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Financial adjustment as a driver of growth model change: a balance-sheet approach to comparative political economy

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Abstract

Growth model theory has turned the focus of comparative political economy scholars on the demand drivers of economic growth. But while its proponents emphasize the variety and inherent instability of growth models, research so far has been more concerned with the emergence and coherence of stable growth models than in the process of change. We argue that growth model change can be understood as a process of financial rebalancing on the level of institutional sectors. When an over-indebted sector is forced to deleverage, a politically contested process emerges over the path of adjustment. We derive various ways in which each sector can contribute to this process of financial adjustment, which we conceptualize as the activation of macroeconomic ‘compensation valves’. This process shapes the trajectory of economic performance during financial crisis and determines whether a new feasible growth model can emerge in its aftermath. We apply our analytical lens in a comparative case study of Germany and the Netherlands during the Great Recession. We conclude that future research on growth models should more explicitly problematize the ability of political economies to adapt to financial instability.

Keywords Growth models · Balance sheet analysis · Financial crisis · Instability · Germany · Netherlands

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Introduction

Students of comparative political economy (CPE) aim to analyze and understand national differences in economic performance. Recent work has cast the spotlight on the political factors that affect the composition of aggregate demand to explain why some countries have grown primarily thanks to exports, while growth in others has been led by domestic consumption. The overall ambition of this ‘growth’ (Baccaro and Pontusson 2016; Blyth et al. 2022) or ‘growth strategy’ (Hassel et al. 2020) approach has been to put institutional change and political conflict at the center of inquiry—contrasting notably with the emphasis on continuity displayed by the *Varieties of Capitalism* (VoC) literature (Hall and Soskice 2001; Amable et al. 2019). And yet, much of the early work on growth models has itself remained more concerned with the question of how stable and coherent growth regimes emerge and sustain themselves (e.g. Höpner 2019) and still less so with the original ambition of understanding instability, change, and conflict within them.

Building on the ideal types developed by growth model scholars (Baccaro & Pontusson 2016, 2019), we postulate that the approach holds much potential for explaining institutional change and instability. There are good theoretical reasons for such optimism. From the onset, classical regime theory in the field of political science and international relations has emphasized that regimes cannot be static (Young 1983). Instead, they are permanently subject to change and adaptation due to both internal and external dynamics. The literature on VoC has long acknowledged these shifting dynamics (Streeck and Thelen 2005; Hancké et al. 2007), but concluded that these processes are incremental and leave the overall complementarities between institutions intact. If, indeed, ‘growth models are more numerous and more unstable than Hall and Soskice’s varieties of capitalism’ (Baccaro and Pontusson 2016, p. 140), their added value for explaining the frictions between long-term coherence and short-term adaptability of national political economies still needs to be fully exploited.

Our goal in this paper is to explore instability and change within national growth models. More specifically, we argue that *internal financial imbalances* are an important source of instability and, thus, reflect the pressures that growth models face in times of crisis. In a first step, we conceptualize growth regimes from the perspective of institutional sectors, their financial positions and contributions to aggregate demand. We propose a theoretically informed mechanism that leads from balance sheet risks during crisis to the establishment of a new growth model. We argue that while adjustment to crisis itself is a financial necessity, there are nonetheless various possible trajectories for this adjustment process. We liken these options to macroeconomic ‘*compensation valves*’ since they restore the balance between flows of funds, much like manual pressure relief valves can prevent a closed mechanical system from bursting. Different compensation valves may reduce the adverse impact of deleveraging on economic growth, but it takes political decisions that depart from the original but distressed growth model to activate them. We understand processes of financial rebalancing as politically



contested procedures because the way a growth model adapts has distributional implications and is hence subject to competition between economic actors.

We apply our analytical lens in a comparative case study of Germany and the Netherlands between 2003 and 2018. Both countries share an export orientation, a general preference for restrictive fiscal policy, and an emphasis on corporatism in economic policy making, but differ with regards to their production profiles, housing markets, and banking systems. We use these two cases to illustrate how such differences explain not just the nature of the financial problem in 2008, but also the diverging adjustment paths during the crisis. Political and economic actors in [Germany](#) succeeded in activating compensation valves which facilitated the return of output growth, whereas the Netherlands suffered a double-dip recession.

Anticipating our results, we argue that Germany transitioned from an export-led growth model to one dominated by household and government spending after its European trading partners failed to sustain increasing deficits as a result of the crisis. In the Netherlands, the drop in house prices forced households to cut spending. While exports provided some relief to forgone demand, they could not offset an extended recession. Economic growth only resumed after the housing market recovered. These outcomes were not merely the product of functionalist macroeconomic adjustment processes. Instead, we argue that it took deliberate political agency to activate particular compensation valves and redirect financial flows to facilitate sectoral adjustment. In [Germany](#), the government responded to petered out export demand by implementing consumption-boosting policies, most notably through the implementation of a minimum wage and a generous cash-for-clunkers scheme. The Dutch government's crisis response, by contrast, exacerbated rather than eased homeowners' financial difficulties and thereby held back an economic recovery.

Our argument holds several implications for future studies of growth models. First, we show that both political and underlying structural shifts render growth models inherently unstable. Second, we expand on Braun and Deeg's (2020) call for making the financial sector more central to the study of growth regimes by providing a broad-based analytical framework (cf. Behringer and Treeck 2019; Jones 2021). Lastly, we propose that the current focus on the long-term coherence of growth models should incorporate more directly short-term shifts and adaptation to internal and external challenges. Extending its analytical framework in the proposed manner, a demand-side focused approach to CPE is well suited to explain the choices and conflicts confronting political economies in times of financial turmoil.

The remainder of this paper proceeds as follows: First, we review the literature on the question of stability and instability in growth models. Second, we present our argument and introduce the concept of compensation valves as responses to financial crises. Third, we compare the adjustment paths of Germany and the Netherlands during the Great Recession. The final section discusses the implications of our argument and concludes.



Theoretical background: continuity and change in national growth models

The study of growth models originates in a more explicit focus on the demand drivers underpinning economic growth. Scholars draw on post-Keynesian models inspired by Michał Kalecki and on the French regulation school (Boyer 2005; Mazier et al. 1999), which focus on output as determined by effective demand and aggregate demand being affected by economic distribution. These post-Keynesian scholars diverge from New Keynesian models in assuming that both wage restraint and wage increases can have a positive effect on output in certain institutional environments (Bhaduri and Marglin 1990; Stockhammer 2008). Given this potential trade-off, the distribution between wages and profits and the conflict between labor and capital are seen as key to understanding macroeconomic dynamics from a post-Keynesian perspective.

Building on this theoretical bedrock, foundational contributions to growth model theory established ideal types of consumption-led and profit-led growth models as a point of departure leaving the possibility for balanced or unsuccessful models between them (Baccaro and Pontusson 2016). Such ideal cases include Germany as the paragon of export-led growth, the United Kingdom (UK) and the United States (US) as economies powered by credit-fueled domestic demand, Sweden as a balanced case of export, wages, and debt driven demand based predominantly on high-value added service provision, and finally, the allegedly ‘failed’ case of Italy, where a feasible alternative to the old wage-led growth model seems unavailable (Baccaro and Pontusson 2016: 192).

With this framework in place, ensuing studies have dissected the enablers of stable growth regimes (Höpner 2019) and others worked towards typologies that integrate institutions and predominant drivers of demand (Hassel and Palier 2021). This focus on stability and coherence is certainly warranted in order to formulate working hypotheses and analytical axioms based on ideal types. At the same time, it risks running into similar problems of preceding ‘grand theories’ of CPE that had to rely on an ever-expanding universe of theoretically derived types, rather than clustering cases based on empirical observations and producing theoretical insights that are transferrable across cases (Crouch 2005).

Preempting such challenges, another strand of the literature on growth models has sought to study more explicitly internal pathologies and systemic change over longer periods of time and during acute crises. Enduring change to growth models in the long run can result from internal contradictions and ‘endogenous’ overheating that cannot easily be resolved (Blyth and Matthijs 2017; Hopkin and Blyth 2018) or from policy feedback processes that weaken the political balance underpinning a particular institutional arrangement (Acemoglu and Robinson 2013; Pierson 1993; 2000; Regan and Brazys 2018). During more acute crises, distributional conflicts between dominant interest groups determine the choice and political support for external adjustment paths (Redeker and Walter 2020; Walter 2015; Woodruff 2005); decisions that can prove consequential because not all crisis responses enable new growth models to emerge (Bohle 2018a; Brazys and Regan 2017).



Notwithstanding these important findings, recent contributions have diverged from a focus on the distribution of income between wages and profits (Baccaro and Benassi 2017; Baccaro and Pontusson 2018) and studied the financial flows between institutional sectors that occur in different growth models (Behringer and Treec 2019; Braun and Deeg 2020). From this perspective, a particular growth model is not simply defined by the source of aggregate demand, but also by the question which institutional sectors build up financial assets or incur liabilities. Over time, these financial flows accumulate on sectoral balance sheets and can ultimately threaten to destabilize the economy, as argued in seminal contributions by Schumpeter (1939) and Minsky (1982). Recent research has revived this approach in the forms of an ‘accounting view of macroeconomics’ (Bezemer 2014; 2016) and stock-flow consistent modelling by post-Keynesian economists (Godley and Lavoie 2007). The latter view provides an analysis of economic relations between different sectors. It traces financial transactions between them based on double-entry bookkeeping conventions.

We contend that the potential of applying insights about the sources of financial crises and using sectoral balance sheets as a lens to understand institutional change and political conflict in comparative political economy remains underexplored. In the next section, we build on this literature to derive an analytical framework that considers debt dynamics as a trigger of growth model change and conceptualizes the political options available to overcome them.

A new analytical framework: debt dynamics as the drivers of growth model instability

The starting point of our argument is that credit drives economic growth and that we ought to analyze the balance between investing and financing (that is, borrowing), rather than the level of savings. Put simply, financial institutions create new purchasing power by making out loans and they can do so without any need for pre-existing savings (Deutsche Bundesbank 2017; McLeay et al. 2014). Only when money is being spent on goods and services, can it impact GDP or the current account (Jakab and Kumhof 2015). In fact, much more debt is created for purchasing financial assets (Borio and Disyatat 2010) and mortgages, which have a smaller impact on GDP than business loans (Bezemer et al. 2016; Bezemer and Hudson 2016). Our argument focuses on the effect of falling asset prices on highly leveraged debtors as a source of economic crises (Allen et al. 2002). When households or companies are burdened with a debt overhang, they face a financial imperative to deleverage which forces them to curtail spending (Koo 2008). Out of financial necessity, they cut their borrowing and investing and thereby they cause the economy to enter into a downturn.

Our focus on credit as a driver of growth has political implications not yet fully captured by the existing literature. It suggests that the still dominant focus on wages and profits overlooks important macroeconomic dynamics shaped by bank lending behavior and regimes of financial regulation and monetary policy (Fuller 2015). Political economists working on adjustment in financial crises have operated mostly



from an ‘investment/savings’ perspective instead of the ‘investment/financing’ view presented above. This perspective has led them to problematize savings in export-led economies (Höpner 2019; Klein and Pettis 2020; Walter et al. 2020), rather than borrowing and gross debt in deficit countries (see Pérez 2019 for a notable exception). But if bank lending is put first, current account imbalances are the result of credit-financed expenditure in deficit countries, not savings decisions by exporters (Disyatat and Borio 2015; Kumhof et al. 2020). As a result, the literature pays relatively little attention still to the possibility that financial instability and balance sheet risks might impact a country’s growth trajectory—despite the fact that half of all European countries experienced a housing market crisis in 2008 (Bohle 2018b; Schelkle 2012; Watson 2010).

We argue that after a financial crisis, the process of restoring a feasible growth model and repairing damaged balance sheets is a politically contested process revolving around the issues of restoring bank lending by loosening credit supply. The government, for one, can increase borrowing and allocate additional resources to domestic households or corporations as a result of pre-installed automatic stabilizers or in the form of additional spending. Such decisions usually require approval by the legislature, but unless the government finds itself constrained by constitutional restrictions like balanced budget clauses or by market conditions that impede its ability to borrow, they remain discretionary political choices.

Turning to the private sector, the active manipulation of incentives can change spending behavior. The government can encourage increased investment, both corporate and residential, through subsidies and tax rebates and the financial sector can pass on lower interest rates or loosen lending standards to ease credit supply for certain borrowers.¹

Transfers within the private sector, then, are the result of the relative distribution between wages and profits, where real wage increases are recorded as transfers from corporations to households and real wage restraint as income losses for households.

Finally, the Rest of the World can inject new financial resources when exporters find themselves able to attract additional demand by shifting to alternative trading partners or remittances or capital inflows transfer income to the private sector. However, unlike the previous two options, these decisions are largely removed from domestic political agency.

We expect that a combination of deliberate political decision making and adjustment by economic actors will determine the way out of the crisis. The rebalancing process can be thought of as the *activation of discrete compensation valves* (Table 1), which we derived from national accounting (Eurostat 2010: 13). After all, when an overindebted sector curtails spending to improve its financial net balance, other sectors’ net financial balances will automatically adjust since the total sum of all sectors’ balances must equal zero by definition. Following national accounting conventions, we propose three distinct ways in which any sector can act as compensation valve for another, which we label *contraction*, *transfers*, and *expansion*.

¹ Obviously, falling interest rates will not remove the need to deleverage for an overindebted sector, but they might allow debtors to roll over previously unsustainable amounts of debt.



Table 1 Compensation valves

	Government	Households	Corporations	Rest of the world
Default	Contraction (lower revenues)	Reduced income from wages and capital gains	Reduced sales	Reduced levels of imports
Compensation valves	Transfers (balance sheet support)	Increased tax payments, remittance outflows	Increased tax payments, higher wages/ dividends, outward FDI	Capital inflows (FDI, remittances)
	Expansion (debt-financed investment)	Government demand stimulus	Increased consumption, residential investment	Increased exports, shift to alternative trading partners



Activating compensation valves requires adjustment by societal actors and ultimately determines the trajectory of the crisis.

We propose three options in which financial rebalancing might take place and affect the composition of aggregate demand. The first option postulates that overindebted agents cut borrowing and spending to repair their balance sheet. We call this option *contraction* because it implies that other sectors, too, must reduce their revenue when they find no alternative source of income to offset losses to retain previous levels of spending. The second option, which we label *transfers*, implies that an alternative sector takes on additional debt and transfers these additional financial resources to overindebted agents, thereby facilitating their balance sheet repair. The third option, *expansion*, suggests that another sector ramps up consumption or investment, which stabilizes not just the incomes of other sectors, but also contributes to aggregate GDP. Out of these three options, we expect *contraction* to have the worst impact on aggregate demand because it entails absolute spending cuts. *Transfers*, or a recovery in asset prices, might facilitate a return to the previous growth model by assisting the overindebted sector in repairing its balance sheet with neutral effects on GDP growth. *Expansion*, however, might generate a newly rebalanced growth model and represents the economically most benign outcome of crisis management.

The key problem of crisis resolution is that it requires government action and economic adaptability to activate particular compensation valves. *Contraction* represents the default option of non-action since a loss in demand and reduction of GDP are an immediate result of the spending cuts by the deleveraging sector. *Transfers* or *expansion*, by contrast, require other actors to ramp up outlays and provide the income that is required for deleveraging elsewhere in the economic system.

We posit that adjustment choices will be reflected in the political and economic constitution of the growth model that emerges during the recovery. The crisis measures that were taken to facilitate deleveraging provide a new policy backdrop against which updated expectations and interests can be formed (Hacker and Pierson 2014) and give impetus to uprising interest groups and industrial sectors (Acemoglu and Robinson 2013). For instance, depending on which sector emerges as compensation valve, this newly transformed growth model could be characterized by greater export orientation or a stronger role for fiscal policy. Alternatively, if the measures during the crisis fail to change the overall reliance on one sector's deficit spending, the return of growth will be delayed until this sector has completed its deleveraging process. Therefore, the core message of our argument is that successful crisis responses must entail some degree of financial rebalancing—and that the political responses to a crisis will be engraved in the growth model that forms thereafter.

Method and case selection

We apply our sectoral balances view in a comparative case study of the economic adjustment trajectories in [Germany](#) and the Netherlands between 2003 and 2018. From the outset, both countries share common traits—their focus on export production, fiscal prudence, and degree of corporatism—which led VoC observers to



classify both countries as members of the coordinated market economy family in the past (Hall and Soskice 2001). Moreover, the governing coalitions in both countries were remarkably similar, with right-wing governments taking power in 2009 and 2010, respectively, followed by centrist coalitions after 2012 and 2013.

Yet a closer look at both political economies reveals considerable institutional differences. Germany's bank-based financial system contrasts with the more market-based banking system in the Netherlands (Hardie and Howarth 2013), its manufacturing prowess with Dutch service-orientation, and its high share of renters with widespread home ownership among Dutch households. In addition, as our analysis of financial flows will show, the two countries relied on very different drivers of growth, though in both cases, the financial crisis forced those sectors to rebalance that had previously propelled the model.

These differences led to quite different crisis experiences in both countries notwithstanding their superficial similarities. Anticipating our argument, the ability of political and economic actors in [Germany](#)—i.e. the government, producer groups, and social partners—to forge new coalitions and implement path-changing policies led to a successful re-orientation of the growth model towards new drivers of demand. In the Netherlands, by contrast, the crisis response measures employed by similar social coalitions did not repair the financial imbalance that had caused the downturn, which eventually resulted in a contractionary double-dip recession.

We base our analysis on financial accounts data and quarterly Bank Lending Surveys conducted by the Bundesbank and De Nederlandsche Bank, and on reports on macroeconomic developments. Our calculations of the GDP contributions of institutional sectors are based on their share in investment provided by the OECD (2021).

We begin each case study by providing relevant background information on the character of the growth model prior to the crisis. Next, we proceed to analyze the separate and consecutive stages of financial rebalancing. Finally, we discuss the emergence of a transformed growth model.

Germany

Background and crisis trigger

At the turn of the millennium, and well into the first years of the twenty-first century, prospects for the German economy looked bleak. Unemployment was high, domestic demand grew sluggishly, and only after 2004 did economic growth resume, primarily driven by a surge in exports. A common interpretation of this turn for the better is that drastic domestic decisions—above all internal devaluation through fiscal austerity and wage restraint following the Hartz labor market reforms—improved external competitiveness that had been lost when the country joined the euro at an overvalued exchange rate after reunification (Baccaro and Benassi 2017; Klein and Pettis 2020). While these measures explain flagging domestic demand as a result of underinvestment and underconsumption, they cannot quite explain increasing demand for exports after 2004. Here, a closer look at the changing financial fabric of Germany's economic growth provides clarification.



The resurgence of export-led growth in [Germany](#) ties back to the success of the manufacturing sector in capitalizing on credit bubbles in the European periphery after 2004. In many countries in Southern and Eastern Europe, interest rates were low enough to spark formidable credit-driven growth in residential investments and consumption, which increased their demand for German products. Domestic credit pulled down these countries' current account deficits and, in turn, increased Germany's current account surplus and economic output (Unger 2017). Changing demand-side conditions in the European periphery were thus as crucial to Germany's successful reinvigoration of export-led growth as deliberate strategies on the supply-side.

Financial data support this assessment. Bundesbank economists have noted that all additional money on German banks' balance sheets between 1999 and 2008 had originally been created by foreign bank lending abroad (Kuzin and Schobert 2015). High export revenues made German firms less dependent on domestic credit and German banks' domestic loan books remained constant between 1999 and 2008 (Braun and Deeg 2020). Instead, the total net growth in German banks' balance sheets during this period was driven by an increase in lending to foreign counterparties (Braun and Deeg 2020: 372). As part of this foreign credit-financed growth model, German banks rolled over the deficits of countries to which the manufacturing industry was exporting.

If German domestic actors had little control over the credit-driven increase in demand, they were also exposed to a reversal of fortunes abroad. The financial vulnerability of the pre-crisis growth model laid in its reliance on credit demand in the European periphery as became clear when the housing bubbles across Europe burst after 2007. Firms and households in [Germany's](#) export destinations stopped borrowing, and as a result demand for German manufacturing exports contracted (Unger 2017). Pursuant to the credit crunch in 2008, German exports collapsed by about a third and this contraction can directly be linked to the rebalancing efforts by EU trading partners: in 2008 and 2009 exports to the EU crumbled while exports outside the EU remained stable. Having benefited from demand for investment goods abroad during the boom, German exporters and banks were also severely exposed when those investments sank. To prevent further contraction, they were in dire need of a financial compensation valve.

Model rebalancing

Germany's successful recovery from the Great Recession was possible thanks to a combination of benign preexisting conditions that increased economic adaptability and a bold domestic policy response that allowed it to effectively shift to alternative drivers of growth. Adaptability was reflected in the export sector's capacity to pivot away from European markets and tap into counter-cyclical investment programs outside the EU. As European trading partners underwent a serious contraction of demand because firms, households and governments were all deleveraging simultaneously, the Chinese and United States governments responded to the Great Recession with big stimulus programs. These spending packages provided a new source of



demand for exports and German manufacturers could make use of their flexible production profiles to turn away from stagnating markets in Europe and towards these new destinations (Sorge and Streeck 2018). Thus, while Germany’s external surplus remained intact after 2010, a comprehensive reshuffling of the German trading profile had taken place (DiCarlo 2018). Cross-Atlantic stimulus programs were however short-lived. After 2013 German trade surpluses remained sizeable, but no longer predominantly drove GDP growth (Fig. 1).

Surely, German exporters were to a certain degree lucky that new export markets presented themselves as compensation valves. But the German government and its social partners also changed track when the crisis struck and took previously unthinkable measures that ran against the dominant macroeconomic consensus. These measures helped soften the blow of the 2009 economic fallout and established domestic demand as the main driver of growth. This political turn was reflected in a government stimulus program equivalent to 3.8% of GDP in 2009, which was accompanied by a short-term work scheme that stabilized employment and consumption. For some time, this strategy of domestic expansion was underwritten by a stable domestic growth coalition. It enjoyed strong support from domestic business representatives, not least because the *Abwrackprämie*, a generous cash-for-clunkers scheme, provided much-needed relief for the all-important automobile sector (Redeker and Walter 2020).

But despite their undeniable success in boosting the German economy, these support programs were soon again phased out and expansionary fiscal policy did

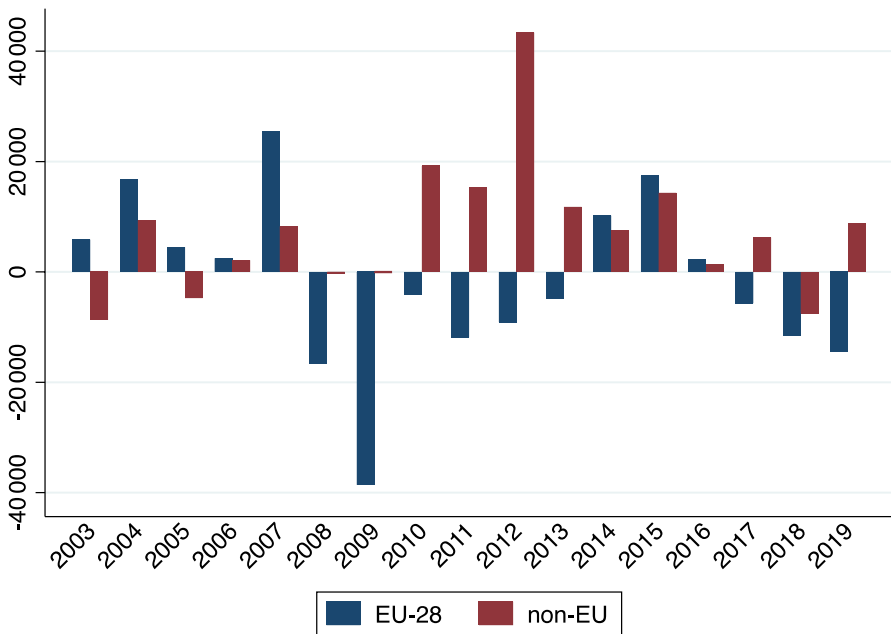


Fig. 1 Change in trade balances in Germany (million €). Source: Eurostat



not prove a lasting driver of demand-led growth (though the unplanned expenses related to the refugee crisis in 2015 increased government outlays; Söllner 2018). Instead, the Christian Democratic Union (CDU/CSU) fetishized a balanced budget and enshrined it in the constitutional debt break, which left the Social Democratic governing partner (SPD) virtually no room to implement redistributive tax reforms (Rixen 2019). Despite the dire need for an improved public infrastructure, public investments stagnated because the responsibility for them often laid with cash-strapped Länder and local governments while administrative bottlenecks left many funds unused (Roth and Wolff 2018). Although government stimuli both at home and abroad had buffered the initial economic shock, this compensation valve failed to develop into a new permanent driver of aggregate demand growth.

But as one valve was shut, yet another one was opened: from 2010 onwards, German economic growth was driven primarily by additional spending by households—an extraordinary shift, which the International Monetary Fund (IMF) (2013) captioned as ‘the transition towards domestic demand-led growth’. This growth model represents a remarkable departure from the ailing economy of the early 2000s and was facilitated by a resumption of wage growth, a recovering domestic service sector, and the resumption of bank lending to households.

It took bold policy initiatives and a changed incentive structure for banks to bring about this shift. The strengthening of household spending was in part the result of increasing purchasing power and a form of wage-led growth. After real wages had stagnated for years, in 2009, social partners agreed to increase collectively agreed wages by 2.6% (Ehmke and Lindner 2008). In 2011 and 2012, social partners agreed further increases in the effective hourly wage by 3.5% and 3%. Real wages grew steadily, reflecting tightening labor markets. These dynamics culminated in the bi-partisan introduction of a statutory minimum wage in 2015, which raised the incomes of about 15% of the total workforce. Notably, the introduction of the statutory minimum wage collided with the interests of both, the exporting industry, which feared job losses and real exchange rate depreciation, and labor unions who saw their wage bargaining power dwindle (Mabbett 2016).

In light of this opposition, the minimum wage could be seen as a lowest common denominator agreement between diverging fiscal policy preferences in the grand coalition. The SPD made the policy their key demand in the coalition agreement and ‘a focal point for a change of direction’ away from the liberalizing image of the Hartz reforms that had alienated many core voters (Mabbett 2016, p. 1242). The CDU remained wary of the potential employment effects but welcomed the fact that any minimum wage hike in the future would be deliberated by an independent non-partisan commission of social partners. At the same time, conceding the minimum wage to the SPD allowed the CDU to formulate concessions themselves, most importantly a guarantee to forgo any demands for additional debt increases and tax hikes. This political constellation temporarily gave the government the agency to mute the wage moderation consensus and strengthen the emphasis on domestic demand-led drivers of growth. Rather than increasing unemployment as many conservative observers had feared, the minimum wage actually encouraged the creation of more permanent jobs, strengthened the service sector, and helped reduce regional inequalities (Bonin et al. 2018). In addition, between 2012 and 2016, Germany



experienced a formidable increase in labor immigration, particularly directed at employment in those service sectors with the highest wage increases (International Monetary Fund 2018: 65). From 2010 onwards average real wages in [Germany](#) grew steadily each year after almost a decade of stagnation.²

Next to politically-induced wage growth, the resumption of bank lending strengthened demand. German banks were forced to turn around their lending priorities when financial conditions changed during the Euro Area crisis. Initially, this entailed some painful adjustments as lenders reduced their exposure to governments and banks across the European periphery, and had to raise capital buffers and cope with falling interest rates simultaneously (Deutsche Bundesbank 2012). But as the European Central Bank (ECB) successively lowered its interest rates, the comparatively low returns in the German residential sector became increasingly attractive.

The result has been a small boom in construction activities. German banks passed on falling interest rates to borrowers even as they maintained tight credit standards (Deutsche Bundesbank 2020). So whereas German households were not borrowing more relative to income than before, their interest payments shrank (Siemsen and Vilsmeier 2017). Since 2010, bank lending for housing purchases has grown at a faster rate every year. As a result, housing investment more than doubled in volume between 2010 and 2019 and surpassed 7% of GDP in 2019, a relative level not seen in 25 years (Deutsche Bundesbank 2021). Thanks to sustained investments in both residential and commercial real estate employment in the construction sector grew from 1.6 m to 2.4 m between 2010 and 2018 (Eurostat 2020).

In sum, the change in the composition of aggregate demand growth in [Germany](#) after the Great Recession was staggering (Fig. 2). The financial vulnerability of the pre-crisis export-led growth model had been the level of household debt in the European periphery. In subsequent years government spending, export demand from other countries and, later, wage increases and residential investment all acted as compensation valves for the drop in intra-European exports.

The German experience reveals two lessons for a successful expansion after a financially-induced crisis. First, political capacity mattered for the post-crisis trajectory. The statutory minimum wage, the cash-for-clunkers scheme, and the ECB's ultra-low interest rates were all political decisions with undeniable distributive consequences that helped the German economy overcome the crisis by strengthening domestic demand. This assessment is reinforced by the fact that German recovery rested on the activation and de-activation of multiple compensation valves. A sustained shift to government-led demand was prevented early on by the CDU's fixation on a balanced budget rooted deeply in public discourse (Ferrara et al. 2021). Likewise, a shift towards household-propelled demand growth against the interests of the mighty exporting sector was possible because of overlapping interests in favor of wage growth within the governing coalition (Mabbett 2016). In other words, different options were available and political factors determined which paths were chosen at particular points in time.

² Source: OECD.



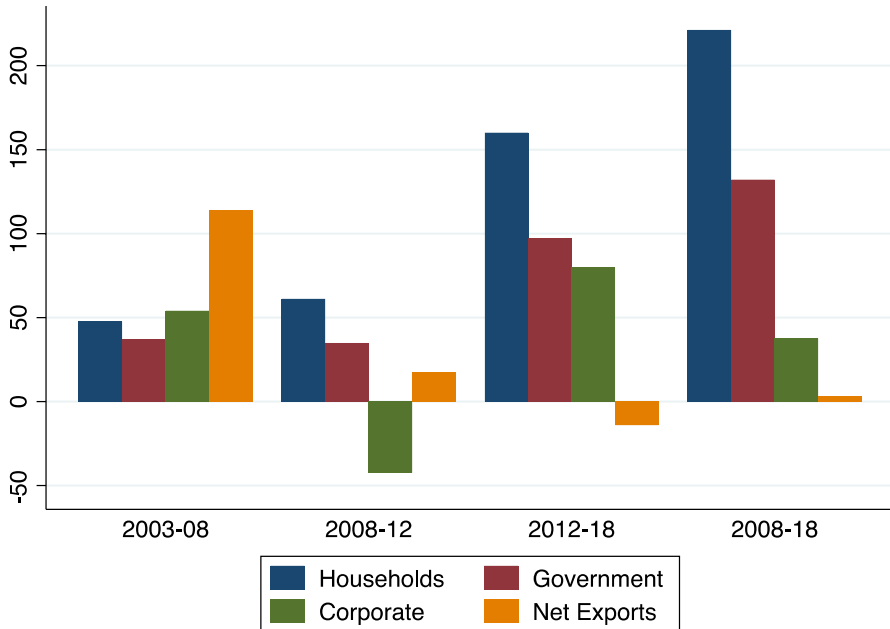


Fig. 2 GDP per institutional sector in [Germany](#) (change per period; billion €; constant prices). Source: OECD

Second, the private sector required a flexible production profile to respond to changing incentives. For manufacturing exporters this meant capitalizing on investment expenditure in the US and China when European demand faltered. For banks it meant cutting their losses abroad and concentrating on domestic retail lending instead. In combination, the presence of these political and economic factors allowed the activation of alternative compensation valves to prevent a severe recession.

Netherlands

Background and crisis trigger

After 2003, the Netherlands experienced an episode of broad-based economic growth. The underlying growth model during that period could be characterized as balanced since growing net exports were combined with buoyant domestic demand. On the one hand, the political coalition between the centrist government and export unions had sought to improve external competitiveness through several rounds of wage restraint after 2002, which in 2005 culminated in the lowest nominal hourly wage growth in decades (Johnston and Regan 2017). On the other, domestic demand was supported by solid growth in investments and, after 2005, expansionary fiscal policy.



However, this growth model, too, contained some built-in financial imbalances that would later hamper the recovery from the crisis. First, the proceeds from the current account surplus accrued almost entirely to a few multinational corporations that reallocated these funds into financial investments. This reflected both the capital-intensive profile of the multinational sector and Netherlands' role as a European tax haven (Eggelte et al. 2014).³ Households regularly took out mortgages in excess of the value of the asset, which was made possible by regulatory loan-to-value ratios of up to 125% and the *hypotheekrenteaftrek*, the world's most generous mortgage deduction (Aalbers et al. 2011; Fuller 2015). In short, the Dutch growth model was underpinned by a center-right consensus on both the strength of the export sector and the promotion of homeownership. However, this exposed households to the value of their properties. By 2007, many leveraged households depended on the collateral value of their homes to roll over their mortgages.

The global financial crisis in late 2008 made it impossible to sustain these financial imbalances as both the credit supply and demand side were hit. First, after the international investments of two of the three big banks went so bad that the state had to bail them out, all banks tightened their lending standards (Masselink and van den Noord 2009). Second, when house prices started declining, households came underwater with their mortgages and had to repair their balance sheets by cutting spending and increasing their savings rate by almost six percentage points between 2007 and 2009 (see Fig. 3). The largest part of the adjustment came in the form of reduced borrowing by households—after 2010, the stock of household debt stopped growing altogether. The resulting spending cuts, of which two thirds were in residential investment, reduced aggregate demand by more than the loss of exports and corporate investment combined.

Model rebalancing

Despite the manifest weaknesses in household spending, the Dutch response to the crisis seemed in the first instance to tackle a crisis of export competitiveness. In negotiations over alternative adjustment paths, the export-coalition kept the upper hand while the housing sector, and with it, domestic demand was battered. However, households' deleveraging process would sap more demand from the economy than the export sector could contribute. The restrictive crisis response in the Netherlands precluded a swifter repARATION of households' balance sheets.

The first milestone in crisis politics was an agreement by social partners to prioritize jobs over wage growth for the coming years. The *Lenteakkoord* in March 2009 cancelled wage increases of 3.5% p.a. that had been agreed only half a year earlier.

³ Helpful to note that the accounting item 'residential investment' in the Netherlands also includes legal fees and property transfer taxes, which increased with the number of transactions, not just the construction of new buildings (Eggelte et al. 2014, p. 40). In line with the remarks on tax evasion, Setser (2020) notes that Dutch and Irish figures for Intellectual Property investments had some swings that were big enough to distort aggregate figures for Euro Area GDP. In the Dutch case, it appears that the figure for 2015 was distorted.



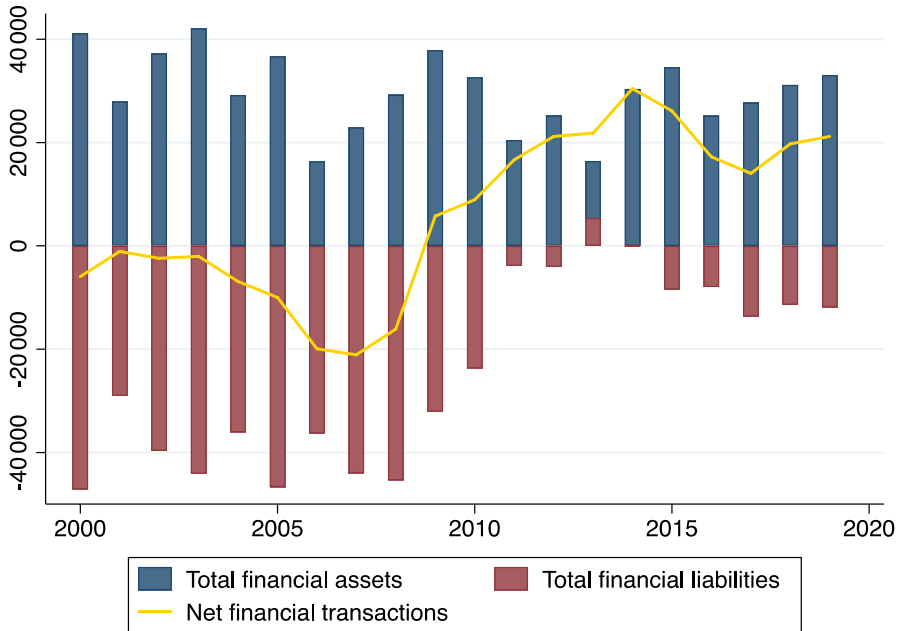


Fig. 3 Net and gross financial transactions of households in the Netherlands (million €). Source: OECD

Soon thereafter, the government unveiled a short-term work scheme. In combination, these measures were until 2012 successful in containing unemployment (van Klaveren and Tjidsens 2015), but the wage cuts foreclosed the possibility of increasing household incomes to help them repay outstanding debts. Corporatism frayed as a result. When the major labor union confederation FNV started demanding wage increases again, collective agreements fell short of its demands. Employers had the support of the government to resist such confrontation and bypassed the FNV in wage setting (Boumans and Keune 2018). As a result, real wages have stagnated between 2010 and 2019, and negotiated wages even fell in real terms.

Applying our framework, an alternative option to speed up the recovery process could have been for the government to strengthen domestic demand and support households' incomes. Yet the crisis response by the government, if anything, had the opposite effect. Fiscal stimulus in 2009 stood at only 1.5% of GDP and consisted almost entirely of tax cuts and reduced social contributions for businesses (OECD 2009) while public investments were front-loaded rather than increased in volume. After the hawkish conservative-liberal party VVD won early elections in 2010 on a mandate of fiscal prudence and formed a right-wing government (van Holsteyn 2011), the objective of fiscal policy became to reduce the debt/GDP ratio back to below 60% as the European Commission recommended. Though there was no obvious problem financing debt with Dutch borrowing costs just 30 basis points above Germany's (Teulings 2014), Dutch policymakers seemed scared of a bond market panic (Walter et al. 2020). To bring down national debt, the government passed austerity measures equal to €30bn, or 8% of



GDP, with many public employees facing wage cuts (Boumans and Keune 2018). Fiscal policy was thus deliberately ruled out as a compensation valve to stimulate domestic demand as the government relied primarily on contractionary measures.

In 2012 another policy decision extended the crisis in the real estate market. When Geert Wilders' right-wing populist 'Party for Freedom' (PVV) faction refused to support another round of fiscal cuts, the liberal-conservative government was forced to strike an agreement with the opposition to pass a budget. All opposition parties and a large majority of the public were in favor of reducing the mortgage subsidy, which was widely seen as a transfer primarily to affluent households (Lejour 2016). The cuts to the mortgage subsidy hit the ailing housing market and, indirectly, the rest of the economy by further weakening households' balance sheets. As an immediate consequence, real housing costs increased by 10% (Teulings 2014). A year later, a second fall in house prices left 30% of all mortgages under water (Mastrogiacomo and van der Molen 2015). Households with underwater mortgages would rarely default—after all, many had insurance—but to service the debt they cut consumption by 17% of their disposable income relative to 2007 (Teulings and Zhang 2019). The government required interest-only loans to be amortized in order to remain eligible for the tax subsidy, which triggered additional repayments. In 2013/14 voluntary mortgage repayments equaled €29.5bn comparable to the volume of total government cuts (Teulings and Zhang 2019). The pressure on households to work their way through mortgages remained a drain on the Dutch economy until house prices recovered after 2014.

Banks did not shift their lending priorities away from mortgages even when the housing market came to a halt, which came at the cost of business loans. For banks under pressure to shrink their balance sheets to meet capital requirements, mortgages remained more attractive than business loans since they were insured against default and realized higher interest rates (Hebbink et al. 2014). The high concentration of the Dutch banking market limited competition for business loans (van der Wiel et al. 2019). While some companies could invest from retained profits, loan rejections for small and medium-sized enterprises (SMEs) in the Netherlands were second only to Greece in the EU (OECD 2016) and banks discouraged SMEs from applying for loans. A stronger expansion of business investment was thus thwarted on the credit supply side.

The increase in exports could be seen as an indicator of at least some success of the internal devaluation strategy. But, again, this was largely thanks to stimulus programs by trading partners and almost half the increase in exports between 2009 and 2013 was due to re-exports of (primarily German) goods, rather than domestic production (OECD 2016).

In the years after 2014, the Dutch economy expanded again, spurred mostly by rebounding household spending. In mid-2013 the housing market had bottomed out and unemployment started declining in 2014. The rebound in house prices put underwater households into a financially sounder position and soon the number of transactions and residential investments recovered to pre-crisis levels (OECD 2018). The scaling back of the mortgage subsidy was more than compensated by falling



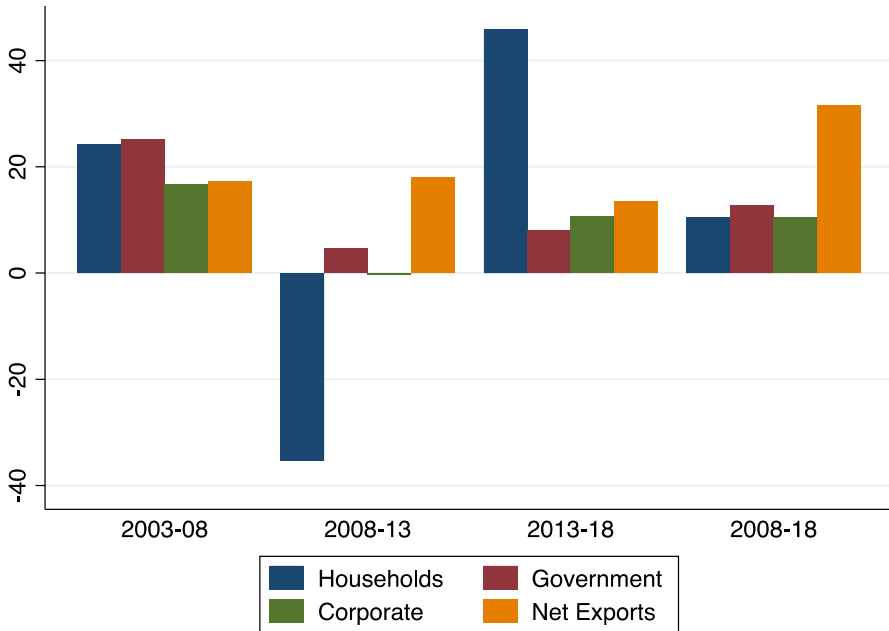


Fig. 4 GDP per institutional sector in the Netherlands (change per period; billion €; constant prices). Source: OECD

interest rates as a result of the ECB's accommodative monetary policy.⁴ After the contraction of residential investments had led to a reduction in GDP, the recovery of the housing market was now the dominant driver of economic expansion (Fig. 4).

The Dutch double-dip recession illustrates how the political failure to tackle the underlying financial problem debilitates economic recovery. Two unforced errors by the government, fiscal austerity and the cut to the mortgage subsidy, exacerbated households' balance sheet problems. Restrictive wage setting practices made it harder for households to work their way out of their debt. The logical consequence was that households had to cut investments and consumption. With banks refusing to fund more business investment, exports remained as the only potential source of additional demand. Thus, deliberate political decisions that worsened households' balance sheets and ruled out domestic expansion prolonged the crisis in the Netherlands until, eventually, low interest rates facilitated the return to the housing-led growth model.⁵

⁴ There are some indications that falling interest rates were indeed factored in when the subsidy was cut in 2012 (Lejour 2016, p. 18).

⁵ Source: European Central Bank (2021a, b).



Conclusion

We have argued that growth models are sustained by debt spending and that financial crises trigger balance sheet adjustments. When a given sector suddenly finds itself unable to sustain a deficit, it is forced to deleverage and to repair its balance sheet. The degree to which the rebalancing sector is able to improve its financial position without having to cut expenditures determines the pace of economic recovery. To prevent a sudden collapse in demand, other sectors can increase their deficits and provide financial support for such deleveraging efforts. We have categorized the alternative ways of accomplishing this as financial *compensation valves* and discussed policy options for their activation.

The empirical application of our theoretical framework to the cases of Germany and the Netherlands demonstrates that growth models suffer from endogenous financial instability and that the political drivers of growth appear more dynamic than previously acknowledged by the literature. In both countries the global financial crisis forced a particular sector to rebalance whose debt had previously propelled economic growth. In the Netherlands, the fall in house prices and the reduction in transactions on the housing market weakened spending by households. In Germany, the economic contraction in the European periphery meant that intra-EU exports could no longer drive growth. Hence, in both cases debt dynamics in the sector that most strongly underpinned aggregate demand growth brought the respective growth model of the early 2000s to a grinding halt.

Our analytical focus on sectoral financial balances helps us appraise how the political crisis responses have affected the ensuing growth trajectory. Although financial problems in the Netherlands were rooted in the collapse of domestic spending, a coalition of exporters and deficit hawks prevented wage increases or fiscal stimulus that could have helped households repair their balance sheets. The government's decision to accelerate mortgage repayments dealt another blow to the housing market and led to an additional dip in GDP. By contrast, the crisis response in Germany facilitated a shift towards new drivers of growth (Redeker and Walter 2020). After government stimulus programs at home and abroad had offset lost demand from European export markets, economic growth came to rely increasingly on domestic demand underwritten by consistent wage growth and strengthened by a combination of fiscal stimuli and increased bank lending to households that drove a construction boom.

Our findings suggest that both countries have since around 2013 grown primarily thanks to household spending and a resurgent real estate market. The ECB's low interest rate policy made housing loans significantly more attractive and investment in dwellings has doubled in both countries since the early 2010s. Whereas for Dutch banks the revival of the mortgage market meant a return to their previous business model, for German banks it represented a remarkable re-orientation of the former poster child of export-led growth. Both countries are running continued external surpluses even though their growth is not predominantly driven by rising exports anymore. In fact, and quite ironically, our case studies demonstrate that 'acting like an export-led economy' prolonged the economic crisis in the Netherlands, while



Table 2 Summary of findings

Germany		Netherlands
Credit bubble in EU periphery	Vulnerability of initial growth model	Financial leverage of domestic households
EU export destinations	Rebalancing sector	Household spending
2009–10: Government stimulus	Financial adjustment (compensation valve)	2009: Contraction in tax revenue
Shift to new trading partners		2010–2014: Increased exports (to a smaller degree)
After 2010: Household investment		After 2015: Improving house prices
Real wage growth		Household spending
Considerably rebalanced	Post-crisis growth model	Relatively unchanged

Germany's recovery rested upon a shift from export reliance to domestic drivers of growth (Table 2).

Which factors determine how a growth model will respond to financial rebalancing? One might be inclined to invoke structural constraints that foreclosed certain adjustment paths: reflating consumption demand was a tall order with many overindebted households in the Netherlands, but easier to achieve in [Germany](#), where both wages and household debt had been at a low level before the crisis. Similarly, the production profile of German manufacturers made it easier for them to benefit from additional demand for investment goods outside the EU, while Dutch real estate agents and mortgage lenders could hardly find a new business line when fewer houses were being sold. From this perspective, one might conclude that the adjustment trajectories in our two cases were the result of different degrees of room for maneuver permitted by the structural characteristics of both political economies.

We think, however, that our proposed framework offers two important additional angles to examine financial imbalances. To begin with, even if structural pressures are undeniably in place at the moment of rebalancing, to a great degree they, too, are part of the previous growth model. For instance, debt accumulation by Dutch households had been the outcome of decades of Christian democratic housing policy (cf. Anderson and Kurzer 2019; Fuller 2015). Likewise, German exporters have developed their characteristic production profile specialized in investment goods over decades (Höpner 2019; Sorge and Streeck 2018). Moreover, producer groups may have to adjust their strategies as one overindebted sector rebalances its spending. The profound shift in German trade balances since 2008 speaks to a re-orientation of the priorities of the export sector, while German banks saw a return of demand for domestic retail lending. By contrast, Dutch banks failed to re-orient their lending priorities more towards SMEs even as mortgage business languished, and the economic upswing after 2015 was largely due to recovering house prices. In other words, structural preconditions do matter at the time of rebalancing, but they may themselves be endogenous to certain growth models and prove ephemeral as the political economy adjusts.



This leads to our second angle: Even though the paths towards financial adjustment may be structurally constrained, plenty of scope remains for political agency. We found that the crisis offered governments a window of opportunity to break with policies that underpinned the previous growth model. In [Germany](#), the statutory minimum wage ended the stagnation of service sector wages; the abolition of the Dutch mortgage subsidy ended more than a decade of political controversy. Though both governments left much financial headspace to support domestic demand unused, fiscal stimulus in [Germany](#) in 2009 provided at least some short-term relief. By contrast, the Dutch government was not constrained by financial markets to spend more, but the 2010 elections produced a right-wing government committed to cutting the deficit, nonetheless. The policy change that once more sank the housing market came after the cabinet was forced to cooperate with the opposition to pass another austerity budget. Compensation valves therefore interact with structural conditions. But they open and close as the result of political entrepreneurship and negotiation over the outcomes of financial adjustment, leaving behind winners and losers.

We hope that future studies in international and comparative political economy can use the concept of compensation valves and the lens of sectoral financial balances to study in more detail the political implications of crisis management and growth model adjustment. Specifically, we deem it interesting to explore if the long-term deviation from a growth regime leads to a shift in the power of dominant interest groups, for instance by strengthening domestic producers, thereby re-shaping adjustment paths in subsequent crises. The economic fallout from the COVID-19 pandemic serves as the most recent frame for such analyses. Another fruitful avenue would be to examine the effects of partisanship on adjustment trajectories in more detail.

Finally, we have argued that the study of growth models could be enriched by adding financial flows to its toolkit. We emphasize that the financial sector and financial balances matter in more ways than just the temporary facilitation of additional consumption. As a result, growth models might be less stable than they are often portrayed, and future studies should explore the buildup of destabilizing balance sheet risks in more detail. This outcome is neither a functionalist accounting exercise nor a question of pure luck. To the contrary, the activation of compensation valves is usually a matter of political deliberation and the effective mediation of competing economic interests.

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