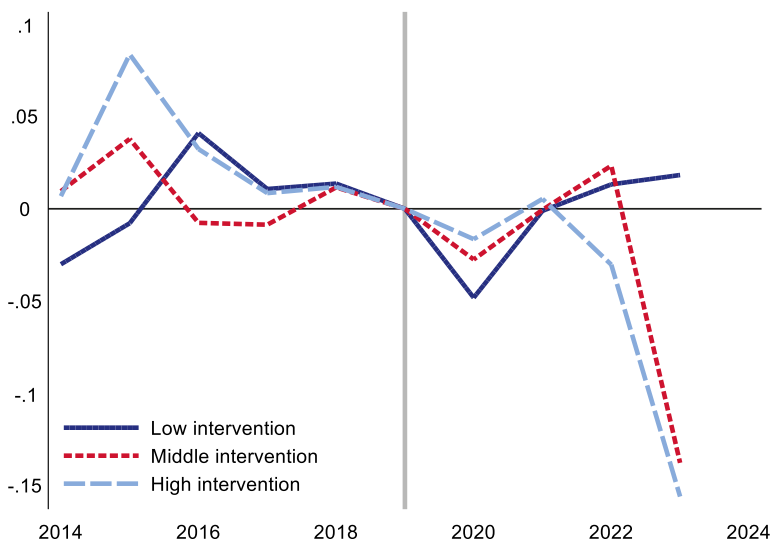
### 6.3 Extension to export prices

Emphasising the role of Marshallian externalities, as done above, raises the question of price impacts. Two caveats are in order, however. First, part of the impact of subsidies on net exports may simply be linked to expanded production capacity, which might be reflected in larger exports, even in the absence of a price decline. Second, productivity gains are likely to show up at least partly in quality improvements rather than lower prices.

Keeping these limitations in mind, it remains useful to extend the analysis to prices. To do so, I rely upon the BACI-CEPII database, which measures yearly average unit values of trade flows at the 6-digit product level of the Harmonised System (subheading), in a consistent manner over time. From these data, I construct HS4-level indices of export prices, based on chained Laspeyres indices applied to Chinese export unit values at the product level, expressed as a proportion of the product's average world export unit value.

I then apply the methodology used above for trade volumes. A graphical analysis, defined in a similar way as before, provides results which are less clearcut than for trade volumes, but consistent: China's export prices tended to decline more, relative to world export prices, for those products where domestic subsidies were stronger (Figure 6).

**FIGURE 6 CHINA EXPORT PRICES, RELATIVE TO REST-OF-THE-WORLD AVERAGE (CUMULATED LOG-CHANGE, REBASED 2019=0)**



Note: The cumulated log changes, are computed based on chained Laspeyres indices of Chinese exports unit values, expressed as a proportion of the yearly world average, and computed at the HS4 level, based upon HS6-level statistics.

Source: Author's calculations based on BACI-CEPII database for trade unit values, and Global Trade Alert for industrial policy measures.

Replicating the methodology used for trade volume, a difference-in difference specification is used, where the dependant variable is the difference over time (over two, three or four years) of differences between the log of unit values of Chinese and world exports. The intensity of policy intervention is measured using the same two variables as in the previous section. Here, again, the results are consistent, pointing to a decline of Chinese export prices by 2–4% compared to world prices for products where policy interventions are most intensive, compared to products where they are absent.

**TABLE 3 ECONOMETRIC ESTIMATES OF THE IMPACT OF CHINA'S DOMESTIC SUBSIDIES ON EXPORT UNIT VALUES**

	(1)	(2)	(3)	(4)	(5)	(6)
No. of subsidy measures in [ $t-5$ ; $t-3$ ]	-0.025** (-2.07)	-0.025** (-1.78)	-0.017 (-1.33)			
Share of key products in the FYP in $t-3$				-0.66** (-3.17)	-0.038** (-1.81)	0.016 (0.79)
R-squared	0.022	0.021	0.035	0.022	0.019	0.030
N	11,001	9,167	7,333	6,873	6,155	5,614
Difference over	2 years	3 years	4 years	2 years	3 years	4 years

Note: Author's estimates based on equation (1), applied here to China's export unit values. The dependent variable is the change in China's exports of product  $p$  (defined at the HS4 level), expressed as the log of its value, in percent of rest-of-the-world imports (excluding intra-EU trade), over 2 or 3 years. Idem, mutatis mutandis, for imports. Estimates based on yearly data over the period 2009-2024. Robust t-statistics, clustered by product, are in parenthesis.

## 7 CONCLUSION: COORDINATION CHALLENGED

To some extent, the surge in China's manufacturing exports might have been temporarily welcomed in a context where other countries – the United States, in particular – exhibited a symmetrical bias, as generous fiscal support for demand was not matched by supply-side improvements (Soyres et al., 2022). It proved helpful in moderating partners' inflation pressures. But an imbalance it remains, and as such, it is likely to be both unsustainable and destabilising for trading partners.

Confrontational policies such as those applied under the first Trump administration did not prove efficient in dealing with the issue, judging by their (unsurprising) failure to limit either the US current account deficit (or manufacturing trade deficit, for that matter) or China's surplus. And it is doubtful whether a doubling-down in this direction would do better. While confrontation might add to the geopolitical motivation for maintaining these biased policies, it also makes it less likely that Chinese voices arguing for a true rebalancing effort are heard – and these voices are numerous even among influential Chinese economists, arguing that present policies are not in the country's best interest.<sup>21</sup>

However, given the political importance that governments (rightly or wrongly) place on their manufacturing sector, this imbalance is a source of increasing tensions. It is unlikely that China's trading partners will accept for long seeing their manufacturing sector squeezed as a result of its policies, and persisting in this direction may only sharpen tensions.

21 See, for instance, "These 11 Chinese Mainstream Economists All Call for Govt Aids to Chinese Households", Pekingology, 22 August 2024. On the political difficulties of such rebalancing, see for instance Pettis (2024).

These tensions are often described as being rooted in Chinese industrial overcapacities. This is understandable, given that the above-mentioned imbalances have resulted in turbocharged manufacturing investments, themselves building very large production capacities in many sectors. This characterisation is also reminiscent of the approach followed for the steel industry, with the establishment by G20 leaders in 2016 of the Global Forum on Steel Excess Capacity (GFSEC), hosted at and facilitated by the OECD. I find it unconvincing, though, for two related reasons: one is the lack of a consistent theoretical definition of the notion of overcapacity; the other is that this concept is nowhere to be found in international trade agreements. In emphasising that “the notion of excess capacity (...) is not simply a comparison of a country’s capacity and production, or defined as a low capacity utilization rate” (GFSEC, 2024, p. 6), the GFSEC Secretariat itself recognises that this is not an accurate way to define the problem. It is also not clear how the global approach taken in this context – comparing production capacity to consumption – could be meaningfully applied at a country level. Any net exporter has production capacity in excess of domestic demand. When does this become an ‘overcapacity’? As to the capacity utilisation rate, it is highly cyclical, and there is no international norm whatsoever in this respect. Indeed, I am not aware of any enforceable commitment related to overcapacities in international agreements.<sup>22</sup>

The analysis above suggests that the present imbalances are better characterised as resulting from two main coordination failures. One is macroeconomic, linked to the long-standing imbalance of the Chinese economy, marked by the already exceptionally high savings rate and low share of final consumption in GDP, but also resulting from macroeconomic policy choices in the recent past, including in the management of the exchange rate. The other pertains to the realm of industrial policies, in a very wide sense since it concerns, to varying degrees, the manufacturing sector as a whole.

The macroeconomic dimension is delicate because, despite the IMF’s surveillance and policy advice mandates, there are no clear rules in this area. In addition, the sources of imbalances are shared, with the United States arguably exhibiting abnormally low savings and the European Union insufficient investment. Still, China’s entrenched macroeconomic imbalances remain an important part of the explanation for its surging manufacturing trade surplus, and correction of these imbalances remains necessary to improve coordination. The difficulty of putting pressure on surplus countries to adjust has been a structural problem ever since the Bretton Woods conference, but an approach coordinated across a large array of partners is probably the most efficient way to proceed.

The industrial policy dimension is perhaps the most controversial, notably because it can be viewed as a breach of China’s WTO commitments (in particular, those made under the SCM Agreement). Because subsidies covered in this agreement are those “specific to an enterprise or industry or group of enterprises or industries” (Article

22 The WTO Agreement on Fisheries Subsidies, adopted in June 2022, includes references to overcapacities, but they are not explicitly defined and are used as a motivation rather than a commitment or surveillance device.

2), they are usually thought of as more narrowly targeted, but the principle remains when distortions cover the entire manufacturing sector. It is a logical consequence of this interpretation that partner countries take action in response, through trade defence instruments and WTO disputes. These responses are likely to multiply as long as underlying imbalances are not corrected. If applied in a consistent way, they are legitimate responses to a situation that is harmful to domestic industries and problematic from a political and social point of view.

For the European Union in particular, the responses are also necessary to build the leverage needed to push for a rebalancing, even though they might not be sufficient to deal with the problem at scale. However, they can only be one part of a consistent strategy to address imbalances in a coordinated manner; the European Union must also play its part and recognise that it is itself has significantly contributed to imbalances through its very large current account surplus (not far off €500 billion in 2024, and probably more than €400 billion in 2025). The diagnostic is known and was the central theme of the Draghi Report: EU investment is lagging behind significantly. Consistently addressing this internal imbalance is a key policy priority for the European Union, but it is also a necessity for the Union to play its part in tackling global imbalances in a reasonably coordinated manner.

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## The European Union's external imbalances: Past, future, and policy

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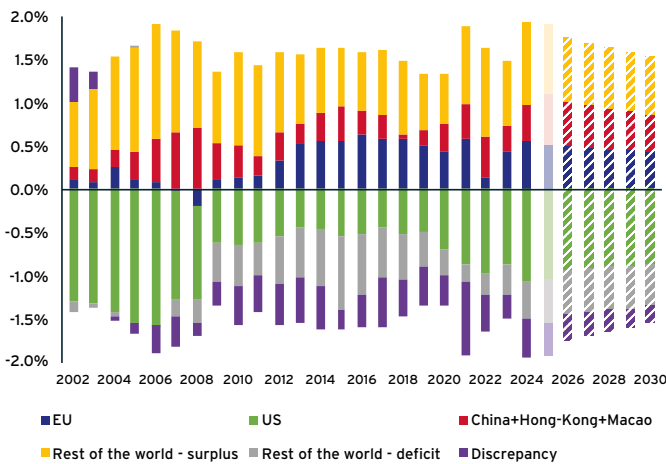
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### 1 INTRODUCTION

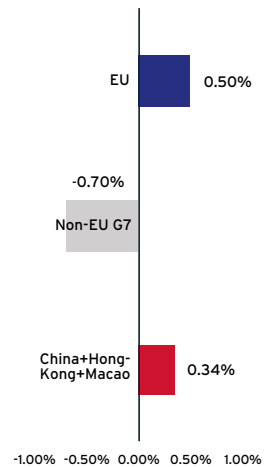
External imbalances, much discussed as a source of global financial vulnerability prior to the Global Financial Crisis (GFC), are back on the policy agenda. In 2024, the sum of current account surpluses reached levels comparable to the pre-crisis peak of 2006 (Figure 1).

**FIGURE 1 GLOBAL CURRENT ACCOUNT BALANCES (PERCENT OF GLOBAL GDP)**

a) Global current account balances, 2002-2030 including IMF projections



b) Average current account balances, 2012-2025



Note: Discrepancy is the deviation of the sum of all countries' balances from zero. Countries are grouped into 'Rest of the world - surplus' and 'rest of the world - deficit' groups according to their 2024 current account positions.

Source: Bruegel calculations based on the October 2025 IMF World Economic Outlook.

<sup>1</sup> The authors are grateful to Ravi Balakrishnan, Beatrice Weder di Mauro, Olivier Garnier, Thomas Harr, Lucio Pench, Niclas Poitiers, H el ene Rey, Isabel Vansteenkiste, and workshop participants at Bruegel and the Bank of France for comments.

The largest current account deficit remains that of the United States. The distribution of surpluses has changed, however. While China had the by far largest current account surplus of any country or trading bloc during the pre-GFC period, the European Union's current account overtook China's after 2012. Very recently, China's current account has been widening again, but according to IMF forecasts, China's and the European Union's surpluses will be roughly the same in the medium term.

The purpose of this chapter is three-fold. We start by trying to understand why the European Union has gone from a roughly balanced current account in the early 2000s to a substantial, persistent surplus. We next ask whether the present (and near-term projected) EU external surplus position should be considered a problem – particularly by contributing to the widening of global imbalances that might be generating financial stability risks (see Chapter 1) but potentially also in other ways. Third, we speculate on the medium and longer-term evolution of the EU current account by examining projections for some of its structural drivers. We close by summarising some policies that might reduce the surplus.

The results can be summarised as follows.

1. The shift from a roughly balanced external position to surplus reflects a rise in the current account balances in Southern and Eastern Europe, driven mainly by a decline in investment, which was not offset by a decline in the net surplus position of the rest of the European Union. Indeed, in Germany and Denmark, the surplus even increased.
2. The currently projected external balance of the European Union – in the order of 2.5% of GDP – is unlikely to *cause* a problem for the rest of the world. But it *reflects* an issue in several EU countries and in the European Union as a whole, namely, relatively weak domestic investment.
3. In the absence of significant policy effort, particularly in Germany, the EU current account surplus will persist beyond the medium term – that is, for the next 10-20 years (until demographic change leads to a decline in savings).
4. To lower its surplus, the European Union should focus on policies that raise investment. These include product and labour market reforms to improve the investment climate; deepening and unifying European capital markets; and reforming the EU fiscal rules to make them friendlier to public investment.
5. Not all investment-inducing policies will lower the surplus. For example, a transition to fully funded pension systems would likely be good for capital market deepening, investment and growth, but could also, depending on whether the transition is debt-funded or not, raise the savings rates of the transitional generation.

## 2 HOW DID WE GET HERE? THE EVOLUTION OF THE EU EXTERNAL POSITION, 2000-2025

### 2.1 The current account

To give a sense of what might be driving the increase of the current account balance, Figure 2a shows aggregate savings and investment as a share of EU GDP since 2002. The difference – savings minus investment – is conceptually equal to the current account and almost equal to the measured current account.<sup>2</sup> Figure 2b shows the contributions of sectoral net lending balances – by households, corporations, and the state – to the economy-wide net lending balance, which is approximately equal to the current account.<sup>3</sup>

The figure illustrates four facts.

1. Following a collapse in both savings and investment during the global financial crisis that briefly generated a current account deficit, EU savings quickly recovered and continued to rise, while investment continued to fall, bottoming out in 2013. This explains the sharp rise in the current account from 2008 until 2013. After 2013, investment gradually increased, though it remained below its pre-crisis peak, while savings continue to rise, leading to a further increase in the current account surplus until 2017. Since then, the EU current account has fluctuated between 2% and 4% of GDP.
2. The higher average current account balance in the 2010s compared to the 2000s is primarily explained by an increase in corporate sector net savings, reflecting a decline in investment.<sup>4</sup>
3. The rise in the EU surplus *during* the 2010s – specifically, between 2012 and 2019 – was primarily driven by a sharp reduction in the net borrowing of the public sector which more than offset a gradual reduction in corporate net lending, while household net lending did not change much (hovering between 2% and 3% of GDP, in line with its level during the pre-crisis period).
4. The last five years are different in the sense that although public borrowing went back up, this was fully offset by higher corporate and household savings (except for the energy crisis year 2022).<sup>5</sup> As a result, the EU current account surplus remained high.

2 Although accounting identities imply that the current account should equal the difference between national saving and investment ( $CA = S - I$ ), the relationship does not hold exactly in practice, as saving and investment are derived from national accounts, while the current account is based on balance-of-payments transactions (Beckmann et al., 2022)

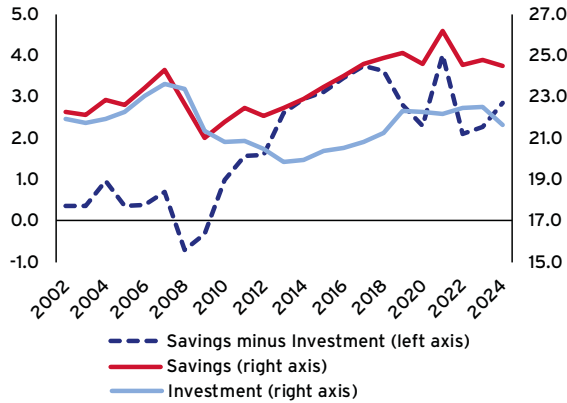
3 The only difference is that net lending includes capital transactions in addition to current transactions, but as Figure 2 shows, the difference is small. Unfortunately, an exact decomposition of the current account into sectoral savings-investment balances is not available.

4 Rusher and Wolff (2013) found that corporate balance sheet adjustments, often triggered by macroeconomic downturns and financial stress from high debt, low liquidity, or equity price shocks, are typically prolonged and significantly affect current accounts, investment, and wages.

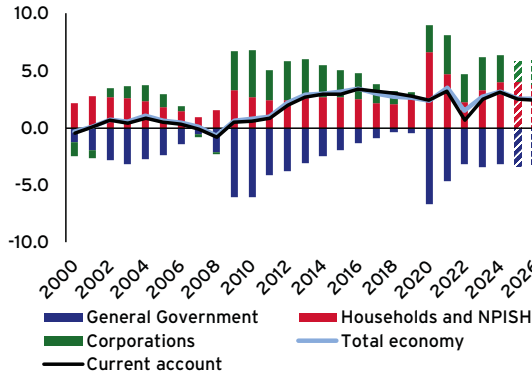
5 The European Union is a net energy importer. While the volume of its energy imports decreased in 2022 due to energy efficiency measures, the price effect dominated, leading to a widening of the EU mineral fuel trade deficit from -1.9% of GDP in 2021 to -4.1% in 2022, a drop of 2.2 percentage points.

**FIGURE 2 SAVINGS-INVESTMENT DECOMPOSITIONS OF THE EU CURRENT ACCOUNT (PERCENT OF EU GDP)**

a) Saving-investment



b) Sectoral net lending balances



Note: NPISH stands for non-profit institutions serving households. Net lending balances are defined as gross savings (= net savings + consumption of fixed capital) minus the sum of capital net expenditure and gross capital formation. Net lending of general government is the difference between total government revenue and total government expenditure.

Source: Bruegel based on European Commission (AMECO database).

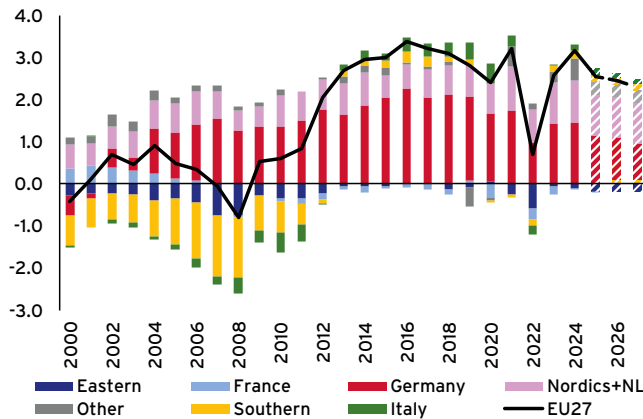
To understand what drives these changes, we decompose the EU current account into the contributions of individual countries. For tractability, we only show the three largest countries separately (Germany, France, and Italy) and summarise the remaining countries in three groups that are broadly similar both in terms of their current account trajectories and some structural features, plus a small (and diverse) residual group. Specifically, we distinguish between:

- A “Nordics plus Netherlands” group that includes Denmark, Finland, the Netherlands, and Sweden. Denmark, the Netherlands and Sweden exhibited current account surpluses throughout the 2000-2025 period, and share some structural features, including large private pension funds. Finland, which is included for geographical proximity, switched from a surplus (2000-2010) to a small deficit after 2010, but this only has a minor impact on the group aggregate.

- A “Southern” group that includes Cyprus, Greece, Malta, Portugal, and Spain. All members of this group had current account deficits until 2012–2013, after which they either shifted to surplus positions, or continued with much-reduced deficits (Greece and Cyprus). Except for Malta, all required official assistance during the euro crisis.
- An “Eastern” group that comprises the fast-growing former transition economies of Central and Eastern Europe (Bulgaria, Croatia, the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, Slovakia, and Slovenia). Like their Southern counterparts, these countries experienced large current account deficits in the 2000s, and some required official assistance during the 2008–09 Global Financial Crisis and beyond. After the crisis period, the aggregate deficit of this group declined, but did not switch to surplus.
- Finally, an “Other” group, consisting of the remaining EU countries (Austria, Belgium, Ireland, and Luxembourg).

Figure 3 decomposes the EU current account with the rest of the world into the contribution of these groups, which includes positions relative to both other EU countries and non-EU countries.<sup>6</sup>

**FIGURE 3 CONTRIBUTION OF EU COUNTRIES AND COUNTRY GROUPS TO THE EU CURRENT ACCOUNT (PERCENT OF EU GDP)**



Note: Chart shows current account balances of various countries and country groups with respect to the other EU and non-EU countries. See text for the definition of the “Nordics+NL”, “Eastern”, “Southern” and “Other” country groups.

Source: Bruegel based on European Commission (AMECO database).

6 The aggregate EU current account balance excludes intra-EU imbalances and refers only to the EU’s position vis-à-vis non-EU countries. In contrast, national current account balances include both intra- and extra-EU positions, as data limitations do not allow for a decomposition of national balances into intra- and extra-EU components. For country groups, intra-group current account positions are netted out, while the group’s overall position includes other EU and non-EU countries.

The story is clear. The increase of the EU surplus after 2008 is accounted for by the combination of two facts:

- In virtually all pre-crisis deficit countries, the deficit either turned into a surplus by 2012 (Southern countries and Italy) or declined substantially (Eastern countries).
- With few exceptions (France), the current account did not decline in the pre-crisis surplus countries. If anything, it rose further, particularly in Germany.

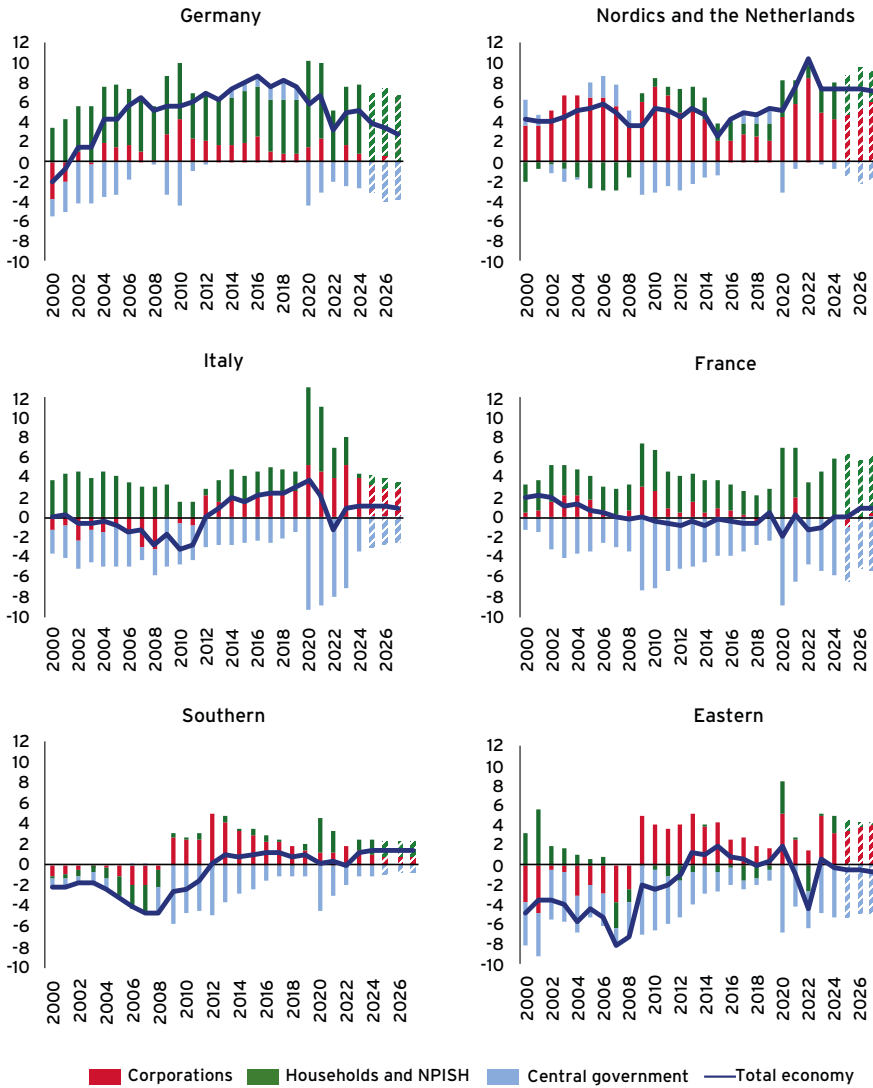
To help interpret the changes identified in Figures 2 and 3, Figure 4 shows the net balances decompositions of Figure 2 at the main countries and country groups level. It leads to three main insights.

First, Figure 4 helps to interpret the reversal of the current account deficits in the Southern and Eastern countries following the Euro crisis, as shown in Figure 3. This adjustment does not only (and indeed not mainly) reflect lower government deficits in the post-euro crisis period, but also the fact that the private net lending (excess savings) position shifted from a substantial deficit prior to 2009 to a surplus position. This surplus persisted beyond the euro crisis period, and in the case of Italy, continued to rise. Figure A1 in the Annex – the equivalent of Figure 2a at the country/group level – confirms that the increases in excess savings reflect a large decline in investment in Southern and Eastern Europe between 2008 and 2012. In other words, the Global Financial Crisis stopped a credit-fuelled corporate and household investment boom in Southern and Eastern Europe, *which did not return* after the end of the 2009-2012 crisis period.<sup>7</sup>

Second, the interpretation we give to the rising EU current account *during* the 2010s in the discussion of Figure 2 – lower public net borrowing without a corresponding reduction in net lending of the private sector – applies to all countries and groups of Figure 4, with two important exceptions: France and Germany. Like the other countries/groups, France reduced its net public borrowing during the 2010s as fiscal consolidation gradually lowered government deficits. However, unlike in other groups, this was fully offset by lower household net savings, leaving the current account roughly unchanged. Germany is different because its fiscal consolidation was already over around 2012, and there was no further reduction in net borrowing of the public sector in the 2010s.

7 Ahearne et al. (2008) argue that housing bubbles in Ireland and Spain before 2008 led to unsustainably high residential investment. Several Eastern European EU countries also experienced unsustainable housing booms in the pre-2008 period.

FIGURE 4 NET LENDING (+)/BORROWING (-) BALANCES BY EU COUNTRIES OR COUNTRY GROUPS (PERCENT OF EU GDP)



Source: European Commission (AMECO database).

Third, there are some interesting differences in household and corporate net balances across the country groups in the post-crisis period:

- In the “Southern” and “Eastern” groups, household net lending remained small as a share of GDP. In the Southern group, it flipped from deficit to a surplus position after the crisis; while in the Eastern group, it remained in deficit. This means that in the South and East, household savings are largely matched by household investment – i.e. housing purchases.
- In both France and Germany, household net balances are much higher than corporate net balances.

- There is a striking difference in the composition of net balances across the two main ‘net savings engines’ of the European Union: Germany and the Nordics+Netherlands group. While public deficits have generally been low in both groups, household net balances have greatly exceeded corporate balances in Germany, while the opposite is true in Denmark and the Netherlands. High corporate net savings in these countries reflect retained earnings of multinationals as well as the presence of large, funded pension systems. While pension contributions are recorded as household savings, the retained earnings of the investments that they generate are recorded as financial corporate savings (Danmarks Nationalbank, 2024; European Commission, 2025b).

To summarise, the increase of the EU current account from its roughly balanced position just prior to the Global Financial Crisis to its current surplus of about 3% of GDP can be interpreted as reflecting the combination of:

1. The end of a lending-fuelled private investment boom in the South and East of the (current) European Union by 2009.
2. Persistent current account surpluses in Germany (since the mid-2000s) as well as in the Netherlands, Denmark and Sweden.<sup>8</sup> From 2006 onward, the sum of these surpluses has continuously exceeded 2% of EU GDP. Importantly, however, the *composition* of the surpluses differs significantly across the surplus countries.

There is a large literature on the causes for these persistent surpluses from both policy organisations (the IMF and the European Commission, see also the next section) and academia. For Germany, this literature emphasises high household savings in the face of demographic decline; the labour market reforms of the mid-2000s; disincentives to investment, including skills shortages, bureaucracy, and firing costs; and a lack of effective financial intermediation connecting savings and investment (Ivanova, 2013; Kollman et al., 2015; Klug et al., 2022; European Commission, 2025b).

For the Nordic countries and the Netherlands, private pension funds promote both high household savings (which increase the current account) and high investment by creating supportive financing conditions (which would tend to reduce the current account). However, since some of the high savings generated by pension funds flow abroad, the net effect is an increase in the current account. Additional factors increasing the surplus include some of the same investment disincentives for the Netherlands as for Germany, the presence of very large multinational companies in the Netherlands and Denmark, tax systems promoting high household and SME savings in the Netherlands, and large primary income from foreign assets in Denmark and Sweden (Euwals, 2000; Chetty et al., 2014; Garcia-Bernardo et al., 2017; Koomen and Wicht, 2022; Caloia et al., 2023; Danmarks Nationalbank, 2024; European Commission, 2025c, 2025d).

<sup>8</sup> These are the only EU countries whose current accounts have been in surplus every year since 2002. Austria was in surplus in every year except for 2022, but the size of its surplus has been much smaller (around 2% of GDP).

Importantly, attempts to quantify some of these stories – for example, in the regression-based framework of the IMF's External Balance Assessment (see below) – typically do not manage to fully 'explain' the large surpluses, in the sense that some residuals are left unexplained. This implies that persistent surpluses in EU countries like Germany or the Netherlands cannot be fully rationalised by observable economic fundamentals and may instead reflect unobservable structural characteristics that depress investment and/or consumption and hence cause welfare losses. We return to this view in Section 3.

## 2.2 The EU net international investment position

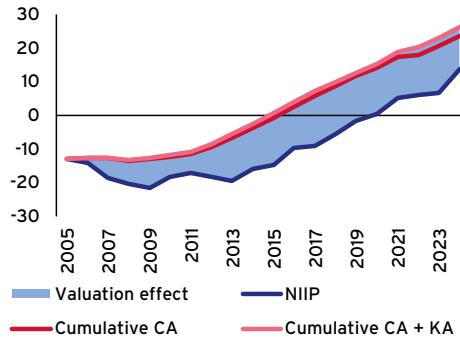
The net international investment position (NIIP) is the year-end value of net financial asset holdings. Abstracting from net errors and omissions, it reflects cumulative current account balances, capital account balances (reflecting capital transfers, such as debt forgiveness) and valuation effects. Figure 5a shows that the value of the European Union's NIIP diverged from the cumulative current (plus capital) account until about 2013, reflecting adverse valuation changes (shown by the growing blue area between the NIIP and cumulative CA+KA lines on the right). Large negative valuation movements particularly in 2006-2007 and 2012-2013 were correlated with an appreciation of the euro relative to the US dollar. Since then, however, the NIIP has roughly tracked the cumulative current account, the valuation gap has narrowed slightly, and the NIIP position has moved from its trough of about -20% of EU GDP in 2009 to a surplus of about 15%.

Figure 5b decomposes the EU NIIP (black line) into gross foreign asset and liability positions. Total gross positions of the European Union are large, at about 3-4 times its GDP. The value of foreign assets and liabilities could fluctuate with prices (for example, equity prices) and exchange rates relative to the euro, potentially exposing the NIIP to swings resulting from different valuation changes in foreign assets and liabilities. Portfolio equity assets are about 50% of EU GDP; while portfolio debt and other assets are about 170%, exposing the European Union to financial distress elsewhere in the world. Equity-type investments, including both foreign direct investment and portfolio equity investment, accounted for 58% of the European Union's external assets in 2024, slightly below the US share of 65%, but well above Japan's 42% and the UK's 31% (not shown in the figure).<sup>9</sup> This said, over the past five years, most of the new foreign investment flows of the European Union have gone into debt and other investments.

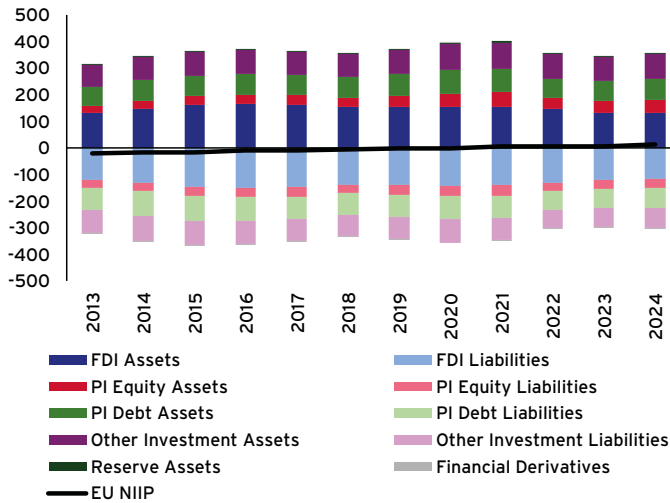
9 These shares were calculated by the authors based on IMF International Investment Position (IIP) data on external positions.

FIGURE 5 DECOMPOSING THE EU NIIP (PERCENT OF EU GDP)

## a) NIIP and valuation impacts



## b) Gross asset and liability positions



Note: The blue area on the top chart denotes the gap between the NIIP and the cumulative current and capital accounts, attributable to valuation effects, and net errors and omissions in the balance of payments.

Source: Bruegel based on Eurostat (online data code: bop\_iip6\_q and bop\_c6\_a), European Commission (AMECO database) and ECB data (online data code: EXR.D.USD.EUR.SPOO.A).

### 3 IS THE EU EXTERNAL SURPLUS TOO HIGH?

External surpluses are ‘normal’ in the sense that they can be expected to occur as a result of intertemporal consumption smoothing, differences in factor endowments, demographic change, and for other widely applicable reasons. Persistently high surpluses, however, are often viewed as a problem, for two reasons.

The first is that persistent external imbalances *create* crisis risks (see Chapter 1 in this volume by Weder di Mauro and Zettelmeyer and Chapter 2 by Eichengreen). Imbalances can suddenly unwind. The longer they have been in place, the larger the ensuing dislocation (since this may relate to the accumulated stock imbalances rather

than just flow imbalances). Because imbalances are a general equilibrium phenomenon, persistent surpluses must be taken as seriously as persistent deficits. Persistent capital outflows may *create* a problem if they are poorly invested, and if they foster dependency in the deficit countries.

To get a handle on this problem, the European Union created its Macroeconomic Imbalances Procedure (MIP) in 2011, a surveillance tool that singles out high-surplus as well as high-deficit countries. This involves a “scoreboard” for screening potential imbalances (including current account imbalances in both directions),<sup>10</sup> an annual “Alert Mechanism Report” to identify countries requiring additional attention (e.g., European Commission, 2025d), and “In-Depth Reviews” of such countries.<sup>11</sup>

The second reason is that persistent surpluses reflect a problem in the surplus country. An external surplus means that a country is consuming less than it produces. This makes no sense unless the savings are drawn down at some point. Excess savings – savings that go beyond what fundamentals and desirable policies would predict – are inefficient.

In the remainder of this section, we investigate whether the EU current account surplus falls into either category.

### 3.1 Persistent surpluses as a cause of stability problems

While the European Union is a significant contributor to the global account imbalance, accounting for about 25% of the surplus countries’ current account balance in 2024 (Figure 1), a persistent EU current account surplus of around 2.5% of EU GDP could not, by itself, be the cause of a problem elsewhere in the world. EU GDP is currently about 18% of world GDP when evaluated at market exchange rates (about 14% at purchasing power parities). Hence, its surplus can be absorbed by a current account deficit of at most 0.55% ( $2.5 \times 18/82$ ) of GDP in the *rest of the world*. Unless specific countries run much higher deficits for their own reasons, this is not going to cause a crisis.<sup>12</sup>

At the same time, the combined 2024 surplus of the four persistent EU surplus countries – Denmark, Germany, the Netherlands, and Sweden – is almost ten times higher as a share of the GDP of the *rest of the European Union*, at 4%. Not surprisingly, the European Commission has repeatedly noted “imbalances” in all the persistent

10 [https://economy-finance.ec.europa.eu/economic-governance-framework/macroeconomic-imbalance-procedure/scoreboard\\_en](https://economy-finance.ec.europa.eu/economic-governance-framework/macroeconomic-imbalance-procedure/scoreboard_en)

11 For example, European Commission (2025a) for Germany; European Commission (2025b) for the Netherlands; European Commission (2025c) for Sweden.

12 Given that China’s surplus is expected to be roughly the same as the EU’s (as a share of world GDP), the same conclusion applies to China. Indeed, concerns about China’s external surplus are motivated primarily by the size and trajectory of its surplus in goods trade, which (according to customs data) has grown from about US\$640 billion in 2021 to \$1.2 trillion in 2025 (a rise from about 3.5% of GDP to over 6% of GDP). See Chapter 1 by Weder di Mauro and Zettelmeyer and Chapter 12 by Jean.

surplus countries and submitted them to In-Depth Reviews (IDRs). It currently classifies Germany, the Netherlands, and Sweden as having an “imbalance” (category 2 in a classification that comprises “No imbalances” (1), “Imbalances” (2), “Excessive imbalances” (3), and “Excessive imbalances requiring corrective action” (4)).

This raises the question of whether capital exports by the four chronic surplus countries could be creating a stability problem for the rest of the European Union, as they did in the run-up to the euro crisis. The European Commission does not seem to think so, as it stops short of classifying these imbalances as “excessive” (European Commission, 2025a). Without going into the details of the Commission’s reasoning, there are two arguments that would support this conclusion.

Most obviously, countries with large current account deficits largely disappeared from the European Union after the euro crisis. Some reappeared after Covid: the 2022-24 average current account deficit was over 8% in Cyprus, Greece, and Romania. While these are very high, all three countries are also large recipients of EU grant funding, which raises secondary income in the balance of payments,<sup>13</sup> and Greece and Cyprus are running primary budget surpluses.<sup>14</sup>

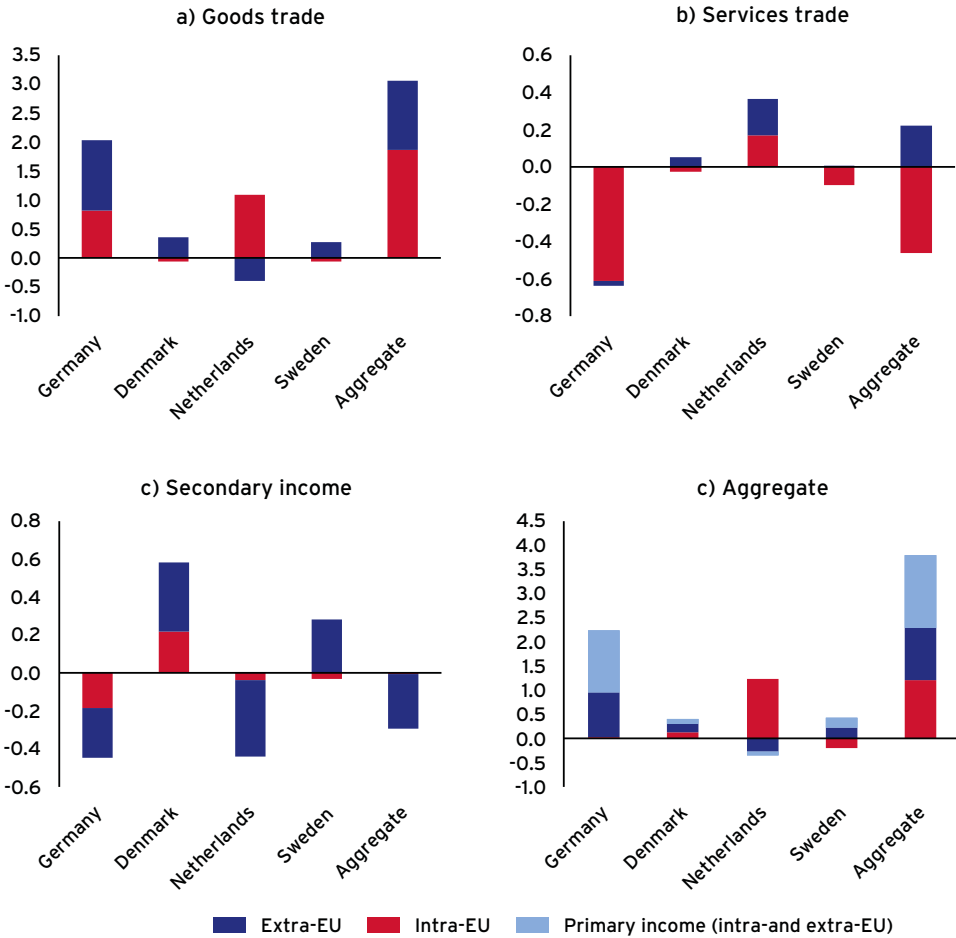
More importantly, but consistent with the first argument, the net financial flows from the four large creditor countries to other EU countries are likely small. We say “likely” because there is, unfortunately, no full decomposition of the current accounts of EU countries into their intra- and extra-EU components. However, there are such decompositions for three out of the four constituent lines of the current account: goods trade, services trade, and secondary income. Only primary income, which accounts for about three-fifths of the aggregate current account surplus of the four countries, is missing (see Figure 6d).

Figure 6 shows these data for the four largest surplus countries. For Germany, less than 4% of the aggregate surplus across the three accounts in 2024 corresponds to intra-EU flows (for 2015-2019 it was less than 20%, on average). Across all four countries, the sum of trade, services and secondary income directed to EU countries in 2024 amounted to 57% of the total surplus, or 1.2% of the GDP of the rest of the European Union.

13 Greece receives net payments of about 2% of GDP from the regular seven-year EU budget, compared with about 1.6% for Romania and 0.7% for Cyprus. In addition, average annual inflows from Next Generation EU over 2021-2026 amount to about 2% of GDP for Greece, 1% for Romania, and 0.5% for Cyprus.

14 In contrast, Romania’s very large budget deficit is a source of concern (Darvas et al. 2025).

**FIGURE 6 INTRA/EXTRA EU COMPONENTS OF CURRENT ACCOUNT OF CREDITOR COUNTRIES, 2024 (PERCENT OF GDP OF REMAINING EU COUNTRIES)**



Note: The intra/extra-EU decomposition is not available for primary income, nevertheless we included it on the last panel to indicate what share of the current account cannot be decomposed.

Source: Bruegel based on Eurostat (online data code: bop\_c6\_a).

**3.2 Persistent surpluses as a symptom of problems**

In addition to creating problems for other countries (and even if they do not), large and persistent surpluses could reflect a problem in the surplus countries themselves. This could be true for two reasons:

- Surpluses are reflective of inappropriate macroeconomic policies, particularly fiscal policy that is too tight.

- Surpluses might be higher than what would be predicted based on measurable fundamentals and policies. This implies that there are unobservable factors that drive a wedge between saving and domestic investment. Removing such obstacles would either raise investment and growth without reducing consumption or reduce savings while maintaining investment, hence increasing consumption and welfare.

The IMF's External Balance Assessment (EBA), published annually in its *External Sector Report* for the largest 30 economies representing about 90% of World GDP, attempts to identify problems of both types.<sup>15</sup> It does so by regressing the current account on structural fundamentals (demographics, institutions, exhaustible natural resource reserves) and policy variables (fiscal policy, health spending, FX intervention, the credit gap) in a panel dataset comprising 52 advanced and emerging economies. The regression results are used to generate fitted values for each country – the “EBA norm”. Importantly, for the policy variables, the EBA norms are not calculated using the actual policy values, but those that IMF staff view as desirable. The difference between the actual current accounts and the EBA norms can hence be decomposed into the contribution of the difference between actual and desirable policies on the one hand, and an unexplained portion on the other.

The IMF estimates an EBA norm of 1.4% of GDP for the euro area, 1.6% for Sweden, 3.5% for Germany, 3.8% for the Netherlands, and 5.9% for Denmark, compared to cyclically adjusted current account balances of 2.9%, 7.1%, 5.5%, 10.1%, and 11.5% of GDP, respectively.<sup>16</sup> Hence, the “EBA gap” – the difference between the actual current account and the norm – is estimated to be 1.5% for the euro area, and between 2% (Germany) and 6.3% (Netherlands) for the main EU surplus countries.

In the context of its Macroeconomic Imbalance Procedure, the European Commission uses a broadly similar methodology as the IMF, except that current account norms are computed only based on non-cyclical fundamentals, that is, ignoring policy variables (Coutinho et al., 2018, 2022). This implies that the gap between the actual current account and the norm reflects the difference between the *sample average* of policy and actual policy, rather than between *desirable* policy and *actual* policy. While the Commission does not publish an estimate for the current account norm of the euro area or the European Union – as the MIP is applied only at the level of member states – Coutinho et al. (2022) produce such an estimate for 2018 based on the Commission methodology. They conclude that about half of the euro area's current account – 1.75 out of 3.6 percentage points – reflects fundamentals. The gap is hence 1.9%, in line

<sup>15</sup> See IMF (2025) for the latest report, and Allen et al. (2023) for the underlying methodology.

<sup>16</sup> EBA norm estimates for Denmark are taken from the IMF's 2025 Article IV report. Importantly, the IMF suggests that the EBA norm of 5.9% might be an underestimate, as the ongoing transition to the fully funded retirement system could explain about 2.5% of GDP of the gap.

with IMF estimates. For individual countries, November 2025 European Commission estimates point to very large positive gaps for Denmark (15 percentage points of GDP above its norm), the Netherlands (8 percentage points), Sweden (5 percentage points), and Germany (about 4 percentage points) (European Commission, 2025e).

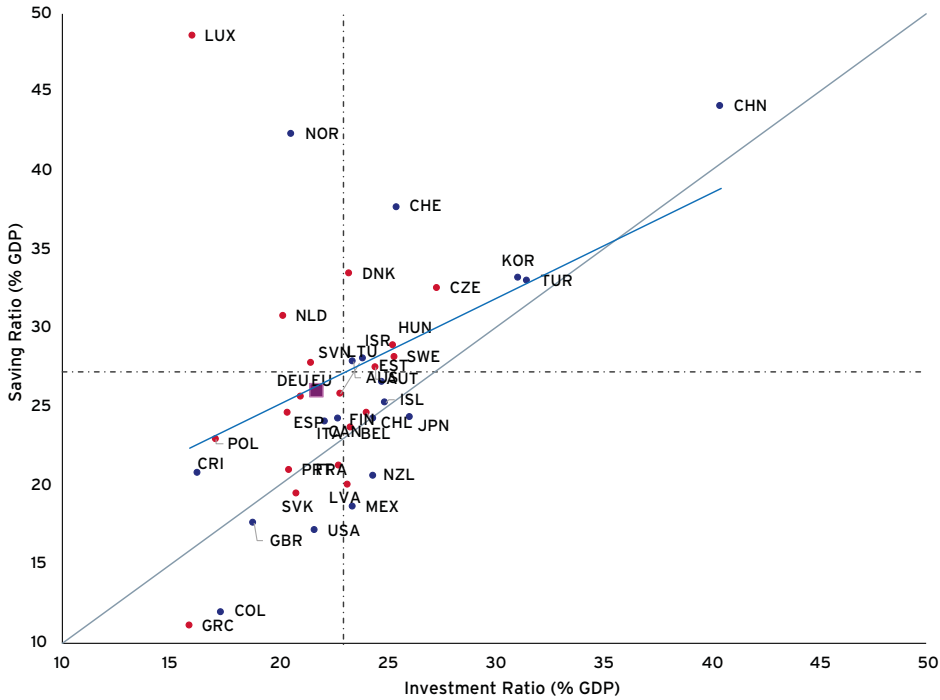
The next question is whether these gaps should be interpreted as reflecting excessive savings or insufficient investment. Neither the EBA methodology nor that of the European Commission provides an answer, as these methodologies do not establish 'norms' for savings and investment separately, only for the current account. In practice, the IMF and Commission resolve this indeterminacy by recommending policies that in their eyes are likely to raise growth as well as lower the current account in surplus countries.

Except for recommending lower public savings in countries with fiscal surpluses, these policies focus on raising investment rather than lowering savings. For the euro area as a whole, the IMF recommends measures that "lift investment and private domestic demand, compensating for the needed higher public saving in some countries" (IMF, 2025). At the level of individual surplus countries, the IMF emphasises both insufficient public investment and barriers to private investment (including licensing and permitting, lack of equity funding for Germany, and infrastructure and electricity grid-related bottlenecks in the Netherlands), as well as tight fiscal policy in Denmark and Sweden. The Commission's In-Depth Reviews for Germany and the Netherlands similarly identify weak investment as the key concern.<sup>17</sup>

The emphasis of the IMF and the Commission on raising investment aligns with the recommendations of the Draghi Report, which highlights substantial investment gaps for Europe. It also aligns with the fact that *both* savings *and* investment in the European Union (as well as Germany) are somewhat lower than in OECD countries on average (see Figure 7). This said, Figure 7 also shows that investment in the European Union is in line with investment in the United States – about 22% of GDP. What differs is savings (26% of GDP in the European Union, versus just 17% in the United States) as well as the *composition* of investment. The United States allocates a much larger share to information and communication technology, which accounts for about 13% of total US investment – more than double the European Union's 6%. By contrast, the European Union devotes a substantially larger share (around 32%) to real estate investment, compared with about 27% in the United States, reflecting a stronger European focus on lower-tech assets.

17 The Commission expresses recommendations that would lower the external surplus only for Germany and the Netherlands. Strangely, no in-depth review was prepared for Denmark, while the Swedish review does not mention external imbalances, despite the Commission forecast that Sweden's current account would remain close to 7% of GDP in 2025-2026.

FIGURE 7 INVESTMENT AND SAVINGS RATIOS IN OECD COUNTRIES AND CHINA, AVERAGE 2022-2024 (% OF GDP)



Note: Red dots denote OECD EU members and blue dots non-EU countries. EU average is denoted by a purple square.

Source: Bruegel based on World Bank Development Indicators

#### 4 WILL THE EUROPEAN UNION'S EXTERNAL SURPLUS PERSIST?

The IMF's October 2025 baseline projections foresee only a modest reduction in the European Union's current account surplus, from 3.2% of GDP in 2024 to 2.6% in 2030. In November 2025, the European Commission projected a somewhat stronger decline in the short run, to 2.3% in 2027, reflecting a significant decline of the German surplus driven by slowing exports and expansionary fiscal policy. But the German government has also announced a sharp fiscal consolidation from 2027 onward, raising the question of whether the EU current account will rebound, and become stuck in the 2.5-3% range over the longer term. The OECD's December 2025 projection for 22 EU countries foresees a decline of the 3.5% surplus in 2024 to 2.8% in 2025-2027, which is close to the IMF's projection.<sup>18</sup>

The remainder of this section examines some of the medium and longer-run determinants of the EU current account based on currently announced policies. We look at (1) the investment climate and growth expectations; (2) fiscal policy; (3) demographic change; and (4) global general equilibrium effects.

<sup>18</sup> Bulgaria, Croatia, Cyprus, Malta and Romania are not members of the OECD.

#### 4.1 Sentiment and growth expectations

Weak confidence and subdued growth expectations in the European Union could increase precautionary savings and depress investment. A deterioration in the growth outlook, implying slower growth in personal incomes or even expectations of a future decline in real incomes, would likely increase household savings through consumption-smoothing. Business investment could similarly weaken if firms expect lower economic activity and reduced consumer purchasing power in the years ahead.

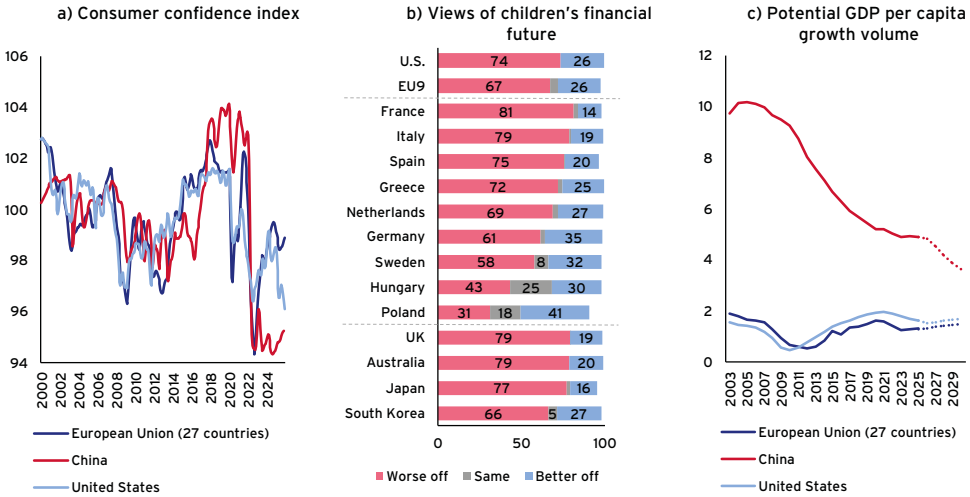
However, some opinion surveys and growth projections do not support a pessimistic view of the EU economy, at least relative to the United States and China. The OECD's Consumer Confidence Index, which reflects households' expectations regarding consumption and savings over the next 12 months, records values below 100 for all three major economies, but indicates the least negative sentiment in the European Union (Figure 8a). While values below 100 signal increased saving intentions that could, in principle, raise current account surpluses, the European Union, the United States, and China account all together for a large share of the global economy, implying that their current account balances cannot all increase simultaneously (see Section 4.5 on global spillovers and general equilibrium effects). Among these three economies, EU consumers appear to be the least pessimistic. Moreover, during 2014-2019, the EU consumer confidence index exceeded 100, indicating a greater propensity to consume and a lower tendency to save. However, the European Union continued to record a current account surplus of around 3% of GDP.

The twelve-month forward-looking confidence index, shown in panel a of Figure 8, may be sensitive to short-term business cycle fluctuations, whereas saving behaviour is likely to depend more on longer-term expectations. One way of capturing the latter are survey respondent views about the financial prospects of their children (Figure 8, panel b). In most surveyed advanced economies, respondents tend to be rather pessimistic, including in the United States, where 74% expect their children to face a worse financial future. Compared to the United States, respondents in France and Italy are even more pessimistic, while those in Spain and Greece exhibit similar levels of pessimism. By contrast, in three major EU surplus countries – Germany, the Netherlands, and Sweden – respondents are less pessimistic than their US counterparts. The population-weighted average of the share of pessimistic expectations across the nine EU countries for which data are available is 67%, which is also below the US figure, as well as below the values for the United Kingdom, Australia, and Japan. Therefore, if pessimistic expectations about financial future of the next generation influence saving behaviour, they would be expected to raise the US savings rate more than that of the European Union.

Finally, five-year-ahead per capita growth forecasts from both the OECD (Figure 8c) and the IMF do not fit easily into the pessimistic narrative for the European Union. At an average of 1.4% per year, the OECD projects only slightly lower potential growth for the European Union during 2025-2030 than for the United States (1.62%). Furthermore, these projections are higher than the European Union's average growth rate over 2003-

2024 (1.26%), suggesting a modest acceleration. IMF projections for actual per capita growth over 2025–2030 point in the same direction: EU growth is expected to rise slightly from 1.26% per year in 2003–2024 to 1.33%, remaining only modestly below the US projection of 1.55%.<sup>19</sup>

FIGURE 8 CONSUMER CONFIDENCE AND GROWTH OUTLOOK



Note: The OECD Consumer Confidence Index (CCI) is a standardised indicator of households' expectations regarding future consumption and saving, based on survey responses about financial conditions, the general economic outlook, unemployment, and saving capacity. Values above 100 indicate optimism and a greater propensity to consume over the next 12 months, while values below 100 signal pessimism and a higher tendency to save. "EU9" on panel b refers to the population-weighted average of the nine EU countries for which this indicator is available.

Source: Panel a: OECD Consumer Confidence Index database, Panel b: Pew Research Centre, Spring 2024 Global Attitudes Survey, Panel c: OECD Economic Outlook.

Overall, these survey results and economic projections suggest that sentiment and growth expectations are unlikely to be key drivers of the European Union's external surplus away from the current baseline scenario.

## 4.2 Fiscal policy

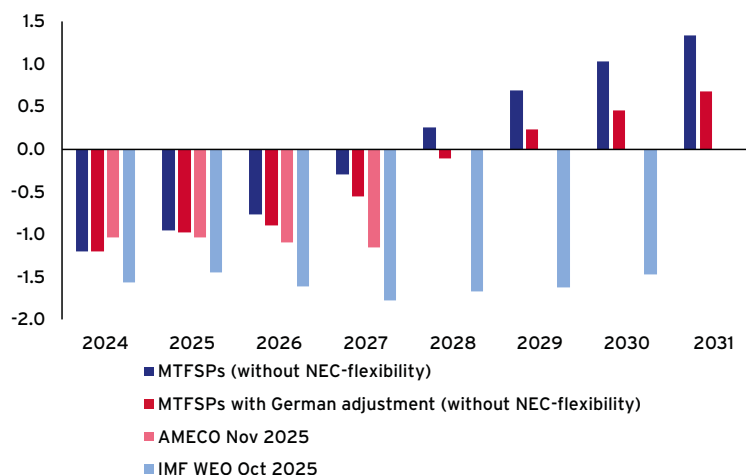
Fiscal policy changes, if not fully offset by private sector behaviour (e.g., higher private savings in anticipation of future taxes following a fiscal expansion), can alter a country's saving–investment balance and, in turn, its current account balance. As noted in Section 2, tight EU fiscal policy likely contributed to the rise of the European Union's current account surplus after the euro area crisis.

<sup>19</sup> Source: Bruegel based on the IMF October 2025 World Economic Outlook database.

Looking ahead, most EU members have announced sizeable fiscal adjustments, measured in terms of the structural primary balance,<sup>20</sup> in their medium-term fiscal plans (Figure 9, dark blue bars), including a particularly large adjustment between 2026 and 2028. The latter is partly driven by Germany, which, following two years of expansionary fiscal policy, has vowed to sharply reduce its nominal expenditure growth in 2027 and 2028 (Federal Ministry of Finance of Germany, 2025). If implemented, this consolidation would increase the European Union's current account surplus.

However, whether and to what extent the consolidation will be implemented is questionable. Both the Commission and IMF question the credibility of EU fiscal adjustment plans and expect a broadly unchanged structural primary balance for the European Union (Figure 9, red and light blue bars). With respect to Germany, Zettelmeyer et al. (2025) conclude that when replacing the overly optimistic growth and inflation assumptions of the German fiscal plan with the joint forecast of German research institutes, Germany's structural primary balance and overall budget balance would be lower in 2031 than it was in 2024.<sup>21</sup> Since compliance with EU fiscal rules is measured only in terms of net expenditure growth, an adherence to its approved path will be assessed as being compliant with the EU fiscal framework, irrespective of how the budget deficit evolves.

FIGURE 9 EU STRUCTURAL PRIMARY BALANCE (PERCENT OF EU GDP)



Note: NEC = national escape clause flexibility for defence spending.

Source: Bruegel based on national medium-term fiscal structural plans (MTFSPs), AMECO November 2025, IMF WEO October 2025, and Zettelmeyer et al. (2025) for the adjusted German structural primary balance, which is calculated based on the nominal GDP growth projections of Joint Forecast German Research Institutes (September 2025).

20 While the measurement of the structural primary balance is subject to estimation error, changes in it can be interpreted as changes in the fiscal policy stance. For example, an increase in the structural primary balance implies fiscal consolidation. In contrast, net public expenditure growth, the operational indicator of the EU fiscal framework since 2024, cannot be directly interpreted in terms of the fiscal stance.

21 Purple bars of Figure 9 adjust the average EU structural primary balance to account for the German macroeconomic outlook as quantified by Zettelmeyer et al. (2025). Values in purple still do not reflect the impact of additional defence spending permitted under the national escape clause, nor do they incorporate corrections to the overly optimistic macroeconomic assumptions of countries other than Germany.

Another reason to doubt that the announced consolidation paths will be implemented is the June 2025 increase in the NATO core defence spending target from 2% to 3.5% of GDP. With few exceptions – Poland, which planned a large expansion in military spending even before the increase in the NATO target, and Germany, which announced its medium-term plan in July 2025 – the medium-term fiscal plans did not yet incorporate commitments to much higher defences spending.

Taken together, these projections and considerations suggest that fiscal policy is unlikely to fuel a rise in the European Union's current account balance over the next five to seven years. At the same time, it also suggests that the projected decline in Germany's current account balance over the next two years will partly dissipate. Even if Germany does not deliver the fiscal adjustment it has promised the European Commission in terms of its structural primary balance, and even if it does not slow expenditure to the full extent that it has announced, it is unlikely to continue its current expansionary fiscal policy stance beyond 2027.

Furthermore, Germany might well tighten fiscal policy further in its next medium-term plan, due in 2029. If the joint forecast of the German research institutes proves accurate and nominal GDP growth falls significantly short of the assumptions underpinning the current fiscal plan – implying that both the structural primary deficit and the overall budget deficit are substantially larger than projected by Germany's fiscal plan – the new plan from 2029 onward would require additional fiscal consolidation. Given Germany's economic size within the European Union, such developments could lead to a further increase of the EU current account surplus.

#### 4.3 Demographics

The EU population is expected to decline slightly from 453 million at the end of 2025 to 452 million by 2035 and 448 million by 2050 (excluding potential future enlargements), while the old-age dependency ratio is projected to rise sharply across all EU countries in the coming decades (European Commission, 2024).<sup>22</sup>

These demographic changes will have profound effects on labour, financial, and goods markets (Börsch-Supan et al., 2019; Darvas et al., 2025; Pinkus and Kirkegaard, 2025). In most EU countries, they are expected to increase public expenditure due to higher costs for pensions, long-term care, and healthcare (Pinkus and Ruer, 2025). The literature has also found that an increasing old-age dependency ratio has a significant negative effect on savings (Pascual-Saez et al., 2020) and may lead to declines in labour supply and productivity (Gardó et al., 2025). Pascual-Saez et al. (2020) also find that when controlling for the old-age dependency ratio, raising longevity increases savings.

22 The old-age dependency ratio is the ratio of the old-age population to the working-age population. This ratio gives an idea about the relative shift between potential retirees and potential workers and thus of how an ageing population alters the balance between beneficiaries and contributors.

According to the life-cycle hypothesis (Modigliani and Brumberg, 1954), individuals seek to smooth consumption over their lifetime, resulting in an inverted U-shaped pattern of savings: savings gradually increase during working life, while after retirement, pensioners draw down these savings to maintain a stable consumption pattern. Population ageing in Europe may therefore lead to a decline in the savings rate, reducing the bloc's current account surplus. However, this effect is directly applicable only to defined contribution systems, which in the European Union only exist in the Netherlands, Denmark, and Sweden. Consistently, Börsch-Supan et al. (2003) document drastic dissaving among the 75-year-old cohort in the Netherlands, a slight reduction in the saving rate for the 75-year-old cohort relative to the 40-year-old cohort in Germany, and virtually unchanged saving rates across age groups over 40 in France and Italy.

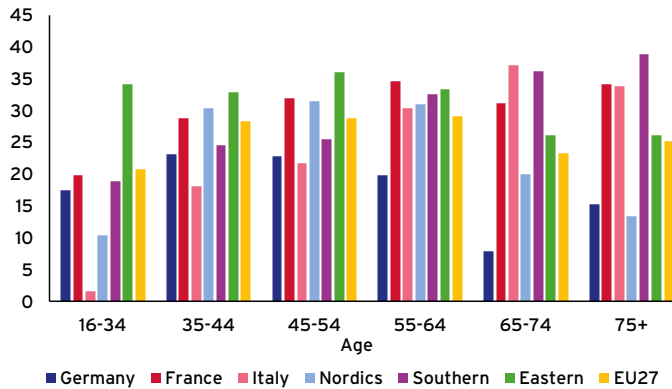
In pay-as-you go systems, the link between ageing populations, savings, and the current account is less clear, as it will depend on how the state reacts to the rising cost of pensions in the face of a rising dependency ratio. If it does so by debt-funding the pension system (as the German government has increasingly done), the public net balance and the current account surplus will decline. If it reacts by raising the retirement age and promoting the labour market opportunities of older workers, the current account surplus may similarly decline, this time via a reduction in the household net balance. But if it reduces the generosity of pension benefits or raises taxes to finance pension system deficits, the current account surplus might increase, as reduced pension generosity would incentivise greater private savings, while higher taxes could slow economic growth and boost precautionary savings. Even in such a case, the current account should eventually fall, as private savings are drawn down at some point. But this point may still be far away.

Evidence so far does not suggest widespread dissaving at older ages. Figure 10 shows positive saving rates even for the 75+ age cohort, only slightly below the peak saving rate observed among those aged 55-64. Using the ECB's Household Finance and Consumption Survey (HFCS) dataset, Gardó et al. (2025) similarly find that older cohorts continue to save, albeit at lower rates than prime-age workers. One interpretation is that in defined benefit systems, pensioners continue to save in anticipation of the potential costs of long-term care.<sup>23</sup> Dissaving occurs much later and often takes place after *inter vivos* transfers or unintentional bequests (if pensioners die of sudden illness), which reduce the saving needs of the next generation. Similarly, Auclert et al. (2021) argue that population ageing is not expected to cause a large breakdown in aggregate savings through dissaving by the elderly.

23 We thank Axel Börsch-Supan for pointing this out to us.

Overall, these arguments and the existing evidence suggest that the demographic transition is unlikely to reduce the European Union's current account surplus in the short term, with a reduction possibly occurring only in the medium to long run (Dao and Jones, 2018).

**FIGURE 10 MEDIAN SAVING RATE BY AGE OF THE HOUSEHOLD REFERENCE PERSON (PERCENT OF DISPOSABLE INCOME)**



Source: Bruegel based on Eurostat (online data code: icw\_sr\_01)

#### 4.4 Global spillovers

In our analysis so far, we have implicitly treated the European Union as a small open economy whose external balances are determined solely by domestic factors. However, this is not the case, since the European Union accounted for about 18% of the global economy in 2025, and since the mid-2010s it has been a major contributor to global imbalances.

In 2025, the combined surpluses of the European Union and China (including Hong Kong and Macao) were practically equal to the US deficit (Figure 1), while the rest of the world was broadly balanced.<sup>24</sup> Assuming that the surplus of the rest of the world and the missing deficit remain unchanged, the balances of the European Union, the United States, and China should add up to zero. Therefore, the European Union, the United States, and China should be viewed as large open economies whose domestically driven adjustments must offset each other.

Other chapters in this report analysing the United States and China suggest persistent current account imbalances, largely in line with the IMF projections reported in Figure 1, while risk scenarios could point to both larger and smaller imbalances.

<sup>24</sup> This means that the sum of reported surpluses and deficits of other countries matched the global reporting discrepancy (the deviation of the sum of all countries' balances from zero).

In his chapter, Balakrishnan argues that China's surplus could rise due to weaker domestic demand, further renminbi depreciation, or continued manufacturing-led rebalancing. The author notes that the US deficit could widen with looser fiscal policy and an AI-driven investment boom. However, there are also scenarios where Chinese and US imbalances might narrow – for example, a sharp correction in US asset prices, a recession, or stress related to the US NIIP and debt-heavy external liabilities. Such developments would have global repercussions and dampen worldwide growth. In his chapter, Milesi-Ferretti corroborates the risk of such a downside scenario, citing elevated asset prices and growing concerns about the sustainability of US public debt.

Jean argues that both US and Chinese imbalances are rooted in deep domestic distortions and are therefore likely to remain persistent – a prediction corroborated by Ma and Wei for China. The US current account deficit reflects structural macroeconomic forces, such as chronically low national savings, rather than trade policy. Past tariffs failed to reduce the deficit, making renewed tariff hikes unlikely to deliver meaningful adjustment. China's current account surplus is driven by excess savings, especially due to a high male-to-female sex ratio and financial underdevelopment limiting access to credit for private firms.<sup>25</sup> Weak consumption, reinforced by industrial policies and constrained exchange-rate flexibility, also contribute to China's surplus. Ma and Wei conclude that the Chinese surplus is likely to persist for another decade, as demographic and financial constraints remain in place. However, once demographic transition progresses and financial markets deepen, the surplus could decline sharply, and a delayed but rapid adjustment is likely in the longer term.

Overall, baseline projections indicate only slight reductions in the EU and Chinese current account surpluses and the US deficit, while alternative scenarios could lead to both larger and smaller imbalances in the United States and China, at least over the next decade. Consequently, there is no clear indication of the direction in which global spillovers might influence the European Union's balance over the next five to ten years.

## 5 CONCLUSION

With the sole exception of 2022, the year of the energy price shock, the EU current account has been consistently in the 2.5–3% of GDP range since 2013. This chapter sets out to investigate whether the surplus is likely to persist, whether this is a problem, and what, if anything, should be done about it.

Based on current expectations of growth, fiscal policy, demographic change, and imbalances elsewhere in the world, we see the EU current account as continuing in the current range for at least a decade. This view is subject to at least two caveats. First, if growth expectations by households and firms in the European Union deteriorate

25 According to Ma and Wei, an increase in the sex ratio intensifies competition in the marriage market, prompting men's parents to raise their saving rates, while concerns such as erosion of bargaining power and house price spillover do not result in offsetting savings rate reductions among families with daughters.

sharply, savings might rise and investment might decline, raising the European Union's surplus. We did not find evidence for such a break in growth expectations in the data, but this does not rule it out in the future. Second, a large and sustained increase in migration could increase the working-age population, change its skill mix, lower the dependency ratio, raise remittances, and possibly change trade patterns. Most of these effects go in the direction of reducing the current account surplus. But the size, and possibly even the direction, of the effect depend on the structure of migration – for instance, whether migration lowers skill mismatches or increases them, and whether it provides net fiscal benefits and reduces pressures on social safety nets or increases them.

Our second main conclusion is that neither the EU current account in the aggregate nor the individual current accounts of the four persistent EU surplus countries – Germany, the Netherlands, Denmark, and Sweden – threaten financial stability either globally or within the European Union.<sup>26</sup> However, the European Union's surplus may well reflect a problem: underinvestment or oversaving, or both, and hence lower growth and/or consumption relative to a counterfactual world with lower private and public net balances.

Based on this diagnosis, a standard view – reflected in policy advice by the European Commission and the IMF, for example – is that the best thing the European Union can do for both itself and the world is to implement policies that raise investment and growth. The policies recommended in the Draghi Report (Draghi, 2024) aim to drastically raise both public and private investment and to improve the intermediation from EU savings to EU investment. Such policies would also reduce the EU current account surplus.

By and large, we subscribe to this view, but with two caveats.

First, policy prescriptions to raise investment and growth are slightly less obvious than they might seem at first. While there is considerable overlap between the recommendations of various reports – for example, Draghi (2024), Letta (2024) and Demertzis et al. (2024) – there are also disagreements and blind spots. One source of disagreement is the extent to which public policy in the European Union should embrace industrial policy, and in what form. More broadly, the European Union is struggling with the balance between embracing structural change (even if it means losing or relocating significant parts of Europe's energy-intensive industry) or leaning against it (McWilliams et al., 2025; Zettelmeyer, 2025). Another point of disagreement – or perhaps uncertainty – is the extent to which better intermediation of EU savings through deeper and more unified capital markets per se can increase growth, or whether the binding constraints to EU investment have to do with labour and product market characteristics rather than availability of finance (Balakrishnan and Pradhan, 2025).

26 Neither does China's current account, which is about the same size. Indeed, concerns about China seem to be motivated primarily by its very large surplus in goods trade rather than its current account surplus.

The second caveat is that not all investment-inducing reforms can be expected to reduce the saving-investment balance. Of the four countries with the largest external surpluses in the European Union, two – Denmark and Sweden – also boast the highest investment rates and the fastest productivity growth in the Union. Hence, reforms that make the European Union more like Denmark or Sweden are unlikely to reduce the current account. Investment-raising reforms that operate through the availability of financing – for instance, a move to fully funded pension systems – also impact the volume of savings, possibly disproportionately. The impact of such reforms on the current account may depend on whether they are financed through higher public savings or higher government debt.

Having stated these caveats, it is easy to write down a list of reforms that would both be good for growth and reduce the current account through higher investment:

1. Reforms that reduce Single Market barriers, particularly in the services sector (Dom and Poitiers, 2025; Balakrishnan and Pradhan, 2025).
2. An EU-wide ‘Regime o’ for the incorporation of young firms, helping such firms to expand faster across the entire European Union (Scott Morton and Veugelers, 2025).
3. Supervisory integration, for example via a ‘decentralised ESMA’ model, benefiting the integration of capital markets (Véron, 2025).
4. Product and labour market reforms that improve the business environment and incentives to invest (Pfeiffer et al., 2024). For example, labour market reforms that reduce the costs of entrepreneurial failure while maintain high protection of individual workers could make it easier for startups to gain scale (Aghion et al., 2016; Aghion and Mhammedi, 2021; Coatanlem and Coste, 2024).
5. A reform of the fiscal rules that strengthen public investment (Pench, 2025; Darvas et al., 2025).
6. Policy efforts to attract more FDI to Europe, including from China.

In addition, reforms that raise labour market participation of older workers could reduce savings, while also raising output and bolstering fiscal sustainability (IMF, 2024).

To conclude, the European Union’s current account surplus does not pose an imminent threat to international financial stability, but it does expose structural weaknesses. The urgency of addressing these weaknesses has increased in part because external imbalances are an increasingly a source of geopolitical friction, and in part because of the cost of delaying reform in a situation in which the European Union’s traditional industrial strengths are increasingly embattled.

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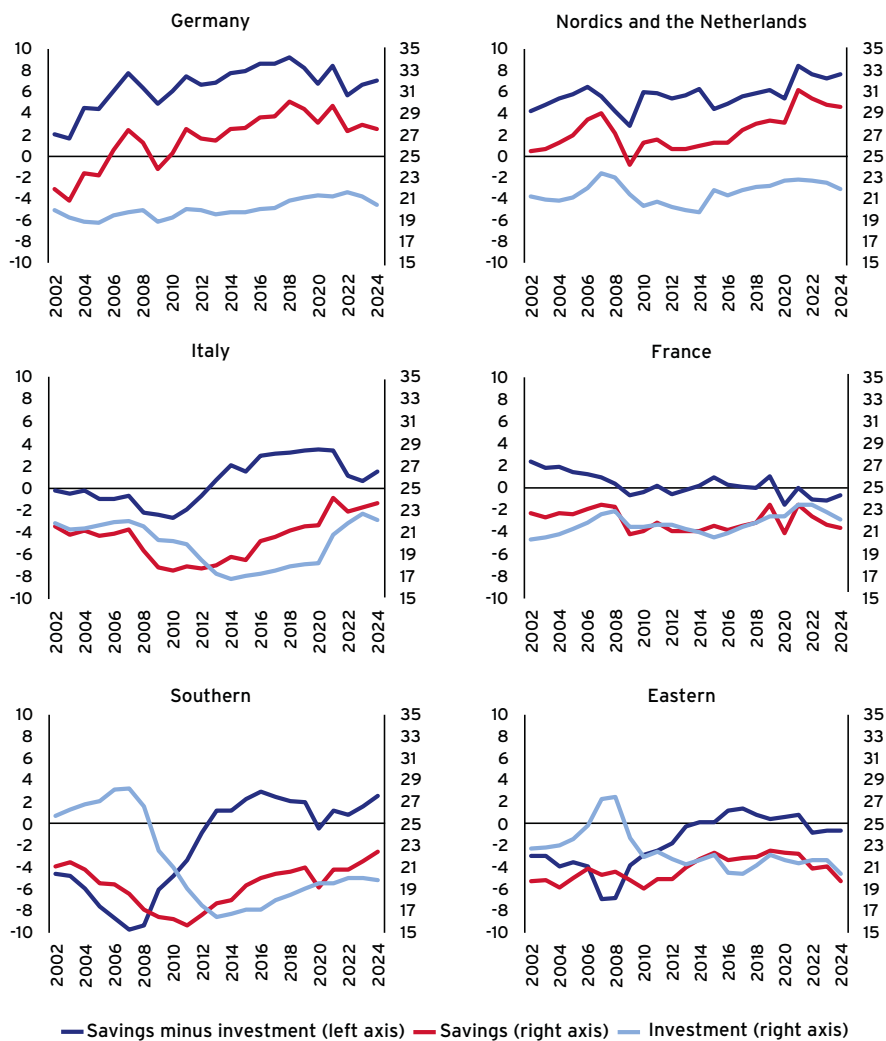
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## ANNEX

FIGURE A1 SAVINGS AND INVESTMENT BY EU COUNTRIES OR COUNTRY GROUPS (PERCENT OF COUNTRY OR COUNTRY GROUP GDP)



Source: Bruegel based on Eurostat (online data code: `sdg_08` and `nasa_10_nf_tr`) and European Commission (AMECO database).

# The European Union under pressure? Exploring Chinese trade deflection

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## 1 INTRODUCTION

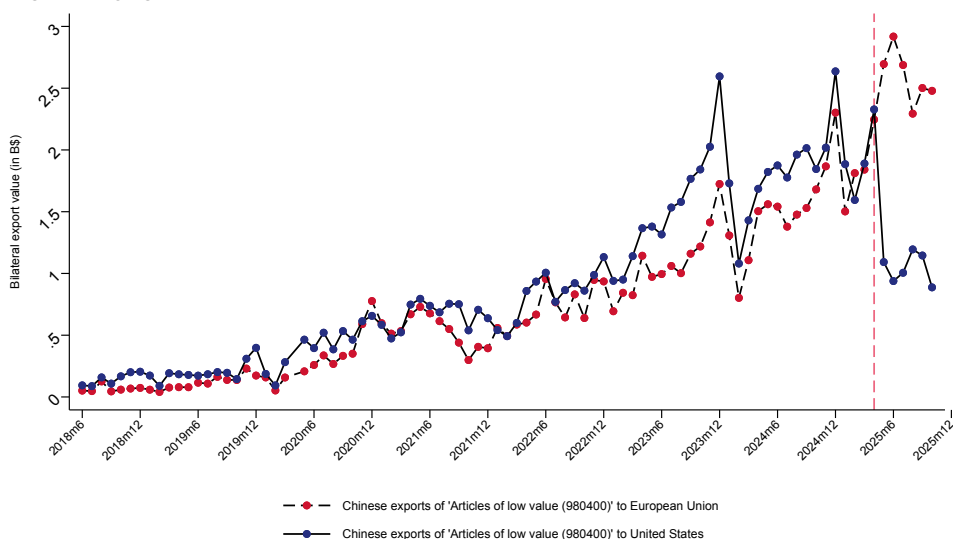
Over the last decade, US trade policy has increasingly relied on discriminatory tariffs, most prominently against China. The resulting sharp decline in exports to the United States constitutes a large supply-side shock, which has been absorbed in part through the redirection of Chinese exports towards third markets, reshaping the geography of Chinese trade. This deflection has become a major concern for several economies, including the European Union. Following discussions with China's premier, Commission President Ursula von der Leyen noted that recent US tariff actions have created “widespread disruption” in global trade flows, raising concerns in Brussels about spillovers into the European market. While such trade deflection can lower consumer prices, it may also intensify import competition in narrowly defined product markets, generating adjustment costs for domestic producers.

The scale and speed of this redirection are nicely illustrated by the case of *de minimis* goods – low-value products that benefited from a tax exemption in the United States until its suspension on 2 May 2025. Figure 1 shows that immediately after tariffs were introduced, US imports of these products collapsed. At the same time, imports of the same goods from China into the European Union rose sharply, increasing by more than US\$500 million between April and June 2025. This sudden inflow of low-priced products has been reported to put pressure on European retailers.<sup>2</sup>

1 We thank Houssein Guimbard for his help with the tariffs data.

2 For comparison purposes, Figure A1 illustrates the dynamics of Chinese exports of electric vehicles (EVs) to the United States and the European Union. Although European imports have more than tripled in the last four years, we do not consider this a form of deflection. First, the rise in Chinese exports to the European Union is not correlated with a decrease in US imports. Second, the timing of the increase is uncorrelated with trade war episodes (President Biden increased tariffs on EV imports from China by 100% in May 2024). Instead, European imports start rising during the COVID period, when subsidies to electric car purchases boosted demand, benefiting Chinese producers.

FIGURE 1 CHINESE EXPORTS OF LOW-VALUE ARTICLES (HS 980400): US VERSUS EU DESTINATIONS



Source: Global Trade Tracker.

In this chapter, we ask whether the anecdotal evidence from *de minimis* imports reflects the broader impact of President Trump's discriminatory tariffs. We address this question using reduced-form evidence on the redirection of Chinese exports away from the United States, exploiting the two 'Trump trade wars' as natural experiments. The 2018-2019 trade war targeted China almost exclusively through seven successive waves of tariffs, which we leverage in a staggered difference-in-differences framework. China immediately responded with counter-tariffs on imports from the United States, while simultaneously reducing its most-favoured nation (MFN) tariffs applied to third countries. The 2025 trade war continued to hit China most heavily: by November 2025, average US tariffs on Chinese imports reached 45.8%, up 21 percentage points relative to January, compared with increases of close to 10 percentage points towards the European Union, the United Kingdom, and Japan. Simultaneously, a number of products were exempted from these tariffs, providing additional variation that we exploit for identification purposes.

The US-China trade war is expected to affect EU trade through three main channels. First, trade deflection may redirect Chinese exports away from the United States and towards third markets, including the European Union. Second, trade diversion, the reallocation of US demand away from China, could increase EU exports to the United States. Third, Chinese retaliatory tariffs on US goods may similarly increase EU exports to China. In this chapter, we focus on the first and third channels. The second channel – trade diversion on the US market – is investigated in Fajgelbaum et al. (2024) using

data over the 2018–2019 trade war, while Alfaro and Chor (2025) provide preliminary evidence covering the 2025 tariff increases. Both papers suggest that Mexico and Vietnam are the main beneficiaries of the trade diversion. The impact on the European Union is more limited.

Building on this context, we use monthly data on Chinese exports by product and destination to study how US tariffs affected the geographic allocation of exports. Our approach resembles a difference-in-differences design, exploiting heterogeneous treatment of Chinese products in the US market during the first and second Trump trade wars. The framework includes product-specific bilateral fixed effects, isolating pre- and post-tariff dynamics, as well as either period or destination $\times$ period fixed effects. The most ‘saturated’ specification (that is, the specification with the most control variables) uses destination-period fixed effects; hence, the estimation is based only on variation across products. In contrast, the specification that exploits period fixed effects rather than destination-period fixed effects additionally exploits variation across destinations. This fixed-effect structure allows us to estimate the elasticity of Chinese exports to third countries, capturing how products most affected by US tariffs were redirected toward alternative markets.

Focusing on the 2018–2019 trade war, we find evidence that Chinese exports were redirected toward third countries, including the European Union. Compared to never-treated or not-yet-treated products, exports in product markets targeted by US tariffs were 9% higher towards the European Union six months after the tariffs were introduced and 14% higher after 15 months. In comparison, the diversion towards Vietnam — previously documented by Alfaro and Chor (2023) and Freund et al. (2024) — reaches 18% after 15 months. Quantitatively, the magnitude of the deflection to Europe is non-negligible: a back-of-the-envelope calculation suggests that roughly one-third of the decline in US imports could have been absorbed by the European Union during the 2018–2019 trade war. Our analysis of trade diversion shows that European exports to China increased significantly in product markets that benefited from a reduction in the Chinese MFN tariff, but did not increase in markets targeted by retaliatory tariffs on US imports.

The dynamics of trade in the first six months after “Liberation Day” were markedly different. We do not find evidence that exports to the United States fell more sharply for treated products compared to exempted products.<sup>3</sup> This suggests that the overall decline in Chinese exports to the United States has not been primarily driven by trade price elasticities. Instead, the substantial uncertainty surrounding the timing of announcements may have contributed to the contraction. Whether these flows will recover once the situation stabilises remains an open question. From the perspective of trade deflection, the absence of a differential contraction complicates identification. Using a less saturated specification that leverages variation across products and destinations, we confirm a relative decline in exports to the United States. However, we

3 This holds when exploiting the intensity of treatment rather than the binary distinction between treated and exempted products.

do not observe a corresponding increase in exports to the European Union for products experiencing the largest US contraction. As of November 2025, this divergence cannot be attributed primarily to trade deflection, and the evidence on redirection remains inconclusive.

We next examine cross-product heterogeneity. During the 2018-2019 trade war, the most affected EU markets were Precious Metals, Vegetable Products, Pulp & Paper, Fats & Oils, and Base Metals (including aluminium and steel, already taxed under Section 232). In the 2025 episode, the largest deflection occurs for Animal Products and Fats & Oils, although estimated elasticities are not statistically significant at conventional levels. In both episodes, trade deflection appears stronger for final consumption goods, products entering downstream in value chains, products with higher price elasticity, and low-stickiness products. Actually, in the 2025 episode, trade deflection is statistically significant for low-stickiness products, while sticky product markets show little response. This heterogeneity is consistent with the literature on sticky trade (e.g., Grossman et al., 2024), which predicts that tariffs in sticky markets do not substantially reshape the geography of trade, as firms prefer to absorb variable costs rather than incur fixed costs to switch partners.

Overall, our results suggest that concerns about trade deflection from China are not unfounded. During the 2018-2019 US-China trade war, the European Union absorbed a substantial share of goods that were no longer exported to the United States. In the ongoing trade war, the overall level of trade deflection remains limited, although imports of certain low-stickiness products have risen significantly. While trade deflection is not inherently problematic, it can locally affect the competitiveness of European producers. In this context, monitoring mechanisms and safeguard instruments could help firms adjust to these shocks and mitigate competitive pressures. In the last section, we propose a quantitative methodology to monitor products at risk of redirection to third markets. For the European Union, it flags 235 products in the last quarter up to November, representing 7.7% of Chinese exports to the European Union.

## 1.1 Literature review

Since the onset of the US-China trade war, a large literature has documented the impact of tariffs on trade flows and prices. Early work shows substantial pass-through of tariffs to US import prices and sharp bilateral trade adjustments, with retaliatory measures further disrupting US exports (Fajgelbaum et al., 2020; Fajgelbaum and Khandelwal, 2022). Subsequent contributions emphasise how these shocks reshaped the geography of US imports. Using highly disaggregated data, Freund et al. (2024) and Fajgelbaum et al. (2024) document a sustained decline in China's share of US imports and a reallocation of sourcing towards alternative suppliers in product markets most exposed to tariffs, with heterogeneous responses across countries and sectors.<sup>4</sup>

4 See also Alfaro and Chor (2025) on the reorganisation of supply chains, up until 2025.

Closer to our focus, Evenett and Martin (2025) analyse trade deflection from China, defined as the redirection of Chinese exports toward third markets during the first US-China trade war. Using highly disaggregated customs data, they provide direct evidence that products facing higher US tariffs were increasingly shipped to non-US destinations, with substantial heterogeneity across importing countries.

Few studies explicitly examine whether US tariffs led to a redirection of Chinese exports toward the European Union. Two recent CGE-based analyses by Bouet et al. (2024) and Bouet (2025) quantify how different US tariff scenarios affect China's export allocation and find that part of the lost US market is redirected towards alternative destinations, including the European Union, although aggregate effects remain limited. This chapter complements these studies by providing reduced-form evidence at the product level, allowing us to document heterogeneous trade deflection patterns across destinations and sectors.

The remainder of the chapter is organised as follows. Section 2 documents the evolution of tariffs across the two waves of the US-China trade war. Section 3 describes the data and empirical strategy. Section 4 presents the main results for the first and second Trump tariff episodes and examines heterogeneity in deflection risks across industries and product characteristics. Section 5 then proposes a methodology to identify products most exposed to deflection, with a particular focus on the European Union. Section 6 concludes.

## 2 CONTEXT

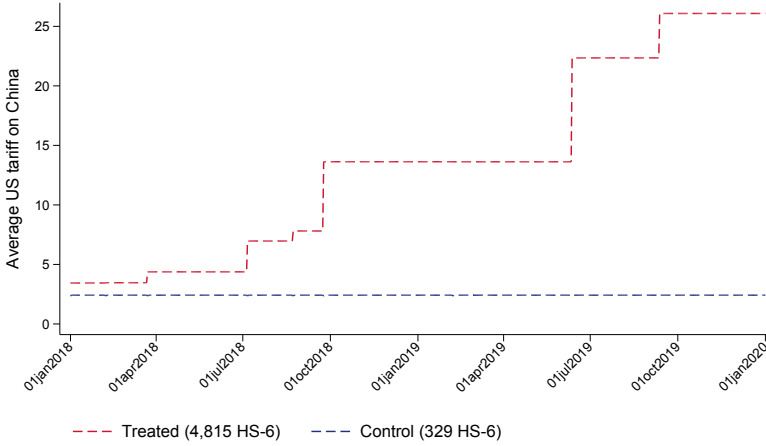
### 2.1 The 2018-2019 trade war

During his first presidency, Donald Trump imposed substantial discriminatory tariffs on China, alongside universal tariffs on steel and aluminium.<sup>5</sup> Under Section 301 of the 1974 Trade Act, the administration implemented several waves of tariffs on Chinese imports, beginning in February 2018 (Figure 2, top panel). The scope of targeted products expanded rapidly, from five HS6 products in February 2018 to more than 1,800 by September 2018, followed by an additional 592 products in September 2019. As a result, the average tariff on US imports from China increased from 3% in 2017 to 19%, ultimately covering more than half of Chinese exports to the United States (Bown, 2021).

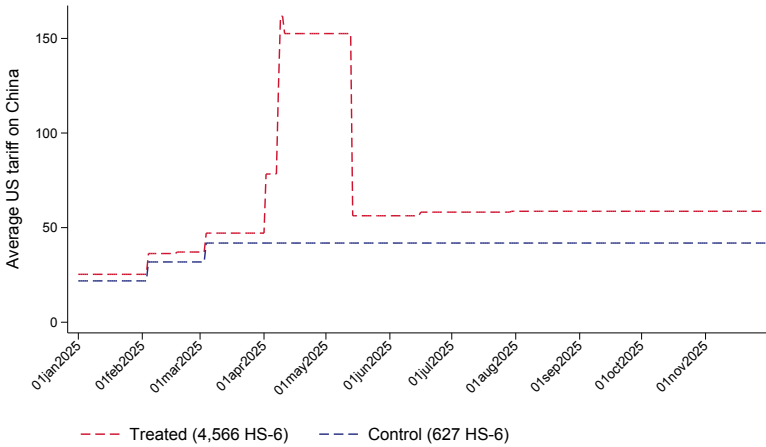
5 Tariffs on steel and aluminium increased by 25% and 10%, respectively, with country exemptions. The measures were justified under Section 232 of the 1962 Trade Expansion Act.

FIGURE 2 US TRADE-WEIGHTED AVERAGE TARIFF AGAINST CHINA

## a) Trump I



## b) Trump II



Note: The "Control" products for the Trump I period correspond to products that were never treated. Under Trump II, control products are those that were exempted after Liberation Day.

Source: Tariffs are from Bown (2021) and the trade data from Global Trade Tracker.

## 2.2 "Liberation Day" and the second trade war

During his second presidency, Donald Trump sharply escalated tariff protection, again with a strong focus on China. In February and March 2025, the United States imposed two successive universal "Fentanyl" tariff increases of 10 percentage points each on Chinese imports. On 2 April, the "Liberation Day" measures added a further 34 percentage points. Subsequent rounds of reciprocal retaliation briefly pushed some tariff rates to extremely high levels, before negotiations on 14 May resulted in a net increase of 10 percentage points on top of the February-March measures (Figure 2, bottom panel). These tariff increases were accompanied by a set of product-level

exemptions, which we exploit for identification. Finally, on 2 May 2025, the United States ended the *de minimis* treatment for low-value Chinese imports, a change that was later extended to other countries.<sup>6</sup>

Other countries faced additional tariffs under Section 232 and the Liberation Day measures, but these were generally smaller and often adjusted through bilateral deals. By mid-April, the Liberation Day tariffs stood at 10%, and subsequent agreements in July raised them to 15% for the European Union, Japan, and South Korea, and by 10 percentage points for the United Kingdom. Accounting for exemptions, the effective tariff increase for most high-income countries was roughly 10 percentage points, well below the increase applied to China.

Comparing the two Trump tariff episodes highlights large increases in average tariffs in both periods, though starting from a lower baseline in 2017 than in 2024, and with more uncertainty and back-and-forth announcements in the second episode. One difference concerns product exemptions: some products were exempted throughout the first Trump presidency, whereas the February–March 2025 “fentanyl” tariffs applied to all products, with exemptions only introduced under the Liberation Day measures. At the product level, tariff increases in 2018–2019 (+10 to +30 percentage points, mode +25) are similar in magnitude to those from February to November 2025 (+10 to +50 percentage points). However, the difference between exempted and non-exempted products is fairly limited in the Trump II experiment (10 percentage points from May 2025).

### 3 DATA AND EMPIRICAL STRATEGY

Data are drawn from the Global Trade Tracker Database (GTT), which provides detailed customs data at the monthly level. We use Chinese export data to all partner countries from January 2015 to October 2025 at the HS-6 digit product level (revision 2012). The analysis is restricted to the most relevant products in the US-China trade relationship: our estimation sample includes 2,621 HS-6 products (out of 5,065) for which the US market accounted for more than 5% of Chinese exports in 2017. These products represent 98% of Chinese exports to the US, 89% of Chinese exports to the European Union, and 78% of the total value of Chinese exports.

The empirical strategy relies on a difference-in-differences design comparing treated and non-treated products. Formally, we estimate the following equation for a product  $p$  exported from China (CN) to destination  $d$  at month-year  $t$ :

$$Y_{CN,d,p,t} = \sum_g \sum_{\tau=-T}^T \beta_{\tau}^g \mathbb{1}(d \in g) \times \mathbb{1}(p \in Treated) \times \mathbb{1}(t - t_{p,0} = \tau) + \alpha_{CN,d,p} + \alpha_{(d),t} + \alpha_{p,m} + \varepsilon_{CN,d,p,t} \quad (1)$$

6 Shipments below \$800 could previously enter the United States duty-free.

Here,  $Y_{CN,d,p,t}$  is the log value, volume, or unit value of exports. The dummy  $\mathbb{1}(p \in Treated)$  identifies treated products. The variable  $\mathbb{1}(t - t_{p,0} = \tau)$  measures time relative to treatment, using a window of +/- 15 months.  $\mathbb{1}(d \in g)$  identifies destinations in group  $g \in \{\text{United States, European Union, Vietnam, Canada, Mexico, Japan, South Korea, RoW}\}$ .

The coefficient of interest,  $\beta_{\tau}^g$ , captures the impact of the tariff treatment on exports to destination  $g$ ,  $\tau$  months after implementation. Fixed effects control for time invariant product-destination characteristics ( $\alpha_{CN,d,p}$ ), aggregate export dynamics ( $\alpha_t$ ), and product-specific monthly seasonality ( $\alpha_{p,m}$ ).<sup>7</sup> When possible, we further saturate the model with destination $\times$ period fixed effects ( $\alpha_{d,t}$ ), so that the treatment effect is identified solely from differences in the dynamics of treated and untreated products.

We also estimate a specification exploiting treatment intensity, replacing the dummy  $\mathbb{1}(p \in Treated)$  with  $\Delta\tau_p$ , the percentage point increase in US tariffs for each product (zero for exempted products). The baseline model is estimated by OLS with standard errors clustered at the HS-6 product level.<sup>8</sup>

For the 2018-2019 trade war, the treatment dates are February, March, July, August, September 2018, and February, June, and September 2019. In this sample, 198 HS-6 products were never treated, while many others serve as not-yet-treated controls. We do not consider trade data post-February 2020 to avoid confounding effects from the COVID-19 pandemic. For the Trump II period, identification exploits exemptions to the Liberation Day tariffs.<sup>9</sup> The treatment date is April 2025, and we have 305 HS6 products which are untreated in this setting.<sup>10</sup>

## 4 RESULTS

### 4.1 Trump I

Figure 3 illustrates the dynamics of Chinese exports to the United States and the European Union around the tariff increases. The upper panel reports results with period fixed effects ( $\alpha_t$ ), while the lower panel shows the most saturated specification with destination-period fixed effects ( $\alpha_{dt}$ ). Both specifications reveal similar patterns: exports to the United States decline sharply in targeted product markets, while exports to the European Union rise, reflecting trade deflection. The saturated model indicates a gradual increase in EU-bound exports, cumulating at 14% fifteen months after the tariffs, compared with a 30% decline in exports to the United States. The level

7 While the main regression focuses on a 30-month window around the treatment, the product-month fixed effects are estimated over the entire sample period in a first stage, and trade flows are residualised accordingly.

8 Given the staggered design with heterogeneous treatment intensity, we also test robustness using the estimator in de Chaisemartin and d'Haultfoeuille (2024).

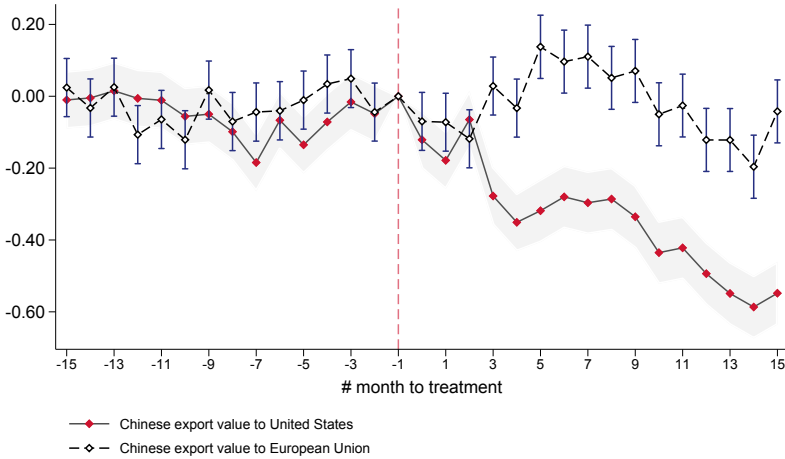
9 The “fentanyl” tariffs applied to all Chinese products.

10 The number of untreated products differs from Figure 2 due to the restriction on the most relevant products in the US-China trade relationship.

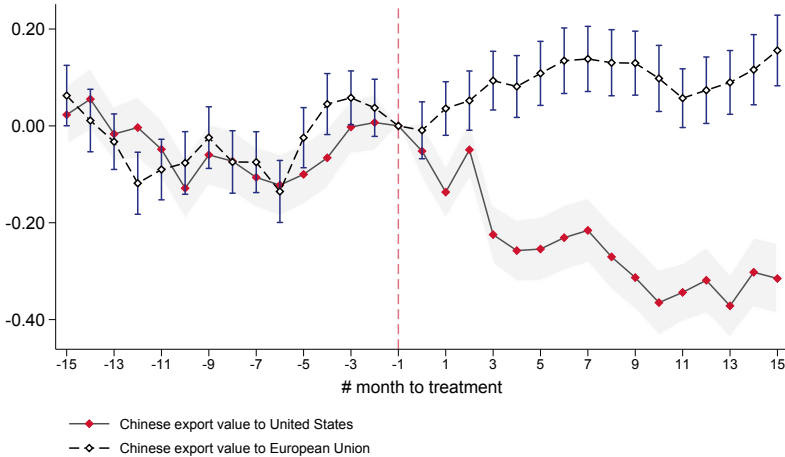
of trade deflection is not negligible. Taking into account the difference in pre-Trump export levels to the United States and the European Union for treated products, these estimates imply that about one third of Chinese exports targeted by Trump I tariffs were redirected to the European Union.

**FIGURE 3 IMPACT OF TRUMP I TARIFFS ON CHINESE EXPORTS: US VERSUS EU**

a) Across products and destinations ( $\alpha_t$  FE)



b) Across products ( $\alpha_{dt}$  FE)



Note: The LHS variable is the log value of Chinese exports, before and after the implementation of tariffs. The top panel uses the specification in (1) using  $\alpha_t$  fixed effects. The bottom panel uses  $\alpha_{dt}$  fixed effects. The red dots correspond to the dynamics of exports to the US ( $g = \text{US}$ ). The black dots correspond to the EU ( $g = \text{EU}$ ).

Source: Authors' computations using Global Trade Tracker.

Additional results are provided in Appendix A. First, we decompose the aggregate effect into price and volume effects. Results summarised in Figure A3 show that the effect is entirely driven by adjustments in the volume of EU imports. We also examine the robustness of the results using an estimator that is not biased by heterogeneous treatment effects. The dynamics of US exports estimated by OLS and using de

Chaisemartin and d’Haultfoeuille (2024) are almost identical (Figure A4). Similarly, the results are robust to using a larger number of destination×product×month fixed effects to control for seasonality (Figure A5). They are qualitatively unchanged when the estimated model exploits the intensity of the treatment (Figure A6).

Until now, the focus has been entirely on adjustments at the intensive margin. In Figure A7, we examine responses at the extensive margin. Using a linear probability model (top panel), we do not find evidence that the number of positive trade flows to the European Union increases after the tariffs, while the likelihood that China exports to the United States is somewhat reduced. Further controlling for these zeros in the baseline estimation using a PPML model does not change the main insights from Figure 3.

## 4.2 Trump II

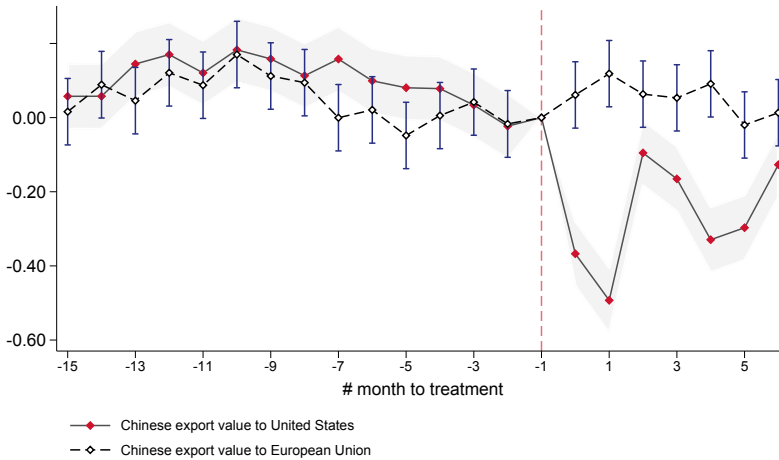
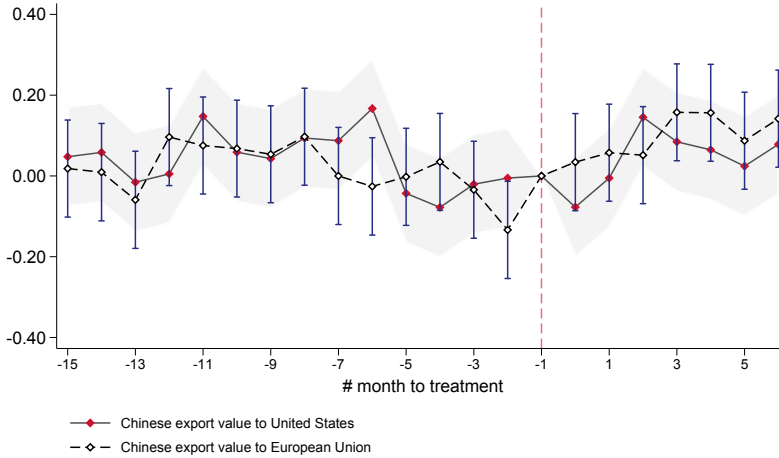
Figure 4 replicates the exercise, focusing on the dynamics of Chinese exports before and after Liberation Day. As expected, the value of Chinese exports to the United States decreases sharply after the introduction of the tariffs, particularly in June and July 2025 (top panel, red dots). Coefficients for EU exports are not statistically different from zero, suggesting that trade deflection toward the European Union is limited, despite the large and rapid contraction in US imports.

Moreover, in the most saturated model, which relies solely on cross-product variability, neither the coefficients for US exports nor for EU exports show any clear pattern. Since April 2025, the dynamics of Chinese exports have not differed significantly depending on product-level exposure.<sup>11</sup> One possible explanation is that the dominant factor affecting Chinese exports since Liberation Day is the massive uncertainty shock, which may have caused a large contraction of trade across all product markets, outweighing the responsiveness of export flows to the price increases associated with the tariffs. Consequently, using the most saturated model to estimate trade deflection is not feasible for the most recent period. For the remainder of the analysis, we therefore report results from the less saturated model.

In Appendix A, we replicate the robustness analysis described in Section 4.1 for the most recent sample period. Results are broadly consistent, although the impact of the tariffs on EU imports is slightly positive in the PPML specification (Figure A11, bottom panel).

11 Results using the intensity of the treatment confirm this statement (see Figure A8).

FIGURE 4 IMPACT OF TRUMP II TARIFFS ON CHINESE EXPORTS: US VERSUS EU

a) Across products & destinations ( $\alpha_t$  FE)b) Across products ( $\alpha_{dt}$  FE)

Note: The LHS variable is the log value of Chinese exports, before and after the implementation of the tariffs. The top panel uses the specification in (1) with  $\alpha_t$  fixed effects. The bottom panel uses  $\alpha_{dt}$  fixed effects. Red dots correspond to exports to the US ( $g = \text{US}$ ), and black dots correspond to the EU ( $g = \text{EU}$ ).

Source: Authors' computations using Global Trade Tracker.

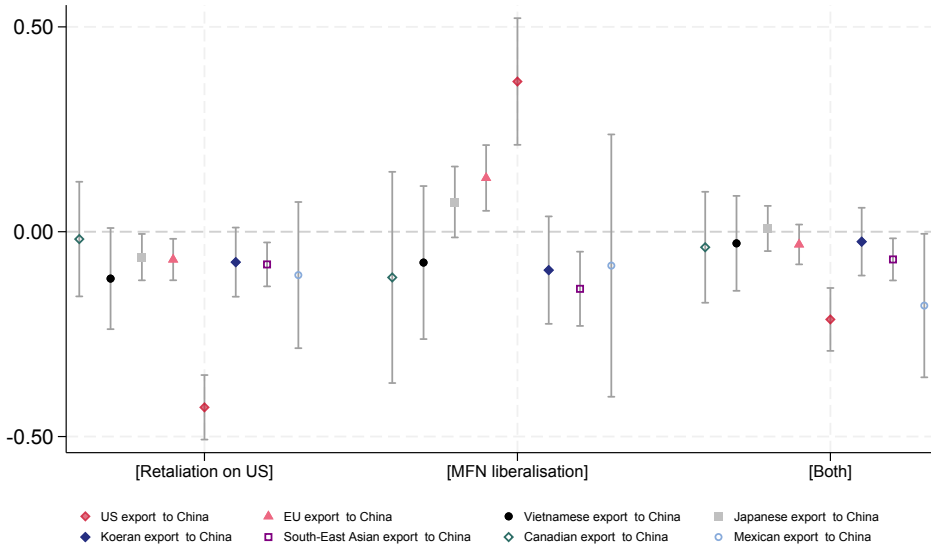
### 4.3 Chinese retaliation and Europe gaining market shares

Our results so far indicate that the Trump I tariffs generated international spillovers through the deflection of trade toward the European Union. Although our focus is on the deflection of Chinese exports, it is natural to ask whether, in return, European exporters have benefited from China's retaliatory tariffs, which reduced market access for US firms. We address this question using a similar staggered difference-in-differences approach.

Specifically, we estimate a version of equation (1) with the LHS variable as the log of exports from country  $d$  to China. Treated products are those exposed to China's retaliatory tariffs, and treatment timing corresponds to the different tariff waves. In this setup,  $\beta_{\tau}^{US}$  measures the evolution of US exports to China  $\tau$  periods after treatment, while  $\beta_{\tau}^{EU}$  measures the corresponding dynamics for European exports. If China partially substitutes European for US products, we expect  $\beta_{\tau}^{US} < 0$  and  $\beta_{\tau}^{EU} > 0$ .

Results are summarised in Figure 5. We estimate the model separately for three categories of treatment. The first (left panel) focuses on products targeted by China's retaliatory tariffs. During this period, China also reduced its MFN tariffs in a number of product markets, which could blur the effect of the retaliatory tariffs alone. To account for this, the second panel isolates the impact of these MFN reductions. Finally, the third panel shows the combined effect of both types of adjustments, capturing the net change in exports resulting from China's trade policy measures.

FIGURE 5 IMPACT OF CHINESE RETALIATION DURING THE TRUMP I TRADE WAR



Note: The left-hand-side variable is the log value of each country's exports to China. The left panel reports estimates around the imposition of China's retaliatory tariffs on US, the middle panel around reductions in China's MFN tariffs, and the right panel around either type of tariff change.

Source: Authors' computations using GTT.

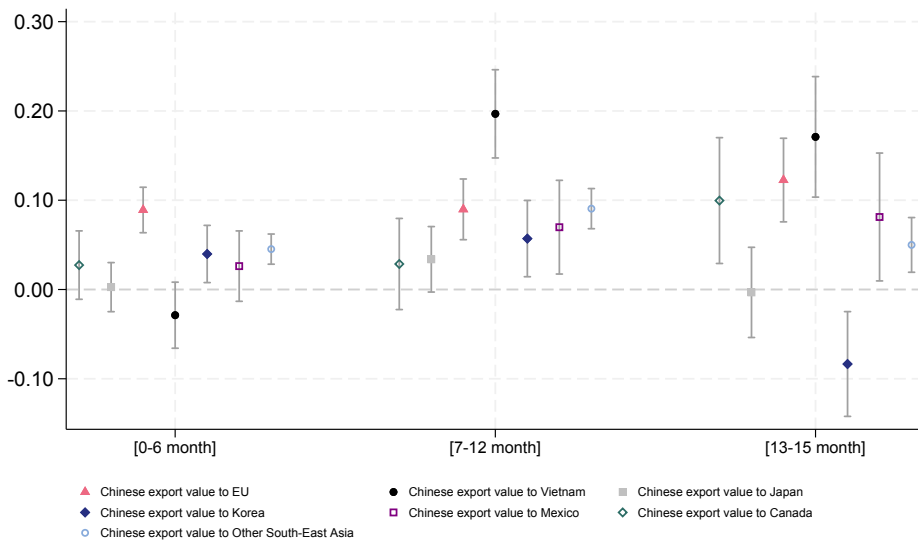
First consider the impact on US exports (red diamonds). As expected, retaliatory tariffs lead to a decline in US exports to China, while reductions in China's MFN tariffs tend to benefit US exporters. When both types of products are treated jointly, the net effect is a contraction of US exports of about 19%. Do European exporters benefit from the reduced market access faced by US firms in China? The evidence suggests that they do not. The pink triangles indicate that EU exports to China increase in product markets that benefit from reductions in the MFN tariff, whereas the effect of retaliatory tariffs

on European exports is not statistically significant and, if anything, slightly negative. A plausible explanation is limited substitutability between US and European products in the Chinese market, which constrains the ability of European exporters to gain from the trade war.

#### 4.4 Heterogeneity analysis

Having shown that the Trump I tariffs generated significant trade deflection toward the European Union, whereas the Trump II tariffs did not on average, we turn to the heterogeneity underlying these findings. Figure 6 contrasts trade deflection toward the European Union with deflection toward other destinations of Chinese exports during the 2018-2019 trade war.<sup>12</sup> For each destination group, we estimate trade elasticities over three horizons: 0-6 months, 7-12 months, and 13-15 months.

FIGURE 6 IMPACT OF TRUMP I TARIFFS ON CHINESE EXPORTS, ACROSS THIRD COUNTRIES



Note: The dependent variable is the log value of Chinese exports. Estimates are obtained from a specification with destination×time fixed effects ( $\alpha_{dt}$ ).

Source: Authors' computations using Global Trade Tracker data.

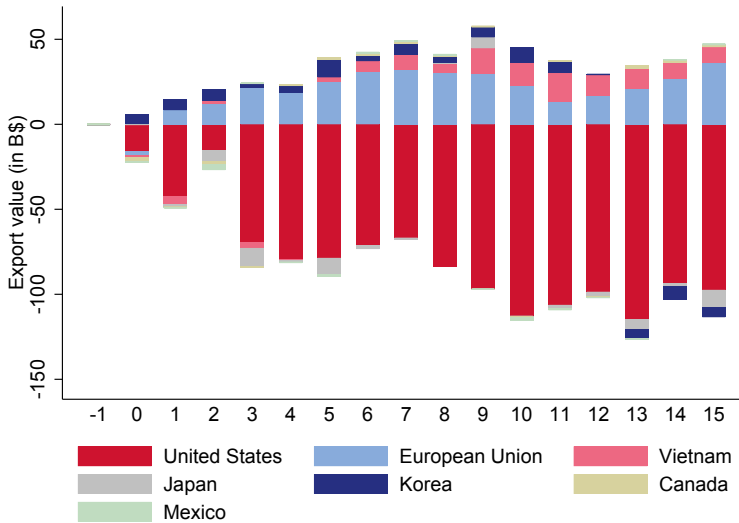
Results confirm a positive and increasing effect of tariffs on Chinese exports to the European Union (pink triangles), although the coefficient is not statistically significant in the first six months following Liberation Day (pink diamond in Figure A12). Relative to other third destinations, the expansion of exports to Europe is largest over the first six months after the implementation of the 2018-2019 tariffs on Chinese products. At longer horizons, export growth toward Vietnam becomes slightly larger (black circles), while the European Union's experience is closer to that of Mexico and Canada.

<sup>12</sup> Results for the 2025 period are reported in Figure A12.

The deflection toward Vietnam is consistent with the evidence in Alfaro and Chor (2025), who interpret these patterns as Chinese exporters bypassing US tariffs through re-exports via Vietnam. If this channel primarily serves the US market, it is natural that the adjustment unfolds gradually. By contrast, the more immediate response toward the European Union is consistent with a direct absorption of cheaper Chinese products in European markets.

Between April and October 2025, we do not observe a comparable pattern for other major destinations of Chinese exports (Figure A12). Instead, exports to Japan, South Korea, and Mexico decline over this period, potentially reflecting spillovers from reduced US demand through integrated value chains in East Asia and North America. In Figure 7, we present a back-of-the-envelope decomposition of trade deflection during Trump I, combining the estimated elasticities with pre-tariff export values for treated products. Fifteen months after the tariffs, exports to the US have fallen by a cumulative \$100 billion. Roughly one-third of this decline is offset by increased exports to the European Union. In contrast, deflection to other third countries is limited, particularly to Vietnam, where pre-shock export values were much smaller.<sup>13</sup>

**FIGURE 7 QUANTIFYING TRADE DEFLECTION DURING TRUMP I: A BACK-OF-THE-ENVELOPE CALCULATION**



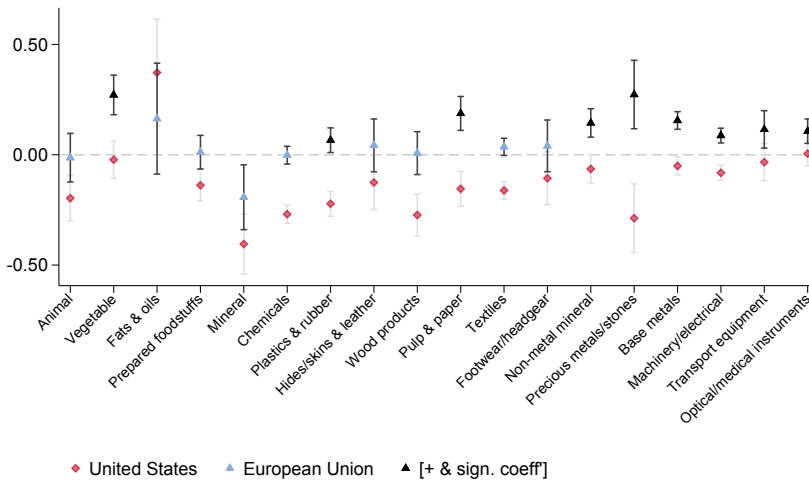
Note: The figure combines the elasticities estimated in Figure 6 with pre-tariff export data to construct a back-of-the-envelope decomposition of the value of trade deflection.

Source: Authors' computations using Global Trade Trackers.

<sup>13</sup> Note that in principle, the deflection of Chinese exports to third markets could amplify the supply shock for European producers, through increased competitive pressures in foreign markets. Evidence in Figure 7, however, suggest that the consequences for European producers are likely limited given the mild volume of Chinese exports deflected to third markets.

Figure 8 examines heterogeneity across HS chapters for the Trump I tariffs (Figure A13 in Appendix A does the same for the Trump II tariffs). During Trump I, the largest redirection of Chinese exports toward the European Union occurs in Precious Metals (+27%), Vegetable Products (+27%), Pulp & Paper (+19%), Fat & Oils (+16%), and Base Metals (+16%). In the Trump II period, none of the estimated coefficients is statistically significant, though point estimates are slightly higher for Fats & Oils (+35%) and Animal Products (+20%).

**FIGURE 8 IMPACT OF TRUMP I TARIFFS ON CHINESE EXPORTS: COMPARISON ACROSS HS CHAPTERS**



Note: The LHS variable is the log value of Chinese exports. Estimates are obtained from a specification with destination\*time fixed effects ( $\alpha_{gt}$ ).

Source: Authors' computations using Global Trade Trackers.

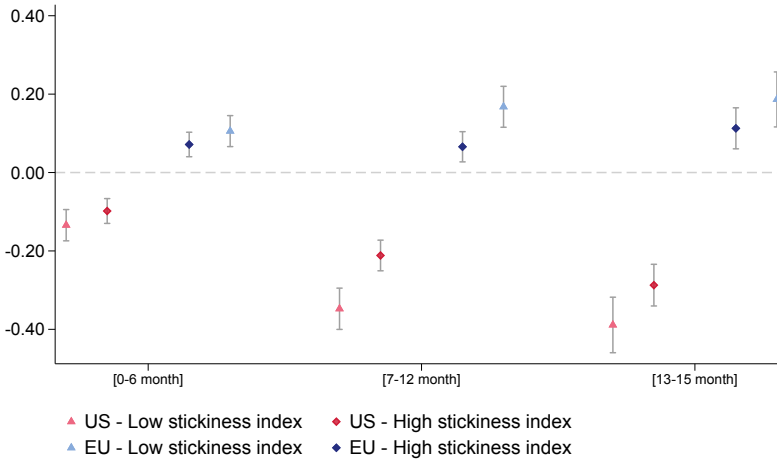
In Table A1 in Appendix A, we explore additional dimensions of heterogeneity, including final versus intermediate products, high- versus low-stickiness products, high- versus low-trade elasticities, high- versus low-upstreamness products, and products more or less exposed to tariffs or to the contraction in US demand. Surprisingly, deflection toward Europe does not appear stronger in product markets experiencing the largest decline in US imports (column 5). Instead, it is somewhat more pronounced where tariff increases are larger (column 6). While results vary across horizons, trade deflection toward Europe tends to be slightly higher for final consumption goods compared to intermediate or capital products, for products with low stickiness, and for less upstream products.

The role of stickiness is further illustrated in Figure 9 for both trade wars. In each case, the contraction of US imports is slightly more pronounced in low-stickiness markets, although not statistically significant. Similarly, the growth of EU imports is larger in these markets. Notably, the coefficient estimated for the six months following Liberation Day is statistically significant for EU exports in low-stickiness product markets. This pattern aligns with the literature on sticky trade (e.g. Grossman et al., 2024), which predicts heterogeneous tariff effects depending on the magnitude of market frictions

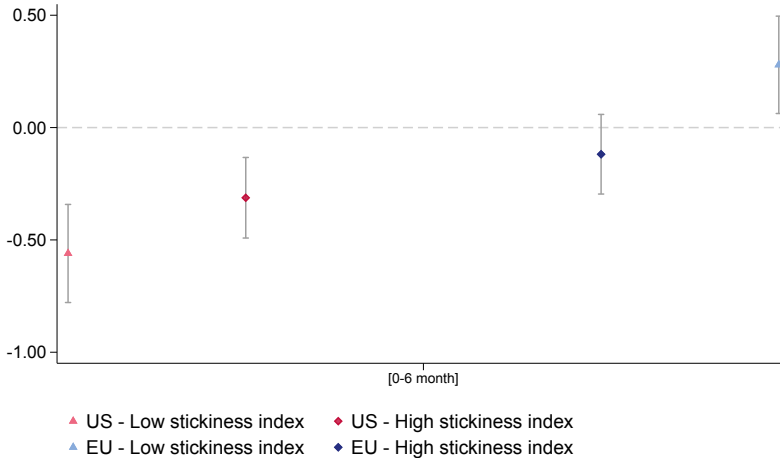
and firm-to-firm switching costs. While results for the most recent period should be interpreted cautiously due to limited identification power (Section 4.2), they suggest that trade deflection may already be occurring in specific product markets, particularly where low product-market stickiness does not impede adjustments at the extensive margin.

**FIGURE 9 IMPACT OF TRUMP I AND TRUMP II TARIFFS ON CHINESE EXPORTS: HETEROGENEITY BASED ON THE DEGREE OF RELATIONSHIP STICKINESS**

a) Trump I



b) Trump II



Note: The figure compares the impact of tariffs on US and EU imports of Chinese goods (red vs. blue symbols) along the distribution of relationship stickiness. Triangles (diamonds) correspond to coefficients estimated for low(high-) stickiness products. Estimates are based on equation (1), using  $\alpha_{qt}$  (resp.  $\alpha_t$ ) fixed effects for the Trump I (resp. Trump II) period.

Source: Authors' computations using Global Trade Trackers.

## 5 IDENTIFYING GOODS AT RISK OF TRADE DEFLECTION

Given the substantial heterogeneity in trade deflection at the product level and the challenges in identifying product characteristics that explain the patterns observed during the Trump I episode, we propose a quantitative surveillance mechanism to flag products at risk of redirection to third markets. Our methodology relies on Chinese export data and combines two criteria:<sup>14</sup>

- a significant increase in quantities exported to the European Union (measured as a growth rate above the 75th percentile of 2024);<sup>15</sup> and
- a significant decrease in quantities exported to the United States (measured as a growth rate below the 25th percentile of 2024).

Our methodology differs from the surveillance mechanism established by the European Commission's import surveillance task force on 7 April 2025 in several respects.<sup>16</sup> First, motivated by our evidence of trade deflection during Trump I, we focus specifically on Chinese export deflection, rather than the country-agnostic approach of the Commission. Second, we explicitly account for changes in Chinese exports to the United States to measure the redirection toward third markets. Third, building on our finding that unit values for redirected trade to the European Union are largely unaffected, we do not treat the Commission's price criterion as binding. Finally, we leverage Chinese export data, which provide an earlier signal than EU import data.

Combining the two criteria, we identify 163 products in February–April, 184 in May–July, and 235 in August–October 2025, representing more than 40% of products whose Chinese exports to the United States have fallen sharply (Figure 10). Almost half of these products have simultaneously experienced a significant drop in prices, suggesting that some of the trade deflection is leading to price competition on the European market. In value terms, these products account for 7.7% of Chinese exports to the European Union in August–October. This is largely due to the redirection of 'low-value articles' towards the European Union following the removal of the US *de minimis* tariff exemption in April 2025. Table 1 reports the top ten products ranked by their share in Chinese exports to the European Union.

14 We aggregate monthly data at the quarterly level starting in March 2025 to reduce volatility, yielding three post-Trump II periods: February–April, May–July and August–October.

15 We use the value instead of the quantity for 'Low value articles' to account for the heterogeneity of this product category.

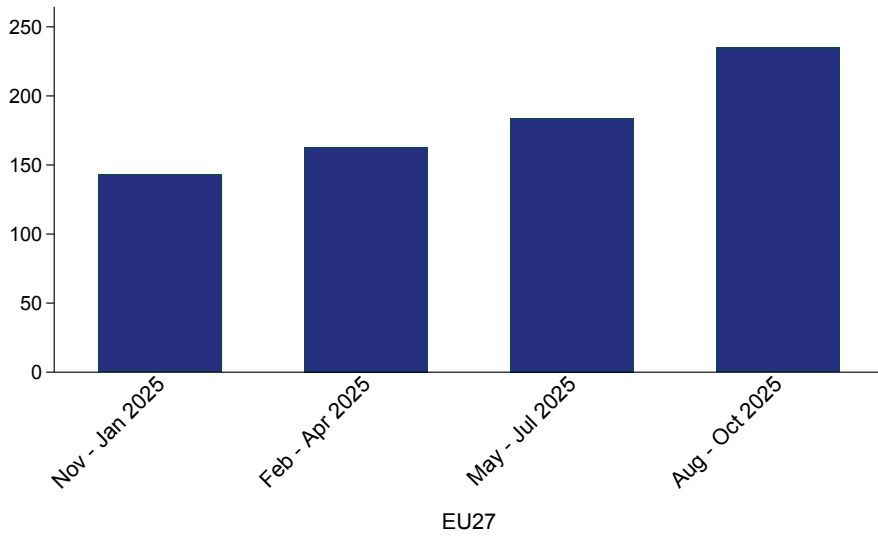
16 The European Commission publishes a dashboard of products using five criteria: "(1) a change in 2025 import patterns regarding quantity compared to established patterns since 2023; (2) an increase of at least 5% in import volumes; (3) a decrease of at least 5% in average import prices; (4) an average weekly import value of at least EUR 200,000; and (5) existence of production in the EU at a sectoral level" ([https://policy.trade.ec.europa.eu/enforcement-and-protection/trade-defence/monitoring-trade-diversion\\_en](https://policy.trade.ec.europa.eu/enforcement-and-protection/trade-defence/monitoring-trade-diversion_en)). The exercise is conducted at the 8-digit level of the Combined Nomenclature.

**FIGURE 10 PRODUCTS AT RISK OF REDIRECTION TO THE EUROPEAN UNION**

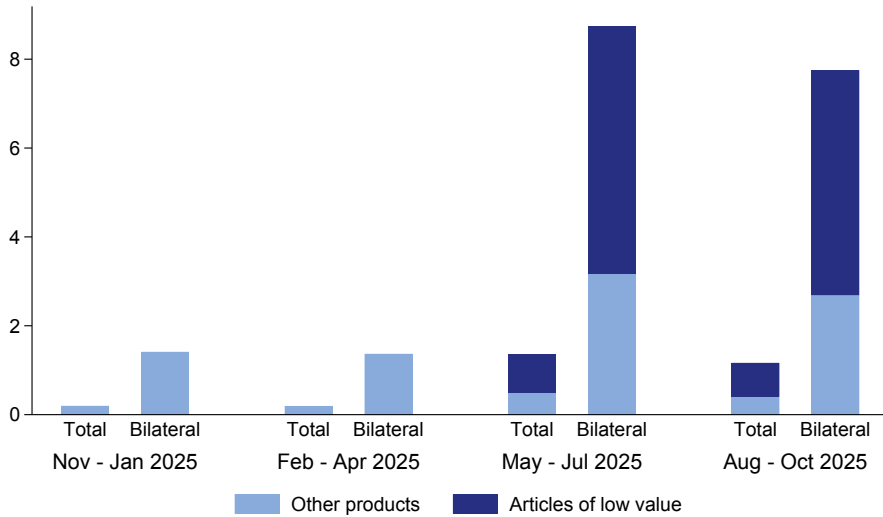
a) Number of products at risk of trade deflection to the EU

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b) Value share of products at risk of trade deflection to the EU (% of Chinese exports)



Source: Authors' computations using Global Trade Tracker.

**TABLE 1 TOP TEN PRODUCTS AT RISK OF REDIRECTION TO THE EUROPEAN UNION**

Product code	Product description	Share in		Growth rate (yoy)	
		Chinese export to the EU (%)	Quantity	EU	US
980400	Articles of low value	5.1	44%	-59%	11%
870340	Vehicles; with both spark-ignition internal combustion piston engine and electric motor for propulsion, incapable of being charged by plugging to external source of electric power	0.5	82%	-28%	11%
151800	Animal, vegetable or microbial fats, oils and their fractions; boiled, oxidised, dehydrated or otherwise chemically modified, excluding those of heading no. 1516, inedible mixtures or preparations of fats, oils or their fractions, n.e.c. in chapter 15	0.3	81%	-127%	20%
841290	Engines; parts, for engines and motors of heading no. 8412	0.1	43%	-52%	25%
880622	Unmanned aircraft; for remote-controlled flight only, for other than for carriage of passengers, with the maximum take-off weight of more than 250g but not more than 7kg	0.1	70%	-45%	-9%
840999	Engines; parts for internal combustion piston engines (excluding spark-ignition)	0.1	37%	-26%	-21%
843139	Machinery; parts of the machinery of heading no. 8428, (other than lifts, skip hoists or escalators)	0.1	56%	-16%	46%
853110	Signalling apparatus; electric, sound or visual, burglar or fire alarms and similar, other than those of heading no. 8512 or 8530	0.1	40%	-40%	-27%
860799	Railway or tramway rolling stock; parts n.e.c. in heading no. 8607	0.1	39%	-49%	32%
842230	Machinery; for filling, closing, sealing, capsuling or labelling bottles, cans, bags or other containers, machinery for aerating beverages	0.1	53%	-13%	-10%

In Figure B1 in Appendix B, we provide similar identification for Japan, South Korea, and Vietnam. The data show more than 300 products at risk of redirection towards Japan. These products represent close to 8.2% of Chinese exports to Japan. The figures are significant, though lower, for Korea and Vietnam (close to 250 products representing 2.6% and 5.3% of bilateral Chinese exports, respectively).

## 6 CONCLUSION

This chapter examines how the discriminatory tariffs imposed during the first and second Trump trade wars affected the geography of Chinese exports, with a particular focus on export deflection toward third markets such as the European Union. Using monthly product-destination data and a difference-in-differences framework exploiting heterogeneous tariff exposure, we find clear evidence of deflection during the 2018–2019 trade war, with a substantial shift of Chinese exports towards Vietnam and the European Union. In value terms, the deflection of trade towards the European Union represents roughly one third of the reduction of US imports. By contrast, in the months following Liberation Day in 2025, average deflection towards the European Union is not statistically significant, and the contraction of exports to the United States does not differ between treated and exempted products, suggesting that policy uncertainty may have played an important role in shaping the observed adjustment.

While the overall magnitude of trade deflection appears relatively modest on average, our results indicate that it can be substantial in specific product markets. In this context, the use of safeguard instruments could help mitigate potential disruptions in the most exposed markets without imposing broader restrictions.

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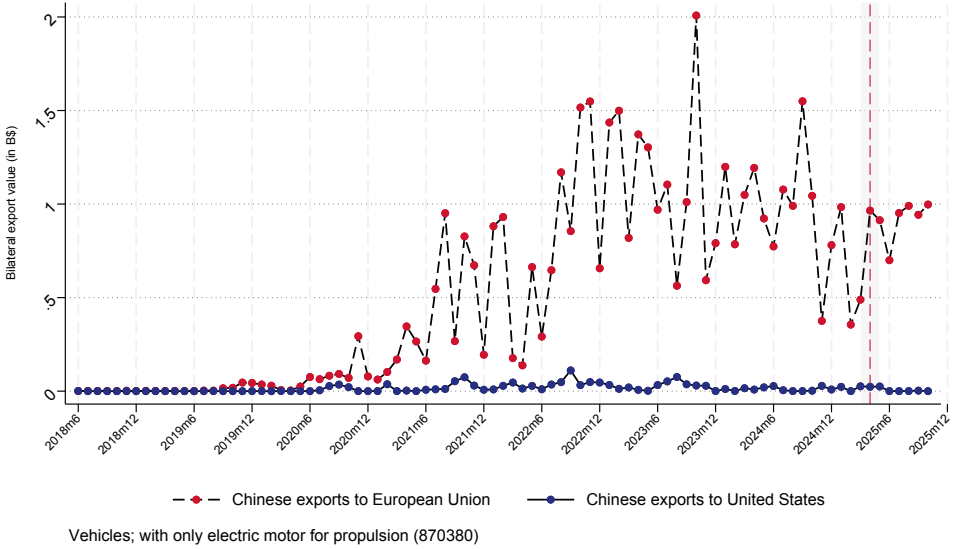
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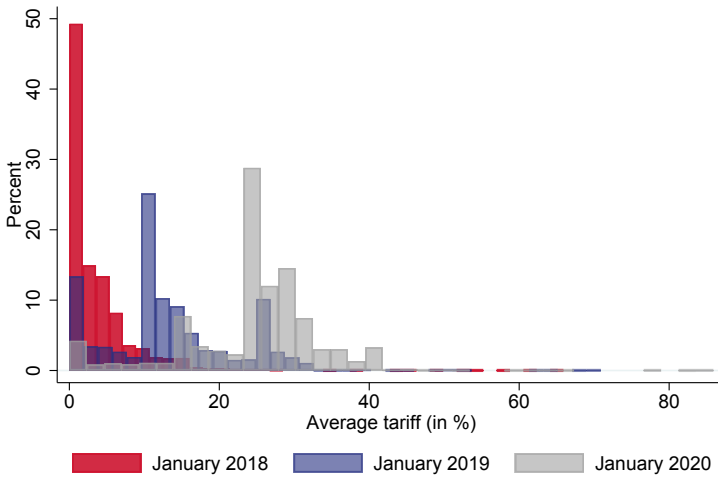
# APPENDIX A: ADDITIONAL RESULTS

FIGURE A1 EVOLUTION OF CHINESE EXPORTS OF ELECTRIC VEHICLES



Source: Global Trade Tracker.

FIGURE A2 EVOLUTION OF TARIFFS ON CHINESE PRODUCTS DURING THE TRUMP I TRADE WAR

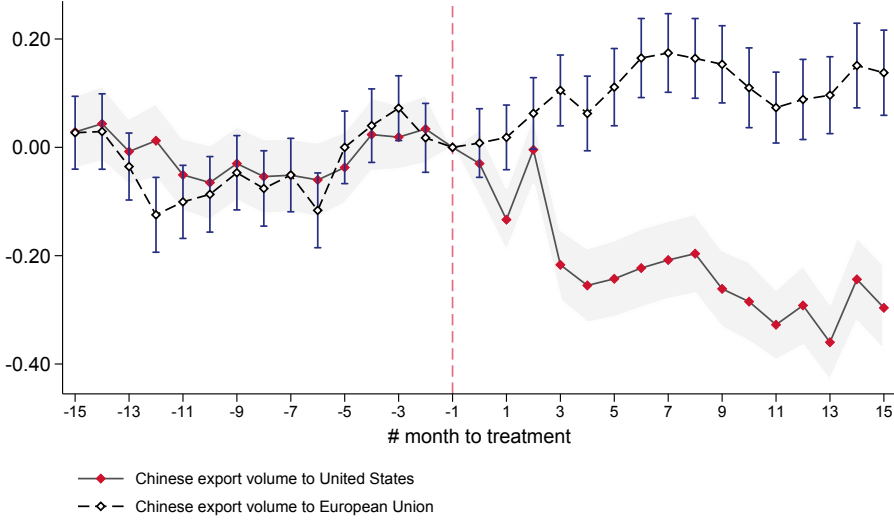


Note: Distribution of US tariff (in %) on Chinese exports, across products.

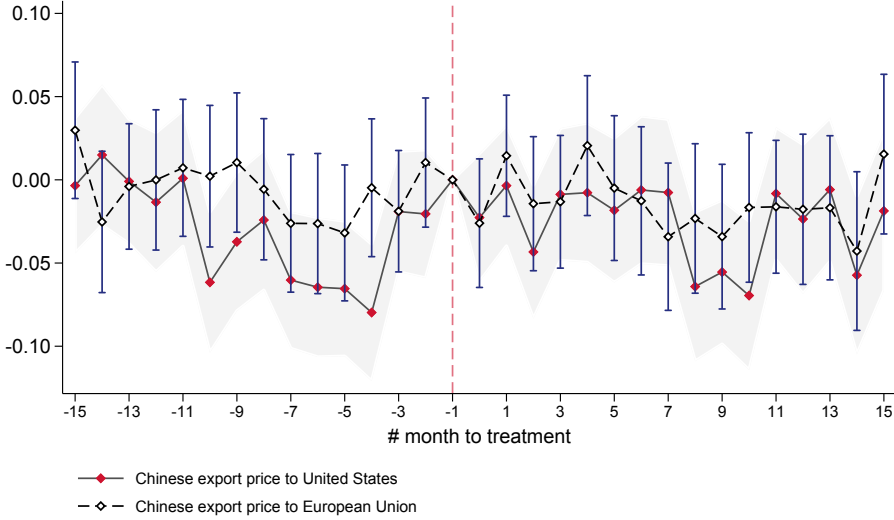
Source: Authors' computations using Bown (2021).

FIGURE A3 IMPACT OF TRUMP I TARIFFS ON CHINESE EXPORTS TO THE EU: VOLUME AND PRICE EFFECTS

a) Volume



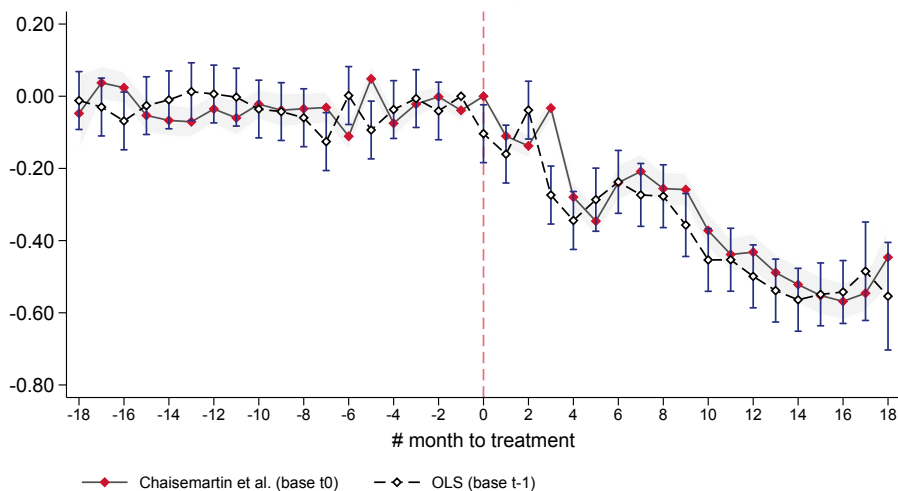
b) Prices



Note: The LHS variable is the log of the quantity (top panel) or unit value (bottom panel) of Chinese exports, before and after the implementation of the tariffs. The model uses the specification in equation (1) with  $\alpha_{gt}$  fixed effects. The red dots correspond to the dynamics of exports to the US ( $g = US$ ). The black dots correspond to the EU ( $g = EU$ ).

Source: Authors' computations using Global Trade Tracker.

FIGURE A4 IMPACT OF TRUMP I TARIFFS ON CHINESE EXPORTS TO THE US (ESTIMATOR ROBUST TO HETEROGENEOUS TREATMENT EFFECTS)

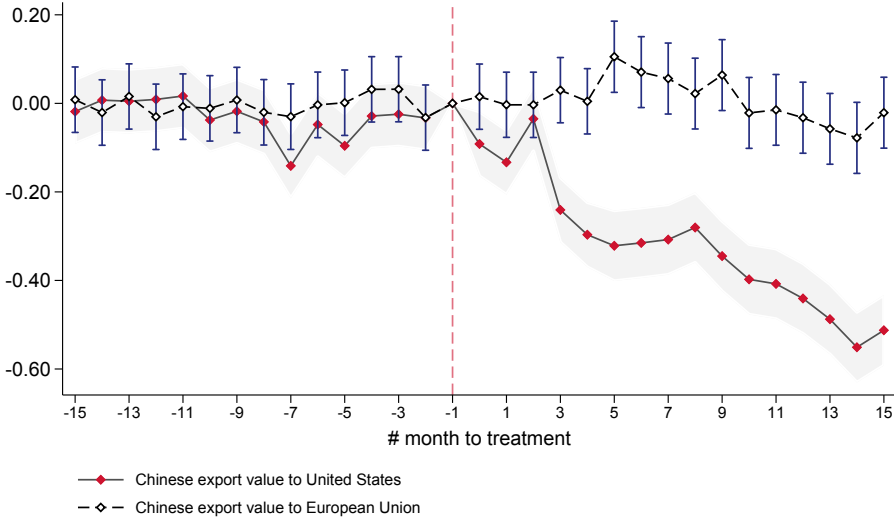


Note: The LHS variable is the log value of Chinese exports, before and after the implementation of the tariffs. The figure compares results estimated using OLS and with the estimator in de Chaisemartin and d'Haultfoeuille (2024), when  $g = US$ .

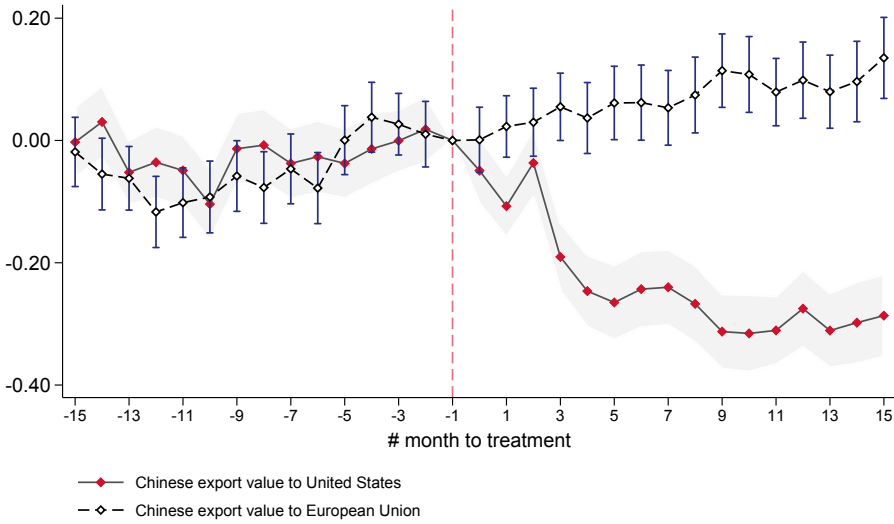
Source: Authors' computations using Global Trade Tracker.

**FIGURE A5 IMPACT OF TRUMP I TARIFFS ON CHINESE EXPORTS TO THE US AND THE EU: SEASONALITY BY PRODUCT AND DESTINATION**

a) Across products & destinations ( $\alpha_t$  fixed effects)



b) Across products ( $\alpha_{dt}$  fixed effects)

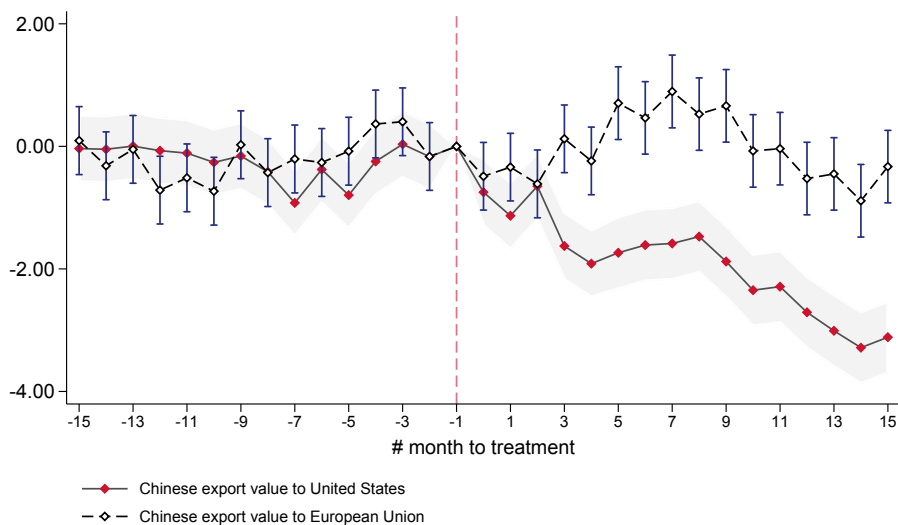


Note: The LHS variable is the log value of Chinese exports, before and after the implementation of the tariffs. The estimated equation uses (1) with  $\alpha_t$  fixed effects (top panel) or  $\alpha_{dt}$  fixed effects (bottom panel), together with fixed effects at the destination×product×month level to control for seasonality. The red dots correspond to the dynamics of exports to the US ( $g = US$ ). The black dots correspond to the EU ( $g = EU$ ).

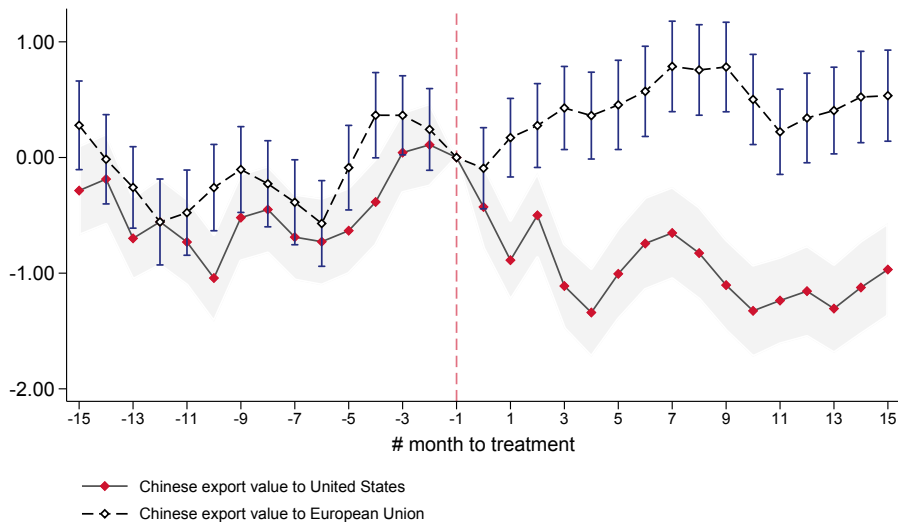
Source: Authors' computations using Global Trade Tracker.

**FIGURE A6 IMPACT OF TRUMP I TARIFFS ON CHINESE EXPORTS TO THE US AND THE EU (USING THE INTENSITY OF THE TREATMENT)**

a) Across products & destinations ( $\alpha_t$  fixed effects)



b) Across products ( $\alpha_{dt}$  fixed effects)

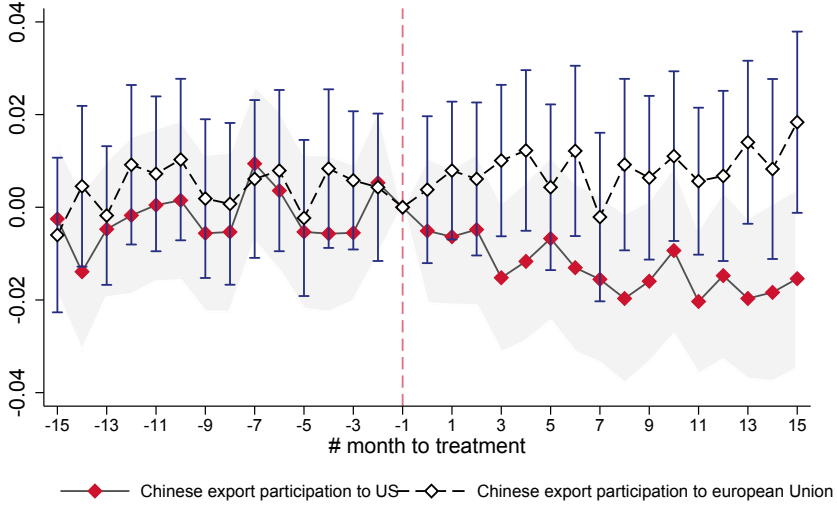


Note: The LHS variable is the log value of Chinese exports, before and after the implementation of the tariffs. The estimated equation uses (1) with a treatment variable that measures the size of the tariff increase ( $\Delta\tau_p$ ) instead of the dummy for treated products. The top panel has  $\alpha_t$  fixed effects and the bottom panel uses the more saturated specification with  $\alpha_{dt}$  fixed effects. The red dots correspond to the dynamics of exports to the US ( $g = \text{US}$ ). The black dots correspond to the EU ( $g = \text{EU}$ ).

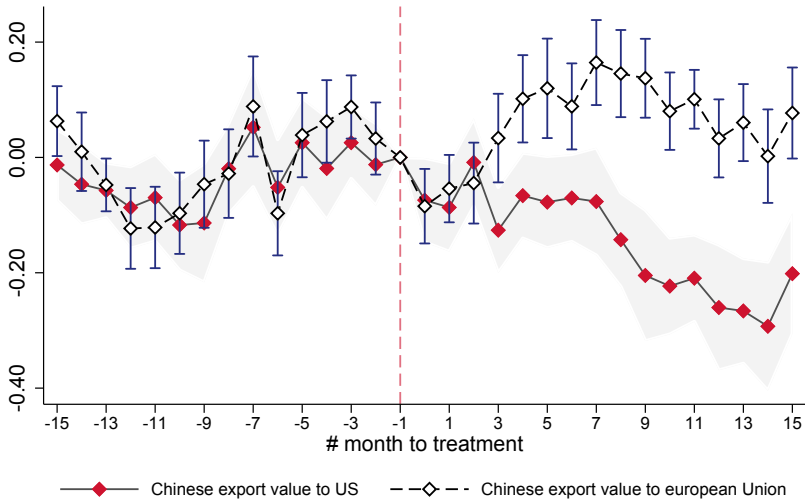
Source: Authors' computations using Global Trade Tracker.

**FIGURE A7 IMPACT OF TRUMP I TARIFFS ON CHINESE EXPORTS TO THE US AND THE EU: ADJUSTMENTS AT THE EXTENSIVE MARGIN.**

**a) Linear probability model**



**b) Poisson-PML**



Note: The top panel estimate a linear probability model on whether the export flow is strictly positive. The bottom panel corresponds to a PPML model estimated on zeros and strictly positive flows. In both cases, the dataset is restricted to the 10 largest partners of China. Zeros are added towards all destinations, whenever China exports a given product towards at least one market. The red dots correspond to the dynamics of exports to the US ( $g = US$ ). The black dots correspond to the EU ( $g = EU$ ).

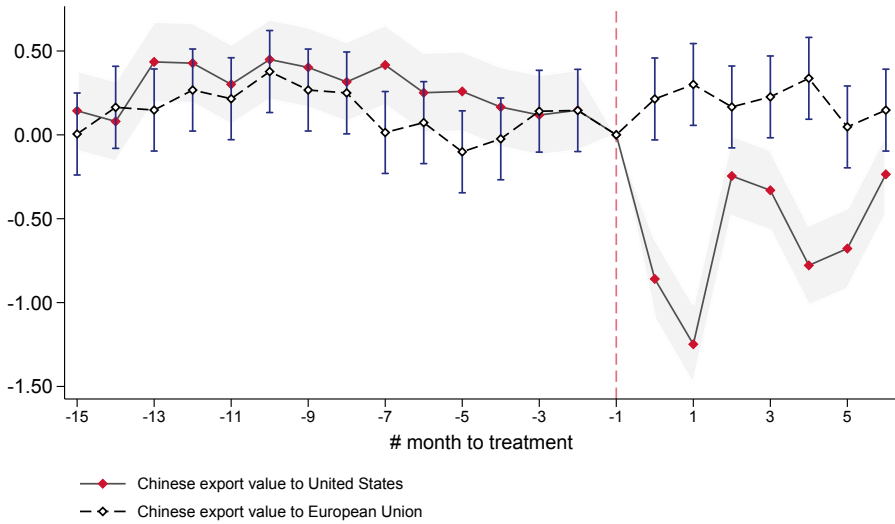
Source: Authors' computations using Global Trade Tracker.

**FIGURE A8 IMPACT OF TRUMP II TARIFFS ON CHINESE EXPORTS TO THE US AND THE EU (USING THE INTENSITY OF THE TREATMENT)**

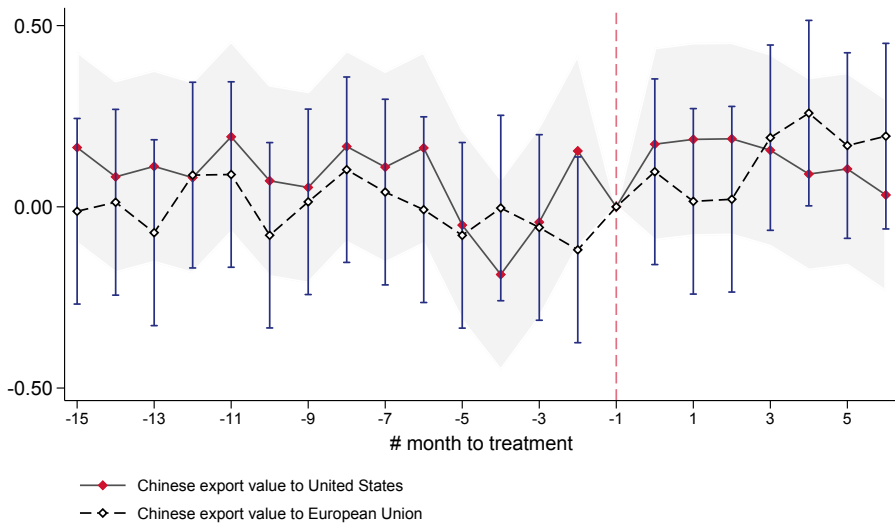
a) Across products & destinations ( $\alpha_t$  fixed effects)

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b) Across products ( $\alpha_{dt}$  fixed effects)

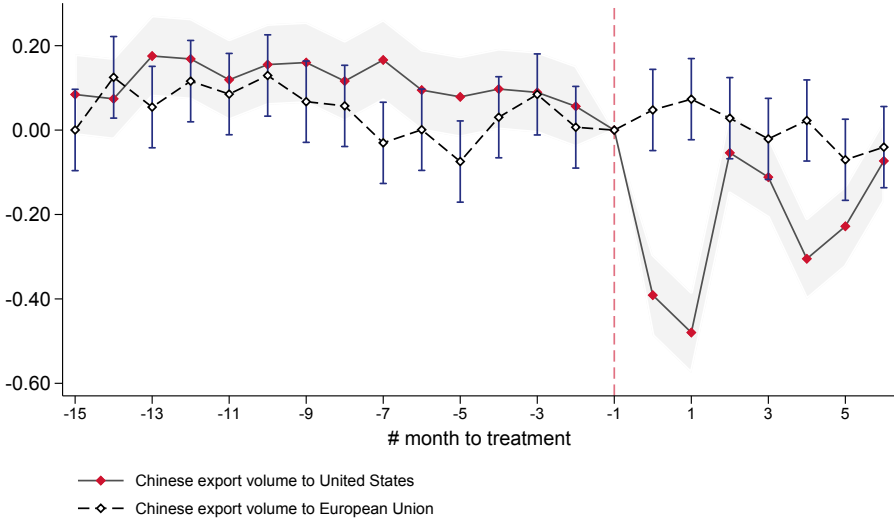


Note: The LHS variable is the log value of Chinese exports, before and after the implementation of the tariffs. The estimated equation uses (1) with a treatment variable that measures the size of the tariff increase ( $\Delta\tau_p$ ) instead of the dummy for treated products. The red dots correspond to the dynamics of exports to the US ( $g = US$ ). The black dots correspond to the EU ( $g = EU$ ).

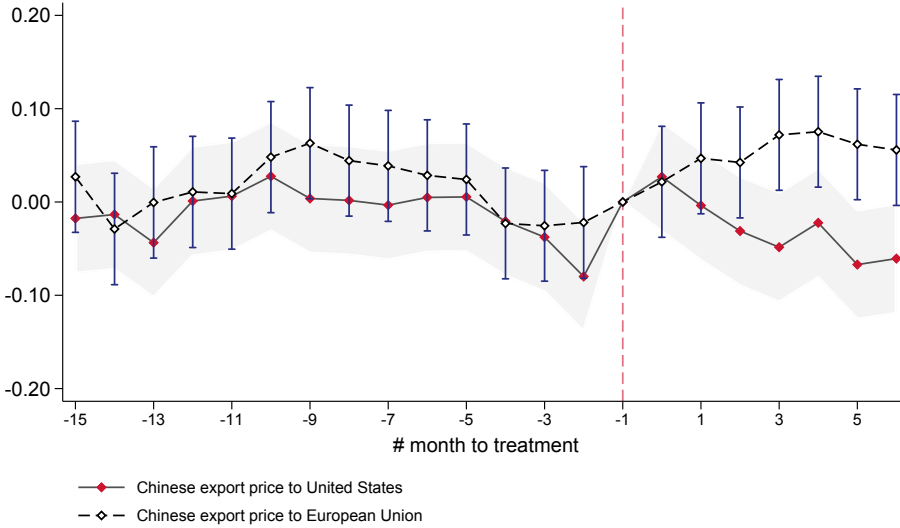
Source: Authors' computations using Global Trade Tracker.

FIGURE A9 IMPACT OF TRUMP II TARIFFS ON CHINESE EXPORTS TO THE EU: VOLUME AND PRICE EFFECTS

a) Volume



b) Price

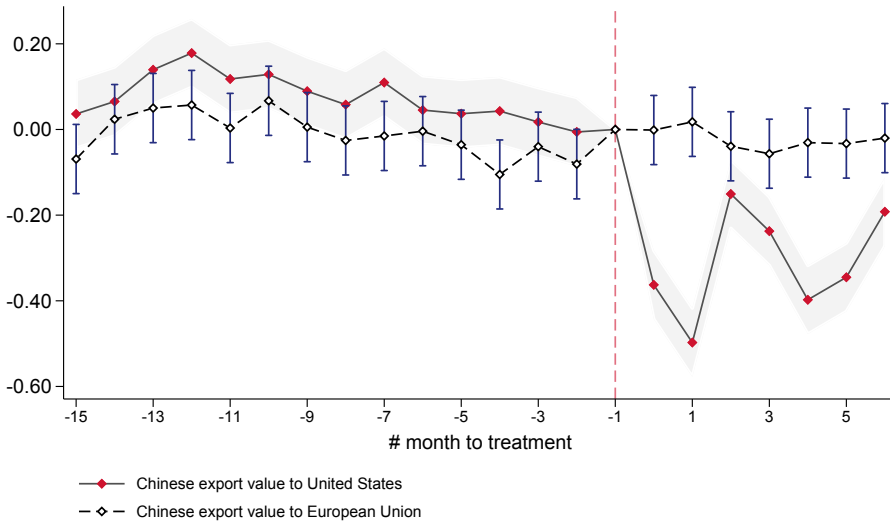


Note: The LHS variable is the log of the quantity (top panel) or unit value (bottom panel) of Chinese exports, before and after the implementation of the tariffs. The estimated equation uses (1) with  $\alpha_t$  fixed effects. The red dots correspond to the dynamics of exports to the US ( $g=US$ ). The black dots correspond to the EU ( $g=EU$ ).

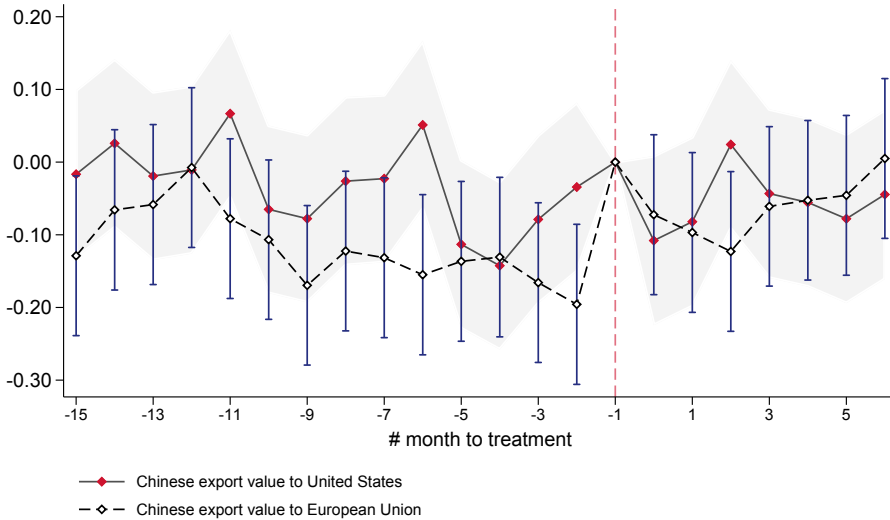
Source: Authors' computations using Global Trade Tracker.

**FIGURE A10 IMPACT OF TRUMP II TARIFFS ON CHINESE EXPORTS TO THE US AND THE EU: SEASONALITY BY PRODUCT AND DESTINATION.**

**a) Across products ( $\alpha_t$  fixed effects)**



**b) Across products ( $\alpha_{dt}$  fixed effects)**

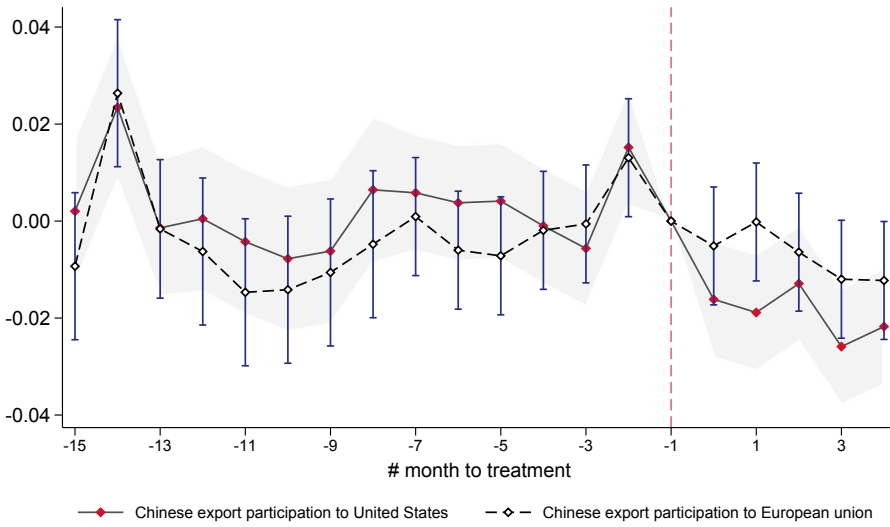


Note: The LHS variable is the log value of Chinese exports, before and after the implementation of the tariffs. The estimated equation uses (1) with  $\alpha_t$  fixed effects (top panel) or  $\alpha_{dt}$  fixed effects (bottom panel), together with fixed effects at the destination $\times$ product $\times$ month level to control for seasonality. The red dots correspond to the dynamics of exports to the US ( $g = US$ ). The black dots correspond to the EU ( $g = EU$ ).

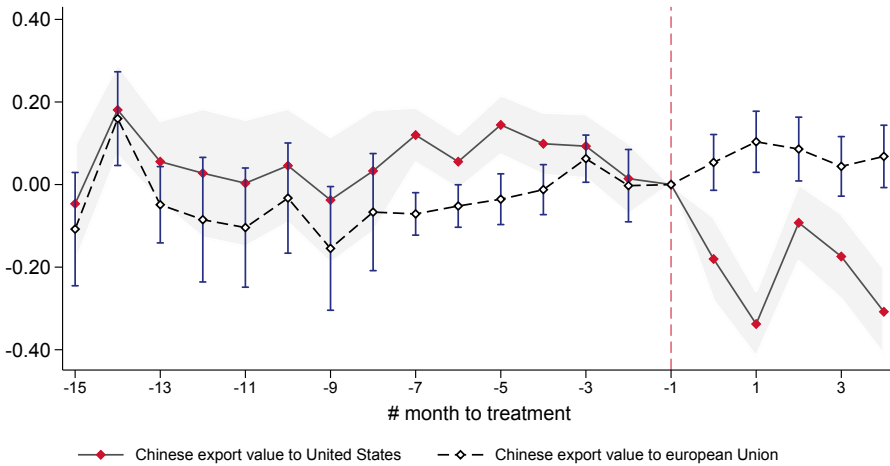
Source: Authors' computations using Global Trade Tracker.

**FIGURE A11 IMPACT OF TRUMP II TARIFFS ON CHINESE EXPORTS TO THE US AND THE EU: ADJUSTMENTS AT THE EXTENSIVE MARGIN.**

a) Linear probability model



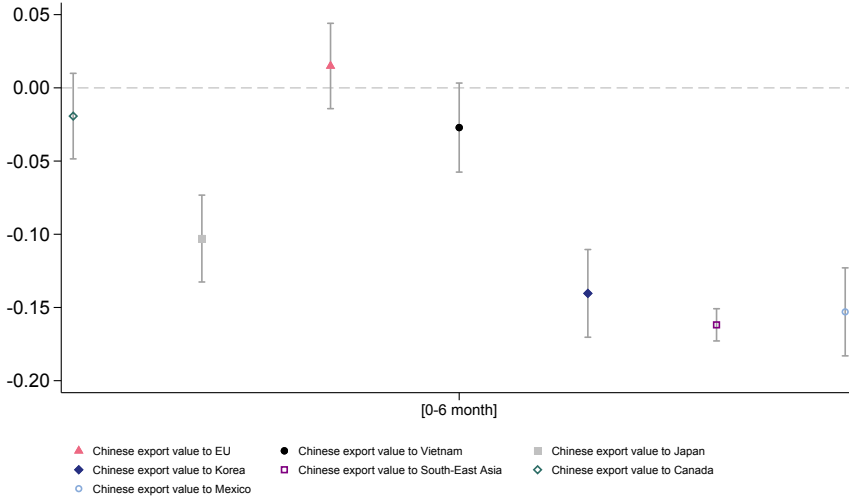
b) Poisson-PML



Note: The top panel estimate a linear probability model on whether the export flow is strictly positive. The bottom panel corresponds to a PPML model estimated on zeros and strictly positive flows. In both cases, the dataset is restricted to the 10 largest partners of China. Zeros are added towards all destinations, whenever China exports a given product towards at least one market. The red dots correspond to the dynamics of exports to the US ( $g = US$ ). The black dots correspond to the EU ( $g = EU$ ).

Source: Authors' computations using Global Trade Tracker.

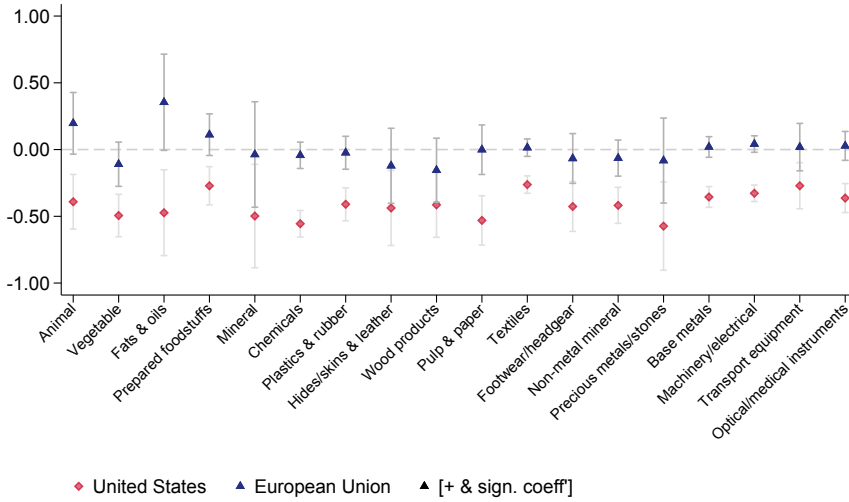
Figure A12 Impact of Trump tariffs on Chinese exports: Comparison across third countries, evidence from Trump II



Note: The LHS variable is the log value of Chinese exports. Results recovered from the Trump I period use a specification with  $\alpha_{ijt}$  fixed effects. Results based on Trump II use less stringent specification with  $\alpha_i$  fixed effects.

Source: Authors' computations using Global Trade Trackers.

FIGURE A13 IMPACT OF TRUMP II TARIFFS ON CHINESE EXPORTS: COMPARISON ACROSS HS CHAPTERS



Note: The LHS variable is the log value of Chinese exports. Estimates are obtained from a specification with time fixed effects ( $\alpha_t$ ).

Source: Authors' computations using Global Trade Trackers.

**TABLE A1 IMPACT OF TRUMP I TARIFFS ON CHINESE EXPORTS TO THE US AND THE EU: HETEROGENEITY ANALYSIS**

High vs Low cat :	Inter vs final (1.)	Stickiness (2.)	Trade elast. (3.)	Upstreamness (4.)	Contraction (5.)	Tariffs (6.)
US × [0-6m] × High cat.	-0.15*** (0.015)	-0.029** (0.014)	0.015 (0.014)	-0.14*** (0.017)	-0.15*** (0.016)	-0.041*** (0.014)
US × [0-6m] × Low cat.	-0.047*** (0.016)	-0.068*** (0.019)	-0.12*** (0.018)	-0.0047 (0.015)	0.25*** (0.014)	0 (0.)
US × [7-12m] × High cat.	-0.28*** (0.019)	-0.088*** (0.017)	-0.067*** (0.018)	-0.25*** (0.019)	-0.34*** (0.019)	-0.0037 (0.019)
US × [7-12m] × Low cat.	-0.15*** (0.022)	-0.23*** (0.025)	-0.26*** (0.021)	-0.041** (0.02)	0.39*** (0.018)	0 (0.)
US × [13-15m] × High cat.	-0.32*** (0.026)	-0.14*** (0.022)	-0.011 (0.024)	-0.28*** (0.025)	-0.34*** (0.025)	-0.024 (0.025)
US × [13-15m] × Low cat.	-0.16*** (0.029)	-0.24*** (0.034)	-0.31*** (0.027)	-0.000054 (0.027)	0.44*** (0.024)	0 (0.)
EU × [0-6m] × High cat.	0.094*** (0.015)	0.025* (0.014)	0.013 (0.014)	0.022 (0.017)	0.00017 (0.016)	0.036*** (0.014)
EU × [0-6m] × Low cat.	0.081*** (0.016)	0.043** (0.019)	0.062*** (0.018)	0.036** (0.015)	0.11*** (0.014)	0 (0.)
EU × [7-12m] × High cat.	0.077*** (0.019)	0.011 (0.017)	0.011 (0.018)	-0.016 (0.019)	-0.025 (0.019)	0.11*** (0.019)
EU × [7-12m] × Low cat.	0.14*** (0.022)	0.11*** (0.026)	-0.018 (0.021)	0.063*** (0.02)	0.15*** (0.018)	0 (0.)
EU × [13-15m] × High cat.	0.082*** (0.026)	0.018 (0.022)	0.0037 (0.024)	-0.054** (0.025)	-0.016 (0.025)	0.099*** (0.025)
EU × [13-15m] × Low cat.	0.19*** (0.029)	0.085** (0.034)	-0.039 (0.027)	0.097*** (0.027)	0.18*** (0.024)	0 (0.)
Fixed effects	odp dt	odp dt	odp dt	odp dt	odp dt	odp dt
N	133,781	133,781	133,145	133,781	133,781	133,759
R2	0.9	0.9	0.9	0.9	0.9	0.9

Note: In all regressions, the LHS variable is the log value of Chinese exports, before and after the implementation of tariffs. The estimated equation uses (1) with  $\alpha_{cat}$  fixed effects and  $\beta_{cat}^g$  coefficients that are allowed to vary across product categories. The low (resp. high) category correspond to final consumption goods (resp. intermediate) products in column (1), the first tercile (resp. third tercile) of the distribution of stickiness indicators in column (2), the first tercile (resp. third tercile) of the distribution of trade elasticities in column (3), the third tercile (resp. third tercile) of the distribution of upstreamness in column (4), the first tercile (resp. third tercile) of the distribution of US imports' trade contraction over the estimation period in column (5) and the first tercile (resp. third tercile) of the distribution of tariff increases in column (6). Stickiness is based on Martin et al. (2020).

Source: Authors' computation using GTT. Trade elasticities are from Fontagné et al. (2022). Upstreamness is from Antras and Chor (2018).

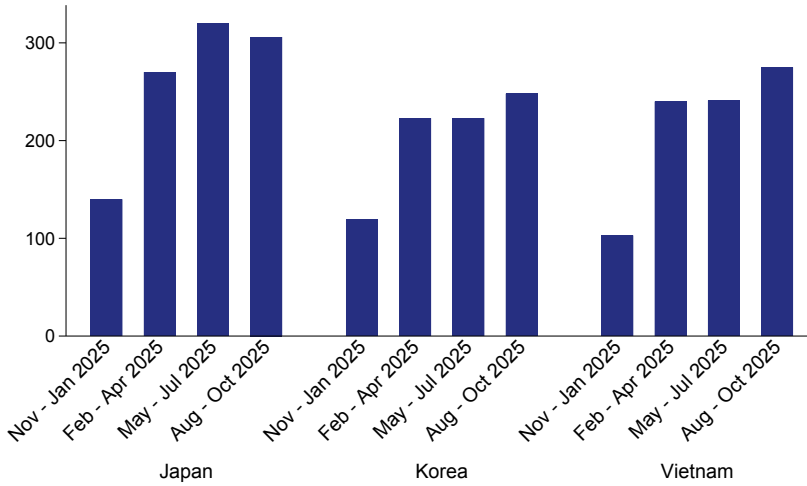
## Appendix B: Additional results: Surveillance mechanism

FIGURE B1 PRODUCTS AT RISK OF REDIRECTION TO REST OF WORLD

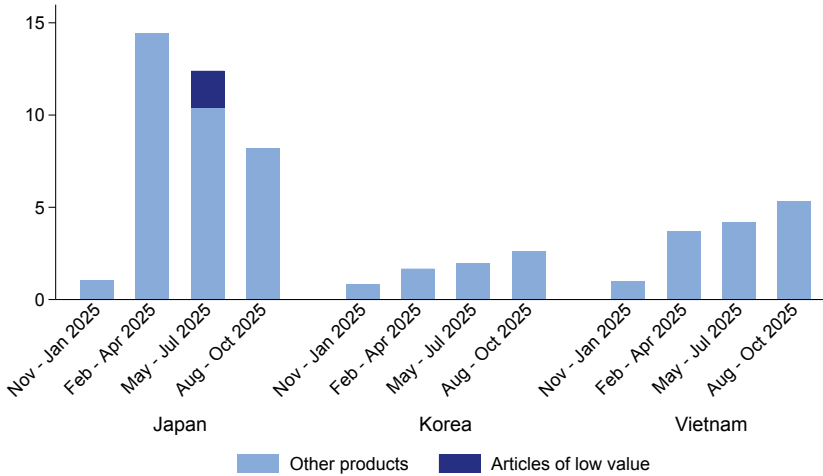
a) Number of products at risk of trade deflection to Japan, Korea, and Vietnam

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b) Value share of products at risk of trade deflection to Japan, Korea, and Vietnam (% of Chinese exports)



Source: Authors' computations using Global Trade Tracker.

# Global imbalances then and now: Lessons from the Plaza Accord

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### 1 INTRODUCTION

Global current account imbalances have been a recurring feature of the post-Bretton Woods international monetary system. At several points, most notably in the 1980s and again since the early 2000s, these imbalances have interacted with domestic political pressures and geopolitical rivalries, and have created serious challenges to the global economic order.

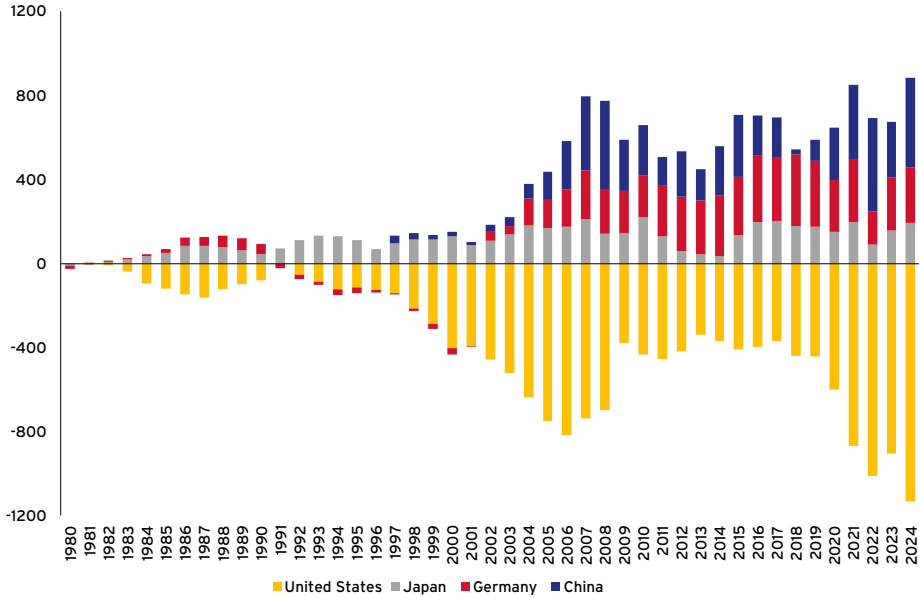
The United States has consistently occupied the position of the dominant deficit country, while the main surplus counterpart has changed over time. Japan used to run a large current account surplus in the late twentieth century. In the twenty-first century, China (and Germany) took over from Japan as the major surplus country. Figure 1 shows current account surpluses of the United States, Japan, Germany, and China from 1980 to 2024. The figure shows that the United States started to run a sizeable current account deficit in the early 1980s, which was mirrored by Japan's current account surplus. The imbalance momentarily shrank around 1990, but started to grow again. China's current account surplus started to increase rapidly in the early 2000s as it joined the WTO in 2001. By 2006, China took over Japan as the country with the largest current account surplus.

Figure 2 shows the evolution of cumulative current account surpluses from 1980 for the four countries. Although Japan's current account surplus is now smaller than that of China, the cumulative amount is still large. Reflecting this, Japan's net international assets are large, which explains its high primary income surplus in recent years. As Balakrishnan points out in his chapter in this report, the composition of Japan's current account surplus has changed drastically over time. When Japan was the country with the largest current account surplus, this was mostly due to a large trade surplus, which

1 I benefited from editorial and research assistance provided by an AI language model (ChatGPT), which was used for literature organisation, language polishing, and clarification of historical facts. I also acknowledge helpful comments by H el ene Rey and Beatrice Weder di Mauro. All interpretations, judgements, and remaining errors are the author's own.

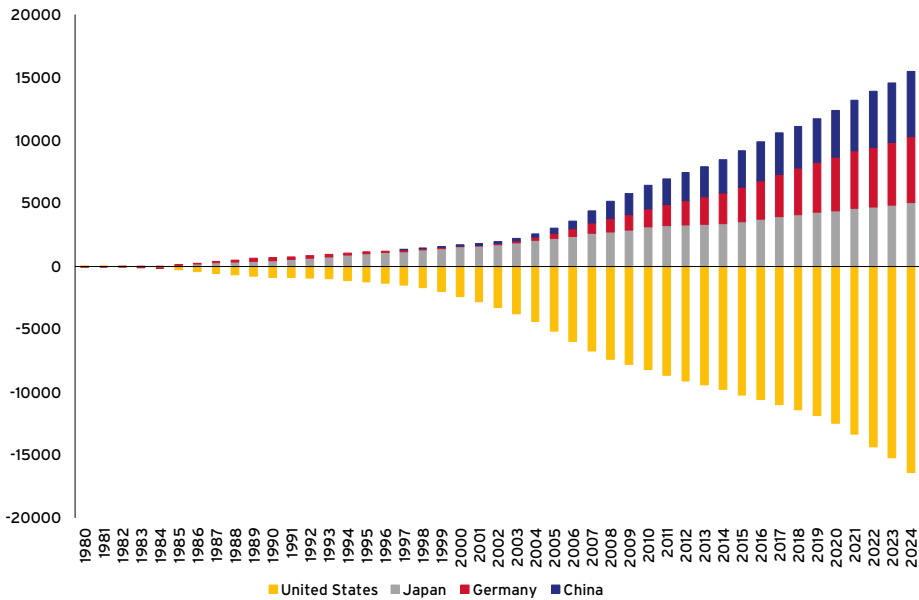
led to numerous trade conflicts with the United States, as we will see below. Japan's trade in goods and services is now in deficit, but the large primary income surplus sustains its current account surplus.

**FIGURE 1 CURRENT ACCOUNT SURPLUSES OF THE UNITED STATES, JAPAN, GERMANY, AND CHINA, 1980-2024 (US\$ BILLIONS)**



Source: Author's calculation using World Economic Outlook Database, April 2025 Version ([www.imf.org/en/publications/weo/weo-database/2025/april](http://www.imf.org/en/publications/weo/weo-database/2025/april), verified 14 February 2026).

**FIGURE 2 CUMULATIVE CURRENT ACCOUNT SURPLUSES OF THE UNITED STATES, JAPAN, GERMANY, AND CHINA, 1980-2024 (US\$ BILLIONS)**



Source: Author's calculation using World Economic Outlook Database, April 2025 Version ([www.imf.org/en/publications/weo/weo-database/2025/april](http://www.imf.org/en/publications/weo/weo-database/2025/april), verified 14 February 2026).

Although the scale of today's imbalances is larger and the institutional environment more complex, the political economy mechanisms that generate conflict remain strikingly similar. In both the Japanese and Chinese cases, large external surpluses resulted from successful catch-up growth. High savings, rapid technological progress (especially through technology imports from advanced economies), export expansion, and substantial state involvement were features of the catch-up growth strategies of both countries. As long as the surplus economy remains clearly in the catch-up phase, these imbalances tend to be tolerated internationally.

Problems arise when the surplus persists after convergence toward the technological frontier. At that stage, the late developers are gradually viewed as threatening challengers to the leading superpower. The external surpluses are increasingly interpreted as evidence of unfair and mercantile government policy. Global imbalances are not merely technical macroeconomic issues – they become highly political.

Japan was the first country to reach this turning point after the Bretton Woods system broke down. Japan's trade surplus expanded rapidly and the trade deficit of the United States widened in the early 1980s. Japanese exports flooded the US market and jobs in competing US industries started disappearing. As the political pressures against Japan and also open trade in general mounted in the United States, the Plaza Accord was the first internationally coordinated attempt to address global imbalances to protect the international economic order.

Revisiting the Plaza Accord experience thirty years later, Bergsten and Green (2016b) state:

*The Plaza remains a cardinal point of reference even today, when the world again faces the prospect of a toxic mix of currency disequilibria, growing imbalances, trade policy reactions, and thus uncertainty for both the global economy and world politics.*

Another decade on, the same observation applies. In fact, today's situation of the global economy and world politics seems even more treacherous. Thus, it is once again worthwhile to revisit the Plaza Accord and try to learn lessons. This chapter is a modest attempt in that direction.

The chapter revisits the Plaza Accord and especially the US–Japan imbalance of the 1980s. While the Accord was effective in correcting an excessively strong dollar, reducing the US current account deficit modestly, and avoiding escalation of protectionism temporarily, it neither eliminated Japan's external surplus nor resolved the underlying tensions concerning global imbalances entirely. Instead, the apparent 'success' of the Plaza Accord generated two different narratives: one in surplus countries (Japan then and China later) and one in the United States. I argue that both of these narratives misunderstood the original intentions and actual impacts of the Plaza Accord. These misinterpretations have played a critical role over time in complicating the task of maintaining the international economic order.

## 2 THE PLAZA ACCORD REVISITED

The Plaza Accord of September 1985 was a historically unusual attempt by the major advanced economies to address global imbalances through coordinated exchange rate adjustment. As documented in detail in the seminal study by Funabashi (1988), the Accord was not just a technocratic effort to fine-tune exchange rates, but a politically motivated response to mounting domestic and international pressures that threatened the open international economic order. This section revisits the Plaza Accord, drawing on Funabashi (1988), chapters in Bergsten and Green (2016a) (especially Ito (2016) and Truman (2016)), and Ito and Hoshi (2020, Chapter 12).

By the mid-1980s, the US dollar had appreciated sharply in both nominal and real terms. This appreciation reflected a combination of tight US monetary policy aimed at reducing inflation under Federal Reserve Chair Paul Volcker, huge fiscal deficits (largely associated with tax cuts and defence spending under President Ronald Reagan), and strong capital inflows attracted by relatively high US interest rates. The resulting overvaluation of the dollar contributed to a rapidly widening US current account deficit matched by large surpluses in Japan and West Germany.

In the United States, the economic consequences of these imbalances became increasingly visible. Imports, especially from Japan, rose rapidly and job losses in import-competing manufacturing sectors generated strong political backlash. Protectionist sentiment intensified in Congress, raising the risk that unilateral trade restrictions would undermine the postwar open trading system. This political context pushed US policymakers to seek exchange rate coordination.

Until 1985, the US Treasury had largely adhered to a policy of 'benign neglect' toward exchange rates, emphasising market mechanisms and resisting currency intervention. This position became increasingly difficult to maintain as the dollar continued to appreciate and domestic political pressure mounted. A decisive shift occurred with the appointment of James Baker as US Treasury Secretary in early 1985. Baker viewed exchange rate coordination as a pragmatic means of alleviating domestic political pressure while preserving the broader framework of international economic cooperation.

Funabashi (1988, Chapters 4 and 5) describes intensive consultations among senior officials of the then Group of Five (G5) countries (the United States, the United Kingdom, France, Germany, and Japan). Deputy-level officials and central bank representatives played a critical role in forging a shared diagnosis of the problem and in preparing the ground for agreement. These informal but repeated interactions helped reconcile differing national interests and built sufficient trust to allow a coordinated policy shift.

On 22 September 1985, finance ministers and central bank governors from the G5 met at the Plaza Hotel in New York. The meeting was conducted under strict secrecy to avoid destabilising market reactions. The resulting communiqué was brief but highly consequential. It stated that “some further orderly appreciation of the main non-dollar currencies against the dollar is desirable” and committed the participants to closer policy coordination, including joint foreign-exchange market intervention when appropriate.

At the time of the Plaza meeting in September 1985, the yen-dollar exchange rate stood at approximately ¥240 per dollar. The communiqué did not specify numerical targets, but it clearly signalled a collective intention to reverse the prevailing trend of dollar strength. For the first time in the post-Bretton Woods period, the United States explicitly endorsed coordinated efforts to influence exchange rates. Funabashi (1988, Chapter 6) stresses that this shift in policy stance away from benign neglect was central to the Accord’s effectiveness.

Following the Plaza Accord, the yen appreciated rapidly. Within three months, the exchange rate moved to around ¥200 per dollar, and by the end of 1986 it had reached approximately ¥160 per dollar, reflecting both coordinated intervention and a decisive shift in market expectations. The dollar had fallen substantially from its peak. This adjustment eased immediate political pressure in the United States and reduced concerns about disorderly global imbalances.

By early 1987, the dollar had fallen further, with the yen approaching ¥150 per dollar. At this point, concerns shifted from dollar overvaluation to the risk of excessive and destabilising depreciation, prompting the major economies to pursue exchange rate stabilisation through the Louvre Accord in February 1987.

Despite its success in correcting an overvalued dollar, the Plaza Accord did not eliminate underlying global imbalances. Japan’s current account surplus remained large, and tensions over trade and market access persisted. Moreover, rapid yen appreciation created new challenges for Japanese policymakers, who responded with expansionary monetary policy to support domestic demand.

### **3 THE PLAZA ACCORD AS MISINTERPRETED IN CHINA**

One of the most influential legacies of the Plaza Accord lies not in its actual economic effects, but in how it has been interpreted in later policy debates. In particular, a widely shared narrative treats the Plaza Accord and the subsequent yen appreciation as a cautionary tale: external pressure for exchange rate adjustment undermined Japan’s competitiveness and set the stage for decades of economic stagnation.

This interpretation has been especially salient in China. For example, a 2015 Reuters article<sup>2</sup> reported:

*Chinese policymakers see the 1985 Plaza Accord between Japan and the Western powers, which effectively approved a stronger yen and the opening up of the capital account during the 1980s and 1990s, as pivotal events for Tokyo which ultimately led to Japan's "lost two decades", sources say.*

With this interpretation in China, the experience of Japan is often invoked to argue that yielding to foreign pressure, particularly from the United States, entails unacceptable economic and political risks. As a result, the Plaza Accord has come to symbolise not international coordination to address global imbalances, but coerced accommodation of the US interest.

The reading that implicates the Plaza Accord and US pressure as the primary cause of Japan's 'lost decades', however, is problematic. It conflates the timing of exchange rate adjustment with the causes of Japan's later stagnation and abstracts from the broader macroeconomic and institutional context of Japan's post-Plaza developments.

The claim that the Plaza Accord directly caused Japan's long stagnation rests on a simple causal chain: US pressure forced yen appreciation; yen appreciation destroyed export competitiveness; and the resulting loss of competitiveness led to prolonged stagnation. While this narrative has intuitive appeal and still attracts some sympathy even in Japan, it does not align well with the historical record.

First, Japan's macroeconomic performance after the Plaza Accord does not resemble the onset of stagnation. Japan in the late 1980s was characterised by rapid growth and overheating rather than contraction. Output expanded, asset prices surged, and financial activity accelerated. As Ito and Corbett (2010) point out, "[t]here is very little evidence that the sharp yen appreciation had major impacts on the Japanese economy in the second half of the 1980s". This period would later be called 'the bubble economy'. Japan's prolonged stagnation began only after the collapse of the bubble in the early 1990s, several years after the exchange rate adjustment under the Plaza Accord.

Second, the critical link between yen appreciation and long-term stagnation operated not through a loss of competitiveness, but through domestic policy responses. In order to offset the contractionary effects of a stronger yen, Japanese policymakers pursued aggressive monetary easing and other demand-supporting measures. Combined with financial liberalisation, these policies contributed to the formation of large asset price bubbles. The subsequent collapse of those bubbles, and the delayed resolution of problems in the banking sector, played a central role in Japan's long stagnation.

2 "China takes lessons from Japan, past master on slowdown, deflation", Reuters, 9 March 2015 ([www.reuters.com/article/idUSKBN0M403Y/](http://www.reuters.com/article/idUSKBN0M403Y/)).

Third, interpreting the Plaza Accord as an episode of unilateral coercion obscures its multilateral and political character. As Funabashi (1988) makes clear, the Accord reflected a shared concern among major economies that unchecked imbalances and protectionist pressures could destabilise the world economy. Exchange rate adjustment was an attempt to preserve, rather than undermine, the international economic order. Avoiding protectionism was very important for Japan. According to Gyohten (2013), Japan was actually the most forthcoming for policy coordination among G5.

There is another argument that associates the Plaza Accord with Japan's decades-long stagnation through a longer causal chain. It also starts with the yen appreciation initiated by US pressure. Without any policy responses, Japan would have suffered from a decline in exports, so the yen appreciation forced Japan to stimulate the economy through expansionary monetary policy, which in turn fuelled the bubble. When the bubble burst, the Japanese economy started its long stagnation. Thus, according to this view, US pressure was ultimately responsible for the bubble economy and its collapse.

This argument sounds more reasonable than the simple argument that the high yen led to Japan's stagnation, but the problem lies in the assertion that easy monetary policy was Japan's only option. Another option would have been to accelerate the shift from catch-up growth, which depended on capital deepening and exports, to innovation-based growth.<sup>3</sup> Instead Japan chose a policy aimed at prolonging the life of an export-led growth model by resisting pressure for yen appreciation by lowering interest rates, thereby encouraging the bubble. In this sense, "it was not caving in to yen appreciation demand but resisting US pressure (or the US "wish" to be more precise) that made monetary policy too lax and contributed to bubble enlargement" (Ito and Corbett, 2010). A recent assessment by Rogoff (2025, p. 25) makes a similar point, though it is somewhat more lenient for Japan:

*if Japan had had better financial market regulation when the boom came, its economy would never have overheated and then stalled as badly it did. On the other hand, it was U.S. pressure that forced Japan to adapt to a stronger yen faster than its politics, culture, and institutions could handle.*

What should Japan have done after all, when it faced drastic yen appreciation after the Plaza Accord? Should the Bank of Japan (BOJ) have refrained from monetary easing at all? That may have prevented the bubble, but wouldn't Japan have suffered from recession? I do not have definitive answers to these questions, but I offer a couple of observations relevant to these questions.

First, easy monetary policy may have been the right policy, but it lasted too long, as Ueda (1992, Chapter 7) argues. He shows that the BOJ (and other policymakers as well as business managers) overestimated the negative impacts of yen appreciation and failed to normalise or tighten monetary policy even when it was clear (at least with hindsight)

3 Aghion et al. (2021) point out the importance of this shift in order for a country to escape the middle-income gap; see especially the discussion in Chapter 7.

that the “*endaka* (yen appreciation) recession” was over and the asset prices began to increase rapidly. Ueda (1992) pointed out the BOJ’s reaction to yen appreciation after the Plaza Accord was very similar to that in the early 1970s when the yen appreciated following the US decision to stop convertibility of the dollar into gold in 1971. The BOJ reacted by expanding monetary policy and eventually created ‘excess liquidity’, and fuelled inflation right *before* the first oil crisis.

Second, the government could have relied not only on expansionary monetary policy but also on expansionary fiscal policy. Ueda (1992, Chapter 7) argues that this was difficult. In the 1980s, the Japanese government was attempting to reduce the budget deficit that was widened in the late 1970s. In 1976, the government embarked on fiscal reform aiming to eliminate the budget deficit by 1980. When this goal was deemed impossible in 1979, the government set the new target date to 1984, but that target was not achieved. The target of 1990 (set in 1983) would finally be achieved (Ito and Hoshi, 2020, Chapter 6). Under such political conditions, the Ministry of Finance relied solely on the BOJ to limit the negative impacts of yen appreciation using monetary expansion.

Third, the bubble emerged partly due to expansionary monetary policy, but the more fundamental cause of Japan’s bubble, its inevitable burst, and the subsequent banking crisis was in the way financial deregulation was carried out in the 1980s. As Hoshi and Kashyap (2000) argue, the financial deregulation that began in the late 1970s was very slow and also lopsided. Financing options for large corporations were expanded relatively quickly, but the options for savers were very slow to be expanded and the restriction on businesses that banks could do lasted long. Thus, when large corporate customers started to leave banks for bond markets in Japan and abroad, the bank deposits kept coming in but the banks were not allowed to expand outside the traditional banking business of collecting deposits and making loans. Japanese banks ended up lending to new customers, who were relatively smaller, did not have close relationships, but looked safe because of land collateral. Japan could have tried more balanced financial deregulation more quickly.

#### 4 THE US MISINTERPRETATION

The Plaza Accord also generated a problematic interpretation in the United States, which mirrors the Chinese interpretation discussed above. China has drawn from the Japanese experience a lesson of excessive vulnerability to US pressure, and tries to resist the demands. In contrast, the United States has drawn a lesson of excessive policy leverage: exchange rates can be managed to force surplus countries to deliver the desired outcomes.

Both interpretations deviate from the principle shared by those people involved in the Plaza Accord. Global imbalances are ultimately rooted in domestic economic structures and cannot be sustainably resolved through exchange rate movements alone. The coordinated currency intervention arrangement was meant to buy time so that immediate political tensions could be defused and the open international trading

system preserved while more gradual structural adjustments took place on both sides. In this respect, the Plaza Accord was a process-oriented intervention rather than an outcome-oriented one. Many observers in the United States were impressed by the success of the Plaza Accord in moving the exchange rate quickly and started to believe that the United States had sufficient leverage to force other countries to deliver some specific results, be it exchange rate or trade balance.

The misunderstanding was solidified through various trade negotiations between the United States and Japan that started well before and continued well after the Plaza Accord. As Ito and Hoshi (2020, Chapter 13) describe, trade conflicts between the two countries started to develop in the 1970s as Japanese exports in industries such as steel and TVs flooded the US markets. In the early stages, trade conflicts and subsequent negotiations happened at sector level. In the 1980s, as Japan started to run a trade surplus consistently, negotiations started to cover multiple sectors and wide-ranging structural issues related to trade imbalances. In some negotiations, Japan also pointed out structural issues in the United States and demanded those issues be resolved.

Although the Plaza Accord succeeded in making the yen substantially more expensive, Japan's trade surplus with the United States persisted. Thus, trade talks between the two countries continued both at economy-wide level and sector level (for important industries). Encouraged by the apparent success of the Plaza Accord at least in bringing yen appreciation, the US policy started to shift toward a more result-oriented approach.

The clear turning point was the Semiconductor Agreement signed in 1986. By the mid-1980s, Japanese firms had rapidly gained global market share in dynamic random-access memory (DRAM) and other semiconductor products. US policymakers and industry groups argued that this expansion reflected unfair trade practices, including dumping in third-country markets and restricted access to Japan's domestic market.

The United States and Japan reached an agreement in 1986 that contained two core elements. One was Japan's commitment to improve access for foreign (primarily US) semiconductor producers. Although no formal quota was written into the agreement text, a target of a 20% foreign market share in Japan became an implicit benchmark in subsequent implementation and monitoring.

The other element concerned antidumping. Japan agreed to prevent dumping of semiconductors in overseas markets by ensuring that export prices reflected 'fair market value'. This involved unprecedented government monitoring of export prices, effectively introducing an element of managed trade.

Thus, the Semiconductor Agreement went well beyond traditional tariff or quota measures, and introduced government commitment to realise particular prices and market outcomes. US trade policy started to shift from rules-based liberalisation toward outcome-oriented management.

The 20% foreign market share target was not achieved promptly. In the late 1980s, foreign (mainly US) semiconductor firms' share of the Japanese market remained well below 20%, typically in the 10–15% range. The United States argued that Japan had not made sufficient progress in opening its semiconductor market, despite commitments under the 1986 agreement. In 1987, the United States imposed retaliatory tariffs. After about seven months, the United States judged that Japan had taken sufficient corrective steps in implementation and monitoring of the agreed adjustments and lifted the tariffs.

The Semiconductor Agreement was revised in 1991. The revised agreement more clearly acknowledged the use of foreign market share as a tool for monitoring progress. Japan also committed to improved data collection and reporting on semiconductor procurement and market shares. At the same time, the revision shifted attention away from overseas pricing (dumping) behaviour and more toward market access.

Soon after the 1991 revision, the 20% foreign market share target was clearly reached. The policy of setting a numerical target and demanding that Japan deliver a numerical outcome proved effective. From this point on, US trade policy shifted toward outcome-based management rather than rule-based liberalisation.

Thus, the misinterpretation of the Plaza Accord experience was intensified by the success of the Semiconductor Agreement, which specified a numerical target. The Plaza Accord's effectiveness (at least in moving the exchange rate) stemmed less from its ability to engineer specific exchange rates than from its role in coordinating expectations. Moreover, the main goal of the Plaza Accord was to prevent a breakdown of the international economic order. By contrast, demanding that a trading partner achieve a numerical target, regardless the costs, risks undermining the international economic order.

The US misinterpretation did not remain confined to the conflict with Japan. The belief that external imbalances or other outcomes can be corrected through pressure and policy leverage (rather than through structural adjustments) has reappeared repeatedly in US international economic policy. In later episodes, including relations with China, similar strategies of identifying a surplus country, framing imbalances as the result of the country's policy, and seeking measurable concessions by applying threats have been pursued.

## **5 IMPLICATIONS FOR THE US-CHINA IMBALANCE**

The misinterpretations that emerged from the US–Japan experience now interact in a particularly destabilising way in the context of the US–China imbalance. China and the United States have each internalised different, and mutually reinforcing, lessons from the Japanese case, which complicates adjustment rather than facilitating it.

China appears to have drawn a highly pessimistic interpretation of Japan's experience after the Plaza Accord. In this reading, external pressure for exchange rate appreciation or structural reform is viewed not as part of a cooperative adjustment process, but as a strategy aimed at weakening a rising competitor. The Plaza Accord is interpreted as the critical turning point after which Japan's growth was fatally undermined. This interpretation strengthens the political case for resisting external demands and delaying adjustment even as domestic imbalances, such as excess capacity, weak consumption, and demographic headwinds, become more pronounced.

At the same time, the United States has internalised a different misinterpretation. The perceived success of the Plaza Accord in reversing dollar overvaluation, reinforced by subsequent experiences with outcome-oriented trade agreements such as the Semiconductor Agreement, has encouraged the belief that external imbalances can be corrected through pressure and the imposition of numerical targets. In this view, even unilateral actions by the United States can compel surplus countries to deliver adjustment outcomes, whether in exchange rates, market access, or industrial structure.

The interaction of these two perspectives creates a particularly antagonistic environment. From China's perspective, US demands appear coercive and motivated by an intent to contain or weaken challengers. From the US perspective, China's resistance to adjustment appears as evidence of mercantilism that justifies stronger pressure. As a result, structural adjustment is framed as a zero-sum contest rather than as a shared responsibility to maintain the international economic order.

## 6 CONCLUSION

This chapter has examined the Plaza Accord and US-Japan imbalances in the 1980s. It focuses on the two different narratives of that experience that later took hold in different countries. Looking at the experience, China learned that yielding to pressure from the United States would halt China's growth as happened to Japan. The United States learned that pressuring Japan into promising desired outcomes (from the US point of view) was a very effective strategy.

Today's global imbalances are more troubling than those of the 1980s not simply because they are larger, but because they unfold in a more politicised environment. Economic policy has become increasingly intertwined with geopolitical rivalry, and historical analogies are frequently mobilised to justify resistance or coercion. In this context, the misinterpretations of the Plaza Accord and the US-Japan relationship have narrowed the space for cooperative adjustment.

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# Reconciling domestic goals with global adjustment: Challenges for Indian economic management

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## 1 OVERVIEW

In line with the overall theme of global imbalances, this chapter reviews the evolution of India's balance-of-payments current account since 2000 – a period that covers the aftermath of the 1997 Asian financial crisis, the 2008-09 Global Financial Crisis (GFC), and the COVID-19 episode – focused on the interplay between private behaviour and government response.

With progressive domestic capital account liberalisation, private corporate investment in the first decade of this century was briefly liberated from both domestic and international financial constraints. The ensuing investment boom accordingly was associated with a widening of the current account deficit into what, for India, was uncharted territory. Normalisation of US monetary policy following the GFC induced the so-called 'Taper Tantrum' in 2013, in which India was classified among the 'Fragile Five' emerging markets.

India currently enjoys a favourable demographic window which could help it to become an advanced economy by 2047, based on current World Bank benchmarks. India wishes to reach this goal on a path consistent with becoming 'net zero' in greenhouse gas (GHG) emissions by 2070. An intermediate goal is to transition from its current lower-income status to upper-middle-income in the next decade.

India's adjustment to the post-GFC episode is examined in detail to explore the risk-adjusted feasibility of alternative paths available to the country, both to stimulate and to finance the desired investment acceleration in the coming decade.

<sup>1</sup> Views are personal. I would like to thank Bhaskar J. Kashyap and Abhinav Matheram for their intellectual support and expert assistance. Remaining errors are mine.

Achieving these goals will require sustained acceleration in India's growth of per capita income over levels sustained over the last two decades. Domestic reform in many spheres (education, skilling, fiscal, financial, and technological innovation) is fundamental to a growth acceleration and is underway. However, a step-up in India's investment rate and its financing will also be essential.

Attention is paid to the appropriate balance between domestic and foreign savings at a time of considerable uncertainty, both in funding and in official financial safety nets. Growth in labour productivity is integral to India's development trajectory but is significantly impacted by the scale of China's global trade surpluses. Thus, macro policy, industrial policy, trade policy, and the multilateral financial and trade order all come into play as India seeks to benefit from its demographic opportunity.

## 2 GROWTH AND EXTERNAL ENGAGEMENT SINCE 2000

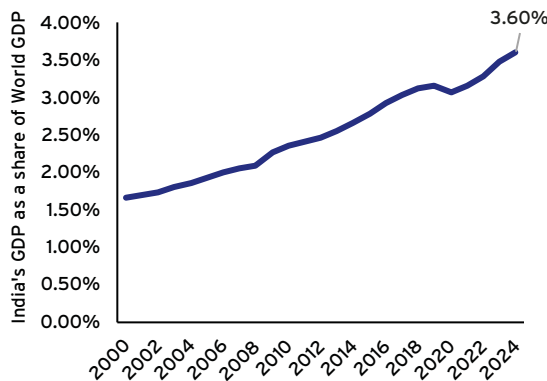
### 2.1 Growth

As would be expected for a country with the lowest per capita income in the G20, India has experienced significantly faster growth than the world economy over the past two decades (Figure 1, panel a) and has turned in a respectable long-term performance compared to its large emerging market peers (Figure 1, panel b).

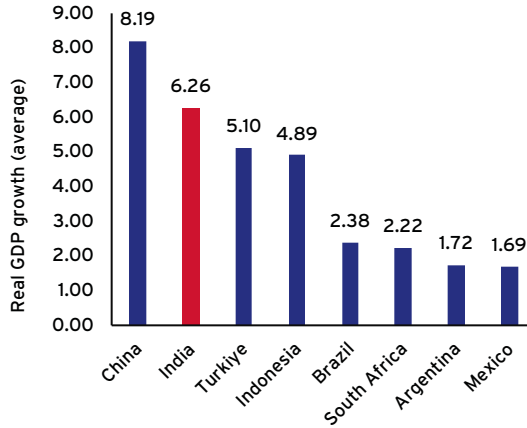
The IMF has estimated that by early 2026 India had become the world's fourth-largest economy, measured at market exchange rates. Following its recovery from COVID-19, India has emerged as the fastest-growing large economy and seemed at the time of writing well-placed to maintain this status. Erratic but positive progress in its trade negotiations with the United States – its largest export market for both goods and services – together with a market-access agreement with the European Union are intended to help India maintain this standing.

FIGURE 1 GROWTH: SUSTAINED AND RESILIENT

a) India's share of world GDP



b) Growth rate against G20 emerging market peers, 2000-2024



Source: World Development Indicators 2026 (World Bank, 2025).

## 2.2 External engagement

Even as the Indian economy has risen in absolute size in the global league tables, it has remained a peripheral player both in global trade and in cross-border finance and investment. Its abundant endowment of an increasingly skilled labour force has instead expressed itself through large cross-border labour flows – high- and low-end, legal and illicit, permanent and temporary. India is the largest absolute recipient of migrant remittances as per World Bank data (though not as a share of GDP).<sup>2</sup> It has been argued for the more extreme case of Pakistan (Mian, 2025) that remittances at scale can create ‘Dutch disease’ biases against production of tradables. India’s success in service exports partly counters this concern.

A further consequence of these cross-border human links is considerable de facto openness in the balance of payments of both the current capital accounts. As an example, this reality is reflected in complexities of the exchange control regime managed by the Reserve Bank of India (RBI) as the implementing agency of India’s Foreign Exchange Management Act (FEMA).<sup>3</sup> These administrative liberalisations are designed to be reversible, largely to protect against capital flight, and also as a defence against tax round-tripping by Indian residents. By contrast with residents, Indian corporates enjoy an increasingly liberal capital regime, though once again by administrative fiat rather than being formally enshrined in legislation.

2 Such remittances are classified as unrequited transfers in the national accounts and form part of secondary income in the balance of payments.

3 As a small example, in accepting deposits, banks in India are required to differentiate between resident, non-resident ordinary (NRO), and non-resident external (NRE) accounts depending on the domicile of the depositor and the origin of the deposited funds.

### 3 THE CURRENT ACCOUNT: DEVELOPMENTS AND DETERMINANTS

Table 1 tracks the components of India's current account for various time slabs since the turn of the century. Table A2 in the Annex describes the underlying episodes in more detail. Except for the initial period (2000-03), the current account has been in deficit to varying degrees, indicating that India is, in general, a capital importer. Table 1 further indicates that the burden of adjustment tends to take place on goods account while net services income has been robust. Finally, 'secondary income' – predominantly workers remittances but also outward transfers by resident households – has been relatively volatile and seems to reflect the impact of the global financial cycle as well as liberalisation of outward remittances by the RBI.

**TABLE 1 INDIA STRUCTURALLY IMPORTS CAPITAL**

Balance of payments components (shares of GDP, selected time bands)

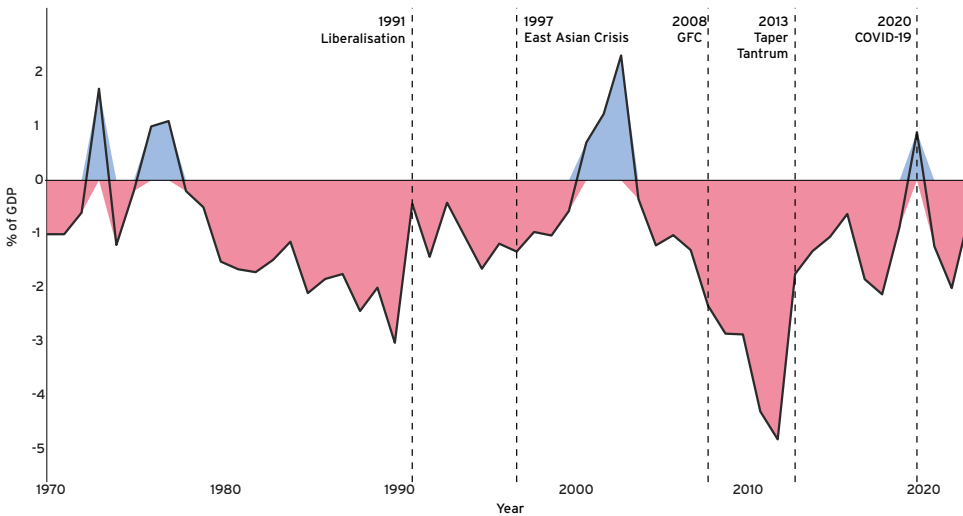
	2000- 2003	2004- 2007	2008- 2011	2012- 2015	2016- 2019	2020- 2023
Current account balance	0.5%	-0.7%	-2.8%	-2.5%	-1.4%	-0.8%
Goods	-1.4%	-3.9%	-8.8%	-8.3%	-5.7%	-6.0%
Services	-0.4%	0.9%	3.2%	3.7%	2.9%	3.7%
Primary income	-0.9%	-0.6%	-0.7%	-1.2%	-1.1%	-1.2%
Secondary income	3.2%	2.9%	3.5%	3.3%	2.5%	2.7%

Source: IMF Balance of Payments Statistics, 2026.

Figure 2 tracks the current account in more detail to illuminate how India adjusted following one of its most egregious current account deficits. This is done to draw lessons from this episode for India's investment financing options for the coming decade. By design, the figure spans a longer time frame than Table 1 to show that current account deficits, though the norm, had been relatively mild in the period before the 1991 liberalisation.

What is striking is the surplus following the Asian financial crisis (2000-03) followed by a dramatic reversal in the run-up to the 2008 GFC. We now analyse this episode from various perspectives, concentrating more on domestic drivers than on global imbalances, although, as other chapters in this report indicate, there were major developments in global imbalances also underway in this period.

FIGURE 2 CURRENT ACCOUNT: SHARP ADJUSTMENT FOLLOWING 2013 'TAPER TANTRUM'



Source: World Development Indicators.

#### 4 INDIA'S INVESTMENT SLOWDOWN

India was shielded from the 1997 Asian financial crisis by its capital controls and by deft monetary management, including a powerful interest rate defence of the rupee. In the aftermath of that crisis, Indian policymakers adopted an informal prudential guideline of limiting the current account deficit to around 2% of GDP.<sup>4</sup>

While India had previously subjected itself to several IMF programmes (including at the time of its major liberalisation in 1991), following the Asian financial crisis, a consensus developed in favour of external self-insurance, including the buildup of a significant stock of reserves. As India typically runs current account deficits, its reserves represent the diversion of capital inflows whose implicit cost to the economy is almost certainly higher than the return on reserves. This difference represents an insurance premium in the absence of a well-funded, robust global financial safety net.

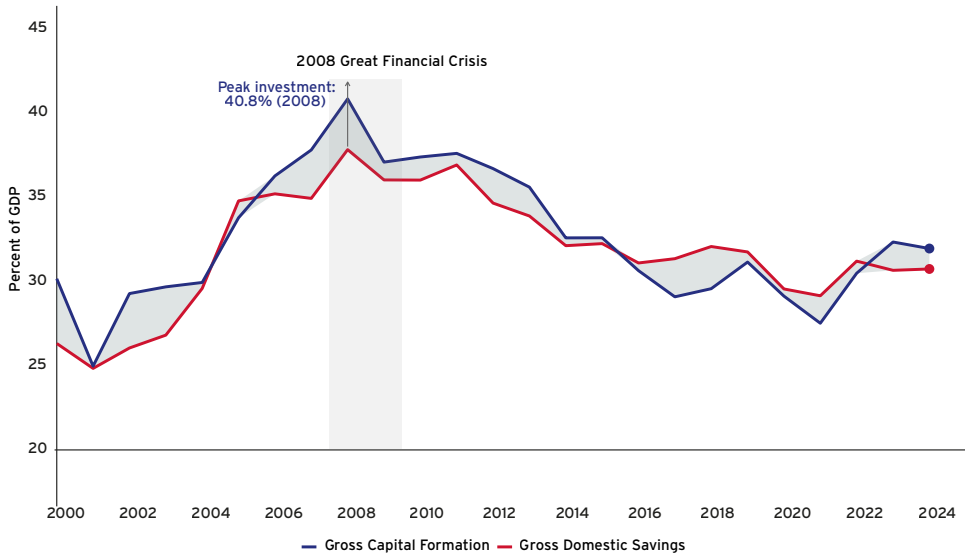
These prudential norms were, however, ignored amid pre-2008 GFC exuberance, as easy global liquidity and domestic reforms fuelled an investment surge from 27–28% of GDP (2003–05) to peak at nearly 40% in 2008 (Figure 3). External commercial borrowing<sup>5</sup> jumped from about \$2.5 billion in FY2004–05 to \$22.6 billion in FY2007–08, which, alongside foreign direct investment, enabled a widening of the current account deficit

4 Rajadhyaksha (2019) lists the norms by which Indian economic managers have steered the economy since then: a current account deficit of 2% of GDP; an inflation rate of 4%; a 6% general government fiscal deficit; and an aspiration to grow at 8% while observing these macro red lines. Of these indicators, the inflation and fiscal targets have a basis in law. Recent values of these and other macro indicators as provided by the IMF in its 2025 Article IV report on India (IMF, 2025) are available in Annex Table A1.

5 By banks and corporates; India as a sovereign only incurs liabilities to official financial institutions, but is nonetheless rated by the major rating agencies.

to around 4.8% of GDP in 1 April 2012 to 31 March 2013. Domestic overheating had emerged by mid-2007, with inflation spikes prompting RBI tightening. The GFC then accelerated reversal via capital flight (outflows on portfolio accounts of over \$12 billion) and an export collapse (from +35% to negative territory).

FIGURE 3 INVESTMENT MORE VOLATILE THAN SAVINGS: 'ANIMAL SPIRITS'?



Source: World Development Indicators, World Bank.

In 2013, Federal Reserve tightening as the GFC subsided generated the ‘Taper Tantrum’. India was classified as among the ‘Fragile Five’ emerging markets.<sup>6</sup> Exit by portfolio investors amplified the ‘twin balance sheet problem’ (corporates and banks).

A new government assumed office in mid-2014, headed by Prime Minister Narendra Modi who, at the time of writing, is in the second year of his third five-year term. In his first term (2014-19), his government undertook a series of structural measures which, though disruptive, addressed a seemingly intractable twin balance sheet problem through important structural reforms including the Insolvency and Bankruptcy Code of 2016, a controversial anti-corruption ‘demonetisation’ of large-value bank notes in 2016, a landmark shift from an origin-based value-added tax to a destination-based Goods and Services Tax (2017) unifying indirect taxes to improve compliance, and recapitalisation of public sector banks.

<sup>6</sup> India's then central bank governor Dr Raghuram Rajan indicated in public remarks at the time of the Taper Tantrum that India had not succeeded in securing a swap line with the Federal Reserve as an alternative to IMF liquidity support. The incentive for self-insurance would be even stronger in the more polarised atmosphere of today, and with India a larger part of the global economy.

Gross non-performing assets peaked at 11.5% in the fiscal year 2018 following Governor Raghuram Rajan's 2015 Asset Quality Review, anchoring the post-crisis cleanup even as private investment remained subdued. Collectively, these measures succeeded in cleaning up banking system balance sheets, with the ratio of gross non-performing assets falling to 2.1% by September 2025 (RBI, 2025).

Figure 3 also indicates that investment rates have still not returned to levels observed prior to the GFC.<sup>7</sup> At its peak, India's investment rate approached 40% of GDP, a level consistent with rapid productivity growth and structural transformation. In recent years, however, it has remained closer to the low 30s (Annex Table A1).

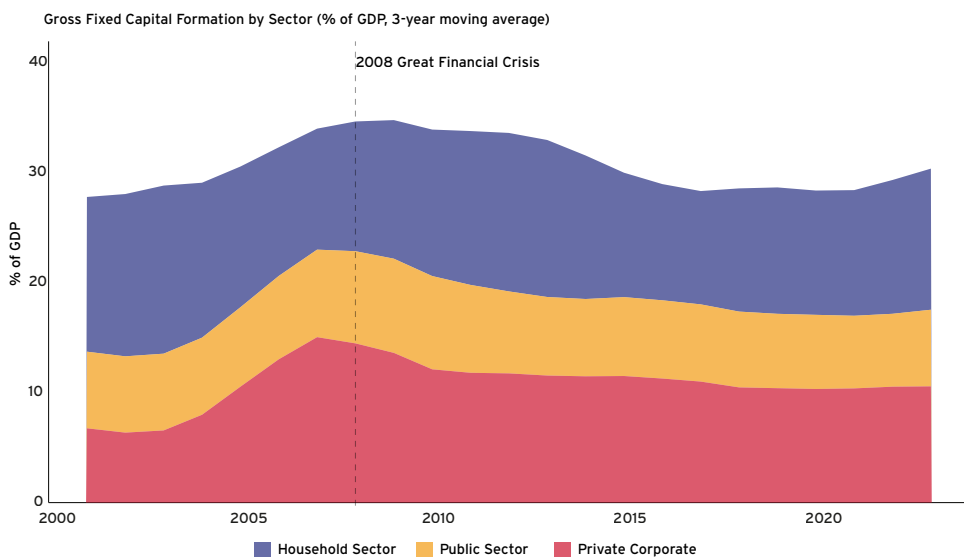
Following recovery from the COVID-19 crisis, the Union government has reoriented fiscal policy toward capital expenditure while returning to a debt-reduction trajectory, and has created incentives for India's states to follow suit. These measures have succeeded in restoring the public sector's share of gross fixed capital formation (as recorded in the national accounts). This is visible in Figure 4, though somewhat masked by the use of a rolling average. Significant resources have been directed toward transport infrastructure, logistics networks, energy systems, and digital connectivity, with the explicit objective of crowding in private investment. This shift represents a conscious attempt to address supply-side constraints and to improve the economy's long-term growth potential.

Despite these efforts, private sector capital formation has remained subdued and net foreign direct investment inflows have not risen substantially. The reasons for these outcomes are not entirely clear, but likely include a combination of regulatory uncertainty, risk aversion following the mistakes in the earlier investment cycle, balance sheet repair in the corporate and banking sectors, and an increasingly uncertain global environment.

The role of fiscal policy is more complicated. On the one hand, fiscal deficits act to appreciate the real exchange rate, inhibiting India from realising the growth and productivity potential latent in its abundant semi-skilled labour force via international trade in labour intensive goods. As against this, as we have seen, current account deficits have remained modest despite sustained large general government deficits. Improving the climate for private investment – both domestic and foreign – is and has been the central element of the government's reform programme through a range of interventions including deregulation, labour market reforms, reducing compliance burdens and the like.

7 In practice, the National Statistical Office (NSO, formerly CSO)'s savings-investment (S-I) gap and the RBI's current account balance diverge for the following reasons. Current account (RBI): the balance of payments is compiled using the International Transactions Reporting System (ITRS), which tracks actual foreign exchange flows through banks, supplemented by survey data. Savings and investment (NSO): gross capital formation is calculated primarily using the commodity flow method (tracking the flow of capital goods) and the expenditure method. Gross domestic savings is derived as a residual or built up from sectoral estimates. The CSO S-I gap should be interpreted as an indicative measure of India's domestic resource balance rather than a precise estimate of the current account.

FIGURE 4 HOUSEHOLD SECTOR CAPITAL FORMATION: SIGNIFICANT AND VOLATILE



Source: National Accounts Statistics, National Statistics Office.

Based on aggregate growth models, analysts have argued that a return to investment rates in the vicinity of 40% of GDP is essential for sustaining the 7.5–8% real growth required to reach high-income status by 2047 (World Bank, 2025; Maiti and Goldar, 2025).<sup>8</sup> These investment rates are not unprecedented: India itself peaked at 41.9% in 2008 and peers like China (44% in 2010–14), South Korea (38–42% in 1980s), and Vietnam (37–40% in 2015–22) sustained similar rates during their catchup.

These ‘top-down’ aspirations are complemented by more specific sectoral estimates of the incremental investment requirements entailed primarily by India’s energy transition (within the declared framework of net zero by 2070) and the country’s formidable present and future needs for urban infrastructure and buildings (NITI Aayog, 2026).

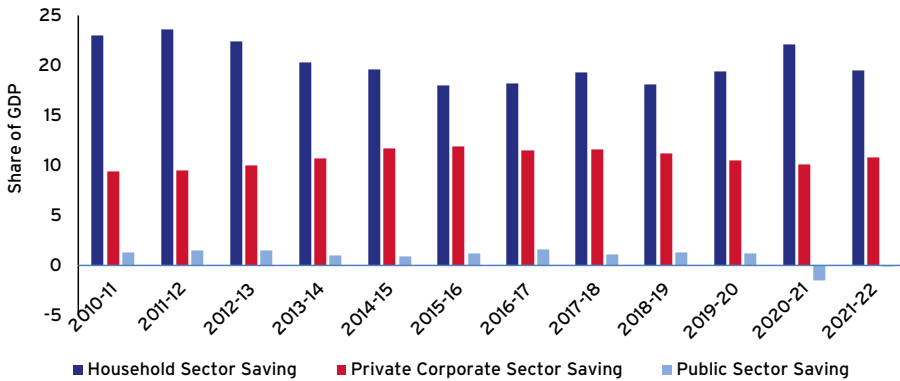
As pointed out by Eichengreen (NITI Aayog, 2025), an important new requirement for investment is now arising for data centres to allow India to become a preferred location for low-cost supply of artificial intelligence (AI) services to the world, even as this technology erodes India’s current edge in information technology (IT) and information technology-enabled services (ITES).

Such a large jump in realised investment requires both remunerative opportunity and available financing and must largely originate in the private and household sectors, although the public sector (general government and public enterprises) can play a helpful complementary role. Figures 4 and 5 indicate the important, and dynamic, role of the household sector both as a source of savings and as an investor.

<sup>8</sup> Growth accounting implies capital deepening must deliver 8–9% annual capital stock growth ( $\alpha=0.35$  share), necessitating gross capital formation of 35–40%

Should investment intentions rebound (led, as pre-GFC, by the private sector), this ex-ante financing gap would need to be filled by a combination of increased domestic savings mobilisation and foreign capital inflows, the latter prioritising more stable FDI over volatile portfolio debt to finance productive capital expenditure without macroeconomic risks. Economic reform is already underway both on the real side (investment climate) and on the financing side (savings incentives; policies toward FDI, both sectoral and geographical), and is now being recalibrated to take account of additional uncertainties in the global environment.

**FIGURE 5 HOUSEHOLD SAVINGS: POLICY-DRIVEN? DEMOGRAPHICS?**



Note: Gross savings in current prices.

Source: National Accounts Statistics, National Statistics Office.

Closing the ex-ante investment–saving gap will require mobilising resources from multiple channels. Household saving must be supported through pension reform, financial inclusion, and inflation stability. Corporate saving and reinvestment depend on improvements in cost competitiveness, regulatory predictability, and infrastructure quality. Government saving is constrained by political and developmental imperatives, placing emphasis on the efficiency and composition of public expenditure rather than its overall size’

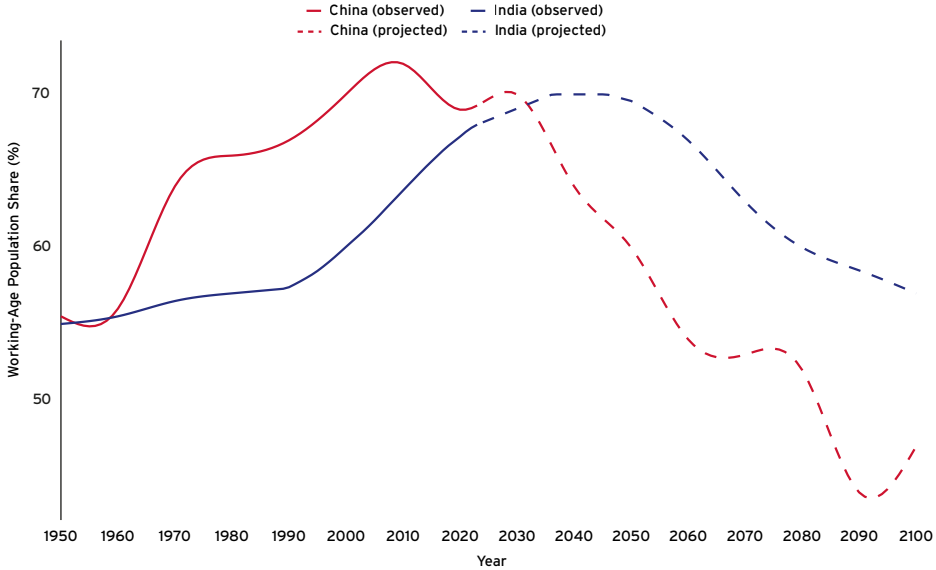
## 5 DEMOGRAPHIC OPPORTUNITIES AND CHALLENGES

India’s demographic profile provides both a unique opportunity and a formidable constraint. While demographic conditions vary significantly across India’s 28 states (and eight Union territories), in aggregate the country will experience a substantial increase in its working-age population over the coming decade. This expansion stands in sharp contrast to developments in most advanced economies and many Asian emerging markets, where the share of the working-age population is stagnating or shrinking and the dependency ratio is rising as a result of population ageing. India’s national development aspirations, along with those formally articulated by many of its

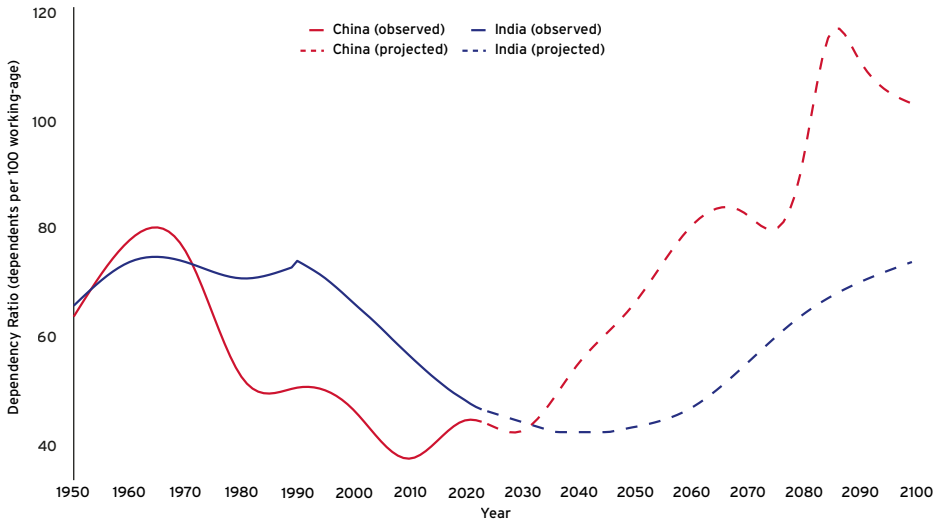
states, have been set with 2047 in mind. Faster employment generation, while good for growth, will not be sufficient to sustain rapid increases in real incomes. The central requirement is a decisive and sustained rise in real labour productivity, measured on a purchasing power parity basis.

**FIGURE 6 INDIA: A LONGER DEMOGRAPHIC 'SWEET SPOT' THAN CHINA**

a) India's demographic dividend: Observed and projected working-age share (15-64)



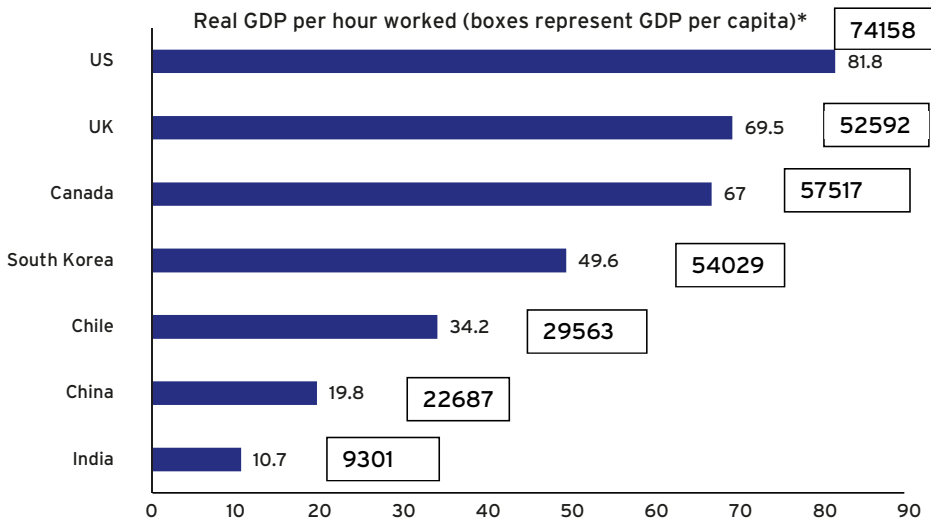
b) Total dependency ratio: India versus China, 1950-2100



Source: UN World Population Prospects 2024; NITI Aayog calculations.

India's current level of labour productivity remains low by international standards and significantly below that of upper-middle-income peers such as Brazil and Russia. Without a sharp acceleration in productivity growth, increases in employment will translate into only modest improvements in living standards. This challenge is rendered more complex by rapid technological change that is reshaping global labour markets, altering skill requirements, and reducing the scope for traditional labour-intensive industrialisation strategies.

**FIGURE 7 LABOUR PRODUCTIVITY: MUCH GROUND TO COVER**



Note: Real GDP per hour worked: GDP constant 2021 international dollars at PPP (World Bank, 2026). Box: GDP per capita, PPP (constant 2021 international dollars)

Source: ILO and World Bank.

Enhancing productive capacity will be central to driving income growth and improving living standards. At the same time, effective demand management will be necessary to ensure macroeconomic stability and to smooth cyclical fluctuations, thereby supporting the broader process of economic transformation. What has served India well in the past may not be sufficient for the growth acceleration that India desires.

## 6 INDIA AND CHINA: DIFFERENT DEVELOPMENT PARADIGMS

China lies at the centre of contemporary debates on global imbalances, industrial policy, and the future of manufacturing. Although it has not formally crossed the World Bank's high-income economy threshold, it has become the dominant manufacturing power in the global economy. China's policies and economic structure, therefore, loom large for India, both as a competitive challenge and as a reference point. Nevertheless, India's development trajectory has so far differed from China's in several fundamental respects, most notably in the structure of final demand, the sectoral composition of output, and, as a consequence, the configuration of the current account in the balance of payments.

China's growth model over the past three decades has been characterised by exceptionally high domestic saving rates, approaching 50% of GDP. These savings were more than sufficient to finance domestic investment. The role of foreign capital was to provide managerial expertise and access to technology and to export markets. The persistent excess of savings over investment generated large and sustained current account surpluses. Over time, this configuration has produced significant global trade imbalances and rising tensions with trading partners, particularly as China's share of global manufacturing has expanded.

India's path has been qualitatively different. Domestic investment has consistently exceeded domestic savings, necessitating reliance on foreign capital inflows and resulting in recurring but moderate current account deficits. Growth has been driven more by domestic consumption and services than by export-led manufacturing. While this model has not delivered the rapid industrial transformation observed in China and elsewhere in South-East Asia, it has limited the scale of external imbalances and insulated India from the trade and political backlash increasingly directed at economies running trade surpluses. In a global environment marked by rising protectionism and trade fragmentation, this aspect of India's growth model may prove to be a strategic advantage rather than a weakness, although the focus on bilateral trade balances has proved to be irksome in India's negotiations with the United States, not to mention India's own relationship with China.

## **7 LOOKING AHEAD: GLOBAL IMBALANCES, INDUSTRIAL POLICY, AND THE QUALITY OF INDIA'S GROWTH**

The above analysis has indicated how much India's current policies have been shaped by the Asian financial crisis of 1997 and the Global Financial Crisis of 2008. India proved resilient and nimble enough to sustain its growth momentum through those episodes, albeit, as we have seen, with some scarring which persists. Before returning to India's own choices and dilemmas, a brief discussion of the global monetary, financial, and trade order might be useful.

At the global level, current account imbalances, along with associated capital accounts and reserve accumulation, must sum to zero (excluding errors and omissions). Since the collapse of the gold standard a century ago and the depression that followed, the main focus of policy has been on current account imbalances and, within these, trade imbalances. The latter is due to their perceived – if overstated – link to employment in both the exporting and importing country. More recently, bilateral trade imbalances have become a focus of concern and of targeted policy action, particularly by the United States.

Standard development economics suggests that emerging markets are intrinsically capital-scarce and should borrow from rich countries to finance investment beyond domestic savings. Following its 1997 crisis, important parts of Asia reversed this model. Crisis-affected economies (Thailand, Malaysia, Philippines, Indonesia, Korea) accumulated foreign exchange reserves and paid down external debt rather than attracting fresh capital.

In a 2005 speech, Federal Reserve Chairman Ben Bernanke attributed the US current account deficit to a 'savings glut' arising from the collapse of investment in Asia after the Asian financial crisis of the late 1990s. The United States' willingness to accommodate capital inflows through an open capital account and a flexible exchange rate allowed it to play this swing role, consistent with the central role of the dollar in the global monetary system. The same thesis has been repeated in a less benign formulation by President Trump's recent Chairman of the Council of Economic Advisors.

By 2025, the resulting imbalances generated a severe political backlash within the US administration. US Treasury Secretary Scott Bessent described China's economy, with 30% of global manufacturing, as "the most imbalanced in the history of the world",. Bessent argued: "This status quo of large and persistent imbalances is not sustainable. It is not sustainable for the United States, and ultimately, it is not sustainable for other economies." Not surprisingly China considers the major imbalances to be arising from US macro policy. The IMF seems content to sit out this one.

Debates over global adjustment were traditionally driven by the wealthier G20 members, particularly the G7, with the IMF being only advised after the fact. Emerging markets became more influential in these consultations after the Asian financial crisis of 1997-98. The G20 finance ministers group, created in 1999, reflected this shift and eventually evolved into a leaders-level forum that included India.

The current geopolitical environment adds new complexity to the discussion of global imbalances and of their resolution. The lines separating trade, national security, and foreign policy are increasingly blurred. Sovereign states increasingly see interdependence as a vulnerability, given the weaponisation of supply chains and the use of critical minerals and advanced technologies as levers of coercion. At the multilateral level, the US has officially disavowed large parts of the multilateral order it largely brought into being.

In this environment, the disorderly resolution of macroeconomic imbalances is no longer the only, or even the principal, concern of managers of risks to economic security in both advanced countries and emerging and developing economies (EMDEs). Vulnerabilities now stem equally from micro-level factors: concentration of production, supply-chain chokepoints, and the clustering of strategic capabilities in a handful of countries.

Returning now to India, the analysis so far has been at the level of macro aggregates, focused on how to revive investment demand and also how to mobilise the domestic savings that would inevitably need to finance the bulk of the incremental investment. Through economic reform at both the Union and state levels, India must aim steadily to raise its aggregate investment rate by five percentage points of GDP over the remainder of this decade.

We can indicate orders of magnitude by assuming that roughly two-thirds of incremental finance would need to come from domestic sources and the remaining third from abroad. This last third can only be absorbed by the domestic economy through a widening of the current account deficit, so India should prepare for, and indeed welcome, an expansion in high quality imported inputs, particularly if (as seems to be the case at the time of this writing) it can count on a sustained reprieve in the price of crude oil.

The role of external investment, while limited in volume, can play a catalytic role in derisking investments related to climate transition, energy security, and adaptation. Foreign capital remains the residual source of financing, with priority placed on attracting stable long-term greenfield investment rather than volatile portfolio flows that increase macroeconomic vulnerability.

This takes us into trade policy, an area we have not so far discussed but one that has become central to Indian economic diplomacy in Prime Minister Modi's third term, which began in May 2024. As has been pointed out by Martin Wolf of the Financial Times, as India grows, it will need at least to maintain the share of gross exports in GDP. If it retains its growth momentum at a rate much faster than the global economy, this is likely to mean winning a rising share in global trade at a difficult time for the WTO-centred rules-based order. This is why India has been concluding bilateral trade agreements at speed, most notably with the United Kingdom and the European Union.

All of this is, however, a means to an end. As was noted at the beginning of this chapter, India's immediate challenge is to raise both the participation and productivity of its expanding working-age population, and to turn it into both a source and a beneficiary of faster economic growth. The coming decade will be decisive in determining whether India can convert its demographic opportunity into sustained economic convergence and achieve its long-term development aspirations.

India's challenges in this regard are both domestic and cross-border. Domestically, rising labour productivity will need faster change in sectoral output shares than India has enjoyed before, particularly a better performance of the manufacturing sector, and this has been the focus of India's current array of industrial policies (most prominently, the time-bound production-linked incentive schemes for specified industrial sectors). These have enjoyed one big success in the mobile phone sector producing for both the domestic and export sectors.

As for cross-border trade and investment, what seems clear is that the ‘Indian playbook’ will necessarily differ from that of China at a similar point in its development trajectory, if only because it is fated to follow in the wake of a hyper-competitive China. There are no grand principles that India can articulate (‘small yard, high fence’) in managing its trade and investment relationships with China. In many ways, India should aim to use China’s prowess in much the same way that China used its relationship with the United States and with Europe to upgrade its technological base, using access to its domestic labour force and market as a lure. Both with China and with partners to India’s west, such as the United States, Britain and the European Union, and to its east, notably Japan, the crucial relationships will be those of investment even more than trade.

India is attempting to chart a third path in global economic development, avoiding both chronic external deficits and the destabilising surpluses associated with traditional East Asian models. By remaining a moderate capital importer, India can contribute reduction in global imbalances while preserving domestic macroeconomic stability.

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## ANNEX

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THE NEW GLOBAL IMBALANCES

**TABLE A1 INDIA: SELECTED SOCIAL AND ECONOMIC INDICATORS, 2021/22-2026/27**

Indicator	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27
Real GDP growth (%)	9.7	7.6	9.2	6.5	6.6	6.2
CPI inflation (%)	5.5	6.7	5.4	4.6	2.8	4.0
Gross saving (% of GDP)	30.9	31.6	32.6	32.3	31.5	30.9
Gross investment (% of GDP)	32.1	33.6	33.4	32.9	32.5	32.4
Central govt overall balance (% GDP)	-6.7	-6.6	-5.5	-4.9	-4.5	-4.5
General govt overall balance (% GDP)	-9.4	-9.0	-8.1	-7.9	-7.1	-7.2
General govt debt (% GDP)	83.5	82.2	80.7	81.6	81.1	80.7
Broad money growth (%)	8.8	9.0	11.6	9.4	9.3	9.6
Domestic credit growth (%)	8.4	13.1	14.9	11.9	10.8	10.0
Merchandise exports (USD bn)	429.2	456.1	441.4	441.8	416.3	409.5
Merchandise imports (USD bn)	618.6	721.4	686.4	729.0	746.6	782.6
Current account balance (% GDP)	-1.2	-2.0	-0.7	-0.6	-1.0	-1.4
Forex reserves (USD bn)	607.3	578.4	646.4	668.3	709.6	733.4
External debt (% GDP)	19.5	18.6	18.4	18.8	19.2	19.0

Notes: 1 Data are for the April-March fiscal years. 2 Differs from official data, calculated with gross investment and current account. Gross investment includes errors and omissions. 3 Divestment and license auction proceeds treated as below-the-line financing. 4 Includes combined domestic liabilities of the centre and the states, and external debt at year-end exchange rates.

Sources: IMF Article IV Report November 2025. Data provided by the Indian authorities; Haver Analytics; CEIC Data Company Ltd; Bloomberg L.P.; World Bank, World Development Indicators; and IMF staff estimates and projections.

**TABLE A2 CURRENT ACCOUNT EPISODES**

Period	Key drivers	Outcome/policy response
2007-08	Investment-led growth; strong import demand; rising oil prices	CAD widened to 2.5% of GDP, but financed by large capital inflows; considered sustainable under high growth
2011-13	Oil above USD 100/barrel; gold import surge; export slowdown	CAD peaked at 4.8% of GDP in 2012-13; "taper tantrum" pressures; RBI imposed gold import curbs and stabilized Forex markets
2018-19	Elevated oil prices; strong consumption demand; rupee volatility	CAD widened to ~2.1% of GDP; managed through exchange rate flexibility and stable inflows
2021-23	Post-pandemic recovery; Russia-Ukraine war and higher commodity prices	CAD widened from 1.2% to 2.0% of GDP; financed by services surplus and FDI; external position remained stable

# Financial flows to developing countries

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## 1 OVERVIEW

This chapter takes stock of the landscape of external imbalances and financial flows to developing countries. While other parts of the report are devoted entirely to China's crucial role in global imbalances, this chapter primarily examines financing gaps in low- and middle-income emerging market and developing economies (EMDEs).

A cross-sectional snapshot of the data in 2024 shows that, while China alone recorded a current account surplus of \$424 billion, current account *deficits* in 67 EMDEs collectively amounted to \$332 billion, and the remaining 27 EMDEs (including Russia) recorded a current account *surplus* of \$183 billion. These figures suggest that 94 EMDE countries, excluding China, collectively accounted for a mere \$149 billion in their contribution to global imbalances. These numbers may seem of marginal consequence from a global imbalances perspective, given that many of the countries under consideration are small and carry little individual weight in the world economy. However, the data mask critical financing gaps and vulnerabilities in external debt dependence, particularly as a proportion of their own GDPs.<sup>2</sup>

Figure 1 illustrates these vulnerabilities by depicting the distribution of current account and net international investment positions (NIIPs). The first panel shows that, in 2024, the average current account deficit was 5.2% of GDP (median 3.9%) in 67 EMDE countries. The second panel shows that 84 countries had a negative NIIP, averaging 58% of GDP (with a median of 44% of GDP). Over the years, many EMDE governments have tapped global debt markets, significantly increasing their external borrowing. On average, 77% of the negative NIIP position was financed by net external debt liabilities, while the median reliance on net external debt was 60% of GDP.

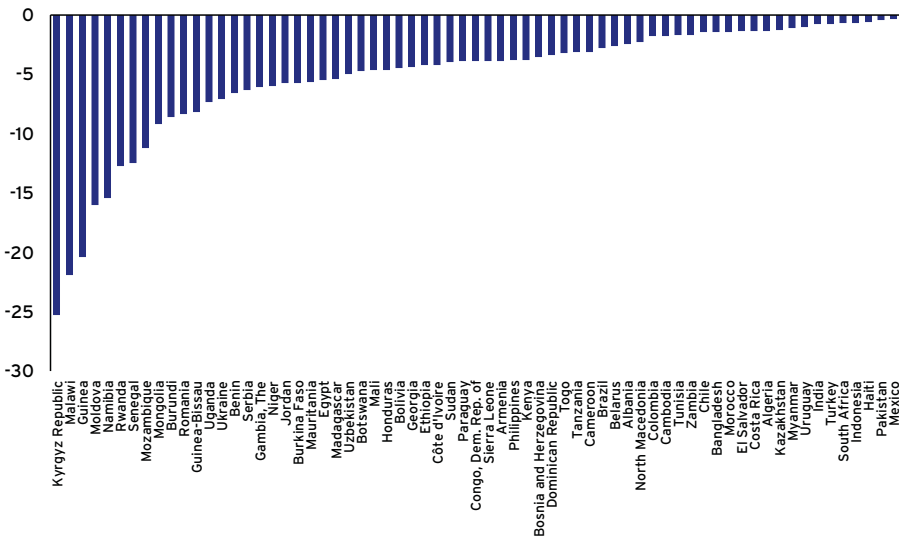
1 I am grateful to Helene Rey, Gian Maria Milesi-Ferretti, Peter Blair Henry and participants in the Paris December 2025 workshop for useful comments and suggestions, and to Yanru Lee for helping with the data analysis.

2 Kim and Milesi-Ferretti (2025) leverage cross-tier heterogeneity in EMDE resilience to document that while first-tier EMDEs have improved their external balance sheets, second- and third-tier EMDEs have experienced growing external vulnerabilities since the Global Financial Crisis, marked by rising external debt liabilities and declining FX reserves. They also identify episodes of external financial distress, show that distress remains widespread among second- and third-tier EMDEs, and confirm that external debt and FX reserves predict the onset of such episodes.

Given that global imbalances are defined as excessive and persistent, the data suggest that the magnitudes of imbalances for EMDEs ex-China are not meaningful globally. While some countries run persistent current account imbalances,<sup>3</sup> the volatility of current account balances of countries in the bottom tercile by GDP is almost nine times that of the top tercile.<sup>4</sup> Further, influenced by the commodity price cycle, the volatility of current account balances of commodity exporters is 1.5 times that of countries that are not primarily commodity exporters.<sup>5</sup>

Net international investment positions exhibit significant persistence, with countries remaining externally indebted over long periods. The stock of gross external debt outstanding in 2024 for a sample of low and middle-income EMDEs, including total portfolio debt, other investment, and FDI debt, was \$8.9 trillion (World Bank, 2025). International portfolio debt liabilities from the External Wealth of Nations data, including high-income EMDEs but excluding FDI debt, amount to \$10.4 trillion in gross external debt liabilities. Moreover, gross external debt liabilities, as a share of GDP, averaged 53% for countries with a negative NIIP position, with a median of 46%.

FIGURE 1A CURRENT ACCOUNT BALANCE (% OF GDP)



3 Countries that display a high persistence coefficient (the first autocorrelation (AR1) using a post-2009 time series estimate exceeding 0.7) and had a current account deficit in 2024 include Senegal, Romania, Madagascar, Uzbekistan, Ethiopia, Kenya, the Dominican Republic, Albania, and Algeria. Countries with high persistence coefficients and current account surpluses in 2024 include Jamaica, Zimbabwe, Ghana, Malaysia, Guatemala, Lao People's Democratic Republic, Nicaragua, and Tajikistan. In 2024, the average GDP of countries was \$115 billion, suggesting that while their current account balances are persistent, in terms of global imbalances, the magnitudes are small. Figures from 2024 also show that the set of countries with high persistence and current account deficits collectively contributed approximately \$60 billion to global imbalances while the countries with high persistence and current account surpluses contributed \$14 billion.

4 The inverse relationship between the volatility of current account balances and GDP is highly statistically significant with the poorest countries having the most volatile balances.

5 It is worth keeping in mind that small, poor countries receive capital transfers that are a much larger share of their GDP than larger, poor countries do.



needed to service debt, further limiting fiscal space for investment.<sup>6,7</sup> As a result, several developing countries experienced a second consecutive year of negative net resource transfers in 2024, paying \$25 billion more to external creditors than they received in new disbursements (UNCTAD, 2025). The lack of fiscal space is evident in 46 developing countries, home to 3.4 billion people (41% of the world's population), where interest payments exceed expenditures on health or education.

The lack of fiscal space and the net external debt burden must be viewed in light of the critical financing gaps faced by EMDEs for infrastructure investment, food and agriculture, climate resilience, and job creation. The challenge of generating employment is especially urgent. Projections suggest that 1.2 billion young people in emerging markets will reach working age over the next decade. Expected job creation is only 420 million (World Bank, 2024). Investments in energy-efficient infrastructure, sustainable agriculture, and renewable energy can create jobs while facilitating climate mitigation.

The challenge, however, is that infrastructure investment alone has an annual shortfall of at least \$0.5 trillion (Fay and Rozenburg, 2019). Estimates of the annual gap in food and agriculture investment amount to \$1 trillion, with disproportionate needs in emerging markets (World Economic Forum, 2025). Annual climate finance investment needs exceed \$2 trillion, and yet EMDEs attract only \$200 billion (Climate Policy Initiative, 2025; Alberti, 2025). These financing gaps are exacerbated by rising geopolitical tensions, declining levels of official development assistance, and severely limited fiscal capacity due to high public debt resulting from extensive government spending during the COVID-19 pandemic.

While the pandemic accelerated the debt crisis, many EMDEs had unsustainable debt trajectories before the outbreak of COVID. A root cause of debt crises, particularly in African countries, has been the unproductive use of borrowed capital (Africa Expert Panel 2025; Chari et al., 2025b). Fundamentally, this means that borrowers too often selected projects with economic returns insufficient to cover the cost of borrowing. It also means that lenders – public and private – too often chose to finance them.

Public officials, private investors, multilateral development banks (MDBs), and civil society must move from a culture that focuses on the quantity of lending and fosters crises to one that emphasises high-quality lending for productive investments that will drive growth, create jobs, and eliminate poverty on a liveable planet. Transforming the culture will require these actors to do two things.

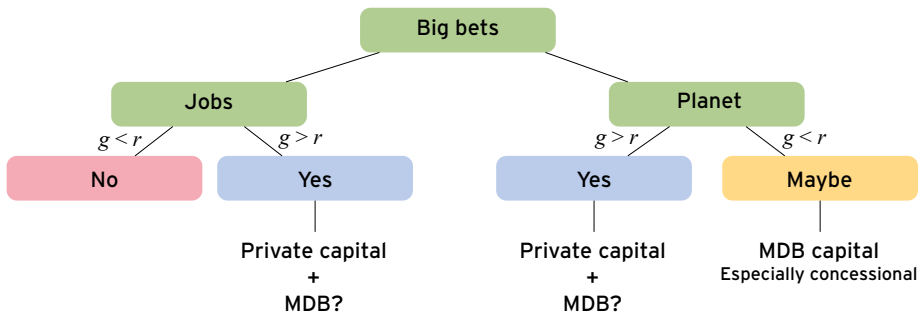
6 Half of these countries spend at least 6.5% of their export revenues on debt service costs (UNCTAD, 2025).

7 The lack of knowledge about investment returns has attendant implications for the cost of capital that many developing countries face when accessing international capital markets. The high cost of capital is partly due to real credit risks stemming from their fiscal and governance track records, and partly because institutional weaknesses in the global financial architecture reinforce information asymmetries and intersect with perception biases.

First, they must publish and use data that incentivise better big bets on investment projects in EMDEs – bets that make the most efficient use of commercial and concessional capital. They must invest in and lend to EMDE projects whose economic returns systematically exceed their cost of capital. Second, they must move beyond debt as the sole means to close financing gaps. It is essential for borrowers and lenders to achieve an efficient balance of equity and debt that aligns with their business models and reduces the likelihood of financial distress.

Figure 2 synthesises the first point (Section 2 addresses the second). Some investments that are good for the planet also create jobs. For such projects, if the economic returns,  $g$ , are less than their cost of capital,  $r$ , concessional capital may be helpful if the social rate of return exceeds the risk-adjusted cost of capital. While there are circumstances in which MDB involvement may be crucial to facilitate certain investments, a general principle is for MDBs to avoid using their scarce capital if the market can handle it.

**FIGURE 2 TO ACCELERATE PRODUCTIVE INVESTMENT AND REDUCE DEBT CRISES, MDBS SHOULD PROVIDE THE INFORMATION INVESTORS NEED TO FINANCE PROJECTS WHOSE RATES OF RETURN ( $g$ ) EXCEED THEIR COST OF CAPITAL ( $r$ )**



A key challenge to making better bets is that, while information on the cost of capital is readily available and easy to use, information on the rates of return is not salient. This observation applies with extra force to the case of rates of return for public capital (i.e., infrastructure). Although the logic of Figure 2 applies to private financing and public financing of both private capital formation and public capital formation, productive investments in public infrastructure such as roads and electricity, as well as health and education, increase the productivity and longevity of the population, raise the rate of return on the stock of private capital, and are an essential part of the business-enabling environment. Without electricity, for example, e-commerce firms cannot receive orders from their customers, and without roads they cannot deliver their products.

It is, therefore, a rate-limiting constraint on development that the MDBs have not made information on the rates of return for infrastructure investments a validated, easily accessible, and user-friendly public good akin to the World Bank's online Business Ready database. The MDBs could therefore facilitate the creation of a public database of MDB returns on investments in EMDE infrastructure projects by requiring all MDBs to publicly disclose their complete historical balance sheet and income statement data

for these projects. Facilitation will increase transparency, improve governance, and provide policymakers, investors, and civil society with the data required to evaluate the actual (versus perceived) risks and returns of prospective infrastructure projects (Africa Expert Panel, 2025; B20 South Africa, 2025; Frazer and Henry, 2023).

Furthermore, the Basel Committee on Banking Stability (BCBS) could remediate the specific elements of Basel III that (a) require banks, insurers, and other financial institutions to hold more regulatory capital against EMDE infrastructure loans than is justified by the data on default rates of those loans; (b) do not recognise the benefits to private sector financial institutions of co-lending and co-investing with MDBs, even though the data show that such assets perform better than assets without MDB co-lending and co-investing; and (c) restrict the assignment of a 0% risk-weighting to the credit enhancement products to a select list of MDBs. Expanding the list will enable banks to work with more partners, do more transactions, and create more value for each G7-taxpayer-funded MDB dollar of capital (Africa Expert Panel, 2025; B20 South Africa, 2025; Frazer et al., 2025).

## 2 THE POTENTIAL FOR EXPANDED PRODUCTIVE CAPITAL FLOWS TO LOWER-INCOME COUNTRIES

The neoclassical paradigm suggests that sovereign borrowing should help countries smooth consumption, increase investment, and grow. Countries that borrowed more (i.e., had higher external debt) since 2010, however, did not grow faster. On the contrary, countries with reserves exceeding external debt grew faster than those that borrowed heavily. Rather than smoothing consumption and spurring investment, external debt is associated with increased volatility and reduced investment in many low-income countries. From these facts, it ostensibly follows that countries may be better off without access to external debt markets and should, in effect, revert to financial autarky, relying on domestic savings to invest and grow (Aguiar, 2025).<sup>8</sup>

A lacuna in the case for drastically restricting EMDE access to external borrowing is that it fails to consider international equity flows as an asset class that can increase allocative efficiency without the attendant costs of financial distress. Unlike debt, which is a non-state contingent claim, equity, by construction, embodies international risk-sharing (Obstfeld, 1998; Rogoff, 1999; Henry, 2007, 2013). Countries that permitted foreign investors to invest in domestic equity markets experienced private investment booms and grew faster following stock market liberalisations (Chari and Henry, 2004, 2008; Henry, 2007). Studies that evaluate financial liberalisation at the infinite horizon find trivial welfare gains (Gourinchas and Jeanne, 2006). Examining the welfare gains from financial integration in a two-country neoclassical growth model, Coeurdacier

<sup>8</sup> Further, Aguiar (2025) suggests that poor governance and weak institutions lead to short-termism in government actions and the squandering of externally borrowed capital. However, it is unclear how such governance and institutional issues would dissipate if countries relied solely on domestic resources. Further, in a weak corporate governance and institutional environment, the avenues for a country to accumulate such resources are also unclear.

et al. (2020) find that the gains are quantitatively small, even for riskier, capital-scarce emerging economies. They find that countries import capital for efficiency reasons before exporting it for self-insurance, leading to capital flows and growth reversals along the transition. In contrast, studies that evaluate the gains from financial integration at finite, more policy-relevant horizons yield large and significant impacts on consumer welfare, especially when financed with equity rather than debt (Chari et al., 2022).

Additionally, disaggregating capital flows by type matters for assessing the welfare impact of access to international capital markets. International net private capital flows are, in fact, positively correlated with countries' productivity growth; net sovereign debt flows (government borrowing minus reserves) are negatively correlated with growth only if another sovereign finances net public debt; and net public debt financed by private creditors is positively correlated with growth (Alfaro et al., 2014). It is therefore sovereign-to-sovereign transactions that account for upstream capital flows and global imbalances. Moving from sovereign-to-sovereign to private-to-sovereign transactions displays a different picture.

In contrast to the convergence in the marginal product of private capital that occurred between developed and developing countries in the aftermath of capital market liberalisations in the late 1980s and early 1990s, the social rate of return on public capital (specifically, road infrastructure) in developing countries is roughly eight times larger than the social rate of return on private capital in the United States (Chari et al., 2025d). Estimates of the excess return multiple vary significantly across countries, however, ranging from a high of 29 in the Philippines to 3.75 in Cameroon. More modest, if admittedly still rough, bounds for the aggregate excess return multiple range from 0.58 to 3.1 (Gardner and Henry, 2023). Whatever the source, the enormous cross-country variation in the excess return multiple on road infrastructure suggests that while some EMDEs (and certain sectors within those countries) may offer profitable investment opportunities, all else being equal, others likely do not, highlighting the imperative for MDB data on returns to make these distinctions.

Cautions about return variability notwithstanding, a simple back-of-the-envelope exercise indicates that reallocating private capital from developed to developing countries to reduce the excess return multiple on public capital could significantly affect global imbalances. In the extreme case, for the excess return multiple to reach unity, the marginal product of public capital in developing countries must equal the marginal product of private capital in developed countries. The potential equalisation of marginal products raises the question of by how much the public capital stock in EMDEs would need to increase for this to happen. Put differently, how much financial capital would need to flow to EMDEs to equate returns?

Taking a conservative excess return multiple estimate of 1.84 (the average of 0.58 and 3.1) suggests that, all else equal, the stock of public capital would need to increase by approximately \$14 trillion to equalise the marginal product of private capital in developed countries with the marginal product of public capital in developing

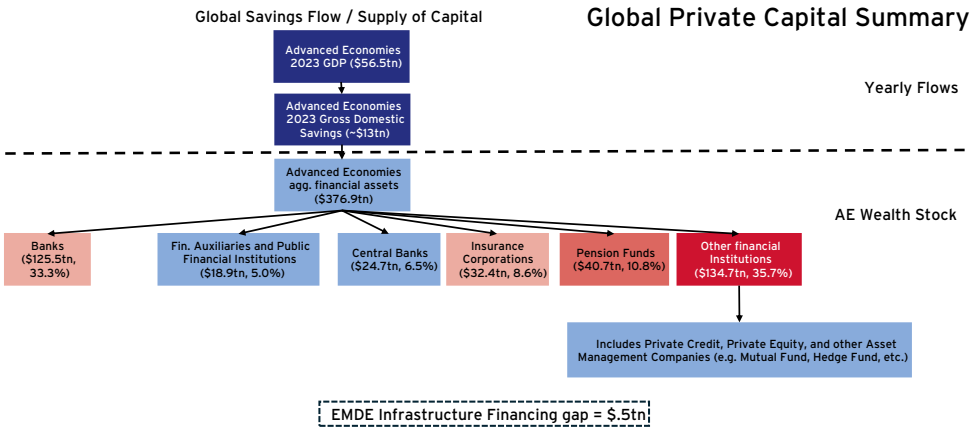
ones. Realistically, this increase could not happen instantaneously; the adjustment would take several years. Using a conservative estimate of thirty years suggests that approximately \$0.5 trillion of private capital per year from developed countries would need to be reallocated to public capital in developing countries, or roughly 40% of the \$1.13 trillion US current account deficit in 2024. While the estimate is rough, it indicates significant potential for the reallocation of private capital in advanced economies to raise EMDE growth, increase returns on developed-country savings, and reshape the pattern of global imbalances.

These back-of-the-envelope calculations beg the following question. Does there exist a policy change, as in the case of easing foreign ownership restrictions on domestic portfolio equity, that could drive enough equity investment in EMDE infrastructure to induce cross-country convergence in the return on public capital in poor countries and return on private capital in rich ones? The fact remains, however, that for various reasons, there is a debt bias in the international financial system. For EMDEs, the high public debt burden, along with the impending rollover risks as debt matures in a higher-rate environment, portend an all-too-familiar cycle of debt, crisis, relief, and repeat in the developing world. Recent examples include Ghana, Zambia, Sri Lanka, Pakistan, and many others teetering on the brink. Can countries in the developing world break this cycle? Evidence suggests yes.

Figure 3 demonstrates that the global supply of capital is not the binding constraint for development. The capital needs of low-income countries – \$5-6 trillion annually – are small compared to the aggregate stock of financial assets in advanced economies of \$377 trillion (Financial Stability Board, 2024). Given these facts it is natural to ask: how might pools of global capital be incentivised to make better big bets in the developing world, with a more efficient mix of equity as well as debt? A key constraint is data that can help private investors from advanced economies identify bankable projects in specific sectors and countries.

Private sector financial institutions could fund development if they could find projects in EMDEs that clear their hurdle rates for required returns and meet the needs of their underlying business models. Without data that enable them to make these determinations, however, private investors and EMDE governments are flying blind. Consequently, private capital mobilisation via portfolio flows to EMDEs is highly concentrated. A few emerging market countries receive a predominant share of foreign portfolio investment, while others receive little to none.

**FIGURE 3 THE GLOBAL SUPPLY OF CAPITAL IS NOT A BINDING CONSTRAINT FOR DEVELOPMENT.**



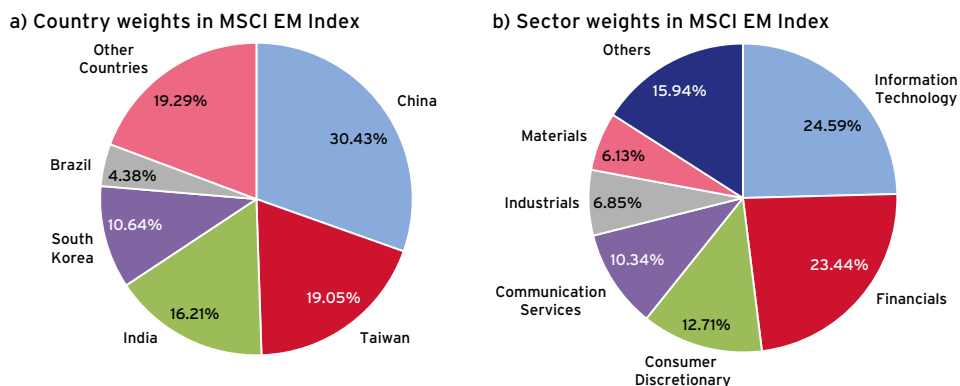
Source: Author's calculations based on data from Financial Stability Board (2024).

Private, advanced economy financing of private EMDE investment has no doubt increased significantly over the last three decades. Testimony to this is the rise of emerging market equity funds and the development of benchmark indices that include or focus on EMDEs, such as the MSCI World and MSCI Emerging Markets indices. The existence of the MSCI-EM asset class demonstrates that funds can and will flow to existing, productive private-sector assets in emerging markets.

As Figure 4 shows, however, approximately 80% of the MSCI EM index's market capitalisation is concentrated in Brazil, India, China, Taiwan, and South Korea. Emerging market benchmark indices broadly reflect global investor preferences for lower idiosyncratic country risk. Similarly, top sectors receive most of the investment (IT, finance, etc.) while the "others" category includes sectors such as infrastructure. Other asset classes, such as sovereign wealth funds and private equity, show similar asset allocation proportions.

A fair criticism of promoting portfolio equity flows to EMDEs is that, except for a few frontier markets, functioning stock markets are a characteristic of middle-income or lower-middle-income countries within the EMDE classification. Without well-developed stock markets, how can equity be a viable alternative to debt, especially for low-income countries? Further, what stands in the way of private flows to public capital (e.g., infrastructure) in EMDEs, which would, in turn, create more profitable private-sector assets in EMDEs?

FIGURE 4 PORTFOLIO EQUITY FLOWS TO EMDES ARE HIGHLY CONCENTRATED



Source: Author's calculations based on MSCI Emerging Markets Index Prospectus, 2025.

Here, it is important to recognise that equity can take the form of both publicly traded and private capital. For example, private equity investors can create new assets via greenfield foreign direct investment. Consider the International Finance Corporation (IFC)'s decades-long experience with taking equity stakes in EMDE investment projects.

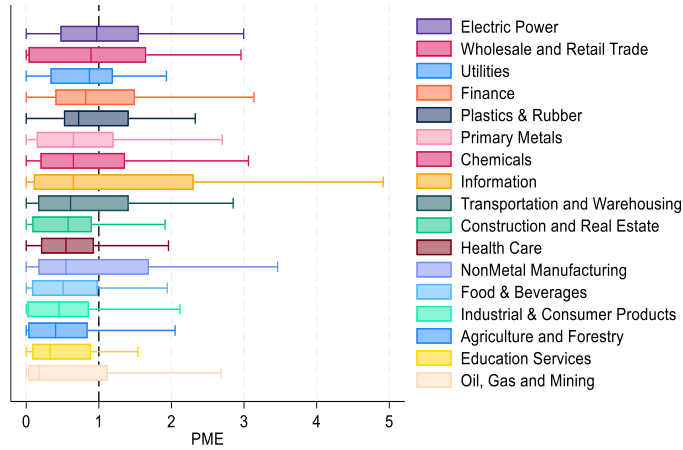
Figure 5 shows that, when we examine the IFC's direct equity flows, there exist financially bankable investments in EMDEs. While there is substantial cross-country and cross-sectional variation, data from IFC equity investments between 1960 and 2020 show that about 33% outperformed the S&P 500 (i.e., had a public market equivalent, or PME, greater than one). The patterns highlight the role that MDBs and governments can play in derisking such investments (e.g., public-private partnerships, guarantees) to encourage private-sector investment in EMDEs.

Focusing on infrastructure investment, Chari et al. (2025a) analyse the IFC's direct equity investments in core infrastructure across emerging markets and developing economies (EMDEs).<sup>9</sup> The study finds that beyond development impact these projects deliver competitive financial returns. Further, these core infrastructure investments have historically outperformed major equity market benchmarks. With starting dates from 1961 to March 2020, the PME of 266 equity investments in core infrastructure by the IFC was 1.17 using the S&P 500 as a benchmark, and 1.26 using the MSCI Emerging Markets Index. On average, over the past six decades, equity stakes in emerging market infrastructure backed by the IFC thus delivered higher returns than investments in portfolios of publicly listed equities.

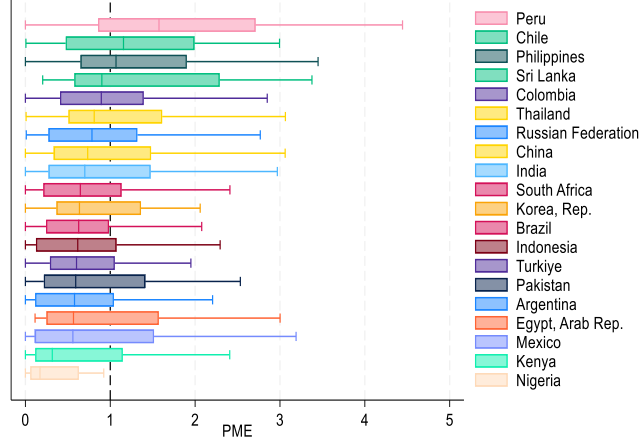
9 Core infrastructure includes projects classified under Electric Power, Information, Transportation and Warehousing, and Utilities.

**FIGURE 5 THERE EXIST FINANCIALLY BANKABLE INVESTMENTS IN EMDES**

a) Returns vary across sectors...



b) ... and countries



Note: Excludes outside values.

Source: Author's calculations based on data from the International Finance Corporation; Chari et al. (2025a).

Illuminating the need for DFI data transparency, data from the full sample of IFC equity investments reveal that, on average, a diversified portfolio of investments in infrastructure-related sectors – and indeed, in all sectors more generally – generated significant positive financial returns, albeit with variation across decades. Performance was strong across regions and income levels, indicating that the results are not concentrated in a few markets. The IFC attributes this success partly to its ability to take patient, early-stage equity positions and help structure deals in ways that mitigate risk and attract private co-investors. These investments have also produced significant realised earnings, including \$517 million in net income in FY2025, demonstrating real profit-generating potential. The IFC’s long-standing role in governance support, risk allocation, and revenue-visibility improvements helps turn infrastructure concepts into investable assets that commercial investors can confidently underwrite.

Chari et al. (2025a) emphasise that the primary barrier to scaling EMDE infrastructure investment is not investor appetite but a pipeline gap. That is, too few projects reach bankable status due to weak project preparation, regulatory uncertainty, and unclear risk-sharing frameworks. When those enabling conditions are present, providing equity financing for infrastructure investment becomes a straightforward commercial decision. The findings ultimately make a compelling case: mobilising more private equity into EMDE infrastructure is essential to closing infrastructure financing gaps. Crucially, investors can earn returns that meet or exceed global public market benchmarks.

Equity investing in emerging market infrastructure can thus be a competitive commercial opportunity, not a concessionary one. When infrastructure investments are planned and executed well, returns consistently exceed expectations, financially and through the broader economic growth they enable. Reliable energy, transportation, and digital networks unlock productivity across entire sectors, which is why data showing excess returns in these markets matter.

In summary, the returns data indicate that EMDE infrastructure can be a commercially viable asset class, not just a developmental priority or ‘impact capital’. The binding constraint is not investor interest. In many markets, capital may be ready for deployment, but shortcomings in early-stage project preparation, unclear risk allocation, and inconsistent regulation slow progress and diminish visibility around future revenue. When governance, regulatory certainty, and pipeline readiness are aligned, it is possible for private capital to flow into core infrastructure, making investment decisions straightforward and commercially driven. The focus now must shift to strengthening project identification and preparation so more opportunities can reach the market and deliver both sustainable growth and strong investor returns.

Strengthening project identification and preparation to deliver more viable investment opportunities at scale will require far greater data disclosure by MDBs to answer the many questions raised by the financial performance of the IFC’s private equity investments in EMDE infrastructure. For example, is the IFC’s investment performance replicable by the private sector or does the IFC have special access? What can the IFC do that others cannot, and why hasn’t it been scalable? Indeed, the total of 266 investments in core infrastructure over a 60-year period is not a large number. Should the steps necessary to improve project preparation, regulatory certainty, and so on be taken by receiver countries? Why can’t countries take these steps on their own, and what is the role of international institutions in accelerating progress via data-rich national investment platforms (Africa Expert Panel, 2025)?

### 3 EXPLORING HOW FINANCIAL FLOWS TO EMDES COULD BE PROMOTED THROUGH MEASURES LIKE STRUCTURAL REFORMS

Recent evidence shows that financial and social rates of return exist for EMDE equity investments (Chari et al., 2025c, 2025d). The question is: how to find the intersection of projects that deliver both?

Evidence also suggests that positive shifts in local enabling environments tend to raise returns on infrastructure investment, while negative shifts reduce them (Chari et al., 2025b). Regressions of EMDE Core Infrastructure PMEs on changes in country conditions show clear risks and opportunities. On the risks side, currency crises lower average EMDE Core Infrastructure returns by 3.03 percentage points, bringing them down to 8.89%; high inflation reduces returns by 8.07 points to 3.85%; and severe deteriorations in regulatory conditions, as measured by World Bank Group indicators, reduce average returns by 9.78 points to just 2.14%. On the opportunity side, stabilising inflation boosts average returns by 3.73 points to 15.65%; trade liberalisation raises them by 2.83 points to 14.75%; and stronger economic performance – specifically, a one percentage point increase in annual GDP growth over a project's life – adds 0.66 points, lifting average returns to 12.58%.<sup>10</sup>

The IFC's Private Sector Investment Lab provides recommendations in five areas to create an enabling environment for mobilising and deploying private capital at scale to finance critical development priorities in EMDEs. These include ensuring regulatory certainty, increasing the use and improving the efficiency of World Bank Group guarantees, mitigating foreign-exchange risk, expanding the use of originate-to-distribute models to mobilise private capital, and deploying more equity and junior capital. An initiative worth noting is the securitisation of existing investments by developing more effective originate-to-distribute programmes that crowd in private sector capital into emerging market assets.

Recently, an IFC-led initial transaction (\$510 million) to securitise IFC-originated assets was completed, a first for an MDB. The issuance demonstrates that development finance can simultaneously direct private capital to advance development priorities while providing private investors with attractive returns and diversification. By adapting proven capital market structures, the IFC pooled high-quality loans from 57 borrowers across multiple sectors and transformed them into investment-grade securities, with the senior tranche earning a AAA rating. The transaction was arranged by Goldman Sachs and listed on the London Stock Exchange, which demonstrates that emerging market exposure can be accessed as easily as buying corporate bonds. The originate-

<sup>10</sup> Numerical estimates based on regressing PME as a RHS variable. Coefficient estimate is translated to excess returns relative to S&P500 assuming that each project takes eight years (median). Weighted average PME is translated to returns.

to-distribute model proves that MDB loans can be packaged and rated using standard market practices, creating a blueprint for others. Over time, repeated issuances can build market familiarity, deepen liquidity, and lower the cost of capital for developing country borrowers while opening new funding channels.<sup>11</sup>

In conclusion, when it comes to bankability, several dimensions need to be considered. These include information on financial rates of return, de-risking investments through careful project preparation and structuring, mitigating regulatory risks, and stabilising the macro environment. Balancing development impact with investability is crucial for successfully mobilising private capital. Harnessing private capital thus means lowering barriers to entry, demystifying returns, broadening markets, and engaging the least-constrained pools of capital. Lower barriers to entry would primarily come through thoughtful regulatory changes (i.e., right-sizing Basel III capital requirements for MIGA-guaranteed loans). Demystifying returns would be driven by increased data transparency, particularly from DFIs. Broader markets are a function of more robust financial and legal institutions. Unlocking less-constrained capital pools can then deliver the necessary capital.

Enabling environment reforms can:

- Develop and refine investment platforms that identify and publicise priority projects with scale, and provide the data required to determine which projects are likely to yield returns that exceed the cost of capital and to have a transformative impact on regional and national business-enabling environments.
- Strengthen domestic resource mobilisation through improved tax systems, compliance, and capital market development.
- Push MDBs to leverage balance sheets, expand non-concessional windows, and innovate financing instruments (e.g., guarantees, hybrid capital, climate-resilient debt clauses).
- Scale up use of Special Drawing Rights (SDRs) through MDBs to boost liquidity and long-term financing.

#### 4 POLICY RECOMMENDATIONS

The India G20 IEG report (IEG, 2023) and the Brazil G20 IHLEG report (IHLEG, 2024) call for MDB transformation to drive the big bets – \$3 trillion per year by 2030. The Report of the South Africa G20 Africa Expert Panel for the G20 Leaders' Summit (Africa Expert Panel, 2025) provides tangible recommendations to drive those bets into productive investment.

In 2026, G7 leaders can:

11 See "A new model of market investing", *Financial Times*, 15 October 2025 ([www.ft.com/content/5be16a57-bd63-4a9a-97f2-d637fec96f7a](https://www.ft.com/content/5be16a57-bd63-4a9a-97f2-d637fec96f7a)).

1. Improve the quality of future bets by illuminating the return on capital, by asking MDBs to make all the data they possess on the returns to historical debt and equity investments in EMDE infrastructure projects publicly available in a business-ready format. Doing so will empower leaders (public, private, and civil society) to:
  - a. make more informed bets,
  - b. reduce countries' cost of debt capital,<sup>12</sup> and
  - c. attract more equity capital to decrease debt crises and mobilise more private capital.
2. Decrease the cost of implementing bets (i.e., reduce  $r$ ), by asking the Financial Stability Board (FSB) and BCBS to fix the unintended consequences of regulation on financial institutions' ability to underwrite projects in EMDEs. An example is to remediate certain capital rules in Basel III that unintentionally deter global banks/insurers from financing infrastructure and climate-related projects in EMDEs, without increasing safety (Tiftik and Rismanchi, 2025). Drive cultural transformation, by grounding hope in the reality of data that force all stakeholders to confront two questions. Which projects, in what countries, have  $g > r$ , and therefore a real prospect of attracting private capital? Which ones do not, and therefore require scarce MDB capital?
3. Establish international investment platforms. Free, user-friendly data on expected returns would empower (i) governments to prioritise projects with the best prospects for driving economic growth; (ii) private investors to choose which projects to finance; and (iii) civil society – including citizens of rich countries who don't want their tax dollars wasted – to hold their leaders accountable.

## 5 CONCLUSION

The constraint on private capital flows to EMDEs is not the global supply of capital, but rather information asymmetries, structural debt bias, and weak investment ecosystems. Closing large development financing gaps and driving sustainable growth will therefore require (a) enhanced MDB transparency on investments to illuminate where returns exceed the cost of capital, (b) improved project preparation to increase the supply of bankable projects, (c) Basel III reforms, and (d) a rebalancing of external finance from debt to equity. By doing these things, policymakers and development finance institutions can facilitate the mobilisation of private capital for investment in

<sup>12</sup> Data that have been released (e.g., the Global Emerging Markets Risk Database) are not sufficiently granular to permit analyses of whether the default rates on MDB loans to sovereigns and firms in LICs differ by country and firm. The advice of private analysts and credit rating agencies cannot account for key data on country- and firm-specific heterogeneity in project risk, thereby perpetuating risk-perception mismatches. Evidence indicates that the perceived risk associated with investing in developing country infrastructure exceeds the actual risk. Default rates on large infrastructure projects in developing countries in the post-completion phase are no higher than those on investment-grade (BBB-) corporate debt in high-income economies. A consortium of 26 MDBs and development finance institutions (DFIs) found similar results when they pooled their 30-plus years of credit risk data on around 15,000 loans to private companies in developing economies.

infrastructure and other productive sectors. Such a shift would reduce external debt vulnerabilities, strengthen growth prospects, and align global capital allocation with both development and climate objectives, even as it reduces global imbalances by roughly 2% of US GDP per year.

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Global imbalances are back in focus. Central banks, international organizations, the G7 and the G20 are debating their causes and remedies. This Paris Report 4—a joint CEPR–Bruegel initiative—aims to provide independent analytical foundations for the debate, particularly for the French G7 presidency. It brings together 17 contributions on global imbalances over the past century, their current configuration among key players (the United States, Europe, and China), and perspectives from lower-income countries.

The first-best solution is well known: coordinated adjustment among major economies. The United States would raise national saving through fiscal consolidation; China would rebalance toward consumption; and Europe would increase investment. This policy mix would reduce current account imbalances at their source and lower the risk of destabilizing spillovers. But such coordination is unlikely. The relevant question is how the global economy adjusts in its absence—and what this implies for the rest of the world.

Absent coordinated adjustment, global imbalances will persist and their risks will shift to the rest of the world. The United States poses primarily financial risks, linked to its external liabilities and central role in the global financial system. China poses structural challenges, tied to its export dominance and industrial policies. Europe risks contributing to both through weak investment.

In this environment, the rest of the world faces four objectives: creating buffers that help deal with crisis risks, particularly if the latter are accompanied by a breakdown in international cooperation with the US; mitigating the short-term impact of Chinese import competition, supporting structural transformation; and preserving the rules-based trading system.

The last three objectives are in tension. Protectionist measures can shield domestic industries but risk undermining long-term competitiveness and trade integration. Conversely, rapid structural adjustment can impose significant social costs. The challenge is to balance these objectives without undermining the foundations of the global economy.

The appropriate response is therefore a combination of resilience, adaptation, and cooperation.

ISBN: 978-1-917343-01-5



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