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How to reduce Germany's current account surplus?

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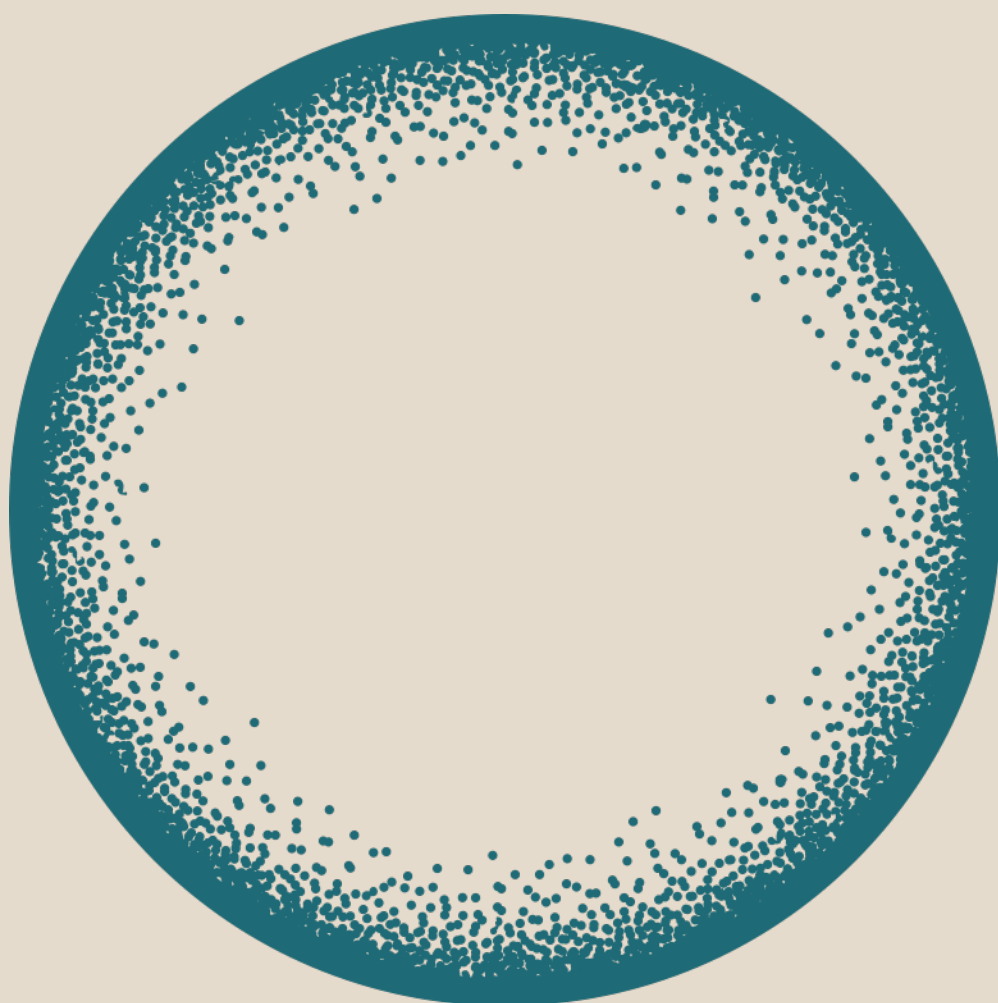
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HOW TO REDUCE GERMANY'S CURRENT ACCOUNT SURPLUS?

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Abstract

Germany has had a large and persistent current account surplus for the past almost two decades. We review different theoretical explanations of this phenomenon and conclude from the empirical literature that Germany's external surplus reflects an imbalance that is a threat to macroeconomic stability at both the national and the international level. Interestingly, although intertemporal general equilibrium models highlight the role of private households in determining national current account positions, the increase in Germany's external balance for the most part is the reflection of larger financial balances of the corporate sector and the government. While the share of the national income going to the private household sector has declined dramatically since the early 2000s, the corresponding increase in the income share of the private corporate sector and the government was not accompanied by higher spending by these sectors on goods and services as a percentage of GDP. We discuss how the external surplus might be reduced through (a combination of) higher public and private demand for goods and services and shorter working hours.

JEL codes: D31, D33, E21, F32, F41

Keywords: current account, external adjustment, sectoral balances, income distribution

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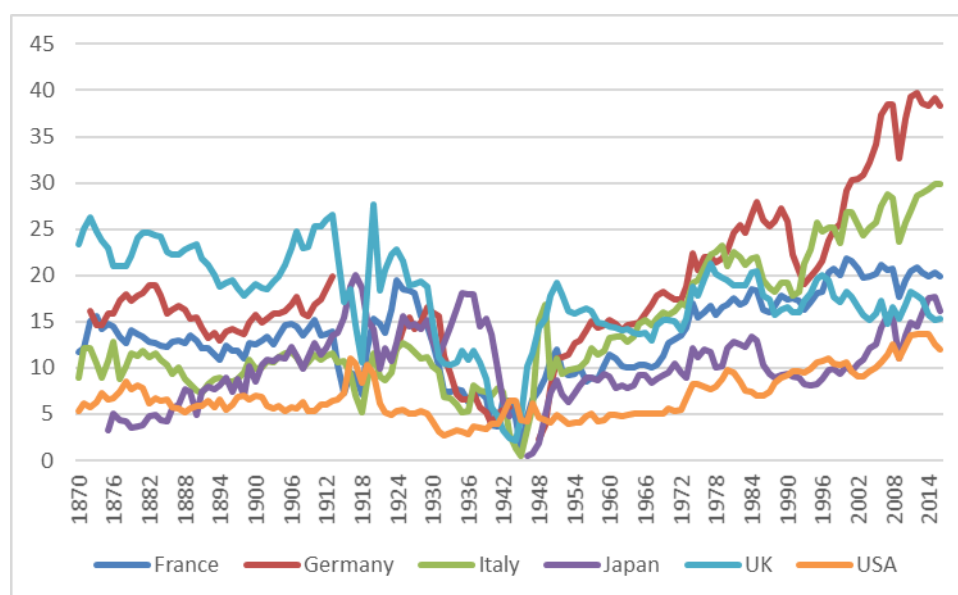
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1. WHAT ARE THE DRIVERS OF GERMANY'S CURRENT ACCOUNT SURPLUS AND WHY IS IT A PROBLEM?

1.1. A brief history of Germany's external (im)balances

In political debates, it is often said that the orientation towards high exports and export surpluses is part of the DNA of Germany's economic model. From this perspective, it seems almost impossible to criticise Germany's external surplus because "Germany has always been an export nation"¹, a tradition that would go back to at least the "German economic miracle" after World War II, if not to the industrialisation period around the foundation of the German Reich in 1871.

Figure 1: The exports-to-GDP ratio in the long run of history



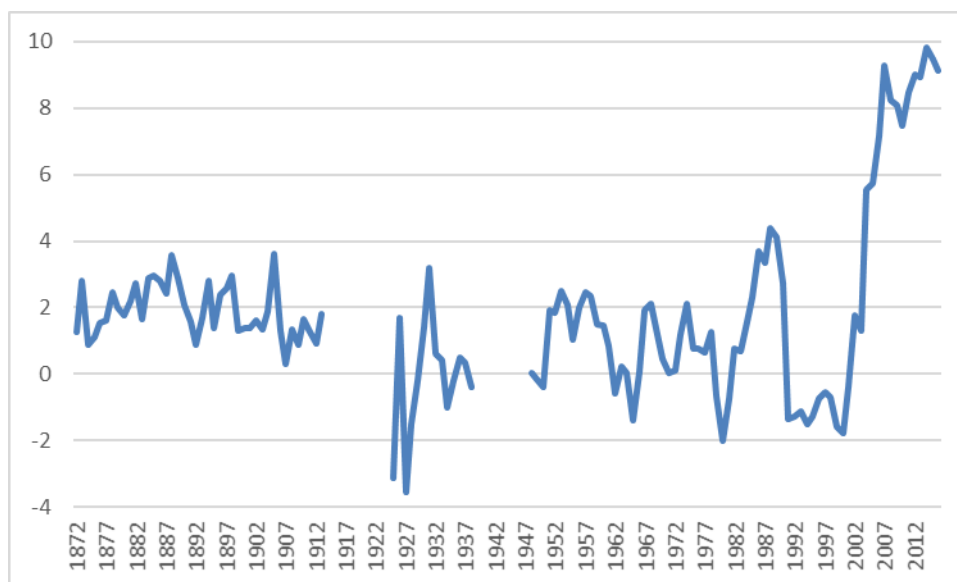
Source: The Jordà-Schularick-Taylor Macrohistory Database.

A look at the data, however, reveals that the "German-ness" of strong exports and export surpluses largely is a myth. As Figure 1 shows, Germany did not export more as a percentage of GDP than other industrialised countries during much of its history as a nation state. In the mid-1970s and again in the mid-1990s, Germany's exports-to-GDP ratio was at approximately the same level as that of France, Italy and the United Kingdom. During both periods, the current account balance was either small and positive (mid-1970s) or small and negative (mid-1990s) (Figure 2). The only two periods that stand out are the short period of the second half of the 1980s before German re-unification and the much longer recent period starting in the early 2000s. During these periods, Germany's exports-to-GDP ratio increased rapidly beyond what could be observed in other industrialised economies, and the current account surplus was substantial. The current account surplus of the late 1980s was a short-

¹ <https://www.dw.com/de/deutschland-war-schon-immer-exportnation/a-4789852>

lived phenomenon, however, interrupted by a decade of small current account deficits following German re-unification. Only in one year did the current account surplus exceed 4 per cent of GDP. By contrast, the most recent episode of persistently high current account surpluses of 6-9 per cent of GDP clearly has to be seen as a striking anomaly within the economic history of Germany.

Figure 2: Germany's current account balance in per cent of GDP in the long run of history



Source: The Jordà-Schularick-Taylor Macrohistory Database.

1.2. Why are large current account surpluses a problem?

1.2.1. The financial balances perspective

There are essentially two main competing paradigms in the explanation of current account developments. The first can be called the intertemporal general equilibrium approach which conceptualises current account balances as the reflection of individual optimising behaviour (see Section 1.2.2), and the second is the family of structuralist approaches which highlights the role of historical path dependencies, distributional conflicts and institutions (see Section 1.2.3).

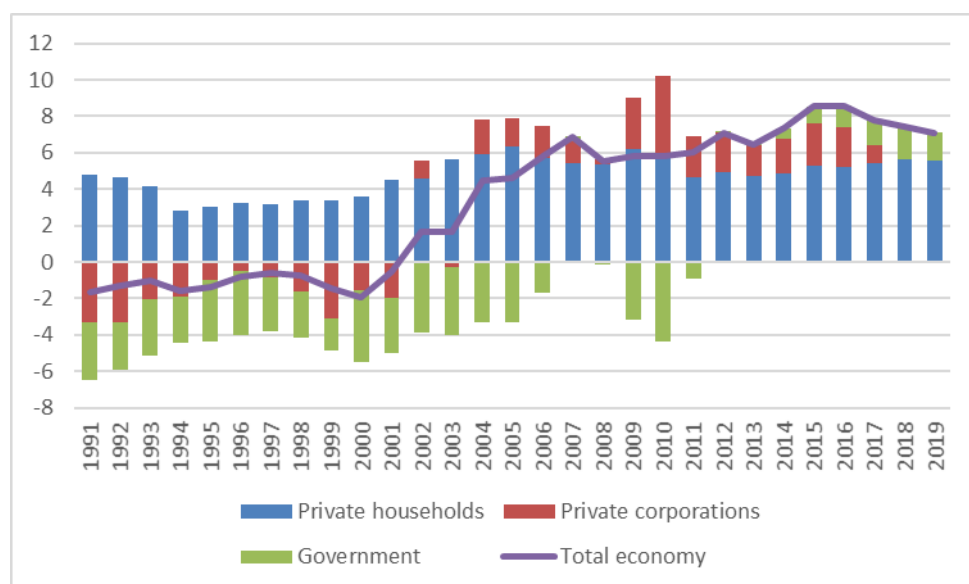
To contrast the two approaches, it is useful to start from a key macroeconomic accounting identity and discuss how this is interpreted in different theories. This simple identity, which we refer to as the financial balances equation, results from equating the income equation and the expenditure equation of the gross national income/gross domestic product:

$$\begin{aligned} \text{Current Account Balance} = & \text{Household Financial Balance} + \text{Corporate Financial Balance} \\ & + \text{Government Financial Balance} \end{aligned} \quad (1)$$

where the financial balances are defined as the difference between the disposable income and the expenditures on goods and services of each sector.

Figure 3 shows the three domestic sectoral financial balances for Germany. The household sector in Germany has always spent less on goods and services than its annual disposable income, and its financial surplus has stayed in the range of approximately 3-5 per cent of GDP since 1980. In the 1980s and 1990s, the private corporate and the government sector both displayed structural financing deficits. However, since the 2000s, the corporate and the government sector both moved into financial surpluses. In the 1980s and 1990s, the net borrowing requirements of the corporate and government sectors approximately matched the net lending requirements of the private household sector. In other words, the current account balance (net lending vis-à-vis the rest of the world) was roughly in balance. Since the 2000s, all domestic sectors of the German economy are structural net lenders, which implies that the foreign sector (private households, private corporations and governments in the rest of the world) is a net borrower vis-à-vis Germany.

Figure 3: Germany's current account balance and sectoral financial balances in per cent of GDP



Source: Destatis, authors' calculations.

In a nutshell, general equilibrium approaches to the analysis of the current account allow for even large positive or negative financial balances as a reflection of the intertemporal optimising behaviour of individual economic agents. Structuralist approaches, by contrast, see large sectoral and current account balances as an indication of macroeconomic imbalances, such as underconsumption, over-indebtedness, or conflicts over the distribution of income across or within the different sectors of the economy.

1.2.2. The general equilibrium approach: current account balances as a reflection of individual optimising behaviour

In the intertemporal general equilibrium approach, the current account balance essentially results from the aggregation of the individual utility optimising behaviour by private households. For instance, in an ageing society, working-age households preparing for retirement will want to save at high rates and accumulate foreign wealth and thus contribute to a current account surplus. Once these households have reached retirement age, they will consume out of wealth and thus sell their foreign assets, so that the current account will automatically turn into a deficit. That is, temporary current account surpluses and deficits will be the result of intertemporal utility maximisation (consumption smoothing) by households. In line with this view, the German Council of Economic Experts (GCEE 2014) concluded that demographic factors alone contributed as much as 2 per cent of GDP to Germany's current account surplus. Another standard explanatory factor of current account balances is technological catching-up. In technologically advanced countries, the capital stock is already large so that the marginal return on additional capital investments will be lower than in countries with a smaller capital stock. This is why the intertemporal general equilibrium approach predicts that households in advanced economies such as Germany will decide to place their savings abroad to finance capital investments in catching-up economies rather than with domestic firms, thus contributing to a current account surplus.

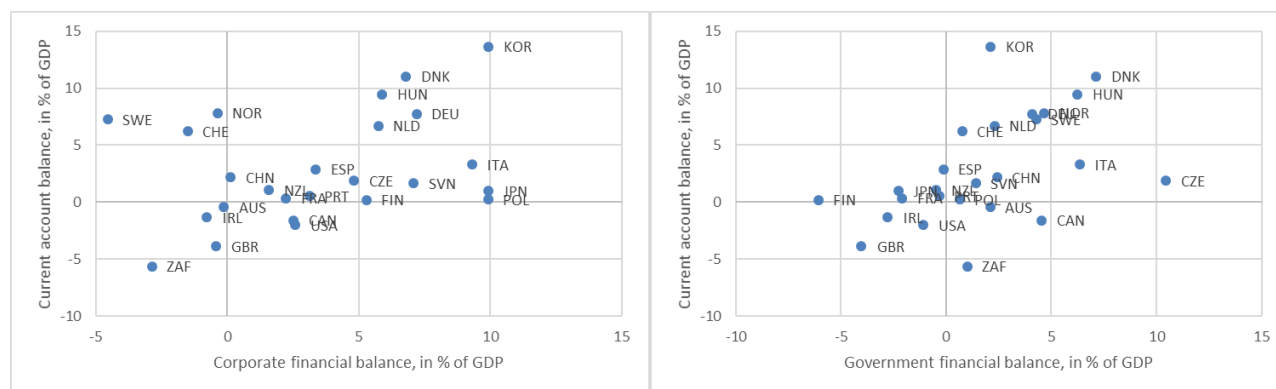
Yet, a consistent finding of the empirical literature inspired by the intertemporal general equilibrium approach is that Germany's current account surplus cannot be explained by standard determinants (IMF 2020; see Subsection 1.2.4 below). In the context of a general equilibrium model, observed current account deviations from its equilibrium level reflect a disequilibrium, or distortions. Such distortions may be due to inefficient labour and product market regulations, or distortionary taxes. For example, some economists used to argue that Germany needed to deregulate its services sector and conduct other structural reforms in order to raise its growth potential and improve the attractiveness of Germany as a location for investment (Sinn 2005; OECD 2010; GCEE 2014).

In the benchmark model of the intertemporal general equilibrium approach, the corporate sector and the government balance have no active role in determining the current account. If, for example, the corporate sector raises or lowers its retained profits, rational shareholders (the individuals who own the firms) will see through the "corporate veil" and will offset any unwarranted changes in corporate saving by opposite changes in personal saving so that the aggregate amount of saving remains at the discretion of households. Similar arguments apply to the government sector, based on the notion of "Ricardian equivalence". If, for example, the government increases its deficit (lowers its saving),

rational households (the individuals who “own” the government) may anticipate future tax hikes and adjust their current saving upwards.

Despite their formal appeal, the notions of a fully transparent corporate veil and of Ricardian equivalence are difficult to reconcile with empirical evidence, which suggests that the financing positions of the non-household sectors do affect the current account (IMF 2017; Behringer and van Treeck 2019a). As an illustration, Figure 4 shows that changes in the current account correlate positively with changes in the corporate balance and the government balance in a sample of 25 high-income countries for the period 1980-2015. Multivariate estimations of current account determinants also show that a higher (lower) government or corporate financial balance contributes to a higher (lower) current account balance (Phillips et al. 2013; Behringer and van Treeck 2019a). In light of the empirical evidence we can thus conclude that sectoral balances do matter for macroeconomic outcomes.

Figure 4: Changes in sectoral financial balances



Note: The figure shows the change in, respectively, the government financial balance and the corporate financial balance in per cent of GDP (horizontal axis) against the change in the current account balance in per cent of GDP (vertical axis). Changes are calculated for the period 1980/83-2012/15 or for the longest available time span within this period.

Source: Behringer and van Treeck (2019a)

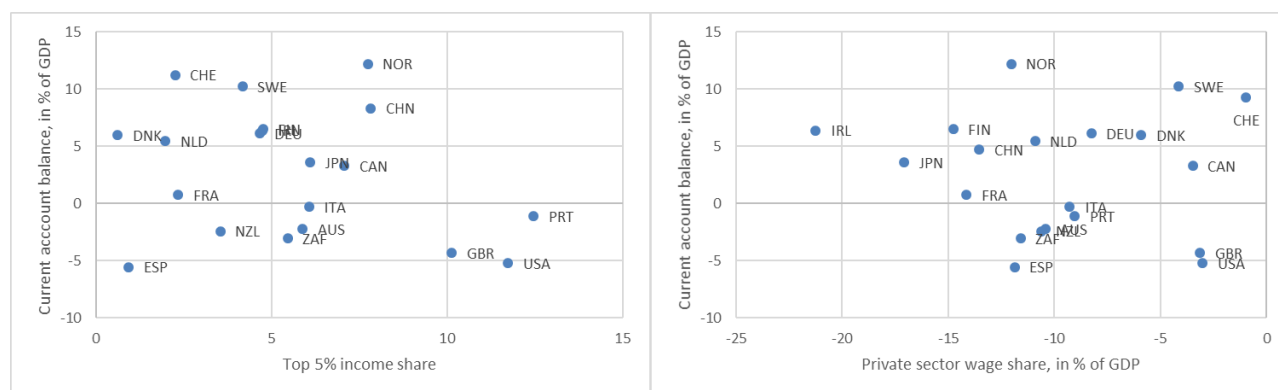
More recent and more sophisticated versions of the intertemporal general equilibrium approach allow for an effect of non-household financial balances on the current account balance as a result of “distortions” such as irrational or risk-averse shareholders, asymmetric information between management and shareholders, and non-Ricardian tax payers.

1.2.3. The structuralist approach: current account balances as a reflection of social conflicts

In structuralist approaches the sectoral financial balances take centre stage in explaining external imbalances. Rather than focusing on distortions, structuralist approaches to macroeconomics and comparative political economy ask how (changes in) the sectoral balances relate to the institutional settings in different countries and to distributional conflicts both between and within sectors (see Behringer and van Treeck 2019b; Klein and Pettis 2020).

Figure 5 provides a descriptive illustration of how different measures of income distribution correlate with national current account balances. Previous quantitative research (Behringer and van Treeck 2018, 2019a), estimating current account models in macro panels, suggests that a fall in the wage share tended to raise the corporate financial balance and the current account, whereas a rise in top household income shares tended to lower the private household financial balance and the current account during the run-up to the global financial crisis of 2008. Interestingly, since the 1980s several major economies such as China, Germany and Japan, where the share of wages and household income in the national income decreased particularly strongly also experienced rising current account balances (Klein and Pettis 2020). On the other hand, the United States and the United Kingdom, which are the main current account deficit countries, experienced only a relatively small or no decrease in wages and household income as a share of national income, but a very strong increase of income inequality within the household sector, especially at the top end of the distribution (Rajan 2010; Kumhof et al. 2015).

Figure 5: Income distribution and the current account



Note: The figure shows the change in, respectively, the top 5 per cent household income share and the private sector wage share (horizontal axis) against the change in the current account balance in per cent of GDP (vertical axis), 1980/3-2004/7 (four-year averages). For China changes are shown for the periods 1984/7-2004/7. For all other countries, changes are calculated for the period 1980/3-2004/7 or for the longest available time span within this period.

Source: Behringer and van Treeck (2018)

Pettis (2013) and Klein and Pettis (2020) refer to the traditional underconsumption argument that a fall in the share of wages or household income in national income will reduce both consumption and aggregate demand because households have a higher marginal propensity to spend their income than firms. In Classical theories, a common fear was that a falling share of wages in national income would lead to insufficient aggregate demand and oversaving due to a lack of purchasing power of the “consuming classes” (e.g. Hobson 1909). Applying the underconsumption argument to Germany since the later 1990s, the argument is that the rise in Germany’s current account balance largely is a reflection

of the “distributional struggle” between businesses and workers. Low wage growth led to weak domestic demand for goods and services. Nevertheless, companies in Germany enjoyed robust profits “because they could avoid Germany’s moribund domestic market by selling to foreigners” (Klein and Pettis 2020, p. 155). Similar arguments can be made with respect to the current account surpluses of China. These surpluses, in turn, were possible only because other countries, such as the United States, the United Kingdom and several Southern European countries, were willing, or may have been forced to, accept large and increasing current account deficits. Moreover, in the deficit countries employment losses resulted in the import competing industries (Autor et al. 2016; Acemoglu et al. 2016). In that sense, the domestic “class wars” in Germany and China indirectly contributed to the debt crises in the current account deficit countries starting in 2007, as well as more generally to the ongoing “trade wars” confronting the United States and Germany/Europe.

Several authors also argue that the low levels of private household saving and the current account deficits of major economies are themselves linked to domestic inequality (Kumhof et al. 2012; Kumhof et al. 2015; Behringer and van Treeck 2018). This narrative can be based on theories of “expenditure cascades” (Frank et al. 2014), “or trickle-down consumption” (Bertrand and Morse 2016), which can explain why the middle and upper-middle classes in countries such as the United States and the United Kingdom have reacted to their falling incomes (relative to households at the top of the income distribution) by reducing their financial savings in an attempt to keep up with households above them in the income distribution, who have increased their expenditures on positional goods in line with their strongly rising incomes. Such consumption emulation effects can be expected to be especially pronounced in “liberal market economies”. In these countries, important positional goods such as housing or education are allocated via competitive markets (Hall and Gingerich, 2009), the precautionary saving motive of households is relatively low due to fluid labour markets with relatively short job tenures and workers with general (rather than industry-specific) skills (Hall and Gingerich 2009; Carlin and Soskice 2009), and largely deregulated credit markets have allowed households to maintain their consumption despite falling incomes, at least prior to the global financial crisis (van Treeck 2014).

In “coordinated market economies” such as Germany, by contrast, relative income effects on consumption owing to upward-looking status comparisons have been less pronounced because top household incomes increased far less, workers with specific skills have a higher demand for precautionary saving, credit markets are more regulated, and important positional goods are provided through government funding. Meanwhile, the firm sector in countries such as Germany and Japan, while paying lower dividends and top management salaries to the household sector than its counterparts in the United States or the United Kingdom, reacted to rising corporate profits with higher corporate saving,

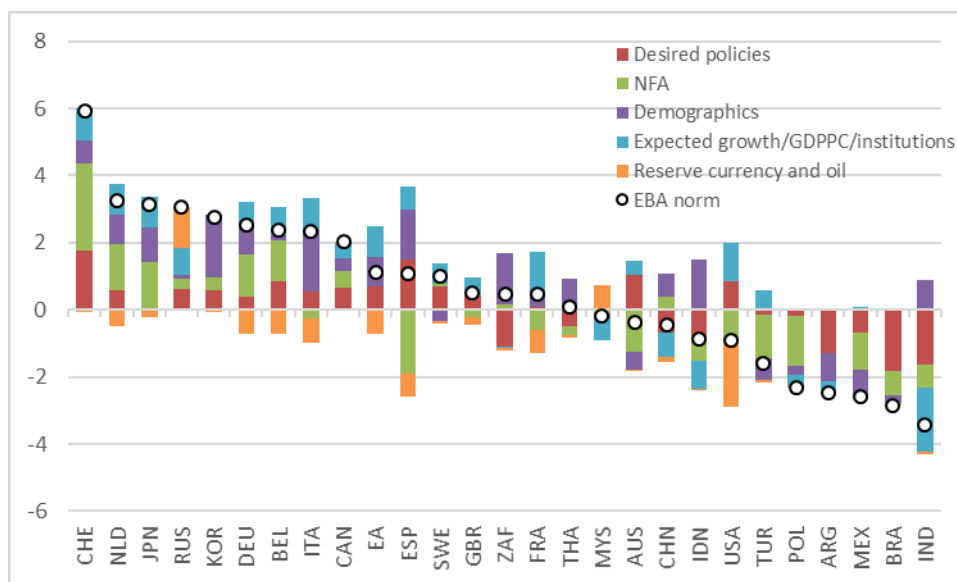
thereby limiting household incomes and consumption demand (Behringer and van Treeck 2017, 2019).

1.2.4. Current account norms

Since 2012, the International Monetary Fund (IMF) estimates so-called current account norms for individual countries. This exercise is based on an augmented version of the intertemporal general equilibrium model of current account determinants. In addition to fundamental variables such as demographics and growth expectations, believed to affect the intertemporal decision making of individual economic agents, the empirical current account model used by the IMF also allows for the effects of idiosyncratic country characteristics. These include reserve currency status, financial centre status, or oil exports, as well as the effects of “desired policies” which the IMF recommends with a view to removing remaining distortions in individual economies.

Figure 6 shows the latest current account norms estimated by the IMF for a set of 27 countries for the year 2019.² The IMF then uses the estimated current account norms to assess whether the current account balances that are actually observed in individual countries are “broadly in line with fundamentals”, “weaker than implied by fundamentals” or “stronger than implied by fundamentals” (Figure 7).

Figure 6: The IMF’s External Balance Assessment Current Account Norms, 2018



Note: GDPPC: GDP per capita; NFA: Net Foreign Assets. Data labels in the figure use International Organization for Standardization (ISO) country codes. “Norms” are multilaterally consistent and cyclically adjusted.

Source: IMF (2019)

² Note that according to the estimations by the IMF demographics account for less than 1 per cent of GDP of equilibrium current account surplus for Germany, i.e., half as much as GCEE (2014) estimates.

Figure 7: The evolution of the IMF's External Balance Assessments, 2012-19



Note: Grouping and ranking based on economies' average excess imbalance during 2016-18. Coverage of Argentina started in the 2018 External Sector Report.

Source: IMF (2019, 2020)

The IMF's assessment of Germany's current account is very striking. According to the IMF's estimations, Germany's equilibrium current account is of the order of 2.5 per cent of GDP (Figure 6), when the actual current account balance has been in the range of 6-9 per cent of GDP since 2012 (Figure 3). Germany also stands out as the only country worldwide with a current account balance that is persistently in excess of its equilibrium value (Figure 7). This is all the more noteworthy as the only other countries with excessive current account surpluses (Singapore, Thailand, Netherlands) are much smaller, and very open economies.

The current account norms underlying to Figure 6 and Figure 7 do not explicitly consider the potential effects of changes in the income distribution and in the sectoral financial balances on the current account balance. However, it should be noted that the estimated coefficient on the cyclically-adjusted government and corporate balances in standard panel estimation models for the current account are usually in the order of 0.2-0.7. That is, a decrease of the government or corporate financial balance by 1 percentage point of GDP would lower the current account balance by 0.2-0.7 percentage points of GDP (Phillips et al. 2013; Behringer and van Treeck 2019a). Behringer and van Treeck (2018), in an attempt to introduce structuralist elements into the intertemporal equilibrium model, augment the standard empirical current account model by including different measures of income distribution. They estimate that income distribution alone can account for roughly 1 per cent of the increase in Germany's current account surplus from the 1980s until the Great Recession of 2007 (and for almost 4 per cent of the decrease of the current account deficit of the United States).

A policy-oriented alternative to the estimation of current account norms is to set a current account target based on some rule of thumb, e.g. 2 or 3 per cent of GDP for both current account surpluses or deficits (Dullien and Schwarzer 2009; Horn et al. 2010; Dullien and van Treeck 2012; IMF 2020). The European Union's Macroeconomic Imbalance Procedure sets an upper limit for current account deficits of 4 per cent of GDP, and for current account surpluses of 6 per cent of GDP.

In sum, there is a very broad scientific consensus (notably, excluding the German Council of Economic Experts) that Germany's current account surplus has been excessive for at least a decade.

1.3. What are the main drivers of Germany's current account surplus?

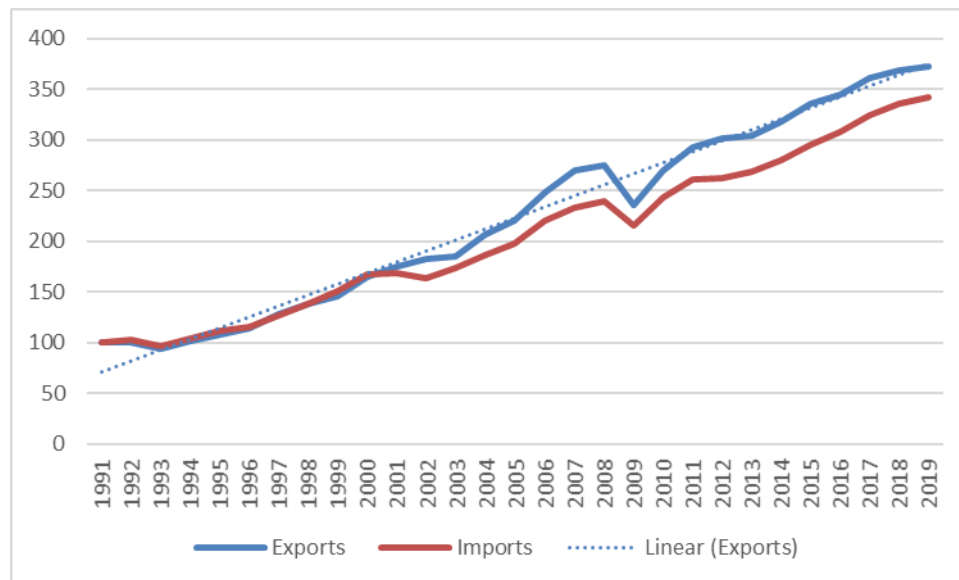
1.3.1. It's the imports, stupid

A common misperception in public debates is that Germany's export surpluses are obvious evidence of its strong export performance, rather than of its weak domestic demand performance and consequently its weak demand for imports.

Interestingly, Germany's real exports since the early 1990s can be reasonably approximated by a simple linear trend (see Figure 8). Until the early 2000s, real imports followed essentially the same

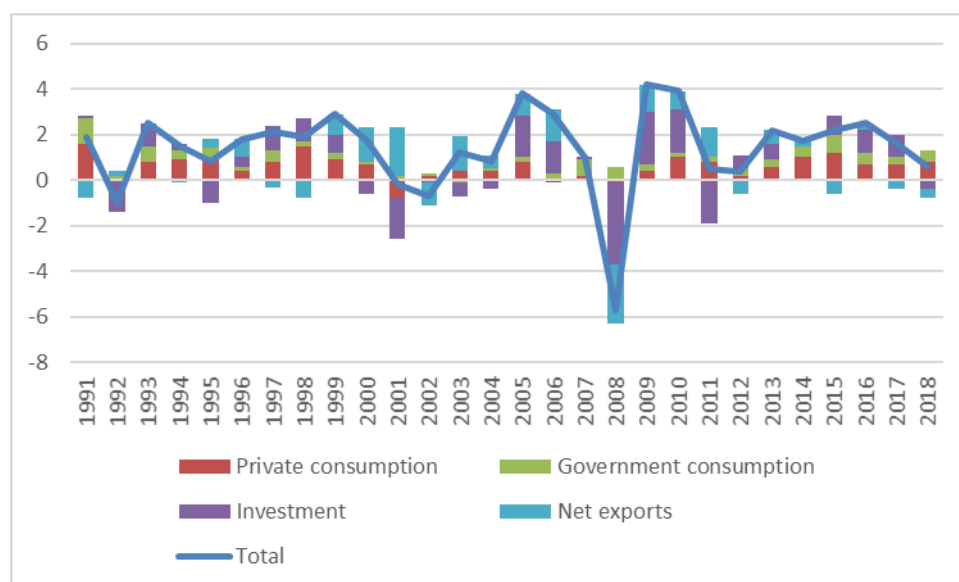
trend, but then real imports almost stagnated for 4-5 years. It is this period of domestic demand stagnation, from 2001 through 2005, which gave birth to Germany's export surplus. After 2005, imports recovered along with domestic demand so that imports and exports have expanded at a similar rate and net exports have remained at a high but roughly constant level, of about 5-8 per cent of GDP, ever since.

Figure 8: Real exports and imports (1991=100)



Source: Destatis, authors' calculations.

Figure 9: Real growth contributions



Source: Destatis, authors' calculations.

As can be seen in Figure 9, the period 2001-2005 stands out as a period in which the domestic demand components (private consumption, government consumption, and investment) hardly contributed to

real GDP growth. The real growth contribution of net exports was exceptionally large during that period, owing in particular to the stagnation of real imports. Both before 2001 and after the Great Recession of 2009 the growth contributions were much more balanced. During both periods, from 1991-2000, and from 2010-2019, net exports were roughly constant as a share of GDP, but the long stagnation of 2001-2005 brought about a level shift of the external balance of about 5 percentage points of GDP.

There is no good reason why Germany's net exports should not revert to near zero (as during the 1990s) or to some other reasonable "norm" or "target" (as discussed in Subsection 1.2.4) within a period of a few years. The remainder of Section 1 discusses the obstacles for such rebalancing. Section 2 then makes a few concrete proposals for how rebalancing can be supported by policy.

1.3.2. Business and government against the people?

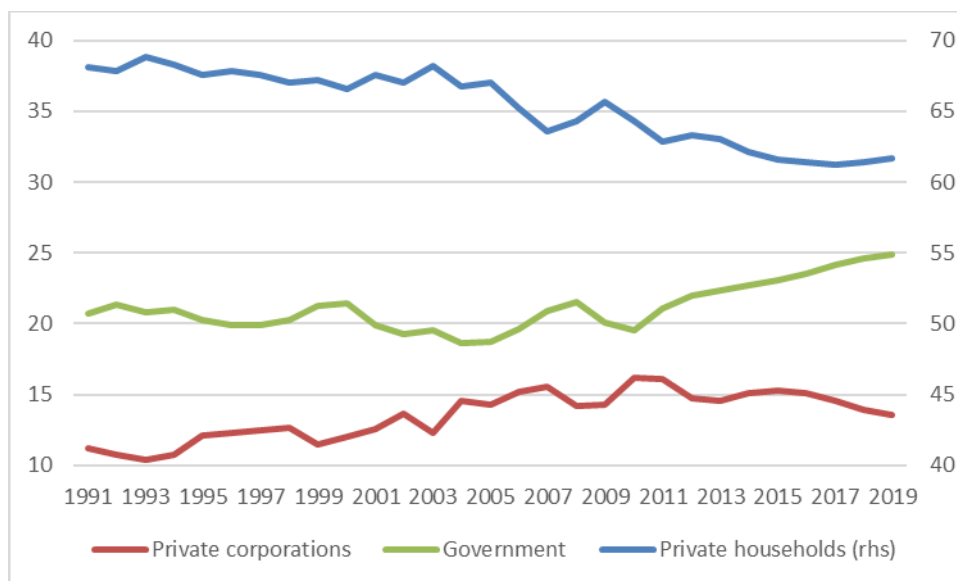
The sectoral financial balances shown in Figure 3 are the difference between the disposable income and the consumption and investment expenditures of each sector of the economy (see Subsection 1.2.1). Figure 10 and Figure 11 respectively show the shares of each sector's income in the gross national disposable income and the shares of each sector's consumption and investment expenditures in the gross domestic product.³

Since the mid-1990s, the household sector has lost about 6-7 percentage points of disposable income (from 68 per cent to 61-62 per cent of total disposable income) to the non-household sectors. From 1991 through 2011, the income share going to the private corporate sector increased from 11 per cent to 16 per cent, and it has slightly decreased since then. The government's income share was constant at about 20 per cent of total disposable income from 1991-2011, and then increased by about 5 percentage points from 2011-2019.

As household incomes declined relative to the income shares going to corporations and the government, so did household expenditures. Since both corporate investment and government consumption and investment remained roughly constant from a long-term perspective, the flipside of the decline in household expenditures as a share of GDP was the increase in net exports (foreign sector spending on goods and services produced in Germany). From the perspective of sectoral financial balances, the increase in the corporate financial balance and in the government financial balance resulted from the higher incomes of these sectors in the absence of higher spending on goods and services.

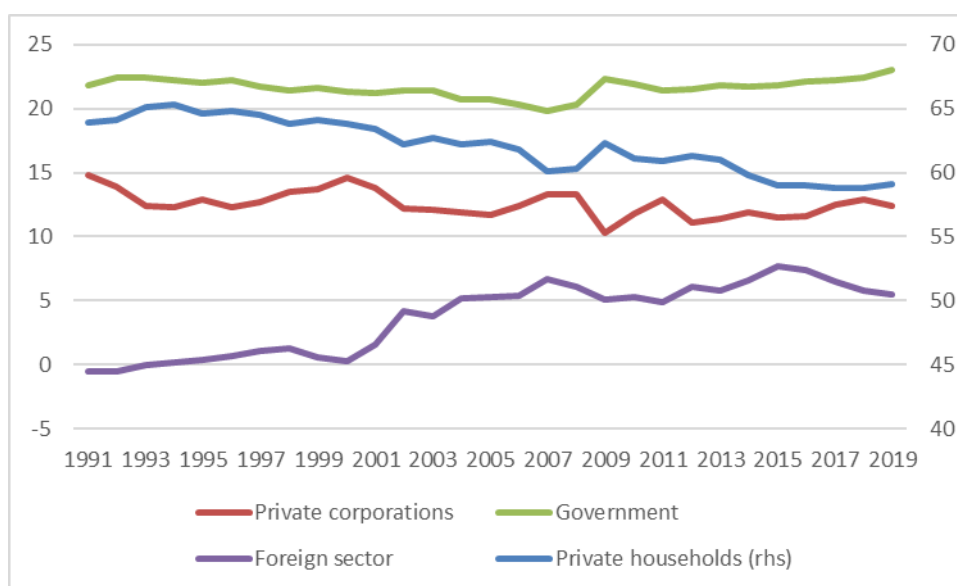
³ The difference between the gross national disposable income and the gross domestic product essentially are net income transfers from the rest of the world. Since 1991, Germany's gross national disposable income has ranged from 98 to 102 per cent of its GDP.

Figure 10: Sectoral incomes as a share of gross national disposable income



Source: Destatis, authors' calculations.

Figure 11: Sectoral expenditures on consumption and investment as a share of GDP



Source: Destatis, authors' calculations.

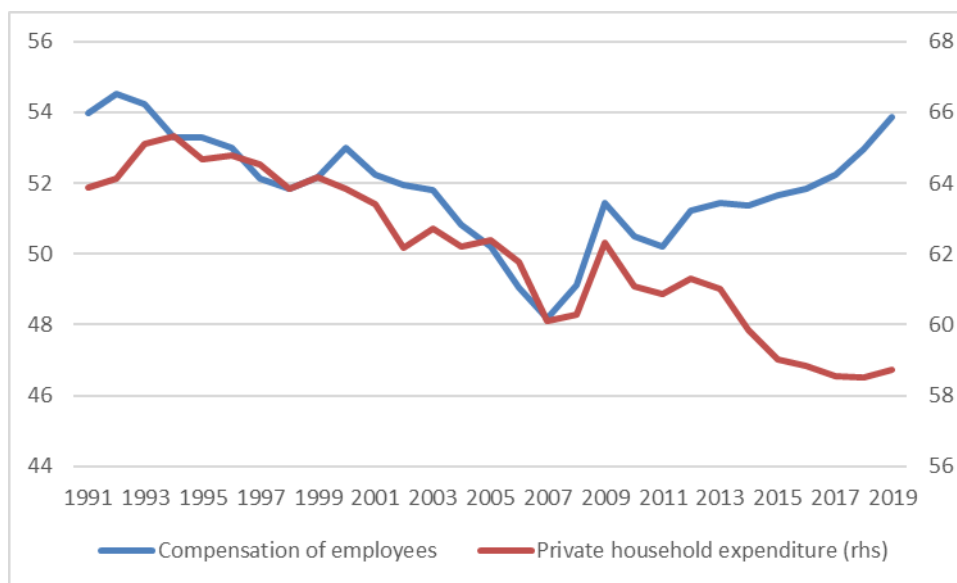
To give an idea of the magnitude of this process of income redistribution across sectors: If private households had maintained their share in the total national income of the early 2000s, their disposable income would have been more than €200 billion higher in 2019. Similarly, if they had maintained their share in the total amount spent on Germany's GDP from the early 2000s, they could have spent an additional €160 billion on goods and services in 2019. To put these numbers in perspective, Germany's export surplus was €207 billion in 2019.

The next Subsections take a closer look at each of the main sectors of the economy, i.e., the private household sector, the private corporate sector, the government sector, and the foreign sector, and how they contributed to Germany's external surplus.

1.3.3. The private household sector

Figure 12 shows total compensation of employees as a share of GDP, a measure that is commonly referred to as the wage share. For comparison, Figure 13 shows gross household disposable income as a percentage of GDP.⁴ Interestingly, the two measures show a very similar, steep downward trend from 1991 until around 2010, but since then the wage share has increased back to its level of the early-2000s, whereas the household income share has continued to decline. However, as Figure 13 illustrates, household expenditure tracks household income much more closely than wage income. Although the wage share is often highlighted as a key distributional variable and as a potential driver of macroeconomic trends, the household income share certainly is a better measure for our purposes, especially for the period since the global financial crisis of 2008.

Figure 12: The wage share

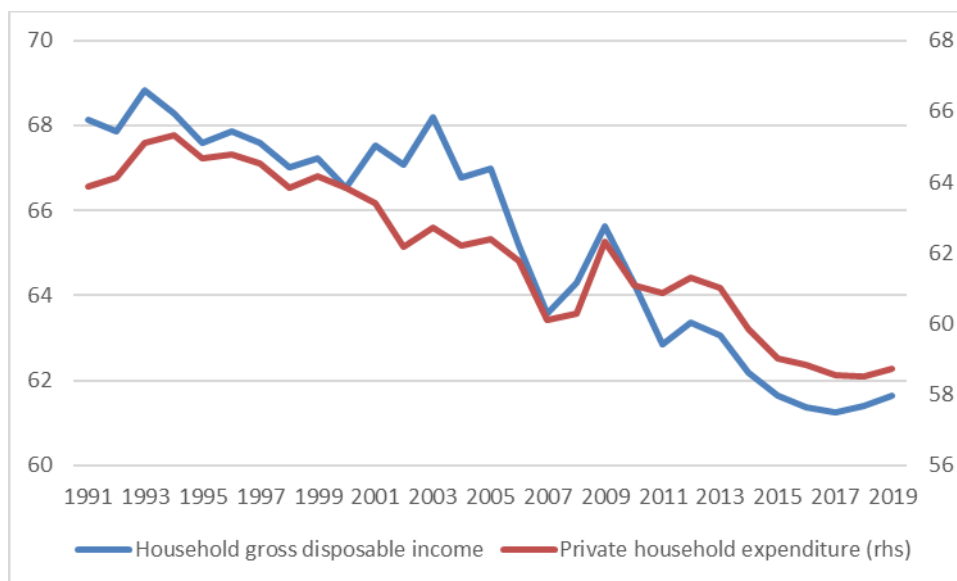


Source: Destatis, authors' calculations.

As can be seen in Figure 14, the decrease in the household income share from 1995 through 2007 was mostly due to the decrease in wage income, which overcompensated the decrease in taxes and social security contributions. By contrast, the continued fall in the household income share since 2007 occurred despite the increase in wage income and owing to lower interest income and higher taxes and social security contributions.

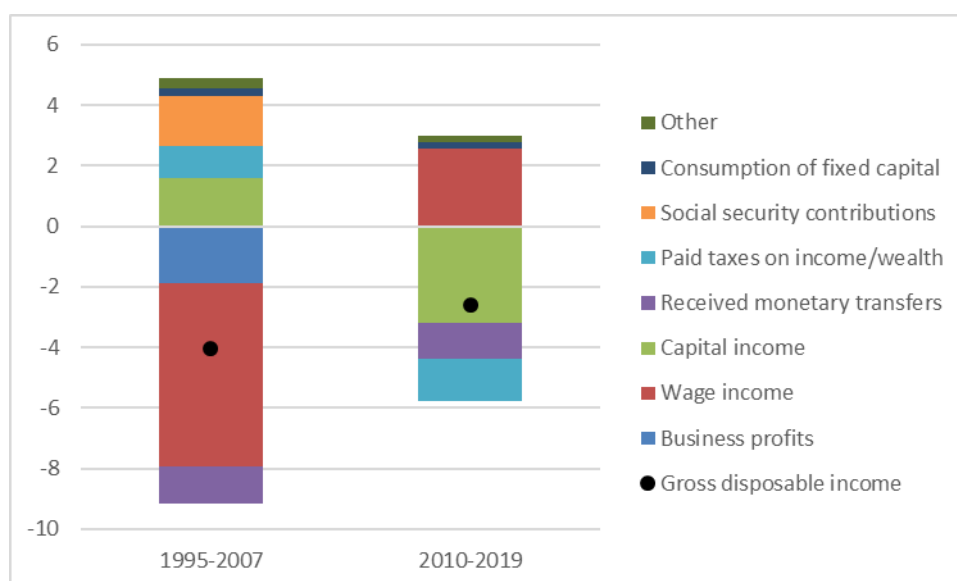
⁴ Strictly speaking, this latter measure is not a share. The share of gross household disposable income in the total economy disposable income is shown in Figure 9.

Figure 13: The household income share



Source: Destatis, authors' calculations.

Figure 14: Contributions to percentage point change in private household gross disposable income

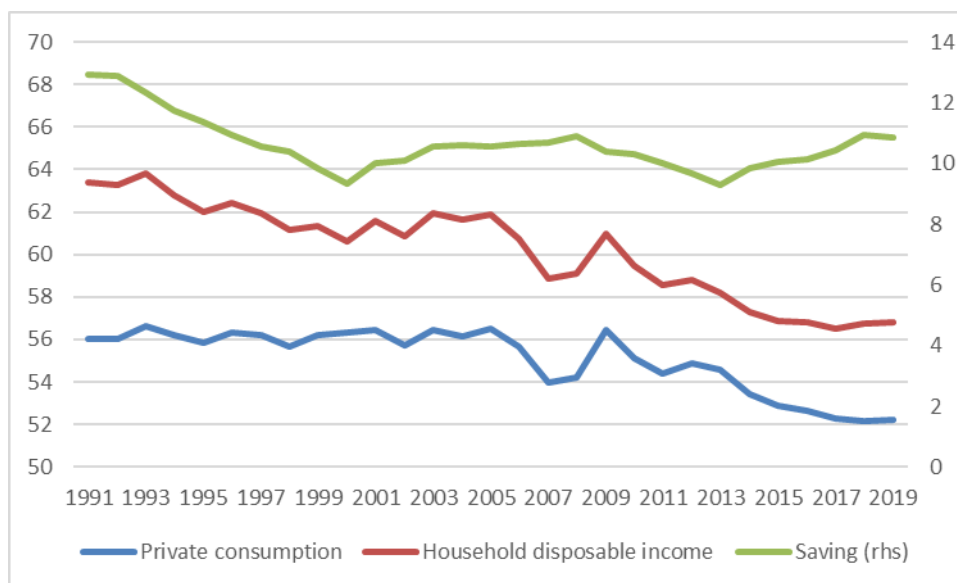


Source: Destatis, authors' calculations.

It should also be noted that household saving behaviour has played only a subordinate role in explaining the weakness of household spending and hence of total domestic demand in Germany. The household saving rate declined relatively strongly throughout the 1990s. This prevented the consumption-to-GDP ratio from falling, despite the fall in household disposable income (Figure 15). Yet, during this period total household spending on goods and services had already embarked on its decreasing long-term trend, shown in Figure 13, as a result mainly of very weak residential investment in the 1990s. Since the early 2000s, the household saving rate has fluctuated around 10-11 per cent of

household disposable income, so that household consumption spending (like total household spending) has closely tracked disposable income (see Figure 13 and Figure 15).

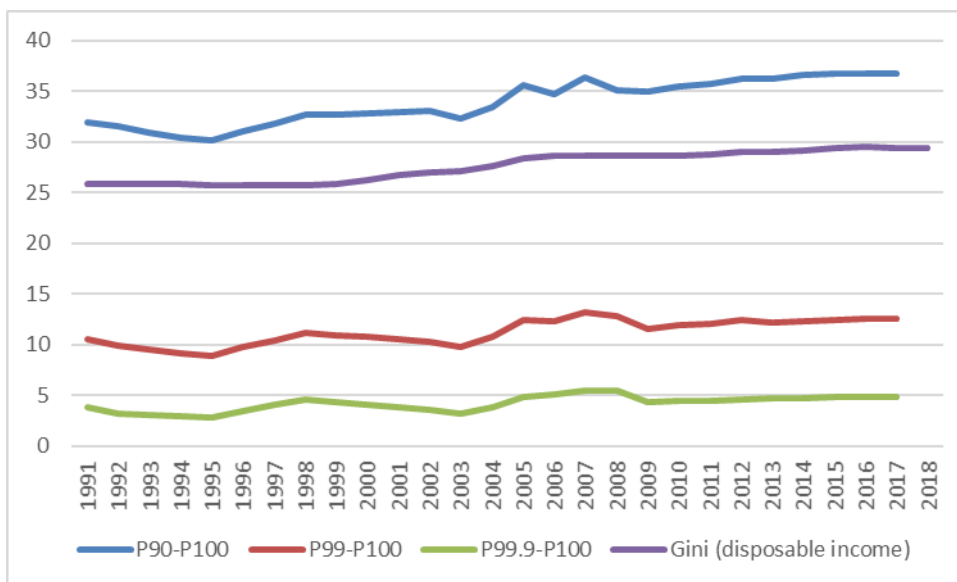
Figure 15: Household saving and consumption



Note: Private consumption and net household disposable income are in per cent of GDP. The saving rate is defined as the difference between household net disposable income and household consumption divided by household net disposable income.

Source: Destatis, authors' calculations.

Figure 16: Measures of personal income inequality



Source: World Inequality Database, Standardized World Income Inequality Database v9.0 (Solt 2020), author's calculations.

Figure 16 shows different measures of income inequality within the household sector. As is well known, the Gini coefficient of disposable household income has increased very strongly in Germany

during the first half of the 2000s, before stabilising at a higher trend around 2005 and until today. The share of the top 10 per cent of households in total (pre-tax) national income has also shown an upward trend since the 1980s. However, in sharp contrast to especially Anglo-Saxon countries, the top 1 per cent income share has been relatively stable in Germany. One explanation is that in Germany the rise in top-executive pay has been much more subdued compared to other countries, while Germany's business sector has benefitted from a much stronger rise in profits than, say, the U.S. business sector, and has retained a large fraction of profits within corporations (see Subsection 1.3.4).

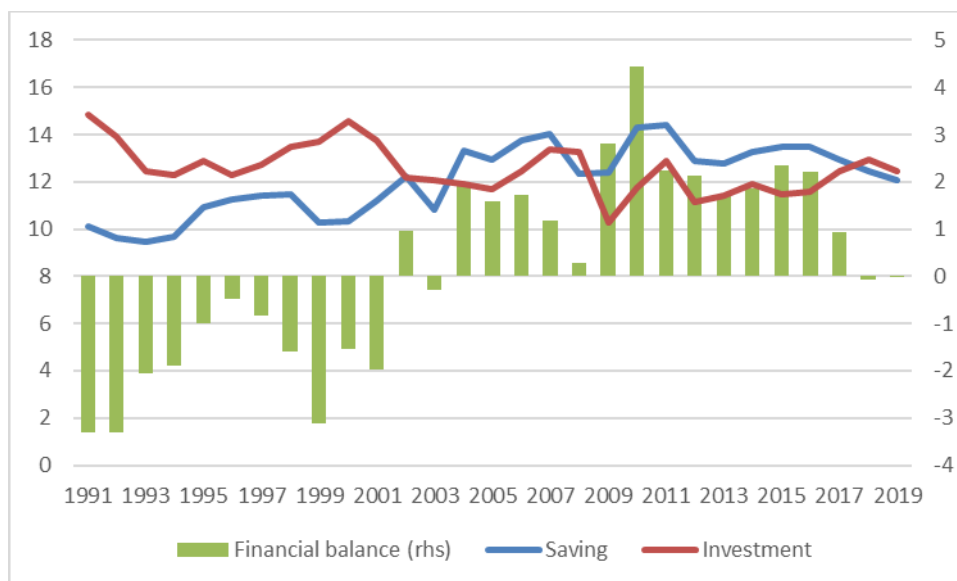
Perhaps surprisingly especially from a traditional Keynesian perspective, the trend towards higher income inequality within the household sector has not led to an increase in the household saving rate. In fact, there is some evidence based on saving data from the German Socio-Economic Panel that high-income households have increased their saving rates since the early 2000s, but middle- and low-income groups have lowered their saving rates; see Behringer et al. (2014). This can be interpreted as evidence of trickle-down consumption (Drechsel-Grau Schmid, 2014), though at a much smaller scale than in the United States (Bertrand and Morse 2016).

As emphasised above, the strong decrease in the share of total household income in the national income has played a much more important role in dampening consumption demand than the increase in income inequality within the household sector. Of course, to the extent that the household sector has lost disposable income to the corporate sector, this shift in the sectoral income distribution translates into higher wealth inequality as the retained corporate profits accrue to the owner of corporate assets, which are very unequally distributed in Germany.

1.3.4. The private corporate sector

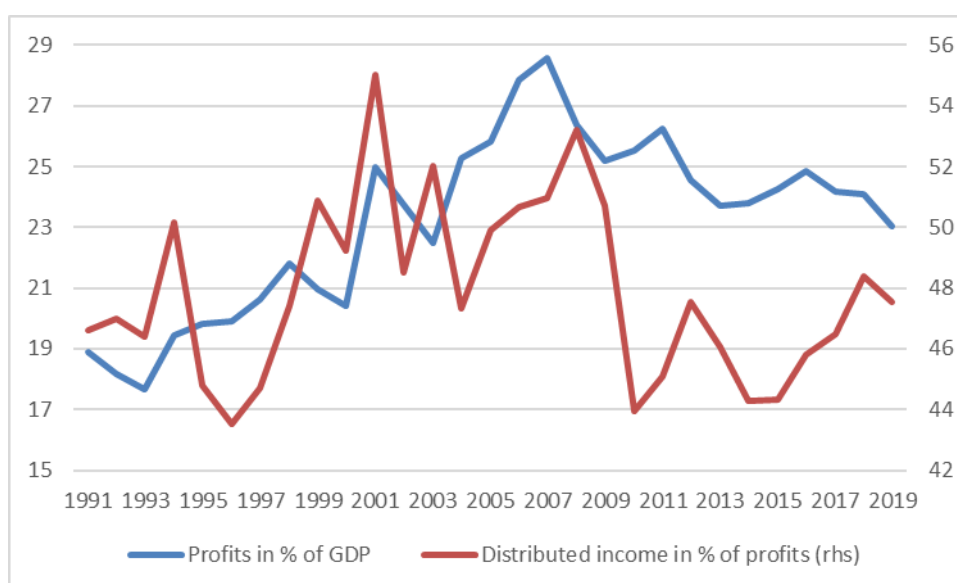
Figure 17 shows the two components of the corporate financial balance, corporate saving and investment, as a percentage of GDP. As noted above, the shift from a net borrowing position to a net lending position mostly resulted from the rise in corporate saving, and only to a much smaller degree from the decrease in investment. The rise in corporate saving occurred primarily in the period from the mid-1990s to the mid-2000s. During that period, the share of total profits in GDP increased so strongly (i.e., the wage share fell so strongly), that both retained corporate profits (i.e., corporate disposable income, or saving) increased as a percentage of GDP (Figure 17) and the profits distributed to shareholders increased as a percentage of total profits (Figure 18). This rise in distributed profits also contributed to the strong increase of income inequality within the household sector during that period (see Subsection 1.3.3). After the global financial crisis, the profit share fell (the wage share increased, see Figure 12). Corporations reacted to this with a reduction of distributed profits as a share of total profits (Figure 18) so that corporate saving remained at a high level (Figure 17).

Figure 17: Corporate saving and investment in per cent of GDP



Source: Destatis, authors' calculations.

Figure 18: Profits and distributed profits



Source: Destatis, authors' calculations.

One explanation for the high corporate savings in Germany refers to the institutional peculiarities of the German corporate sector. An important characteristic of the German corporate sector is the large share of family-controlled businesses, the so-called *Mittelstand*. The *Mittelstand* comprises practically all small and medium-sized enterprises (SME) but also many large companies. SMEs in Germany account for 35 per cent of all sales and for 59 per cent of all employees covered by social security. According to Welter et al. (2015), roughly 65 per cent of all German firms belong to the *Mittelstand*, defined by the Institut für Mittelstandsforschung (IfM) Bonn as those firms in which at

most two natural persons hold more than 50 per cent of the firm's equity while also being actively involved in the firm's management. Beyond this formal definition, as many as 77 per cent of all firms are perceived by their executives as being part of the *Mittelstand*. Even among large companies with annual sales exceeding 50 million euros, respectively 41 and 91 per cent of all firms belong to the definitional and the self-proclaimed *Mittelstand*.

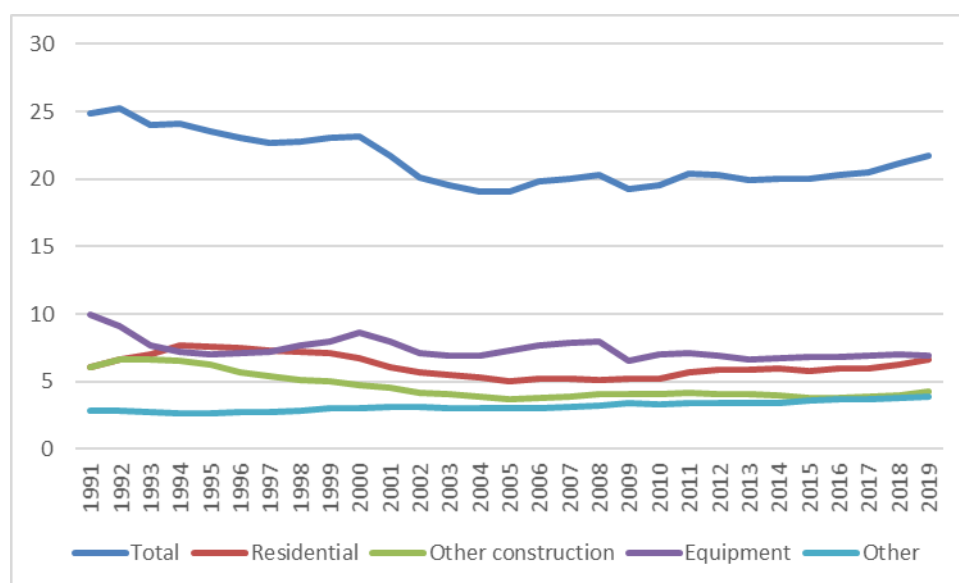
An important characteristic of the *Mittelstand* is that the principal-agent problem between the owners and the managers of the company is less pronounced than in publicly listed joint-stock companies. Owner-managers can be expected to have more long-term objectives than hired managers with a much shorter average job tenure. Owner-managers therefore have weaker incentives than hired managers to extract as much cash as possible from their firms in a given time period. This fact is especially true when the ownership and management is passed from one family generation to the next. In Germany, business wealth enjoys a preferential tax treatment compared to other forms of bequests. Moreover, retained profits are taxed less than distributed profits. According to Ruscher and Wolff (2012, p. 8), the tax law in Germany therefore provided "an incentive to use corporations as piggybank." Pahnke et al. (2015) point out that the stricter equity requirements of Basel I and II may have led to an even stronger desire of *Mittelstand* companies to make themselves independent from the banks. Hence, these new regulations may have further increased firms' saving motive. Pahnke et al. (2015) show that equity ratios have strongly increased in SMEs, but not in large companies, and that the retained earnings of SMEs also strongly increased throughout the 2000s to exceed 80 billion euros, or almost 3 per cent of GDP, just before the start of the financial crisis in 2008.

It is important to realize that the corporate sector's policy of profit retention is directly linked to the relative constancy of top household income shares (Figure 16). Clearly, if German corporations had behaved more like their counterparts in the United States and paid higher salaries to top management, corporate retained earnings would have been lower but top household income shares higher. In this sense, the rise of corporate saving implies a rise in income inequality which does not show up in conventional inequality measures.

A common misperception is that the subdued domestic demand in Germany has been caused mostly by weak (corporate) investment. To take one example of many, OECD (2012, pp. 13-14) attaches great significance to the finding that "investment spending as a share of GDP remains one of the lowest among OECD countries" and argues that "the long-run decline in the investment ratio also reflects structural deficiencies that make Germany less attractive as an investment location". The emphasis on product market regulation as a determinant of the current account was also shared by the German Council of Economic Experts (GCEE 2010).

Figure 19 shows different components of gross investment as a share of GDP in Germany. The total investment-to-GDP ratio decreased by about 6 points from the early 1990s through the mid-2000s. This phenomenon, however, was not at all due to lower business equipment investment, which in theory is the component of investment that should be most sensitive to a country being more or less “attractive as an investment location”. Rather, the slowdown of investment in Germany is explained mostly by the weakness of residential investment and non-residential construction investment. The negative trend in these two components of aggregate investment in turn are related to the decreasing construction activities following the German re-unification as well as the extremely low public investment (Dullien and Schieritz 2011).

Figure 19: Different components of investment spending in per cent of GDP



Source: Destatis, authors’ calculations.

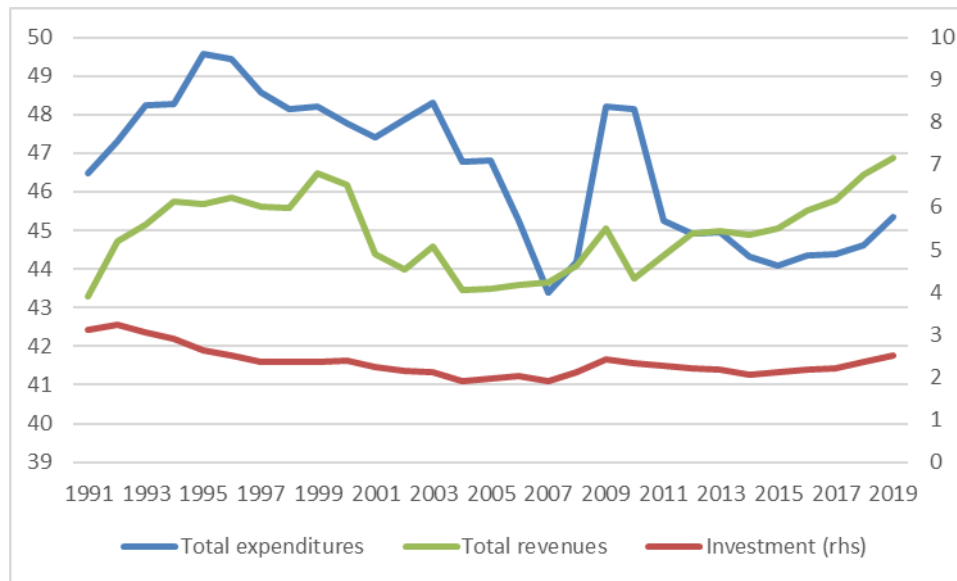
1.3.5. The government sector

Figure 20 shows total government revenues and expenditures in per cent of GDP since the late 1990s. The relatively high level of total government expenditure during the 1990s should not be seen as a temporary exception due to Germany’s re-unification. In the 1970s and 1980s, total government expenditures were roughly at the same percentage of GDP as in the late 1990s.

Three phenomena are in particular noteworthy. The first is the U-shape pattern of the government revenue-to-GDP ratio. The fall in total government revenue in per cent of GDP in the early 2000s was the result of the large tax cuts reaching a maximum of 2.3 per cent of GDP in 2005 (Truger 2009, p. 31), which were part of the 2001 tax reform, and of the cyclical downturn of the 2001 global recession. Since then, there has been a gradual increase in total government revenues since the mid-2000s, owing, in particular, to higher tax income and higher social security contributions (Figure 21). The second striking phenomenon is the very step decrease in total government spending from the late

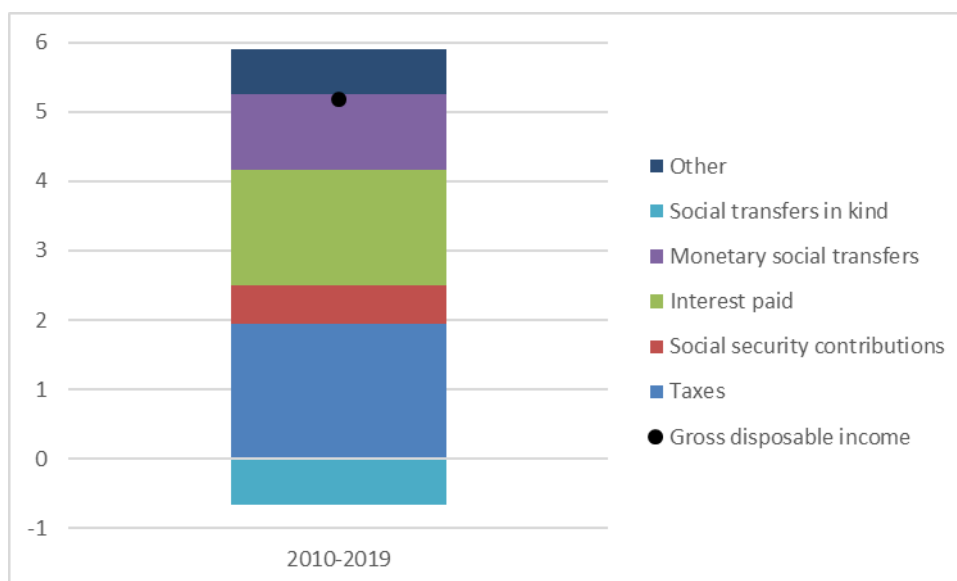
1990s (48 per cent in 1998) to the mid-2000s (43 per cent in 2007). Since the mid-2000s, total government expenditures stabilised at a much lower level compared to the 1990s (and to the 1970s and 1980s), with the exception of two years following the global financial crisis of 2008. While government consumption and investment have increased slightly since the mid-2000s, government expenditures on monetary transfers and interest payments have decreased (Figure 21). The third observation is the extremely low level of public investment in Germany, especially since the early 2000s.

Figure 20: Total government revenues and expenditures and public investment in per cent of GDP



Source: Destatis, authors' calculations.

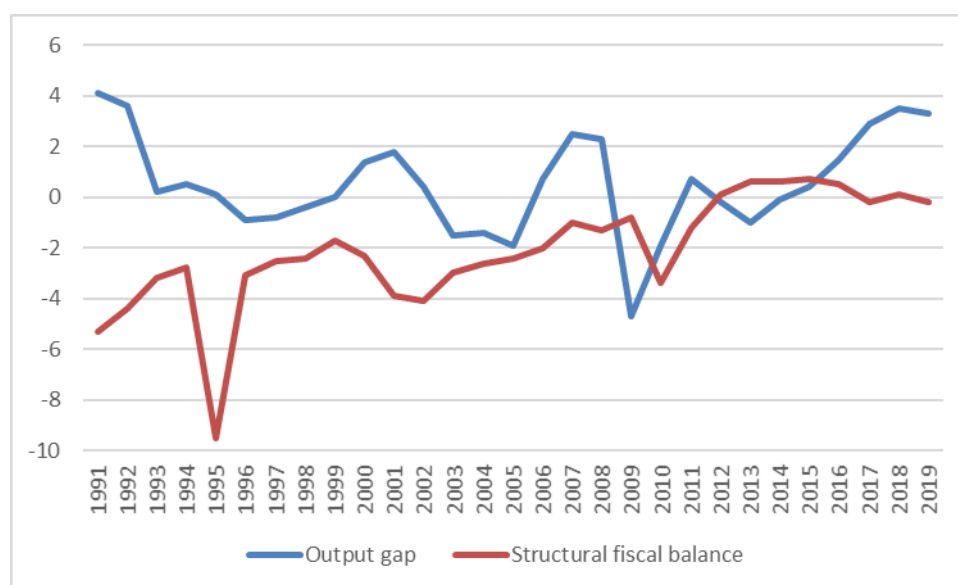
Figure 21: Contributions to percentage point change in government gross disposable income



Source: Destatis, authors' calculations.

Figure 20 can be used for a brief digression on the political economy of government expenditure cuts in Germany, which occurred at the same time as the external surplus emerged, i.e., in the first half of the early 2000s. If the political objective since the late 1990s was to reduce the size of the government, the large expenditure cuts during the first half of the 2000s could be justified with reference to the 3-per cent threshold for the fiscal deficit set by the Stability and Growth Pact that was violated by Germany during 2002-2005. In fact, the 3-per cent threshold would have never been reached (despite the cyclical downturn of the 2001 global recession), if it had not been for the large tax cuts of up to 2.3 per cent of GDP that were part of the several tax reforms of the early 2000s. These tax reforms mainly benefitted higher-income households and thus contributed to the sharp rise in income inequality during the first half of the 2000s (see Figure 14; Bach et al. 2016; Truger 2019). Germany's breach of the Stability and Growth Pact was then used as a justification for slashing government expenditures in the middle of a recession. This pro-cyclical fiscal policy lasted from 2001 to 2005 (see Figure 22) and led to a much longer recession/stagnation than in any other rich country in the early 2000s (Truger 2004; Truger et al. 2010; Godar et al. 2015). This, in turn, may have also helped to foster the public perception that the government "needs to do something" and convince the public of the "Alternativlosigkeit" of the so-called Hartz reforms, which included various measures to deregulate the labour market and social security.

Figure 22: Discretionary fiscal policy and the business cycle



Note: Output gap: Gap between actual and trend GDP at 2015 reference levels, in per cent of GDP. Structural fiscal balance: Cyclically adjusted net lending or net borrowing of general government, in per cent of GDP. When the output gap and the cyclically adjusted government balance move in the same direction, discretionary fiscal policy is procyclical and partially offsets the automatic stabilisers.

Source: AMECO database, authors' calculations.

After the size of the government was reduced in terms of the government expenditure-to-GDP ratio and the labour market reforms had been implemented, no further tax cuts followed since the mid-

2000s. However, the following recovery of government revenues was not accompanied by a parallel increase in government expenditures. Rather, a new norm of permanent fiscal surpluses (“schwarze Null”) was established. This had the effect of keeping government expenditures fluctuating around a historically low level. Moreover, it contributed to the decrease in the share of income going to the household sector without simultaneously increasing public consumption and investment (Figure 10 and Figure 11).

1.3.6. The foreign sector

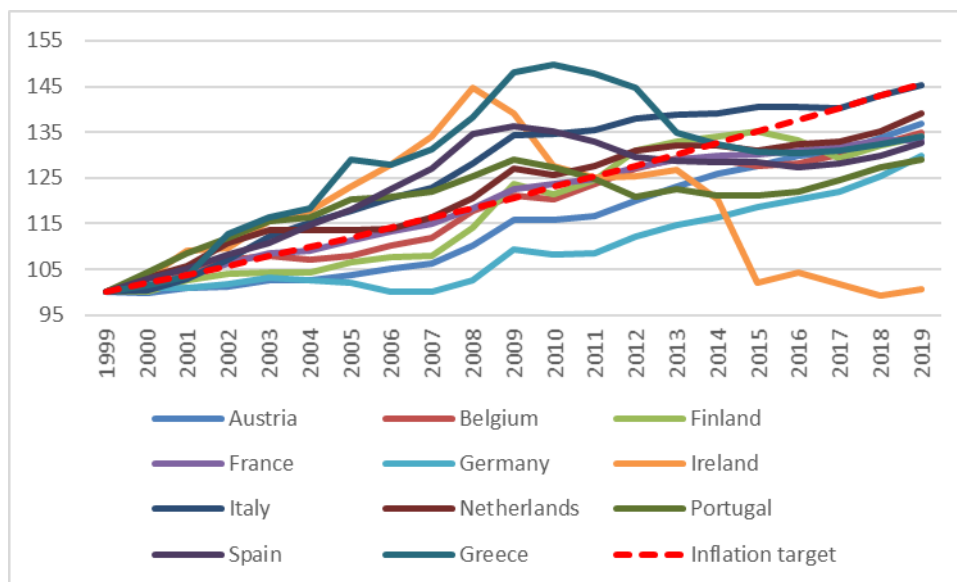
Germany’s current account surplus might be considered optimal by households living in Germany, if the corresponding foreign financial investments were the best way for Germany’s population to benefit from the domestic production and income generation capabilities (other potential benefits include higher private consumption or lower working hours by households and higher government expenditures). However, there are substantial doubts whether this is, in fact, the case.

Hünnekes et al. (2019) note that although Germany is world champion in exporting capital (“Exportweltmeister”), it plays in the third division when it comes to investment performance. Their empirical study for the period 1950-2017 suggests that (1) Germany’s annual returns on foreign assets were 2 to 5 percentage points lower than those of comparable countries; (2) domestic returns on German assets have outperformed foreign returns abroad by about 3 percentage points per year; (3) Germany’s external wealth provides very little consumption insurance as foreign returns are highly correlated with domestic activity; (4) the capital exports do little to diversify demographic risks as Germany mainly invests in countries with similar demographics.

A particularly worrisome phenomenon of the past decade is that almost all of Germany’s neighbouring economies have also become current account surplus countries. To a large extent, this phenomenon can be seen as a side-effect of the euro crisis starting in 2010 and of the way in which the Eurozone institutions approached the crisis under the influence of the German government. Whereas there is a large international consensus that the crisis ultimately was caused by macroeconomic imbalances (reflected in large current account surpluses and deficits), the current account deficit countries had to bear the brunt of the adjustment costs since the outbreak of the crisis. The reformed Stability and Growth Pact (the Six Pack) introduced an upper limit to current account deficits (4 per cent) and to unit labour cost growth, but it neither contains a binding limit on current account surpluses nor allows for the possibility of insufficient unit labour costs growth. Yet, low unit labour cost growth can be interpreted as an indicator of a lack of aggregate demand (leading to low wage and price inflation) and/or as the reflection of an export-oriented growth strategy aiming at international price competitiveness (especially in the absence of nominal exchange rate adjustments in a monetary union).

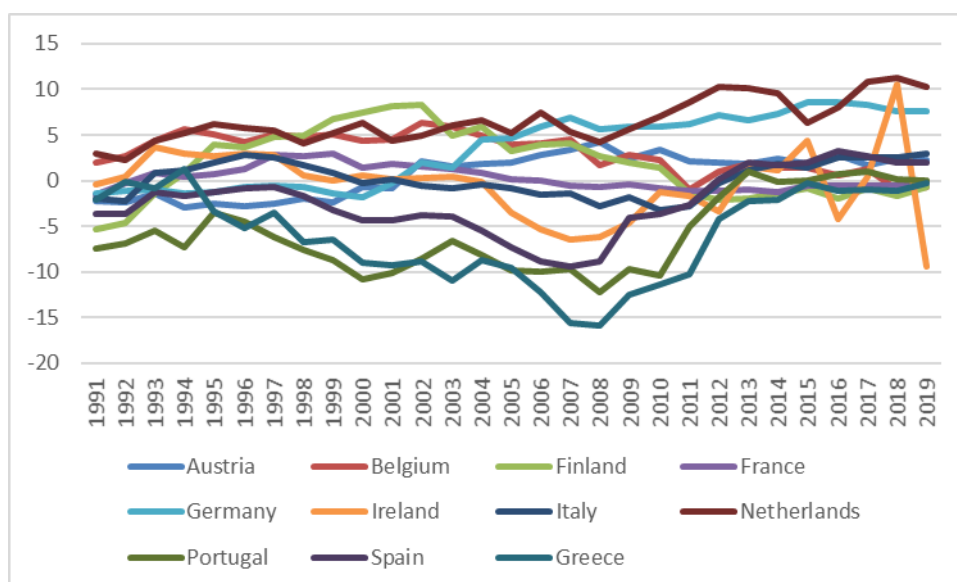
Since the global financial crisis and the eurozone crisis unit labour cost growth has fallen below the inflation target of the European Central Bank in essentially all major European economies (Figure 23), and almost all member countries of the Eurozone are in current account surplus (Figure 24). In the past years, the Eurozone current account balance was in the order of 3 per cent of GDP (and exceeded the IMF's estimated current account norm, see Figure 7).

Figure 23: Unit labour costs in selected Eurozone countries



Source: AMECO database, authors' calculations.

Figure 24: Current account balances in selected Eurozone countries



Source: AMECO database, authors' calculations.

In short, the new Eurozone economic model is largely copied on the German model of structural external surplus. Clearly, this is the recipe for continuing “trade wars” with other parts of the world, especially the United States and Asia (Pettis and Klein 2020).

2. HOW CAN GERMANY’S CURRENT ACCOUNT SURPLUS BE REDUCED?

2.1. The scale of the problem

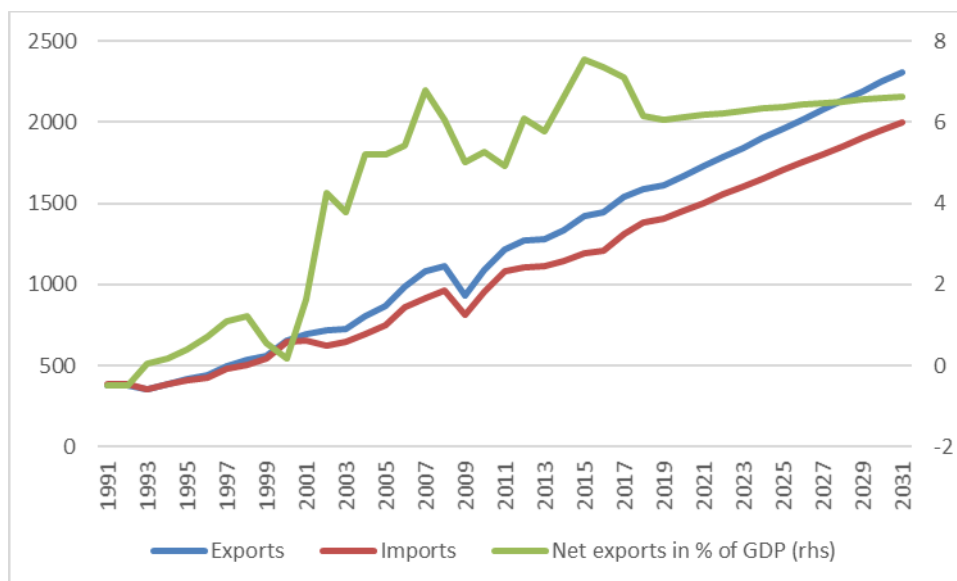
On the one hand, reversing Germany’s surplus model appears like a major historical challenge that would require a fundamental restructuring of Germany’s macroeconomy. The secular decline in the share of the national income going to the household sector and the persistent financial surpluses of the business and government sector is a permanent brake on domestic demand. This makes Germany’s economy structurally dependent on foreign demand.

On the other hand, it is easy to forget that Germany’s current account was more or less balanced during most of Germany’s economic history and that the currently large surplus is an historical anomaly. Germany’s surplus model emerged in a relatively short period of 5-6 years or so at the beginning of the first decade of the 20th century. Both during the 1990s and during the 2010s, imports grew in line with exports so that net exports and the current account remained roughly constant as a share of GDP during both periods. Yet, what would be required to eliminate the surplus is a period of relatively strong imports growth, i.e., an inversion of the domestic demand crisis of the period 2001-2007.

Figure 25 to Figure 28 show, even though the scale of the problem is significant, it could still be solved in a relatively short period of time. In fact, in most years since Germany’s reunification, nominal exports and imports increased by similar amounts. Only in 2001-2007 did imports increase by substantially less than exports. During the 2010s, Germany’s nominal exports increased on average by €58 billion per year, imports by €50 billion, and GDP by €97 billion. If these trends continue over the next decade, net exports will increase slightly from 6.0 to 6.6 per cent of GDP. As shown in Figure 26 and Figure 27, if imports instead increased by €80 billion per year while exports continued to increase by €58 billion per year, the export surplus would be eliminated until the end of the 2020s. The same reduction of the export surplus could be achieved through a reduction of the yearly increase in exports to €28 billion, if imports continued to increase by €50 billion per year.

In sum, both rebalancing scenarios (or a combination of higher imports increases and lower exports increases) require significant, but feasible macroeconomic restructuring. Germany’s export surplus emerged in a short period of half a decade in the early 2000s. There is no reason to believe it cannot be reversed just as quickly.

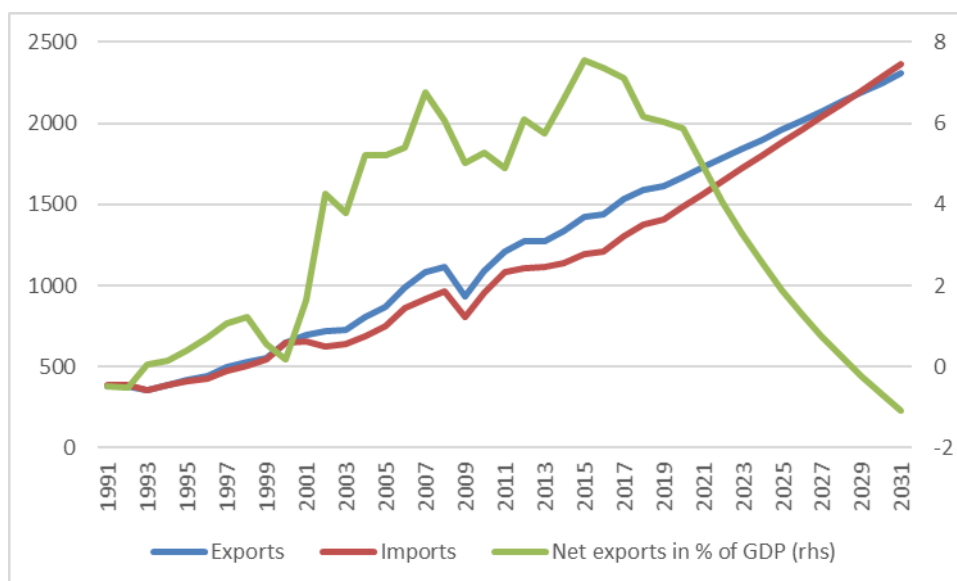
Figure 25: The “business-as-usual-scenario”



Note: Exports increase by €58 billion and imports by €50 billion per year during 2020 onwards, as they did on average during the previous decade (2010-2019).

Source: Destatis, authors’ calculations.

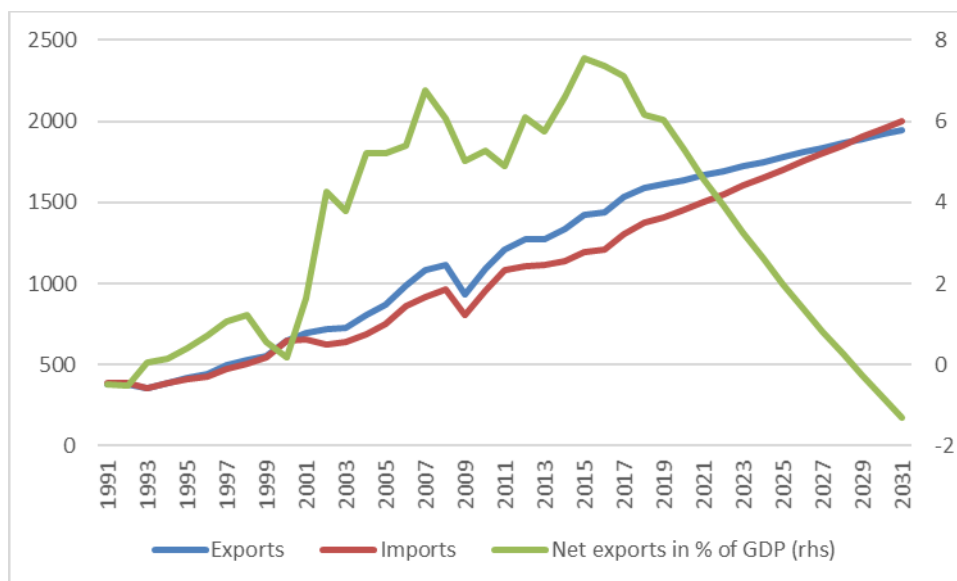
Figure 26: The “higher-imports-scenario”



Note: Exports increase by €58 billion and imports by €80 billion per year from 2020 onwards.

Source: Destatis, authors’ calculations.

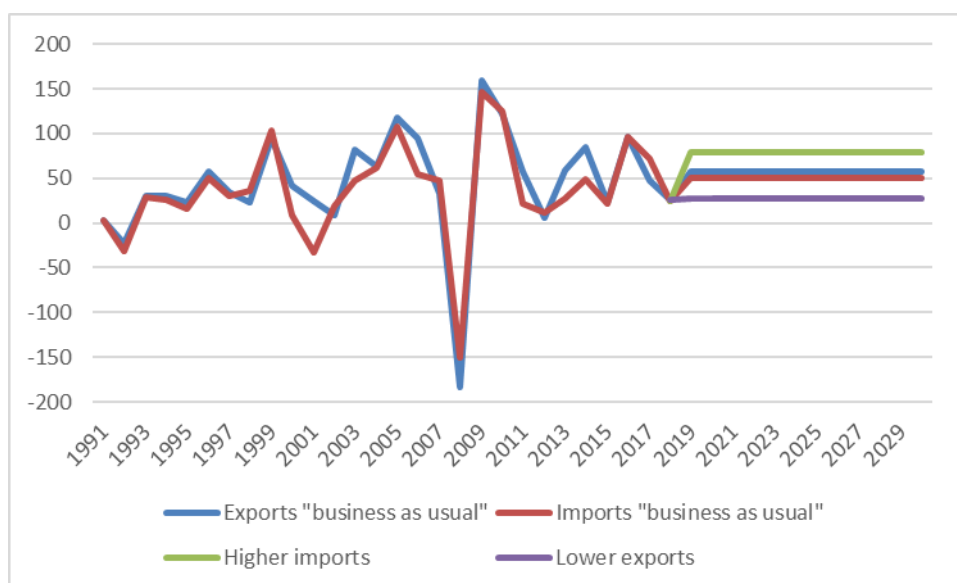
Figure 27: The “lower-exports-scenario”



Note: Exports increase by €28 billion and imports by €50 billion per year from 2020 onwards.

Source: Destatis, authors’ calculations.

Figure 28: Yearly increase in exports and imports in the three scenarios, in € billion



Source: Destatis, authors’ calculations.

2.2. What can Germany learn from other, more balanced economies?

It is instructive to compare Germany’s growth model with that of other large economies whose current accounts are either persistently more balanced or which recently underwent a process of rebalancing. Even though very different underlying economic structures, institutions and economic policy approaches are possible with the same levels of sectoral financial balances, a question worthwhile to

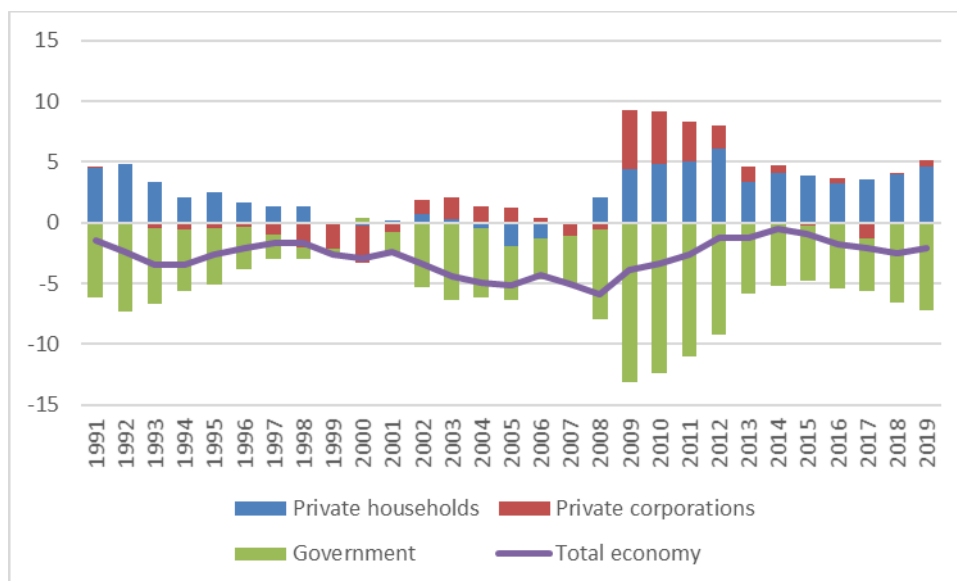
ask is, how could a more balanced economy look like in terms of the income and spending patterns across the different sectors?

This Subsection looks at the United States, France and China. The United States used to be a highly unbalanced economy with a very large current account deficit prior to the global financial crisis of 2008 but its current account deficit narrowed in the aftermath of the crisis. The French economy has been remarkably balanced in terms of its current account throughout the past decades. China was the country with the largest current account surplus before the global financial crisis but its current account surplus has shrunk considerably in the past decade. Even although the French and the U.S. economies are characterised by a stronger focus on domestic demand and a lower current account balance compared to Germany, they represent very different societal models. Provided that Germany will make it a policy priority to rebalance its economy, an important question to ask is, which lessons can be drawn from the example of such different, domestic-demand oriented economies as France and the United States? And what can be learnt from the recent current account rebalancing process in China?

Figure 29 to Figure 31 show the sectoral distribution of income and spending for the United States. The most striking difference compared to Germany is that the household sector in the United States accounts for a much larger share of both income and spending than in Germany. In 2019, the household income share in the United States was 79 per cent of the gross national disposable income (against 62 per cent in Germany), and household consumption and investment accounted for more than 74 per cent of GDP (against 59 per cent in Germany). Since the early 2000s, the government's revenue base gradually shrank by 6-7 percentage points of the national disposable income, mirroring the increase in the household income share from a bit more than 70 per cent to almost 80 per cent. The United States government spends a bit less on goods and services as a share of GDP than the German government, but the United States government runs permanent deficits. Corporate investment as per cent of GDP is similar in both countries (roughly 10 per cent), but the United States corporate sector is not a net lender, unlike the German corporate sector.

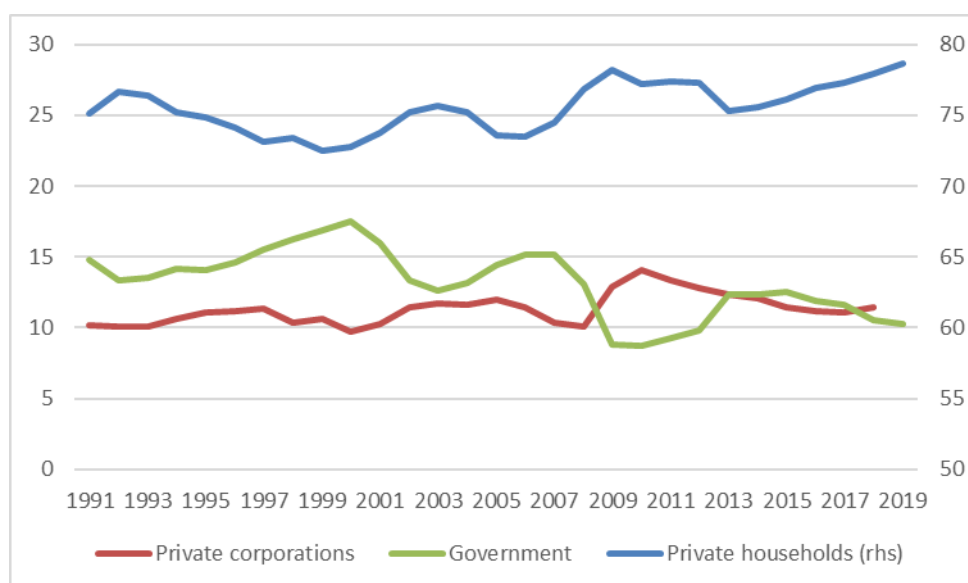
On the one hand, the example of the United States suggests that the current account balance can be reduced by lowering taxes and leaving a larger share of the national income to the household sector and for household spending on goods and services. On the other hand, the recent economic history of the United States also illustrates the downsides of a national growth model relying excessively on private household demand and an underinvestment in public services (Behringer and van Treeck 2019b).

Figure 29: The current account balance and sectoral financial balances in the United States



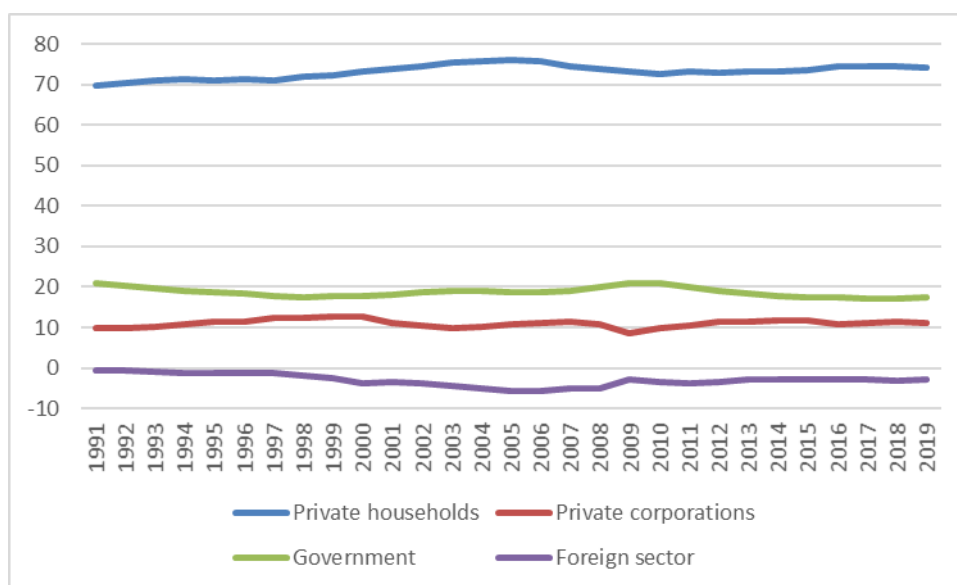
Source: AMECO database, authors' calculations.

Figure 30: Sectoral incomes as a share of gross national disposable income in the United States



Source: AMECO database, authors' calculations.

Figure 31: Sectoral expenditures on consumption and investment as a share of GDP in the United States



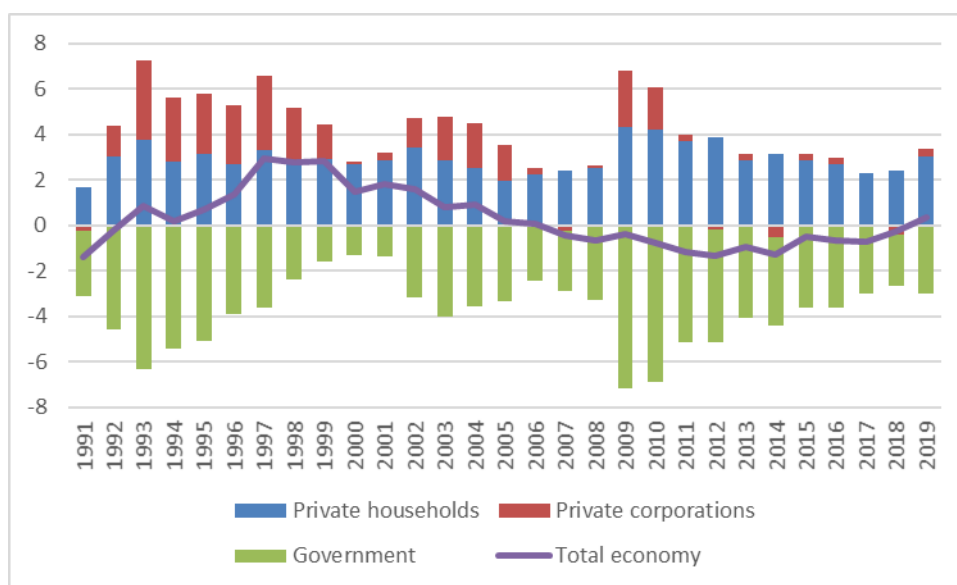
Source: AMECO database, authors' calculations.

The United States combine a very high household income share in the total economy income with very high income inequality within the household sector. Unlike in countries with more developed welfare states, the financing of basic services like education, health care, transportation, housing etc. relies much more strongly on private household expenditures rather than public expenditures. These goods are by their very nature strongly positional (Frank 2005). As inter-household income inequality especially at the top of the distribution has soared in the United States since the early 1980s, top income households spent increasing amounts on these goods. This set in motion significant “expenditure cascades”, as households below the top of the income distribution reduced (non-positional) savings and leisure time to try and keep up with the rising consumption patterns of top income households. Yet, the basic results of such “trickle-down consumption” are lower savings, less leisure and higher debt for all households except those at the top of the income distribution. While such positional arms races are unlikely to result in increased satisfaction for the average household, the effect of rising income inequality in the United States was the generation of a new feeling of insufficient spending power among the middle class, in spite of the higher aggregate household income share (and lower government taxes). Moreover, the domestic demand generation process of the United States economy became strongly dependent on high levels of household debt and a large current account deficit, which culminated in the financial crisis of 2008. During the years leading up to the financial crisis, the household sector became a net borrower, reflected in lower saving rates and rising debt-to-income ratios of households below the top of the distribution (van Treeck 2014; Saez and Zucman 2016; Bartscher et al. 2020). The rebalancing of the United States economy in the aftermath of the crisis was largely the result of a sudden stop in household spending (Kumhof et al. 2015).

In light of the United States experience, one important lesson to be drawn for Germany's rebalancing is that simply transferring income to the household sector while at the same time underinvesting in basic public services is a recipe for creating an overindebted household sector and, more generally, a society that is economically fragile (and prone to political polarisation).

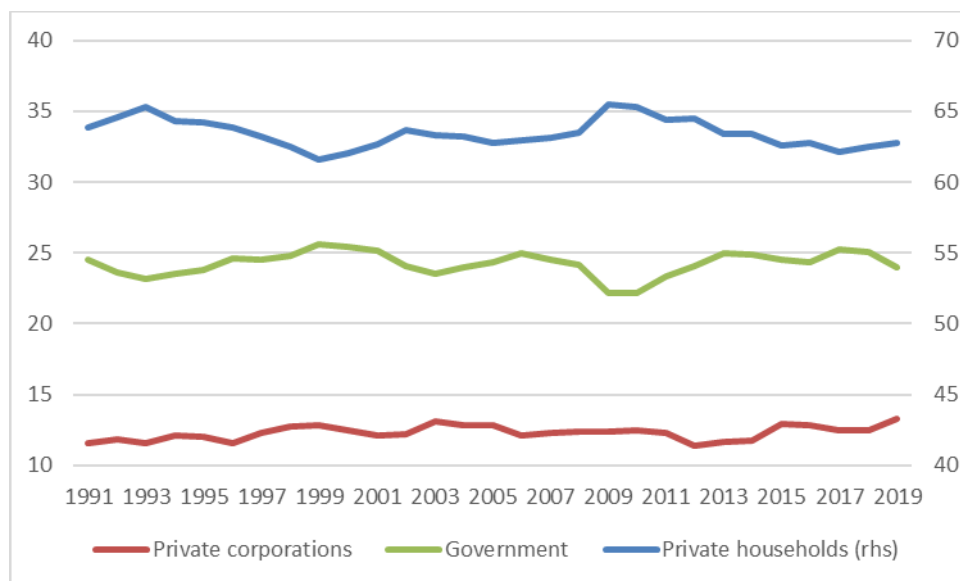
The example of France (see Figure 32 to Figure 34) is interesting because France's current account has been roughly balanced throughout the past 30 years, even although the share of the national disposable income going to households has been even lower than in Germany during all but the most recent years of this period. In France, the household income share fluctuated mildly between roughly 62 and 63 per cent, while it fell from 69 to 62 per cent in Germany. In France, the flipside of the relatively low household income share is a relatively high, and stable, government's share of roughly 25 per cent in the national disposable income. This is very close to the current government income share in Germany, after it increased by roughly 5 percentage points in the past decade. However, the French government has spent considerably more, in the order of 30 per cent of GDP, on goods and services than the German government currently does with slightly more than 20 per cent of GDP. In other words, the French government runs permanent deficits, while the German government runs permanent surpluses. Interestingly, the reduction of France's current account from roughly 3 per cent in the late 1990s to roughly 0 per cent today for the most part reflects the reduction in the corporate sector surplus from roughly 2-3 percentage points of GDP to roughly 0 per cent today. Since corporate sector spending in per cent of GDP is similar in France and Germany, the difference in government spending of approximately 8 per cent of GDP essentially accounts for the higher net exports in Germany compared to France.

Figure 32: The current account balance and sectoral financial balances in France



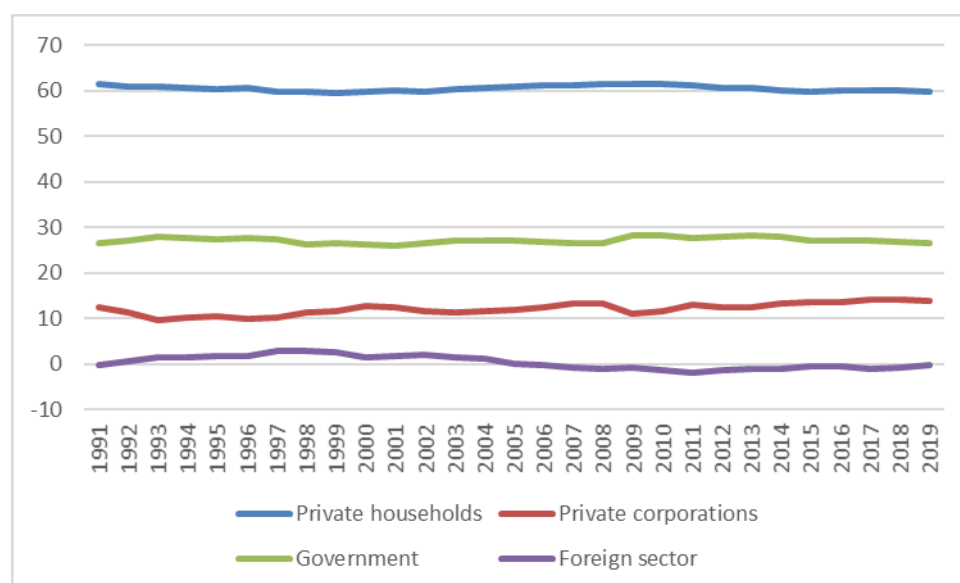
Source: AMECO database, authors' calculations.

Figure 33: Sectoral incomes as a share of gross national disposable income in France



Source: AMECO database, authors' calculations.

Figure 34: Sectoral expenditures on consumption and investment as a share of GDP in France

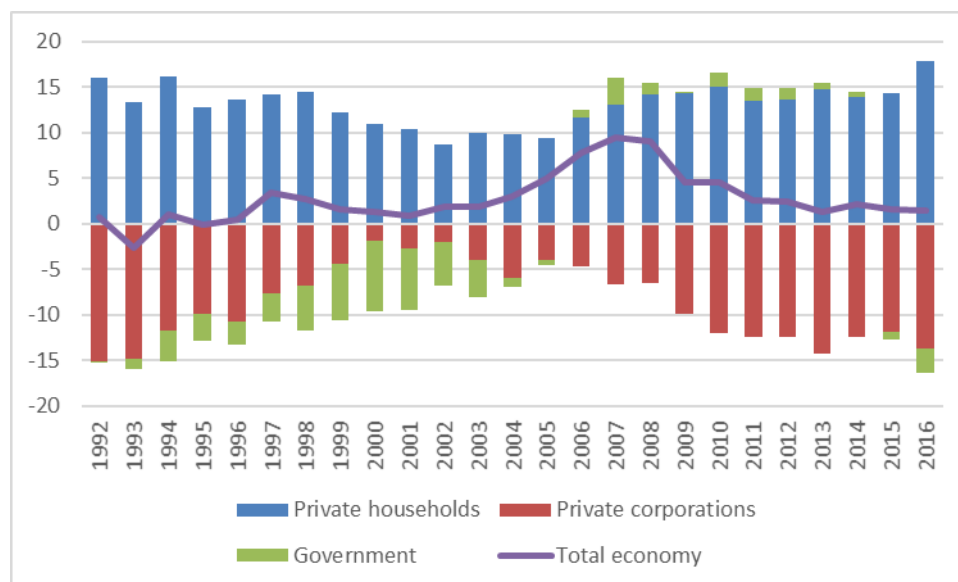


Source: AMECO database, authors' calculations.

Clearly, the French model is a lot more sustainable from a macroeconomic perspective than the United States model. In particular, the French model shows that the current account can be balanced even with a relatively low household income share, provided that the government sector (and the corporate sector) does not run persistent financial surpluses, as has been the case in Germany for the past one or two decades.

At first sight, China's remarkable current account rebalancing from a surplus of almost 10 per cent of GDP in 2007 to near balance today might appear as a blueprint for the challenges that Germany currently faces (Figure 35).

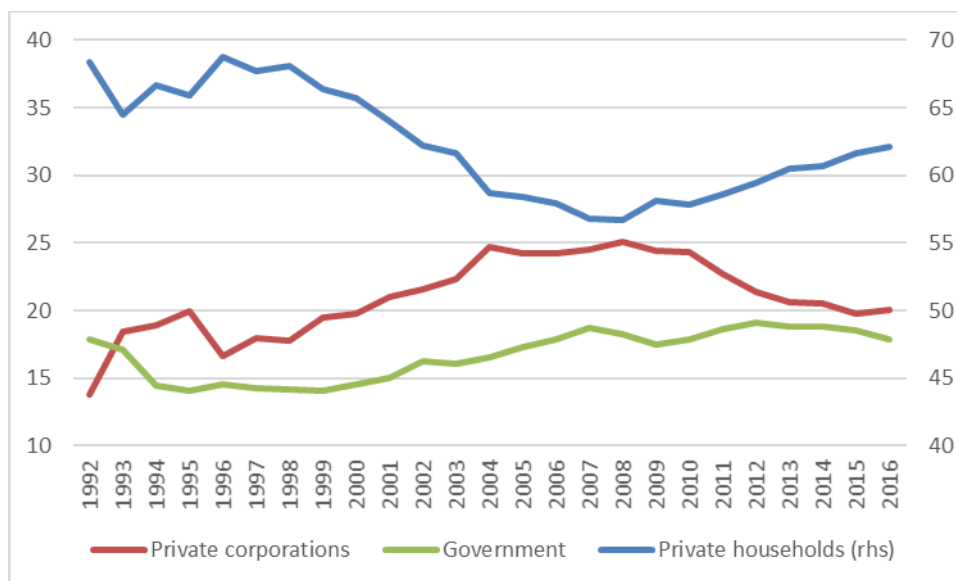
Figure 35: The current account balance and sectoral financial balances in China



Source: Eurostat, authors' calculations.

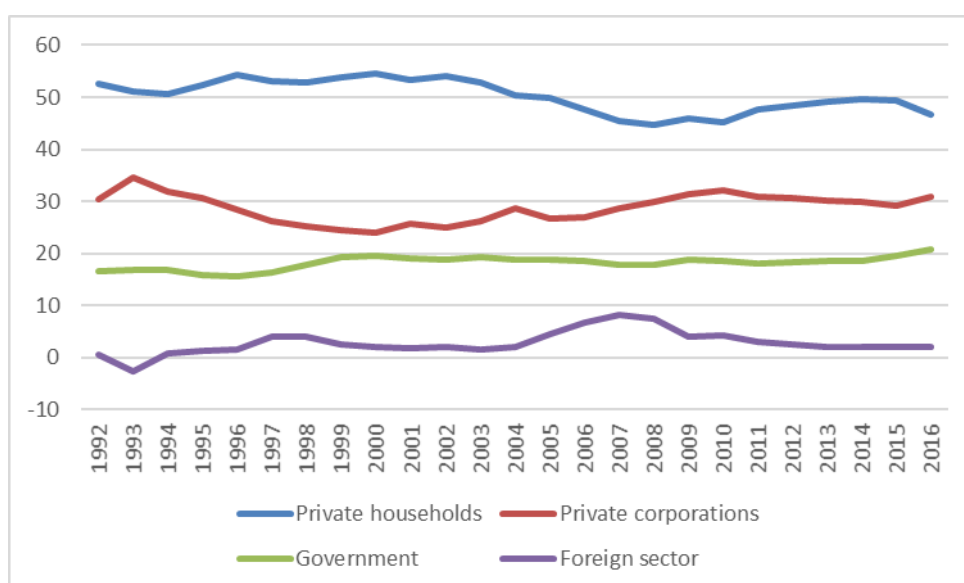
However, as can be seen in Figure 36 and Figure 37, even though the share of national income going to the household sector has increased in China since the mid-2000s, household expenditure has hardly increased as a share of GDP and still accounts for less than 50 per cent of GDP. The expenditure share of the corporate sector remains extraordinarily high, at 30 per cent of GDP, three times as high as in Germany, the United States, and France. From an accounting perspective, the bulk of China's current account rebalancing in fact stems from the decrease of the corporate sector's share in the national income but a constant corporate expenditure share in the gross domestic product. Since personal incomes and expenditures remain repressed, the accelerated growth of China's production capacities is not designed to respond to higher domestic consumption demand, but continues to be oriented towards the global exports markets. In fact, the private consumption-to-GDP ratio has fallen to only slightly more than one third of GDP, and investment now exceeds 40 per cent of GDP. Personal income inequality remains at an extremely high level (Figure 38). In sum, the Chinese economy still is far away from a domestic demand-oriented growth model based on robust middle-class purchasing power and consumer spending. It clearly cannot be considered as a role model for the rebalancing of the German economy.

Figure 36: Sectoral incomes as a share of gross national disposable income in China



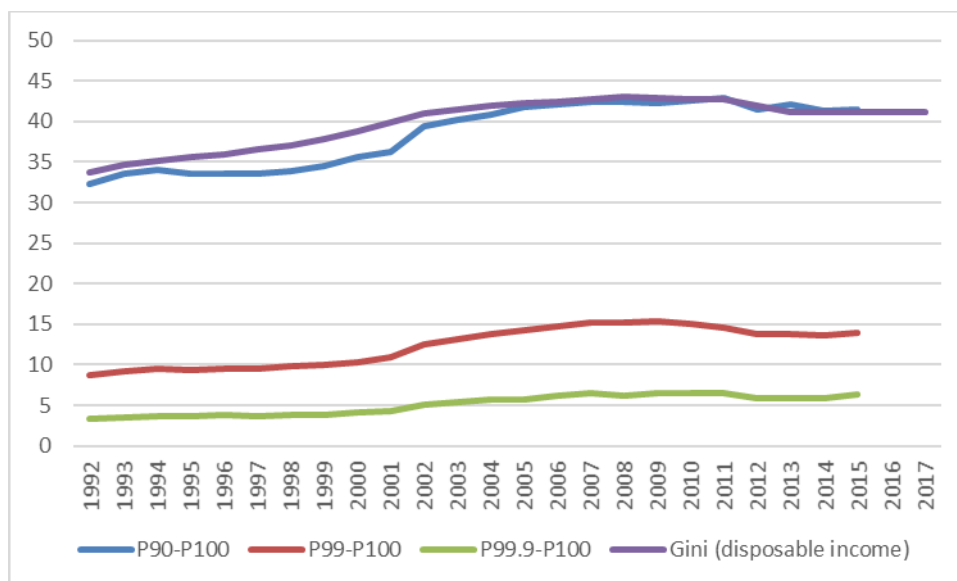
Source: Eurostat, authors' calculations.

Figure 37: Sectoral expenditures on consumption and investment as a share of GDP in China



Source: Eurostat, authors' calculations.

Figure 38: Measures of personal income inequality in China



Source: World Inequality Database, Standardized World Income Inequality Database v9.0 (Solt 2020), author's calculations.

2.3. Through which channels could Germany's current account surplus be reduced?

An export surplus implies that domestic production exceeds domestic expenditures on goods and services. In other words, there are two basic approaches to reducing an export surplus: through boosting the demand growth for goods and services, or through lowering the production growth of goods and services. While the sectoral balances perspective gives useful insights into the origins of Germany's external imbalance, additional assumptions and normative judgments have to be made to formulate concrete policy conclusions. We will conclude that a combination of the two aforementioned approaches will be best suited to rebalance Germany's economy while at the same time bring about the socio-ecological transformation that is necessary to address the most pressing issue of our times, which is the ecological crisis.

2.3.1. Higher demand growth for goods and services by the government sector

The most important policy conclusion that we would draw from the preceding analysis is that Germany's government sector should substantially increase its expenditures. The persistently high level of private sector financial surpluses in Germany as well as the example of other countries strongly suggest that permanent government sector financial surpluses are incompatible with the objective of a roughly balanced current account.

One way to achieve lower public sector surpluses would be to reduce taxes and raise the share of the national income going to the private sector. However, it is doubtful whether lower corporate taxes would give a boost to private investment, given that the corporate sector has been in financial surplus for almost two decades already, as a result of soaring after-tax profits. A more convincing case can

be made for increasing the private household income share. While this could be one element of Germany's rebalancing strategy (see Subsection 2.3.2), raising public expenditures clearly appears as the top priority.

While the level and composition of public expenditures is, of course, subject to democratic decision-making, there are no macroeconomic obstacles to a much larger share of public investment and consumption in GDP as is currently the case in Germany. Obvious and pressing needs for higher public spending exist in particular in the areas of education (personnel and infrastructure in early childcare, primary and secondary schools, universities), transportation (urban transportation systems, far-distance rail transport, bicycle lane networks), housing (social housing, ecological building restoration), digital infrastructure (broadband glass fibre lines, e-government), and health care. Investments in these areas are also necessary to reduce the CO₂-intensity of the economy to which Germany committed itself as part of the 2015 Paris Agreement to combat climate change.

To give an idea of the orders of magnitude that are at stake: If the German government sector increased its consumption and investment spending to 28 per cent of GDP (i.e., roughly the French level), this would imply an additional spending of 5 percentage points of GDP per year, compared with the level of government consumption and investment expenditures in 2019 (or €175 billion per year, based on the 2019 level of GDP). To put these numbers in perspective, Germany's export surplus was €207 billion in 2019.

The single-most important obstacle to such a change of direction in fiscal policy is, of course, the German debt brake which limits the cyclically-adjusted ("structural") government deficit to close to 0 per cent of GDP. Since the technical implementation of the debt brakes leads to significant procyclical revisions of the "structural" deficit, the government has an incentive to accumulate precautionary surpluses ("war chest") during business-cycle upturns to leave more room to manoeuvre in terms of counter-cyclical fiscal policy responses in a recession. One current concern is that the government will set itself too ambitious an objective for returning to a balanced budget in the aftermath of the Covid-19 crisis, which would imply a contractionary fiscal policy stance over several years and make the deeply needed public investment initiative as sketched above highly unlikely. In the current institutional setting, the only way around such a contractionary bias for fiscal policy would be to invoke the exception clause of the debt brake, which permits borrowing beyond the usual limits, for an extended period time. Yet, in light of the current institutional and political environment, an absolute priority for government should be to avoid cutting taxes, in spite of the substantial increase in tax revenues during the decade before the Covid-19 crisis, as this would put the needed additional public consumption and investment expenditures even further at risk. Notwithstanding these pragmatic considerations, the debt brake should be repealed as soon as possible.

2.3.2. Higher demand growth for goods and services by the private sector

One important explanation of the structural aggregate demand deficiency in Germany is the low and decreasing level of private household expenditure relative to aggregate production. Since household expenditure closely tracks household income, raising the share of the national income going to households would almost certainly give a boost to domestic demand. If private households had maintained their share in the total national income of the early 2000s, their disposable income would have been more than €200 billion higher in 2019. Similarly, if they had maintained their share in the total amount spent on Germany's GDP from the early 2000s, they could have spent an additional €160 billion on goods and services in 2019. Yet, while one obvious way to increase household incomes would be to reduce government taxes, such a policy would make it almost impossible for the government to also increase its consumption and investment expenditures, given the institutional straightjacket which is the German debt brake.

Moreover, as the example of the United States shows, a high household income share should not be considered an objective per se, and it can even be an obstacle to addressing the most pressing societal challenges of our time. This suggests that there are good reasons that increasing government expenditures should take priority over higher private household expenditures in addressing the challenges of current account rebalancing and the socio-ecological transformation both at the same time. To take just one example, as the Covid-19 crisis has shown, Germany's education system is dramatically understaffed and suffers from a lack in infrastructure investment. Consider the possibility that an increasing number of high-income households will decide to send their children to better equipped private schools, something that is so far rather uncommon in Germany. It would then be likely that the household sector in Germany will see similar "trickle-down consumption" effects as the United States, as middle class households will seek to keep up with the higher-income households. This is just one example why investing in public services should be prioritised over raising (average) private household incomes through tax cuts.

Clearly, it can also be expected that higher public spending on education, transportation, digital infrastructure etc. will crowd in private investment to a significant extent.

Nevertheless, policy could also contribute to stronger private household demand through a number of measures. Until the late 2000s, the decrease in the household income share was closely linked to the decrease in the economy-wide wage share. Hence, one approach for policy would be to conduct structural labour market reforms with a view to improving the conditions for higher wage growth. Obvious candidate policies include higher minimum wages, the strengthening of collective wage bargaining, and higher public sector wages especially in the public education and health systems.

Since the late 2000s, we can observe a decoupling of disposable household income, which has continued to decrease as a share of national income, from wage income, which has increased relative to capital income. One reason for this decoupling are the lower corporate interest payments due to the very low interest rates since the global financial crisis, and the decreasing share of corporate profits (after tax and interest) that are distributed to the household sector, as corporations aimed at maintaining a high level of saving. Another reason is the increasing share of the national income that is going to the government in the form of taxes and social security contributions and the lower interest burden of the government. Hence, a further policy priority would be to design reforms of the tax and transfer system aiming at raising the disposable income of households (including pensioners) with low and middle incomes (and a high marginal propensity to consume) and at taxing corporate profits at higher rates.

One present concern is that private consumption demand has taken a further hit as a result of the Covid-19 pandemic. This is the result of the sudden upshot of the household saving rate, from about 10 per cent before the crisis to above 20 per cent in the second quarter of 2020. This procyclical decrease of the consumption-to-GDP ratio and increase in the household saving rate during a recession is highly untypical. Normally, households smooth their expenditures over the business cycle so that private consumption acts as a stabiliser of aggregate demand. In order to prevent this most recent fall in the consumption-to-GDP ratio to become permanent, it is key that appropriate policies are implemented that stabilise households' income expectations. Such policies include short-time working schemes, or, more radically, a job guarantee.

2.3.3. Lower growth of production of goods and services

Another approach to the imbalance between excess domestic production and insufficient domestic demand would be to reduce average working hours with an eye to reducing the growth of domestic production, especially in the export-oriented industries.

Such a proposal was recently brought to the forefront of the economic policy debate in Germany by the IG Metall, the metalworkers' trade union, and it was seconded, at least in principle, by Gesamtmetall, the *Federation of German Employers' Associations in the Metal and Electrical Engineering Industries*. The proposal includes the introduction of the 4-day-week (or the 3-day-weekend) with a partial wage adjustment. The main objective is to maintain a high level of employment in vulnerable sectors of Germany's export industries. This includes, in particular, the automotive industry which has taken a hard hit during the Covid-19 crisis but also likely suffers a more structural problem of excess capacity as a result of the electric mobility transformation.

More generally, the improvement of workers' "work-life-balance" has been high on the agenda of Germany's trade unions in recent years. In an increasing number of collective bargaining agreements, workers are given the opportunity to choose between higher monthly wages or lower working hours. A reduction of working hours with partial wage adjustment can also be expected to lead to an increase in the share of national income going to wages, which could strengthen domestic demand relative to GDP, as discussed above.

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