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Global Imbalances, Industrial Policy and Tariffs

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Prepared by Pierre-Olivier Gourinchas, Gene Kindberg-Hanlon, Manasa Patnam, Lorenzo Rotunno and Michele Ruta*

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ABSTRACT: Global imbalances denote the distribution of countries' current account balances, identically equal to the difference between two forward-looking aggregate variables: national savings and domestic investment. Industrial and trade policies have traditionally not been considered important drivers of aggregate savings or investment, and therefore of current account balances. The former because most industrial policies are small in scope; the latter because permanent tariffs have no intertemporal effect in the textbook model, with an offsetting appreciation of the real exchange rate. The rapidly growing use of both industrial and trade policies in recent years calls for a reassessment. This paper presents a framework to think about the role of both policies. For industrial policy, we make the important distinction between the traditional sector-specific policies via subsidies or other targeted instruments ('micro IP') and broader policies ('macro IP') that aim to promote industrial developments and competitiveness through the deployment of more aggregate instruments such as financial repression, foreign reserve accumulation, or capital controls. A key finding is that 'micro IP' tends to increase external balances if it *fails* to raise aggregate productivity. By contrast, 'macro IP' can, under some conditions, boost the current account, forcing other countries to adjust. Yet, these policies often come at the cost of suppressed domestic consumption and possibly domestic welfare. Our analysis confirms that tariffs are a weak tool to improve current account balances. Finally, traditional macroeconomic drivers—such as fiscal policy, demographics or credit cycles—remain critical drivers of global imbalances, especially for the US and China.

JEL Classification Numbers:	F32, F38, F41.
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Global Imbalances, Industrial Policy and Tariffs*

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April 5, 2026

Abstract

Global imbalances denote the distribution of countries' current account balances, identically equal to the difference between two forward-looking aggregate variables: national savings and domestic investment. Industrial and trade policies have traditionally not been considered important drivers of aggregate savings or investment, and therefore of current account balances. The former because most industrial policies are small in scope; the latter because permanent tariffs have no intertemporal effect in the textbook model, with an offsetting appreciation of the real exchange rate. The rapidly growing use of both industrial and trade policies in recent years calls for a reassessment. This paper presents a framework to think about the role of both policies. For industrial policy, we make the important distinction between the traditional sector-specific policies via subsidies or other targeted instruments ('micro IP') and broader policies ('macro IP') that aim to promote industrial developments and competitiveness through the deployment of more aggregate instruments such as financial repression, foreign reserve accumulation, or capital controls. A key finding is that 'micro IP' tends to increase external balances if it *fails* to raise aggregate productivity. By contrast, 'macro IP' can, under some conditions, boost the current account, forcing other countries to adjust. Yet, these policies often come at the cost of suppressed domestic consumption and possibly domestic welfare. Our analysis confirms that tariffs are a weak tool to improve current account balances. Finally, traditional macroeconomic drivers — such as fiscal policy, demographics or credit cycles — remain critical drivers of global imbalances, especially for the US and China.

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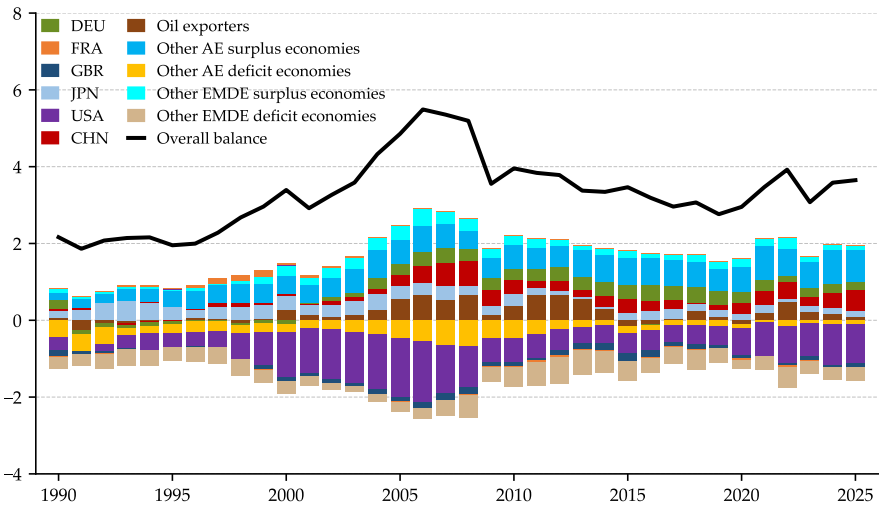
1 Introduction

After a decade of decline following the global financial crisis of 2008, global current account balances have widened since the pandemic, largely due to developments in the world's two largest economies, the United States and China (Figure 1). The rise in balances to levels last seen ahead of the global financial crisis has renewed concerns and fueled an intense debate on their causes. The standard macroeconomic approach notes that the current account is identically equal to the difference between two forward-looking macroeconomic aggregates: national savings and domestic investment. Hence, changes in current account balances require understanding why and how *intertemporal* saving and investment decisions change in response to policies or shocks. This macroeconomic approach is typically richer and more insightful than an *intra-temporal* approach that focuses narrowly on competitiveness and relative prices (Obstfeld, 1982).[1] The intertemporal approach emphasizes macroeconomic drivers -such as fiscal deficits in the US or rapidly aging populations and a property sector boom and bust in China- as the key determinants of current accounts in both countries (Obstfeld, 2024; Gourinchas et al., 2024).

Figure 1: **Global current account balances**
(percent of world GDP)



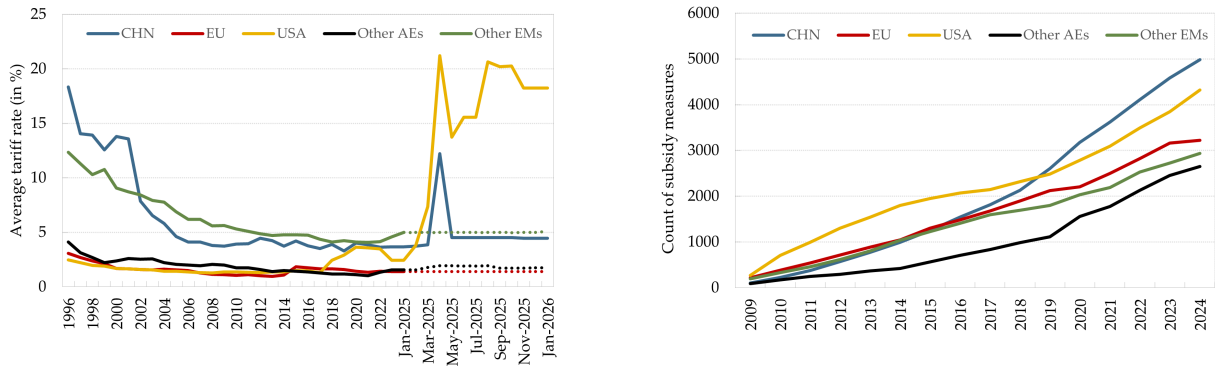
Sources: IMF, World Economic Outlook; IMF, Balance of Payments; Jorda, Schularick and Taylor (2017)
Note: The overall balance is defined as the sum of absolute values of current account surpluses and deficits.

An alternative view argues that China's external surpluses result from industrial policy measures designed to stimulate exports and support economic growth amid weak domestic demand. As the resulting surpluses must be absorbed by trading partners, this contributes to the erosion of the manufacturing base in the rest of the world. Any additional export surge from China could lead to a "China shock 2.0"—displacing manufacturing workers and hurting industrial activity elsewhere (Yellen, 2024; European Commission, 2023; Pettis, 2024). Partly in response to rising concerns about these imbalances, other nations such as the

[1] Of course, in equilibrium the current account identically equals the sum of the trade, primary income and secondary income balances; it is also identically equal to the difference between gross national disposable income and domestic absorption.

United States has reacted by implementing industrial policies of their own or increasing tariffs.[2] In particular, the US average import tariff has skyrocketed since January 2025, well above the average tariffs of other major economies (Figure 2a). As Figure 2b shows, the use of industrial policy measures, as recorded by the New Industrial Policy Observatory (NIPO; Evenett et al. (2025)), has surged in the last five years. While the number of measures implemented in China has surpassed those of other economies, industrial policies have also expanded more broadly across regions.[3] Available estimates place the cost of some of these policies such as direct and indirect subsidies at 4 percent of GDP per year in China (Garcia-Macia, Kothari and Tao, 2025) and up to 1 percent of gross output in other advanced and emerging economies (OECD, 2025).[4]

Figure 2: **Increasing use of Trade and Industrial Policy**



(a) Import-weighted Average Tariff

(b) Non-tariff Industrial Policy

Sources: Figure (a): Feodora Teti's Global Tariff Database (v_beta1-2024-12) from Teti (2025); BACI CEPII; ITC MACMAP; WTO-IMF Tariff Tracker; authors' calculations. Figure (b): NIPO; authors calculations.
Note: "Other EMs" includes low-income countries. Figure (a): Since 1996, import-weighted average tariff rates for China and other developing economies have converged close to the lower level of tariffs of advanced economies. US average tariffs increased modestly after 2017, since tariff hikes were targeted on imports from China, while they surged in 2025 as increases were imposed across the board. Import-weighted average for the EU includes only extra-EU imports. Tariff data after 2024 are available only for the countries in the WTO-IMF tariff tracker as of January 2026 (Cambodia, Canada, China, India, Mexico, United Kingdom, United States and Zimbabwe). Tariffs for other countries in 2025 (dashed lines) are kept at their 2024 level. Imports in 2024 are used as weights for tariffs in 2025 and 2026.
Figure (b): Cumulative sum of trade distortive industrial policy measures in force in a given year, excluding those classified as import policies. The count of non-tariff industrial policy measures in China has been growing faster than in other major economies since 2017.

Until recently, the standard literature paid little attention to industrial or trade policies as determinants of global imbalances. As argued above, current accounts reflect the difference between aggregate savings and investment. Since many industrial policy measures tend to be narrowly targeted and small in scope, they were viewed as unlikely to have significant effects at the aggregate level. As for trade policy, the literature

[2]On recent US industrial policy, see inter-alia, the Infrastructure Investment and Jobs Act (2021), the CHIPS Act (2022) and the Inflation Reduction Act (2022).

[3]Using different data sources and measurement approach, Ju, Li and Wei (2026) confirm that industrial policies in the US increased sharply since 2017, but also find that this number may be up to four times higher than reported in the NIPO data.

[4]Garcia-Macia, Kothari and Tao (2025) assemble data from financial reporting of listed firms in China, complemented with information from other sources such as land registries. They include government grants, corporate income tax concessions, preferential access to credit (below-market borrowing) and subsidized land. Their estimated value of government support in 2023 is 3.9 percent of China's GDP (excluding subsidized land). The OECD MAGIC database (OECD, 2025) collects data on industrial subsidies from the largest firms in key manufacturing sectors. They cover the same categories of government support as in Garcia-Macia, Kothari and Tao (2025), except subsidized land. They report the value of subsidies as a share of firm revenues (see their Figure 1, Panel B).

contrasted the effect of *temporary* tariffs —which can stimulate domestic savings by temporarily raising the price of imported goods, with *permanent* tariffs -which would leave intertemporal choices unaffected. With unchanged savings and investment, the current account must also be invariant to the tariffs (Razin and Svensson, 1983). Instead, the standard theory requires that the currency of the tariffing country appreciates, depressing its exports and contributing to an unchanged trade balance.[5]

The rapidly growing use of both industrial and trade policies -with the specific aim to boost competitiveness– calls for a reassessment. To do so, this paper extends the intertemporal framework to investigate the causal link between industrial and trade policies and widening external imbalances. We will find that the relationship is less straightforward than might appear, but certain types of industrial policies can drive current accounts.

Traditionally, industrial policies have been thought of as a set of government interventions that target certain industries or firms, generally with the goal of promoting growth in the targeted sectors for economic or non-economic reasons. From an economic perspective, industrial policies can be desirable if they correct market failures, for instance increasing output in a specific industry characterized by external returns to scale. However, as our focus is on policies that can influence aggregate saving and investment decisions, we also consider industrial policies implemented across a broader range of sectors – or that generate aggregate impacts through spillover effects across sectors. These policies could include industrial subsidies across a range of industries, but also broader macroeconomic policies that aim to promote industrial development and competitiveness through the deployment of more aggregate instruments such as capital controls, financial repression, and foreign exchange interventions. We refer to the latter group as 'macro' IP to distinguish them from more traditionally defined industrial policies ('micro' IP).

This paper first presents a simple framework to help think about the effects of a range of policy tools such as industrial policy, tariffs, and macroeconomic policies on current accounts. Conceptually, the determinants of the current account can be illustrated with the well-known stylized but pedagogical savings-investment Metzler diagram (Metzler, 1960). We extend this framework to consider the possible role of industrial policy and tariffs. We also confirm the results from the stylized analysis in a two-country New Keynesian model that allows us to account for a set of real-world frictions and rigidities.

We find that industrial policies alone rarely unambiguously boost current account balances, while some types of macro IP can have a sizeable impact on current accounts, but at the expense of domestic consumption. Sectoral ('micro') industrial policies shift resources across industries. Their impact on the current account depends on whether they generate temporary or permanent productivity changes. Paradoxically,

[5]This is one of the clearest cases where the intertemporal approach delivers a superior insight: the currency appreciation is required precisely because savings and investment are unchanged. While clearly related to the concept of Lerner symmetry, note that the latter only establishes that a currency appreciation undoes the effect of the tariffs, leaving equilibrium allocations unchanged. Whether allocations need changing requires looking at intertemporal choices. For a recent theoretical discussion of tariffs and trade balances see Costinot and Werning (2025). Itskhoki and Mukhin (2025*a*) emphasize the impact of tariffs on the valuation of gross external positions and draw the implications for the present value of trade balances.

they tend to raise surpluses only when they "fail" to durably boost competitiveness and aggregate productivity; for example, by creating persistent misallocation that lowers expected future income, reduces investment, and raises precautionary saving. Where they "succeed", they tend to cause a decline in the current account balance, as consumption increases in anticipation of higher future income and investments increase. By contrast, broader macro industrial policies can increase current account balances but at the cost of suppressed consumption at home, and possibly welfare. We also show that tariffs are a weak tool to respond to rising current account deficits. Generally, their success in reducing external deficits depends on using tariff revenue to pay down debt (hence increase government saving).

Finally, we argue that traditional macroeconomic determinants –specifically excessive fiscal deficits in the US and weak domestic demand in China, the latter linked to the fragility of social safety nets and the weakness of the property sector- account for a large share of the observed increase in current account imbalances. Subsequent work is needed to determine the exact contribution of China's macro IP to these imbalances.

Link to the Literature

This paper contributes to the literature on the drivers of global imbalances by providing a simple framework to study the role of industrial policies and tariffs, and quantitative evidence on the effects of these policies. In the years before the Global Financial Crisis (and during its aftermath), economists have used the savings-investment framework to assess the determinants of the widening current account balances (Bernanke, 2005; Cooper, 2007; Obstfeld and Rogoff, 2007; Caballero, Farhi and Gourinchas, 2008; Blanchard and Milesi-Ferretti, 2012). However, previous analysis has paid little attention to industrial and trade policies given their lower relevance to policy discussion at the time.[6] Our paper investigates the role of both "micro" and "macro" industrial policies, both conceptually and through model-based simulations.

Other literature has mostly focused on the impact on the current account of some of industrial policies and tariffs in isolation. There is a lack of studies on the implications of sectoral or micro industrial policies on the current account, although some papers have emphasized the effects of subsidies and other government support on productivity and trade flows in country- and sector-specific studies (Kalouptsidi, 2018; Goldberg et al., 2024; Barwick et al., 2025; Lane, 2025; Choi and Levchenko, 2025), and in cross-country analyses (Rotunno and Ruta, 2024*b*; Huang et al., 2025). On macro industrial policies, a few papers have investigated the impact on the current account of reserve accumulation interacted with restrictions on capital flows (Choi and Taylor, 2022; Gagnon, 2012), while the role of financial repression remains relatively understudied, also because of the difficulties in identifying and measuring the relevant government interventions. Finally, the effectiveness of import tariffs in reducing the external deficit has recently become the focus of a series of theoretical and empirical papers (e.g. Costinot and Werning, 2025; Caliendo, Kortum and

[6] A recent paper by Itskhoki and Mukhin (2025*b*) provides a similar overview of the drivers of global imbalances, with a focus on recent tariff actions. Conceptually, our savings-investments framework of the current account complements theirs – unsurprisingly then, we reach similar findings.

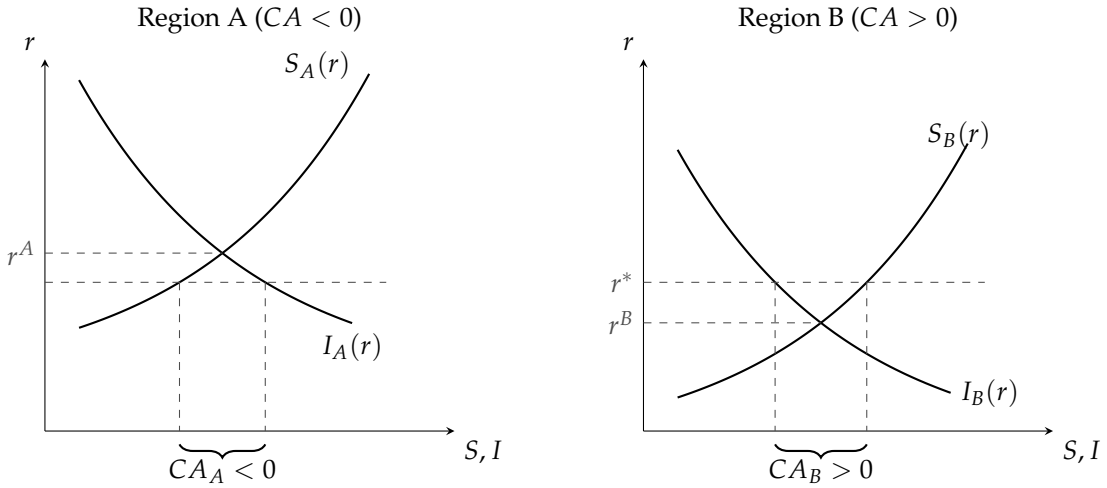
Parro, 2025; Schmitt-Grohé and Uribe, 2025; Itskhoki and Mukhin, 2025*c*). We provide a common unifying framework to help think through the implications of industrial and trade policies for the current account.

2 Conceptual and Model-based Framework

2.1 A primer on the intertemporal savings-investment framework

The determinants of global imbalances can be best illustrated conceptually through the canonical textbook savings-investment Metzler diagram, which can be derived from the intertemporal theory of the current account (Obstfeld and Rogoff, 1995). Consider a world comprised of two regions and integrated capital markets, where savings are an increasing function of the real interest rate, while investments decrease with the real interest rate. The two regions are assumed to be "large" and hence can affect the world interest rate. The current account balance for each country equals the difference between saving and investment. In region A, residents are less frugal but have many investment opportunities, setting up a higher real interest rate in autarky compared to region B where residents are inclined to save more and with a correspondingly lower real interest rate in autarky. When the two regions are financially integrated, the equilibrium global interest rate (r^*) lies between the two autarky interest rates and equates region A's desired borrowing (implying a current account deficit in region A) with region B's desired lending (implying a current account surplus in region B). Figure 3 below depicts this situation.

Figure 3: **Savings-Investments diagram of the current account**



Note: Savings-investments diagrams for two large regions, A and B. In A, the autarky interest rate r^A is assumed higher than the world interest rate r^*, whereas in B the autarky rate r^B is lower than r^*. Under free trade, region A runs a current account deficit ($CA_A < 0$) and region B runs a current account surplus ($CA_B > 0$).

The diagram has been widely used in literature, including textbooks (e.g. Obstfeld and Rogoff, 1996; Schmitt-Grohé, Uribe and Woodford, 2022), and suffuses many policy discussions on the drivers of imbalances – e.g., Ben Bernanke's 2005 speech on Savings Glut. A key determinant of how policies and macroeconomic shocks affect the current account balance is how they alter forward-looking savings and investment deci-

sions. The intertemporal theory of the current account offers a useful framework to study the drivers of imbalances and how they can be rectified. For instance, a housing crash that increases uncertainty about future growth in Region B can increase precautionary saving incentives and shift the savings curve further outward and desired investment inward. This would reduce world interest rates, and widen the current account surplus in region B and deficit in region A.

In the intertemporal framework, the persistence of a shock or policy matters for its effect on the current account, as does the directionality of its effect on aggregate variables. For example, a shock that temporarily raises the price of imports would have very different implications for short-term saving and investment decisions than one that permanently raised them. A subsidy policy that increases activity in industries with increasing returns to scale and raises future productivity would have similarly different effects than one increasing misallocation via costly tax rises or lower public service provision. In general, we expect the effects of policies and shocks on the current account to be larger when they vary over time. A policy whose effects are perceived to be time-invariant would be neutral for the current account, since it does not affect the intertemporal substitution in consumption and investment patterns.

2.2 Ingredients of the quantitative model

To complement the stylized Metzler diagram, we also simulate policies in a quarterly two-country New Keynesian model with traded and nontraded goods. The model features a range of common frictions often included in medium-scale models (e.g. Smets and Wouters, 2007) such as nominal rigidities, adjustment costs on investment, as well as hand-to-mouth credit constrained households – important features that increase the applicability of the model to real world macroeconomic dynamics. The Online Appendix provides a detailed derivation of the model.

3 Effects of industrial policy and tariffs on the current account

The intertemporal framework and quantitative models can be used to study the effects of industrial policy and tariffs on the current account. We start by examining the role of industrial policy in influencing external balances, an area that has been under-explored so far. The effects of industrial policy are separated into two cases: the traditional form of industrial policy which is implemented at the sector-level, and a second case where broader adjustment policies through financial repression or exchange rate interventions that are implemented economy-wide. We then apply the framework to the external balance effects of tariffs, where the literature is more developed, and new work has recently re-emerged.

3.1 Industrial policy and current account

3.1.1 Targeted Support: The Limited Reach of Sectoral (micro) Industrial Policy

Industrial policies are commonly understood as favoring certain industries or firms to support their growth for economic or non-economic objectives (Juhász, Lane and Rodrik, 2024; Evenett et al., 2025, 2024). A key attribute of these "micro" policies is that, while they promote the favored firm or industry, this may be at the direct or indirect expense of other firms and industries. Such policies may include "infant-industry" trade protection, production or export subsidies, directed or subsidized credits, access to lower energy and other input prices from state-owned enterprises (financed by budgetary subventions or by cross-subsidies from other industries and households). Their targeted nature means that their primary effect is to reallocate resources across sectors and hence shape comparative advantage patterns, without necessarily clear effects on overall current account balances.

We can nonetheless identify cases where traditional industrial policy could be significant enough to impact aggregate savings and investment patterns, thus leading to changes in external balances. This can happen when the targeted sector is sufficiently large (e.g., policies that target the tradeable sector as a whole) or has significant spillovers (e.g., due to its central role in input-output networks – Liu (2019)). In this section, we analyze separately the two main channels whereby sectoral industrial policy can affect aggregate external balances. First, through its impact on aggregate productivity, which can result in gains (for example, if the policy corrects significant market failures) or losses (e.g., through misallocation of resources). Industrial policy instruments such as licensing and regulations that do not have significant fiscal implications may impact the current account balance only through this channel. Second, we examine the case where industrial policy operates through subsidies that can impact the current account also through their fiscal repercussions.

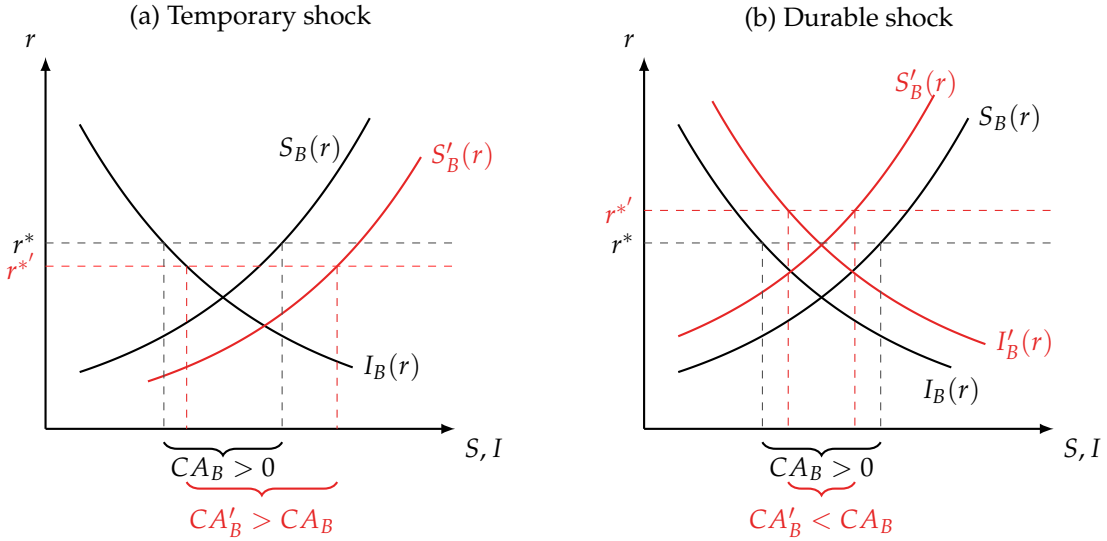
Empirically, we lack evidence on the impact of industrial policies and subsidies on external balances – through productivity and fiscal adjustments. While papers have shown how industrial policies can affect productivity for single countries and sectors (e.g. Garcia-Macia, Kothari and Tao, 2025; Choi and Levchenko, 2025; Barwick et al., 2025; Goldberg et al., 2024), difficulties in measuring these policies consistently across countries and over time have prevented an empirical assessment of their effects on the current account. Reduced-form empirical studies suggest that subsidies and industrial policies expand exports and reduce imports in targeted products in China and other emerging economies (Rotunno and Ruta, 2024*b*,*a*), albeit not durably (Huang et al., 2025). Quantitative analysis however suggests that these targeted policies can trigger important reallocation effects (IMF, 2025; Hodge et al., 2024), underscoring the ambiguity in any potential aggregate impact.

Productivity-induced effects of industrial policy. To illustrate the impact of micro industrial policy, we assume that these measures are implemented by the surplus country (country B). To consider the productivity-only

effects of industrial policy, we further assume that government intervention is operationalized through targeted fiscal instruments that are deficit neutral. Industrial policy can influence productivity to a macro-relevant degree either positively (for example, by shifting more resources to sectors characterized by increasing returns to scale and learning-by-doing externalities, see Lashkaripour and Lugovskyy (2023); Bartelme et al. (2025) or negatively (by shifting resources away from sectors with positive externalities and high levels of productivity, see Garcia-Macia, Kothari and Tao (2025); IMF (2025)).

The direction of any impact on the current account further depends on whether the productivity effects are perceived as transitory or permanent. The graphs in the two panels of Figure 4 depict these two cases in a scenario where industrial policy affects productivity positively. In panel (a), a temporary industrial policy-led rise in productivity in country B (for example, when agents expect the positive effects to be short-lived) shifts the savings schedule to the right as agents smooth the increase in current income over time. The real interest rate adjusts downwards, and country A increases borrowing – the current account surplus of country B widens.

Figure 4: **Positive Micro-IP Induced Productivity Shock and Imbalances**



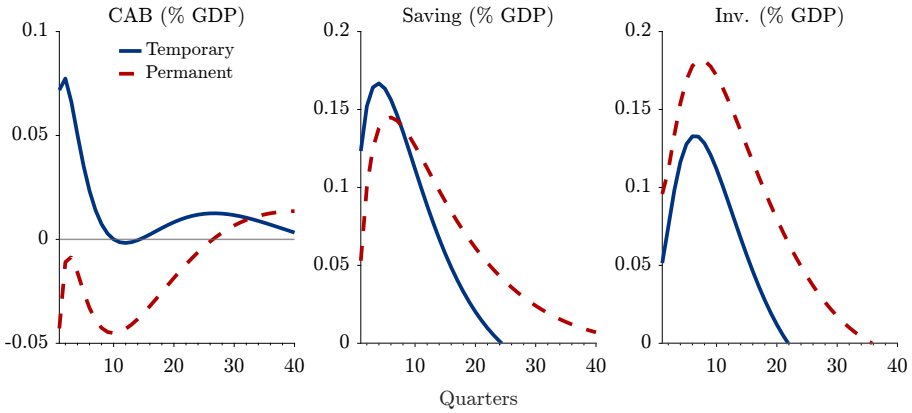
Note: Savings-investments diagrams for region B. Red colored terms and lines denote a counterfactual equilibrium under higher (micro-IP induced) productivity. In panel (a), the productivity shock is assumed temporary. The savings schedule shifts outward as households smooth the increase in current income over time. The current account surplus in B increases ($CA'_B > CA_B$) and the world interest rate goes down. In panel (b), expected productivity is assumed to increase durably. The investment schedule shifts out, while desired savings decrease because of higher future income. As a result, the current account surplus in B shrinks ($CA'_B < CA_B$) and the world interest rate goes up.

In panel (b), an industrial policy-induced increase in expected productivity would shift the investment schedule to the right and the savings schedule to the left since future income is higher than current income. As a result, country B's autarky rate and the world interest rate increase. Faced with a higher interest rate, country A's deficit and country B's surplus would decrease. Finally, consider the case where industrial policy results in a lower aggregate productivity, for example through an increased misallocation of resources. In this situation, the surplus of country B would initially increase if the productivity effects of industrial

policies are perceived as durable. This analysis suggests that industrial policies are expected to increase current account surpluses if unsuccessful – i.e., if they increase aggregate productivity only temporarily, or if they lead to structural misallocations that decreases aggregate productivity durably.

The model-based analysis largely confirms the predictions of the conceptual framework, although it highlights additional channels due to sector-specific effects and frictions. In the case of a temporary positive productivity shock to the tradables sector, the two-country model supports the view that the current account will initially rise, buoyed by high saving (Figure 5). In the case of a permanent productivity boost, the current account balance falls, also as predicted in the conceptual framework, mainly through higher investment rather than a fall in saving.

Figure 5: **Model-based impact of positive productivity shock to the tradable sector**



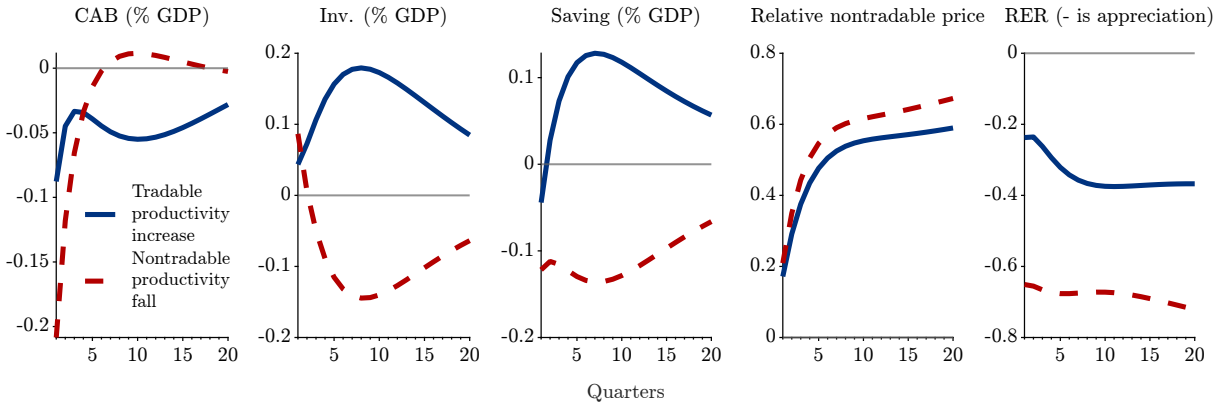
Note: One percent permanent shock to TFP in the tradable sector and a temporary one percent shock with an autoregressive coefficient of 0.9.

The model also reveals that which sectors industrial policy supports matters. When industrial policy supports the tradable sector but simultaneously leads to a misallocation of resources that lowers productivity in the nontradable sector, the outcome is not simply a mirror image of the positive productivity case (Glick and Rogoff, 1995; Stockman and Tesar, 1995). A durable decline in nontradable productivity can weaken the current account balance just as an improvement in tradables productivity can, but through a different channel. In this scenario, the fall in nontradable sector productivity leads to a scarcity of these products, prompting rising relative prices in the sector since they are poor substitutes for tradable products. The result is an appreciation of the real exchange rate and loss of competitiveness, further decreasing the current account balance (Figure 6).

3.1.2 Targeted Support: Broad-based subsidies and strategic targets

We now consider the case of an industrial policy implemented through subsidies to investment or through policies which direct output in a particular sector to be higher, for instance through directives that set quantity targets with the aim of "bending the cost curve" – i.e., achieving scale economies that bring down marginal costs. In each case, we can imagine these as being partially targeted but being of sufficiently

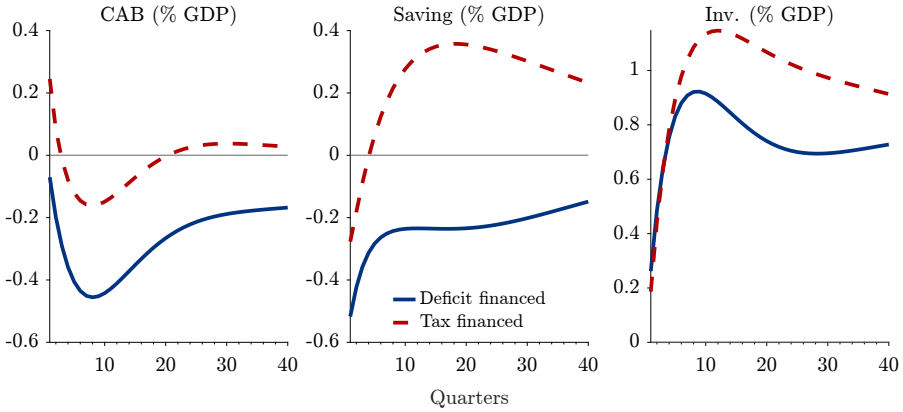
Figure 6: **Model-based impact of misallocation-driven fall in productivity**



Note: One percent permanent positive shock to TFP in the tradable sector and a one percent permanent negative shock to TFP in the nontradable sector.

large scale to have aggregate implications on tradable sector investment and prices, but we do not consider second-round effects on productivity as in the previous section.

Figure 7: **Model-based impact of Tax vs Deficit Financed Subsidies**



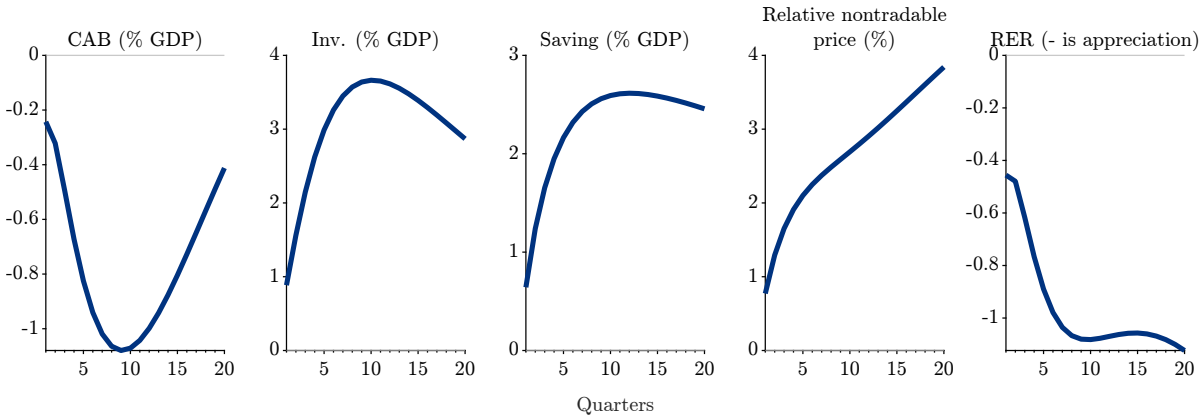
Note: Both simulations show the effect of a permanent subsidy that reduces the price of investment in the tradable sector, amounting to 0.5% of output in each period. In the 'tax financed' simulation, ad valorem taxes on consumption are raised to make the investment subsidy deficit neutral. In the 'deficit financed' case, lump-sum taxes of just 1% of the outstanding stock of debt are raised each period. This ensures that in the simulation period shown, the subsidy is largely financed with debt, while also ensuring debt stability in the long run.

Take the example of a permanent subsidy to investment in the tradable sector. As in the case of productivity-enhancing industrial policy, such a subsidy will increase output in the future through capital deepening. In anticipation of higher income, households initially dissave, while subsidized investment expands. Both factors lower the current account balance. However, the source of the funds for the subsidy now becomes important. Higher taxes to fund the subsidy reduce disposable income and therefore limit the degree of initial dissaving relative to the deficit financed case. This effect is especially strong when the fiscal burden falls on credit constrained households, whose consumption responds sharply to current disposable income. As shown in Figure 7, the current account deteriorates less when the subsidy is financed through immediate

taxation rather than through higher deficits.

We next consider the case of policies to boost quantities in an export-focused (tradable) sector without using a financial incentive to do so (such as subsidies). These policies could include state directives to achieve output targets, or other similar directions to increase output that may override commercial interests. These interventions have similar effects to the productivity improvement case considered above – an increase in production to the detriment of profit margins is a positive supply shock for the tradable sector. The impact on the current account is different from the increase predicted by a partial equilibrium view that emphasizes the export effects of the higher output target. Investment rises rapidly as firms target higher output at lower margins. At the same time, a relative shortage of inputs in the nontradable sector creates additional demand for more workers and investment, further raising prices (Figure 8). The result is a sharp appreciation of the real exchange rate as domestic costs increase, contributing to reverse any expansion in net exports as a direct effect of higher output levels in the tradable sector. The net effect is that, while the policy targets output in the tradable sector, the current account balance falls.

Figure 8: **Model-based impact of strategic targets to boost tradable sector output**



Note: This is modeled as a permanent fall in tradable sector firms' desired markup. The shock reduces profit margins while increasing output, a close proxy for state directives to increase output at the expense of profitability in the short run.

The overall conclusion is that durable industrial policies are unlikely to increase the current account balance. If they succeed in boosting productivity or investment in the export-focused sector, they will drive domestic investment and consumption higher in anticipation of income gains, reducing the current account balance. If they fail, and instead generate misallocation that harms the nontradable sector, they will decrease overall economic competitiveness and drive higher investment to compensate for lower TFP. The only case in which they will boost the current account balance is where they have a harmful effect on productivity in the sector they are designed to help (e.g., the export sector), or only temporarily increase productivity.

3.2 Macroeconomic industrial policy: Broader reach, more bite

While we often think of industrial policies as measures that are targeted to specific industries, some macro and financial policies are sometimes deployed in conjunction with targeted industrial policies with the goal of promoting industrial development and exports on a broad scale. These policies aim to produce general declines in the cost of borrowing (financial repression or forced saving) or improve export competitiveness and promote import substitution via foreign exchange rate management.[7]

3.2.1 Financial repression and forced saving

Governments sometimes undertake financial repression measures for competitiveness reasons – that is, to reduce interest rates and increase credit allocation, which artificially lower the cost of capital for the industrial or export sectors (McKinnon, 1973; Shaw, 1973; Roubini and Sala-i Martin, 1992).[8] This can be achieved by limiting the interest rates available on deposits and availability of other financial assets to reduce funding costs, and limiting lending rates on loans to businesses. On their own, financial repression policies simply shift households further down along their desired saving curve, limiting saving while increasing desired investment. However, in practice financial repression is combined with forced saving policies that shift the desired saving curve to the right. These policies could include prohibitions on dividend payments by corporations to encourage higher retained earnings, reserve requirements on export earnings, mandatory saving requirements in pensions or similar products, or even weak social safety net provision that requires high private saving for insurance purposes.

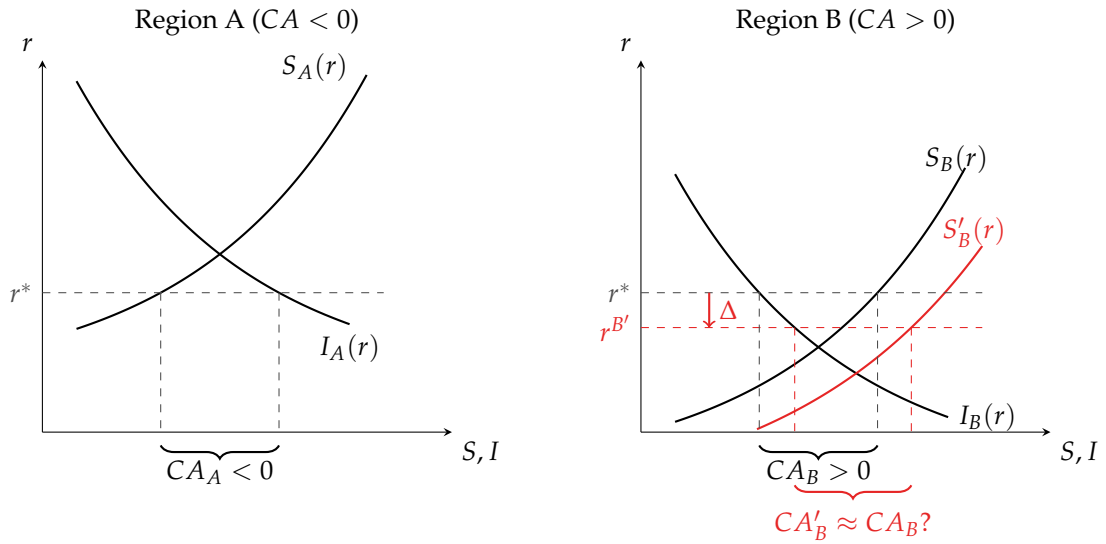
As with sectoral industrial policies, empirical evidence on the effects of financial repression measures on the current account balance is scant. Measurement issues are pervasive, given the difficulty in applying a common definition of financial repression policies across countries and over time. Abiad, Detragiache and Tressel (2008) construct an index encompassing seven financial repression policies until 2005 – including interest rate controls, barriers to entry in the financial sectors and capital account restrictions. This was extended to 2017 by Jafarov, Maino and Pani (2019), but only for the component related to interest rate controls. Using this index, Johansson and Wang (2012) find a positive association between the current account balance and financial repression across countries.

Since the goal of these policies is to lower the domestic cost of capital relative to global interest rates, these measures are typically associated with restrictions on capital outflows. This creates a wedge $\Delta = r^{A'} - r^{B'} > 0$ between the interest rates in region B and abroad, as agents in region B face barriers to purchase or sell foreign assets. This allows a larger decline in domestic interest rates and boost to investment, following the introduction of forced saving measures.

[7] Ghosh and Kim (2011) show how maintaining an undervalued exchange rate is economically equivalent to an export subsidy in an intertemporal model with learning-by-doing in the tradable sector. In such a framework, a subsidy to production in the tradable sector is unilaterally optimal from a welfare standpoint.

[8] Financial repression measures can also be used for budgetary purposes – i.e., with the objective of controlling or reducing government debt (e.g. Jeanne, 2025; Reis, 2025).

Figure 9: **Effects of Financial Repression and Capital Flow Measures**

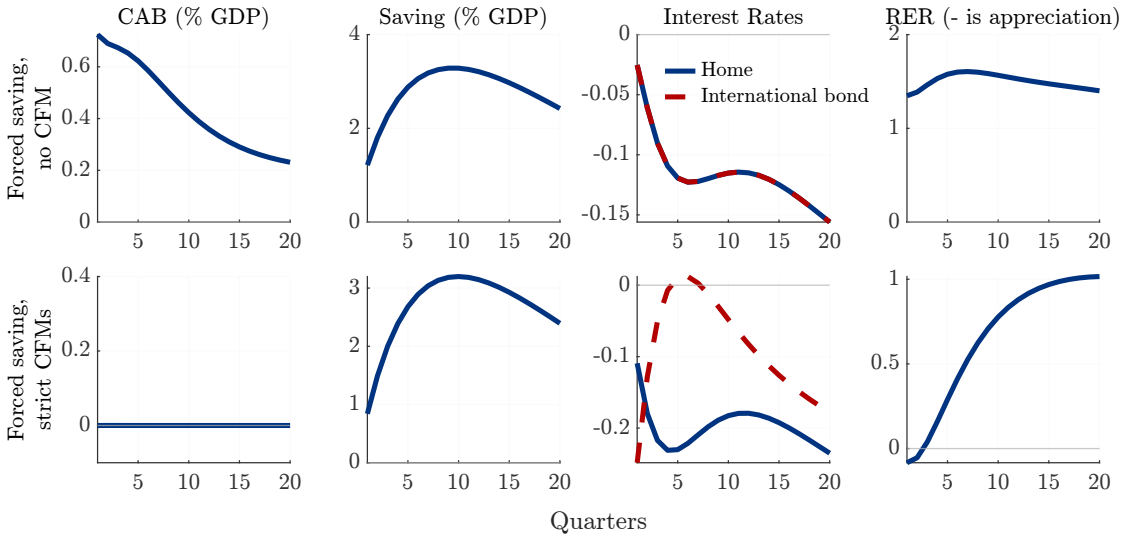


Note: Savings-investments diagrams for regions A and B. In the counterfactual equilibrium, region B implements a combination of forced savings (shifting the savings schedule of B outward) and restrictions to capital outflows (lowering the local interest rate $r^{B'}$ below the world interest rate r^*). The capital controls create a wedge Δr between the interest rates in region A and region B. The figure depicts a case where the current account balances remain unchanged as the interest rate wedge in Region B sufficiently increases investment and lowers saving enough to offset the schedule shift.

The simultaneous increase in domestic savings and domestic investment in region B has an ambiguous effect on the current account of both regions. Figure 9 depicts the knife-edge case where the combination of forced savings and capital controls in B leave the world interest rate (which prevails in region A) unchanged. As a result, the current account balances remain unaffected in both regions. In a case without capital controls, forced saving policies in country B would unambiguously increase the current account balance as global capital markets provide a release valve for higher domestic saving. The result is a more modest increase in domestic investment. Analytically, this hypothetical case is close to the 'saving glut' of the 2000s, when different structural and policy factors led to a global increase in the desired supply of savings, widening external balances and driving down interest rates (Bernanke, 2005).

Model-based simulations of higher saving rates, with and without capital controls, confirm the intuition that forced saving policies result in a higher current account balance initially. This positive effect fades over time as interest rates fall, stimulating investment. In the case of forced saving with strict capital controls, there is no effect on the current account, as the private sector faces prohibitive costs to accumulate foreign assets (Figure 10). The real exchange rate appreciates in response to import compression from lower consumption, in contrast to the depreciation that occurs without capital controls.

Figure 10: **Model-based impact of Financial Repression**



Note: This is modeled as a highly persistent shock to intertemporal preferences to lower consumption relative to income. CFM (capital flow management) measures are implemented in the model by setting adjustment costs to holding the international bond to a very high level.

3.2.2 Capital Account Policies

Another macro industrial policy consists in manipulating the capital account. By the balance of payment identity, the current account must equal the capital account. Hence a policy to manipulate the capital account must generate a current account of the same size. For the rest of the world to absorb the corresponding current account surplus, the real exchange rate must depreciate. One way to achieve this is to accumulate foreign reserves (Korinek and Serven, 2016).[9] Some imperfect capital mobility is needed to ensure that domestic households cannot offset government reserve accumulation by selling foreign assets as the domestic currency depreciates.[10]

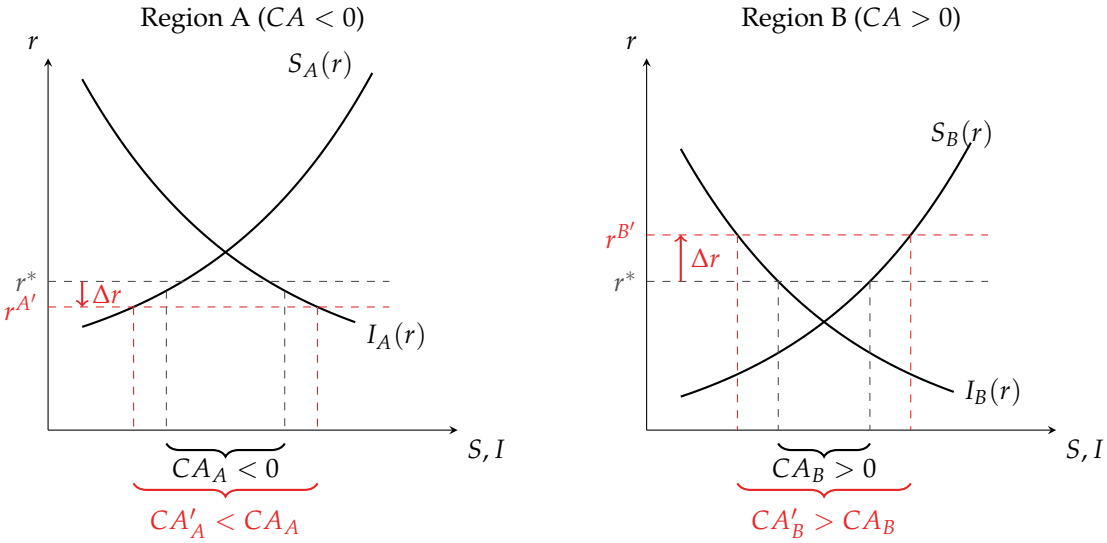
In the limit case where the capital account is closed, the path of reserve accumulations by region B exactly determines the current account balance (Jeanne, 2013). However, in order to finance the accumulation of reserves, authorities must either raise taxes or issue domestic bonds. Either way, national savings must rise. Controls on capital inflows can increase the domestic interest rate, while the interest abroad falls because of the additional capital inflows in the form of reserves. Therefore, a wedge emerges between the two interest rates, but in contrast to the financial repression case, this time interest rates rise relative to rates abroad, $\Delta = r^{A'} - r^{B'} < 0$. While the current account surplus increases in B, higher interest rates depress investment (Figure 11 & Figure 12). In contrast, as shown in the Metzler diagram of Figure 11, the lower interest rate in Region A pushes down savings and hence widens the current account deficit.

Empirical work confirms the prediction that reserve accumulation coupled with restriction to capital in-

[9]This "mercantilist" view of foreign reserve accumulation is different from a "precautionary" motive by which reserves are accumulated to provide insurance against unexpected output losses in the case of a "sudden stop" crisis (Jeanne and Rancière, 2011).

[10]This segmentation ensures that Ricardian equivalence does not hold. Otherwise, private agents would be able to undo the portfolio decisions of the central banks. See Alvarez, Atkeson and Kehoe (2002).

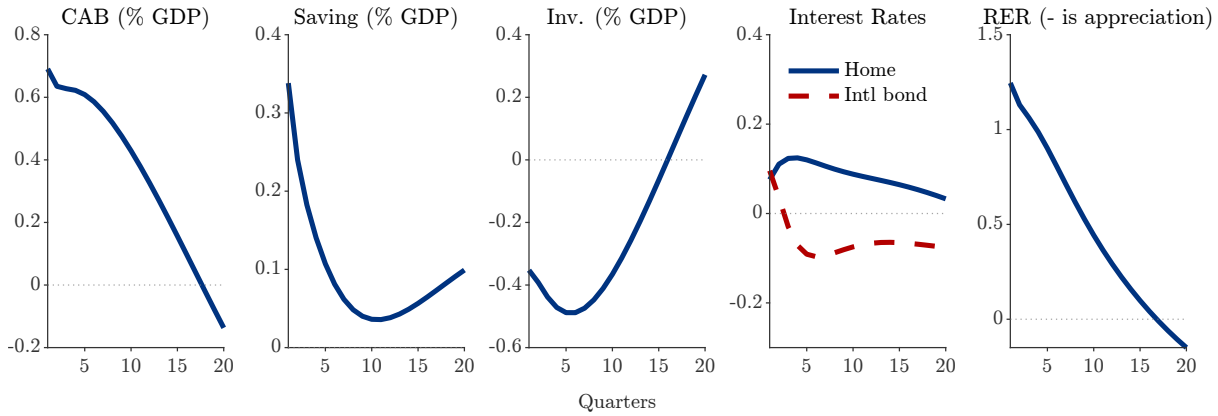
Figure 11: **Effects of Foreign Reserve Accumulation and Capital Controls**



Note: Savings-investments diagrams for regions A and B. In the counterfactual equilibrium, region B implements a combination of reserve accumulation and restrictions to capital inflows. These policies create a wedge between the interest rates of the two countries – in region B, the interest rate $r^{B'}$ is higher than the world interest rate, while in region A the interest rate decreases. The current account surplus increases in B, while the deficit widens in A.

flows can increase the current account. Cross-country regressions using different instruments to isolate exogenous drivers of changes in official reserves find that the current account balance is higher in countries with larger increases in reserves and more restrictive capital controls (Bayoumi, Gagnon and Saborowski, 2015; Phillips et al., 2013; Choi and Taylor, 2022).

Figure 12: **Model-based impact of Foreign Reserve Accumulation and Capital Controls**



Note: Simulated as a highly persistent (but declining) increase in international bond purchases by the government, initially amounting to 1 percent of GDP. Adjustment costs are present for household transactions of the international bond, proxying for the presence of capital flow management measures.

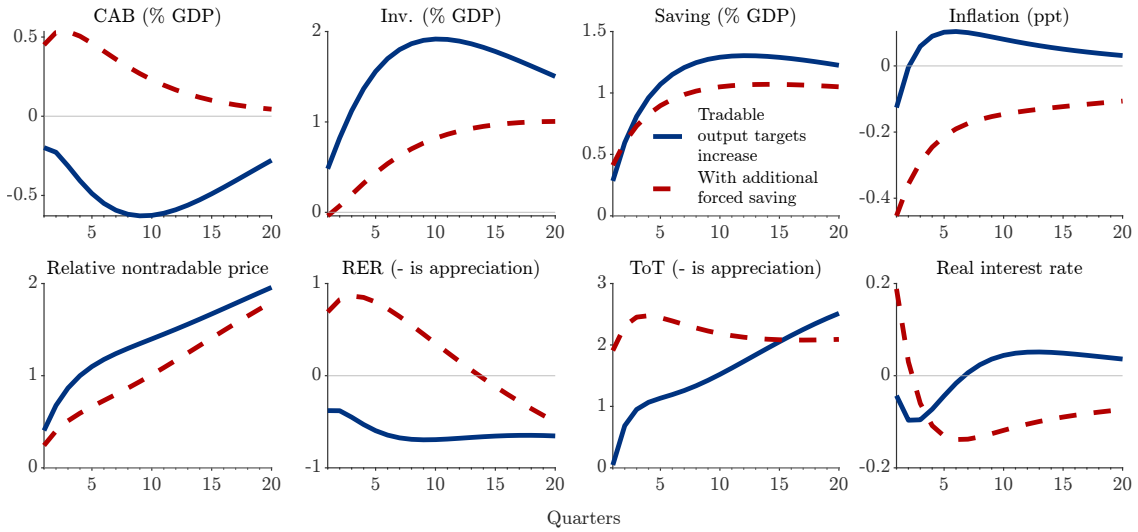
In sum, does the argument that macroeconomic policies such as financial repression and exchange rate interventions worsen imbalances hold water? The short answer suggested by the conceptual and model-based analyses is: only in specific circumstances. What the government can achieve is higher saving through financial repression policies that will increase the savings-investment balance. This policy would

generate similar outcomes to the "saving glut" of the 2000s, lowering global interest rates and increasing imbalances. However, if this is combined with capital control policies to "bottle-up" savings domestically in order to lower domestic interest rates below global rates, it will limit the accumulation of foreign assets and thus an improvement in the current account. The government can pursue policy of steady accumulation of foreign exchange reserves, but in contrast to the financial repression case, this requires capital controls to enable authorities to generate an improvement in the net investment position and thus the current account balance. Both sets of policies also cause adverse economic outcomes: the suppression of consumption in the case of financial repression/forced saving, and higher domestic interest rates and lower investment in the case of reserve accumulation.

3.2.3 Combining macro and micro-industrial policy

As we have shown, "micro" industrial policies that successfully and persistently increase tradable sector output do not result in an increased current account balance. The income effects associated with successful policies raise consumption and imports, while the fundamental imbalance they create in the economy with the nontradable sector partially reverses the competitiveness improvements driven by the policy, appreciating the real exchange rate. The fundamental issue is that the policies may improve external balances, but in doing so exacerbate internal imbalance, resulting in an overheating economy (Obstfeld, 2026). However, in combination with the macroeconomic IP policies such as forced savings, these side effects could be contained, resulting in an improvement in the current account balance, output, and competitiveness. The cost of this combination of policies is that internal balance is restored through suppressed consumption.

Figure 13: **Model-based impact of interaction of Micro and Macro IP**



Note: Simulated as a permanent fall in the desired markup for tradable sector firms. In the 'with additional forced saving' scenario, an additional shock to intertemporal preferences lowers consumption.

Consider the example of the policy directives to boost tradable output discussed earlier, through for in-

stance quantity targets. The policy increases tradable output, but also creates a lopsided economy, resulting in a shortage of nontradable goods. To restore balance, the price of domestic nontradable goods would rise rapidly, driving investment higher in the nontradable sector, increasing the overall price level and appreciating the real exchange rate. These side-effects of the policy can be reversed however by suppressing consumption. In this case, reduced aggregate demand prevents the rapid rise in nontradable prices.[11] A sufficient degree of consumption repression can fully reverse the RER appreciation, subdue the relative nontradable price increase, and turn the current account balance effect from negative to positive (Figure 13). The same principle can be applied to other forms of micro-IP, where productivity gains and subsidy policies can be combined with forced saving to both increase output and the current account balance.

3.3 Tariffs and the current account

We now turn to the impact of tariffs on external balances. Throughout recent history, countries running current account deficits have at times resorted to import protection through tariffs with the objective of reducing imbalances (e.g. Irwin, 2024). In recent years, the increased use of these policies has been justified in part as a response to perceived industrial policies and non-tariff barriers by trading partners considered responsible for worsening trade balances.[12] But do tariffs work to reduce imbalances? To consider this question, we consider the imposition of uniform tariffs by region A, the deficit region, with the objective of reducing its initial current account deficit.

Intuitively, raising the price of imported products should discourage imports and lead to an improvement of the trade and current account balance, everything else equal. However, everything else is not equal. The intertemporal framework suggests that the impact of across-the-board tariffs on the current account is more nuanced, with the rise in import prices increasing national saving relative to investment only under certain circumstances.

Consider first models without investment. The early literature on the effect of tariffs on the current account points out that the effect depends on the persistence of the tariffs shock. In the case of temporary tariffs, domestic households face a higher real interest rate as consumption today - including imports - is more expensive than tomorrow. As a result they are willing to increase savings and postpone consumption, improving the current account. For a country without an initial trade deficit, a permanent tariff generates no such intertemporal trade-off. As tariffs will remain indefinitely higher, there is no incentive to adjust aggregate savings and leaving the current account unchanged (Razin and Svensson, 1983).[13] Given an

[11] Cesa-Bianchi et al. (2026) come to a similar conclusion, although in their framework, consumption suppression arises endogenously alongside support for the tradable sector. Domestic bonds are assumed to provide utility but are in limited supply. As income rises following the implementation of industrial policy, households are assumed to increase demand for liquid assets (above-and-beyond demand implied for consumption smoothing), turning to foreign assets to meet demand and increasing the current account balance.

[12] Some countries like the US have imposed tariffs for multiple alleged —and not necessarily mutually or internally consistent— reasons, such as re-shoring manufacturing employment, generating fiscal revenues and eliminating bilateral trade balances.

[13] Recent work by Costinot and Werning (2025) qualifies this result, showing that it holds in a rather specific setting – e.g., where tariffs do not lead to adjustments on the extensive margin of trade, or without terms-of-trade effects. In more general settings, per-

unchanged current account, the standard analysis concludes that the currency of the tariffing country must appreciate enough to offset the impact of the tariffs on relative prices and the trade balance (Razin and Svensson, 1983).[14]

But what should happen if the country, like region A in our analysis, starts with an initial trade deficit? In that case, the analysis is more complex and we need to think about whether these trade deficits are transitory and expected to be offset by future trade surpluses so that the net present value of trade balances is zero, or if they are persistent –in which case the present value of the trade deficit must equal the market value of the country's net foreign asset position plus the present value of any future excess return on its net foreign asset position (Gourinchas and Rey, 2007; Itskhoki and Mukhin, 2025*b*; Bayas-Erazo and Lorenzoni, 2025).

In the case of temporary trade deficits, permanent tariffs will still reduce current account balances. The reason is both important and subtle. Because the country runs trade deficits today and trade surpluses at some future date, the composition of consumption changes over time and so does the consumption deflator, with more weights on (tariffed) imported goods when running trade deficits and less weight when running trade surpluses. As a result, households in region A face a higher consumption-based real interest rate which discourages consumption and helps contain the current account deficit. Region B faces a symmetric adjustment, with a lower consumption-based real interest rate, hence a smaller desire to save and a smaller current account.[15]

When countries can run permanent trade deficits, offset by initial net international investment position or the present value of excess returns (convenience yield or exorbitant privilege) the question becomes what happens to the market value of cross-border assets, and to the net present value of excess returns as tariffs are imposed. If these are unchanged -admittedly an implausible assumption- we are back in the Lerner symmetry world and currencies must adjust so as to keep the present value of trade deficits unchanged. Otherwise, the change in the market value of the net foreign asset position and associated excess return revenues will dictate the change in the net present value of trade deficit, as emphasized by Itskhoki and Mukhin (2025*b*). The main insight is that tariffs may have a smaller (or even counterintuitive) effect on trade deficits when countries are holding large cross border positions, and that the overall effect will be dictated by the structure of gross financial positions and not by the structure of trade flows and changes in relative price of imports.[16]

manent tariffs could narrow the deficits by increasing the marginal cost of consumption disproportionally more in the current period than in the future.

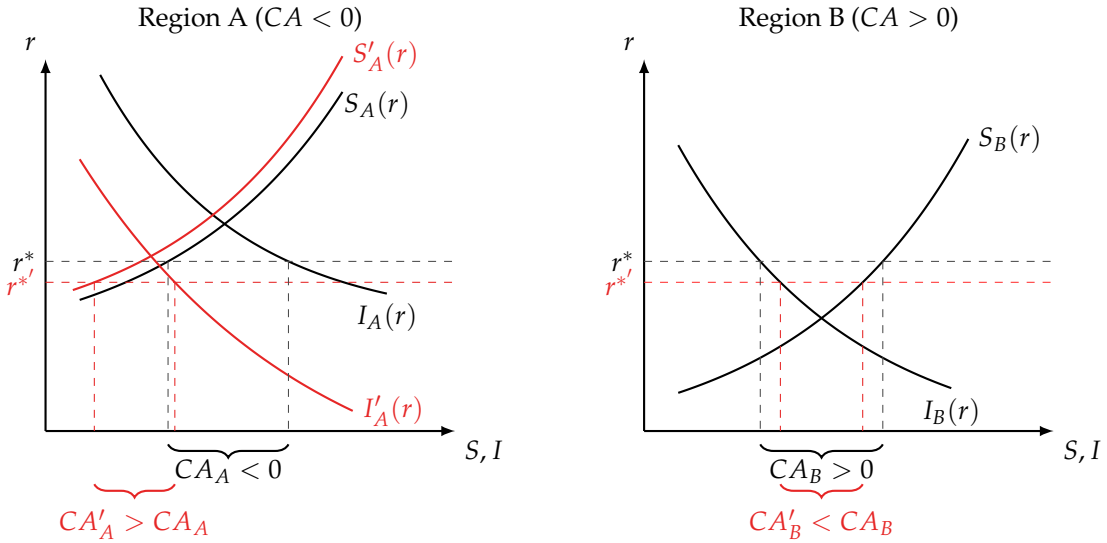
[14] As already noted, the fact that a currency appreciation can offset a tariff and leave allocation unchanged –a consequence of Lerner (1936) symmetry– is not sufficient to conclude that tariffs have no effect. In the case of a temporary change in tariffs, the current account does improve. What matters is the profile of consumption – and savings, which determines the equilibrium path of relative prices.

[15] See Dornbusch (1983) for a seminal analysis and Obstfeld and Rogoff (2000) for an early discussion of the effect of trade costs on current account balances.

[16] For this reason, even an infinite or sufficiently high (prohibitive) tariff that brings real trade close to zero does not necessarily eliminate current account deficits (Itskhoki and Mukhin, 2025*a*).

In models with investment such as ours, the impact on the current account becomes yet more complex. Higher costs of imported goods could lower the marginal return to capital either because intermediate goods are imported, or because -through the currency appreciation- the demand for exported goods falls. This can overturn the simple 'neutrality' result of the simpler intertemporal models (Sen and Turnovsky, 1989).[17] Without a corresponding fall in desired saving, the current account will initially improve as investment declines. Furthermore, unilateral tariffs could also result in a fall in desired saving as a result of an improvement in the terms of trade and if tariff revenues are redistributed to households – in these cases, the real purchasing power for a given level of domestic output is higher, generating a lower saving rate relative to GDP. This situation is depicted in Figure 14 – both the investments and savings schedules shift inward. In the specific example, the fall in investments dominates the one in savings, leading to a decrease in the current account deficit of country A.

Figure 14: **Effect of Tariffs on Imbalances**



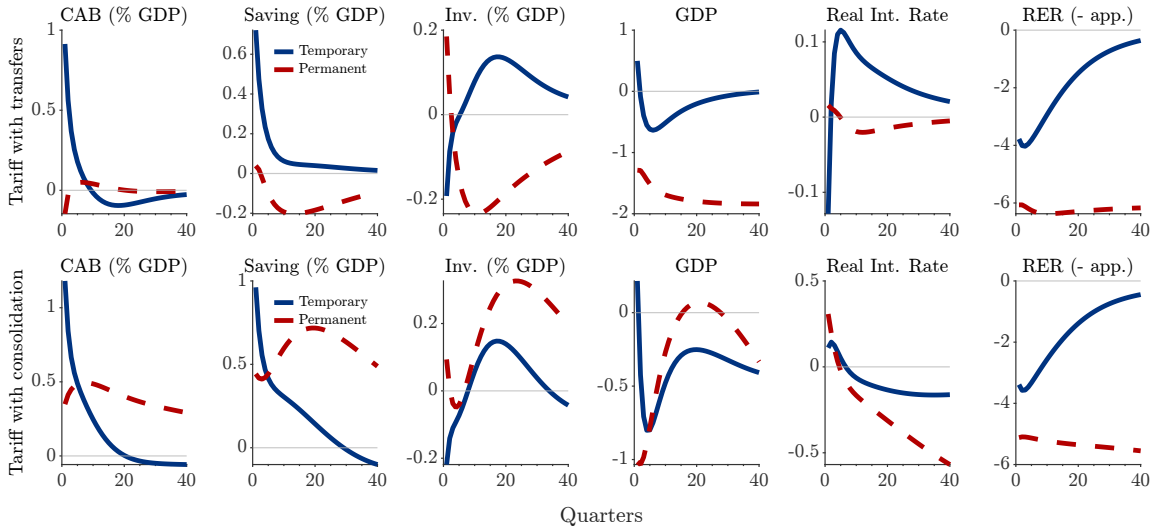
Note: Savings-investments diagrams for regions A and B. In the counterfactual equilibrium, region A implements across-the-board import tariff increases perceived as permanent. The figure depicts a case where the tariff depresses desired investments as the cost of capital and imported inputs increases, and the savings schedule shifts inward — for example, because tariff revenues are redistributed to households. Since the shift in investment is assumed stronger than the one in savings, the deficit in A decreases, while the lower world interest rate also pushes down the surplus in region B.

Empirically, the literature tends to find economically small effects of tariff shocks on the trade and current account balance, using both country-specific (U.S.) data (Boer and Rieth, 2024) and cross-country data (Furceri et al., 2022). Using historical U.S. data, Schmitt-Grohé and Uribe (2025) find that, consistent with the predictions of the intertemporal framework, transitory tariff shocks increase the current account, while permanent changes have a muted effect. Quantitative analyses based on long-run general equilibrium trade models (Caliendo, Kortum and Parro, 2025; Ignatenko et al., 2025) find that the U.S. current account deficit as well as welfare decrease under policy scenarios that are based on U.S. tariff increases during 2025.

Our model simulations confirm the intuitions described in the Metzler framework and are consistent with

[17] A special case where investment could instead increase occurs when tariffs induce a reallocation towards domestic investment and import competing industries, leading to a persistent increase in the current account deficit (Roldos, 1991).

Figure 15: **Model-based impact of Tariffs**



Note: Simulated as a unilateral 10% increase in tariffs on imports with all tariff revenues immediately distributed to households (top row) or used to lower debt (bottom row). In the temporary case, the tariffs have a half life of 10 quarters.

the evidence from the literature. A temporary unilateral tariff generates a large increase in savings that offsets the decline in investment, generating a current account surplus. In the case of a permanent tariff, the current account is slightly higher initially as investment declines. But as savings decline, reflecting the improvement in the terms of trade and increase in transfers (from tariff revenues), the current account balance becomes neutral.

When tariff revenues are not redistributed, but instead used to pay down government debt, the implications of tariffs for national saving and the current account are different. Since households are non-Ricardian in the model, the increase in government saving is not fully offset by a decline in household saving, leaving overall saving higher. This case is illustrated in the second row of Figure 15, where the fiscal consequence of the tariff generates a persistent increase in the current account. Interest rates are lower in the case of fiscal consolidation given the increase in national saving, leaving investment slightly higher, but any improvement in the current account comes at the cost of a fall in output.

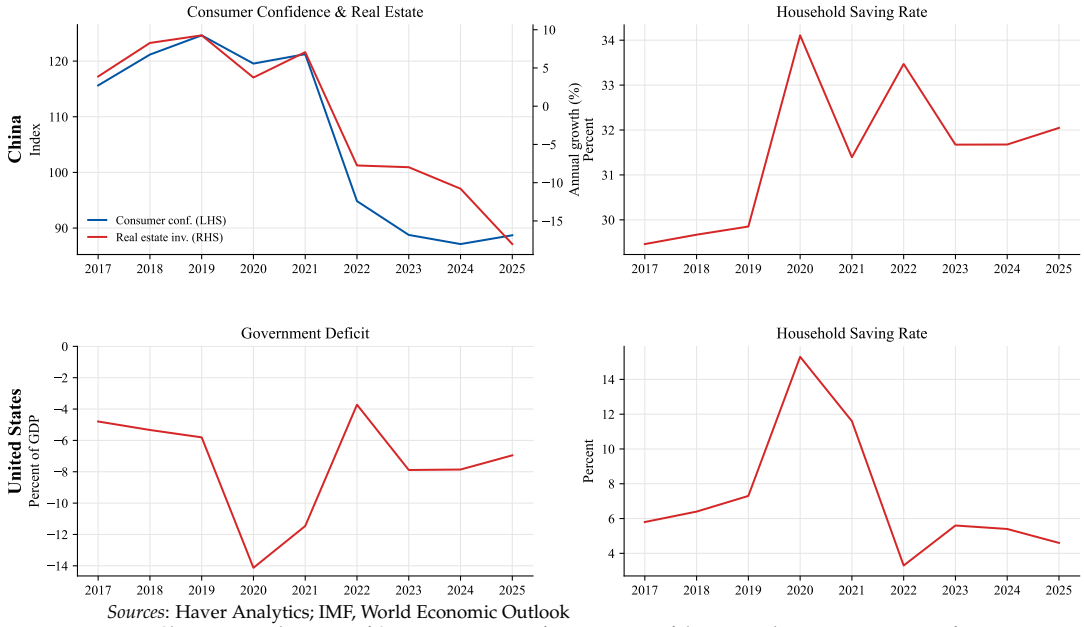
Our analysis highlights that tariffs are a limited tool for reducing current account deficits. We show that permanent tariffs typically fail to alter intertemporal savings decisions, resulting instead in a real exchange rate appreciation that leaves the external balance largely unchanged. An improvement in the current account is more likely to arise if tariffs are temporary, thereby incentivizing saving. Additionally, our simulations demonstrate that the fiscal treatment of tariff revenue is critical: tariffs can narrow external deficits if proceeds are used to consolidate government debt, but this effect dissipates if revenues are redistributed to households.

4 Alternative (traditional) explanations of widening global imbalances

As we have shown above, alone, micro industrial policies that successfully boost productivity and output tend to lower the current account balance. They generally increase the current account balance only under specific circumstances where they lower output (i.e. generate misallocation), are temporary, or are combined with macro industrial policies that depress consumption. Because it is difficult to observe the extent to which industrial policies have either underperformed or been combined with such macro-level demand-depressing measures, quantifying their contribution to widening current account balances is inherently challenging. Moreover, although the use of industrial policy has expanded alongside the recent rise in global imbalances, several major macroeconomic developments have occurred over the same period. These belong to the set of more "traditional", well-established determinants of the current account and may plausibly explain a significant portion of the observed imbalances (e.g. Allen et al., 2023).

First in China, a large real estate downturn began at the end of 2021 (with the failure of major property developer Evergrande). This led to a sharp fall in real estate investment and decline in consumer confidence (Figure 16). The household saving rate increased sharply after the decline, potentially reflecting concern about future growth prospects and falling asset values. In 2025, the levels of fixed investment and private consumption in China were about 8 percent below their predicted paths in the October 2021 IMF World Economic Outlook, just before the real estate deterioration. The household saving rate remains about 2 percentage points above its pre-COVID level.

Figure 16: **Saving and investment developments in China and the US**



Sources: Haver Analytics; IMF, World Economic Outlook
Note: China National Bureau of Statistics measure of consumer confidence. Real estate investment refers to fixed asset investment. US government deficit refers to the general government deficit. US deficit and household saving rate are based on forecasts in 2025, with data available to Q3.

In contrast, several developments in the US have had the opposite effect, contributing to dissaving. The fiscal deficit has grown substantially relative to the pre-COVID period, even after COVID-related spending lapsed. As a result, the general government deficit is now about 2 percent of GDP higher than in 2017 (Figure 16). The household saving rate has also declined substantially since 2021 and consumption has grown more rapidly than expected, partly reflecting an unwind of "excess saving" accumulated during the pandemic as consumption was restricted. More recently, high equity valuations, potentially reflecting enthusiasm about future productivity growth, are also likely to have contributed to lower household saving.

Previous research indicates that "traditional" economic drivers explain a significant portion of the recent widening in current account balances (Gourinchas et al., 2024). Specifically, modeling shocks that align with China's declining consumption and investment—alongside the U.S.'s expanding fiscal deficit and falling household savings—accounted for a shift of at least 1% of GDP in both China's surplus and the U.S. deficit. These findings suggest the imbalance is largely "homegrown" and rooted in domestic conditions. However, because these models are imprecise and leave sizable residuals, they do not rule out industrial policy as an additional contributing factor.

5 Conclusion

This paper develops a simple framework to think about the role of industrial and trade policies in driving current account developments. We consider different forms of industrial policy: a more traditional sector-specific policy of support via subsidies or other targeted instruments (micro industrial policy), and broader policies of support through macroeconomic policies targeting interest rates with effects on the exchange rate (macro industrial policy). A key insight from this framework is that micro industrial policies and tariffs have ambiguous effects on current account balances unless they are only temporary, when they generally increase balances. If they are permanent, they can only increase the current account balance at the cost of output (for example, productivity-lowering misallocation), or the suppression of consumption (for example, using tariff revenues for fiscal consolidation). Macro industrial policies have a clearer impact on the current account, with forced saving and currency undervaluation unambiguously boosting the current account. These policies also suppress consumption to improve the current account balance, however. Micro industrial policies have been widely implemented during the recent period of widening imbalances. However, as we show, when successful, their efficacy in increasing current account balances is dependent on additional macroeconomic IP such as forced saving. We also find that industrial policies are unlikely to be the only driver of recent widening global current account balances. Domestic factors related to the real estate downturn in China and widening fiscal deficits in the US emerge as plausible drivers of at least some of the recent widening in balances. Industrial policies and tariffs might find these increases hard to correct.

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