

Out of balance? Revisiting the nexus of income inequality, household debt and current account imbalances after the Great Recession

Fabio Ascione[✉] and Matthias Schnetzer^{★✉}

Rising current account imbalances around the globe preceded the Great Recession in the late 2000s. These imbalances narrowed significantly during the crisis mainly due to a negative demand shock and plummeting imports in deficit countries. While income inequality and household debt played a pivotal role in current account imbalances prior to the crisis, it is unclear whether these relations still hold when including the post-crisis era. We estimate current account determinants using a panel of 31 OECD countries over 45 years and include measures for functional and personal income distribution as well as household debt. We find a sustained relation between income inequality and current accounts when including the post-crisis period, while the link to household debt diminishes, indicating a change in the debt regime in a number of countries.

Key words: Current account balance, Income inequality, Household debt, OECD, Great Recession

JEL Classification: F32, D63, G51

1 Introduction

The Great Recession in 2007/08 was preceded by severe macroeconomic imbalances. Spurred by increasing current account deficits in the USA and striking surpluses in Asian economies, these imbalances amplified global financial and economic fragility (Obstfeld and Rogoff, 2009; Portes, 2009; Rajan, 2011). At the same time, current account imbalances within the Eurozone increased substantially on the eve of the crisis in 2007/08 (Brancaccio, 2012; Kang and Shambaugh, 2016). During the crisis, however, external imbalances narrowed substantially, with Spain, Portugal and Italy turning into surpluses and France running a current account deficit. The rebalancing process in the Eurozone was accompanied by a massive reduction in domestic demand

Manuscript received 18 June 2020; final version received 22 June 2021.

Address for correspondence: Fabio Ascione, Department of Economics (CES), University of Paris 1 Panthéon-Sorbonne, 106-112 bd de l'Hôpital, 75647, Paris Cedex 13, France; email: fabio.ascione@etu.univ-paris1.fr

[★]University of Paris 1 Panthéon-Sorbonne (FA); Vienna University of Economics and Business (MS); and Austrian Federal Chamber of Labour (MS). We are grateful to Jan Behringer, Miriam Rehm, Bruno Tinel, the editors and two anonymous referees for valuable suggestions and helpful comments.

© The Author(s) 2021. Published by Oxford University Press on behalf of the Cambridge Political Economy Society. All rights reserved.

and a contraction in private investment in peripheral countries (Bluedorn and Leigh, 2011; De Santis and Cesaroni, 2016). On the other hand, large and persistent surpluses in countries such as Germany and the Netherlands continue to weigh on their trading partners' current account balances and threaten to reinforce global disequilibria (Kollmann *et al.*, 2015).

The drivers of detrimental current account imbalances have been paid particular attention in the recent empirical literature (Chinn and Ito, 2008; Schmitz and Von Hagen, 2011; Belke and Dreger, 2013; Gehringer, 2013; Goss_e and Serrano, 2014; Storm and Naastepad, 2014; Carrasco and Peinado, 2015; Kollmann *et al.*, 2015; De Santis and Cesaroni, 2016; Cota *et al.*, 2017; Unger, 2017). The underlying theoretical explanations, however, differ and give rise to a myriad of competing viewpoints. Among these are the competitiveness hypothesis stating that unit labour costs are the main driver of current account imbalances (Belke and Dreger, 2013); the (international) non-price competitiveness argument which proposes factors such as technological capabilities and product quality to explain current account differences (Storm and Naastepad, 2014; Grabner *et al.*, 2020); the convergence hypothesis that sees large current account deficits as a symptom of a convergence process where countries with lower GDP per capita grow faster and attract capital from abroad (Blanchard and Giavazzi, 2002; Schmitz and Von Hagen, 2011; Holinski *et al.*, 2012); the twin deficit hypothesis that current account balances are determined by government balances (Bluedorn and Leigh, 2011; Kumhof and Laxton, 2013); the financial deregulation hypothesis that laxly regulated financial markets allowed debt-led and export-led growth regimes to accumulate massive current account disparities (Stockhammer and Onaran, 2013); the demographic argument which emphasises that factors such as population structure affect the current account balance due to different saving norms (Cooper, 2008).

Another strand of literature associates the rise in current account imbalances with the increase in income inequality (Al-Hussami and Remesal, 2012; Kumhof *et al.*, 2012; Belabed, 2017; Behringer and Van Treeck, 2018a, 2018b). This line of research often builds upon the idea that aggregate demand is driven by functional and personal income distribution. The argument behind functional income distribution is that the relative shares of wages and profits in national income affect investment and saving. The rationale behind personal income inequality is the theory of expenditure cascades in household consumption due to upward-looking status comparison. Changes in the functional and personal distribution of income may thus also have an impact on the demand for imports and the current account. This literature usually focuses on the period prior to the global financial crisis during which income inequality soared in most industrialised economies. However, it is unclear whether the nexus between income inequality and macroeconomic imbalances holds in the long run or in the pre-crisis period only. While current account imbalances have decreased substantially, the underlying conditions including income inequality have hardly altered. We thus expect that the relationship is still present though weaker than before the crisis.

This paper adds some novel aspects to the literature. First, we draw on a broader homogenous macro-panel than previous studies and investigate current account determinants for 31 OECD countries, including different measures of personal and functional income inequality. Second, we address the role of financial deepening by explicitly accounting for household debt and credit regulation. While the nexus between financial development and the current account balance is well elaborated in the

literature, household debt has often been neglected in empirical studies on macroeconomic imbalances. Third, we include the crisis years after 2007/08 when analysing the long-term nexus between inequality and current account imbalances. Most empirical papers focus on the period prior to the global financial crisis and do not consider the stark post-crisis adjustments in the current accounts. This way, we investigate whether the findings in the literature hold for a longer time period and a larger sample of industrialised countries or whether they apply only for the specific period before the Great Recession. We find a sustained relationship between measures of income inequality and the current accounts even when including the post-crisis period. In contrast, the link to household debt diminishes indicating a change in the debt regime in a number of countries during the crisis.

2 Related literature

The current account is generally defined as the sum of net exports of goods and services (trade balance), net income from abroad, and net cash transfers. However, it can also be described in terms of imbalances between aggregate saving and investment. Countries with lower domestic saving than investment will usually experience a current account deficit due to higher demand for import goods and need for external funding. Thus, current accounts are related to saving and investment decisions which in turn are linked to income distribution. The discussion is preceded by a review of the literature with respect to various perspectives on the nexus between macroeconomic imbalances and income inequality, namely functional income distribution, personal income distribution, and household debt.

2.1 Functional income inequality

The first strand of literature relates to the macroeconomic effects of changes in functional income distribution. The extent to which shifts in the distribution between profits and wages affect saving and investment decisions, and therefore the current account, remains theoretically inconclusive. Based on the ideas of Keynes (1937), first Kalecki (1942) and then Kaldor (1966) argued that the propensities to save differ between wages and profits. The Kaleckian-Kaldorian notion of differential savings rates rejected the idea of a single marginal propensity to save (Samuelson and Modigliani, 1966) and incorporated the functional income distribution into macroeconomic models. The idea that a redistribution from profits to wages boosts output via rising consumer demand, eventually gave rise to wage-led demand regimes (Stockhammer, 2013). In contrast, the Marxian-Goodwinian literature stresses that a higher profit share is beneficial to economic growth when private investment increases more than consumption decreases, opening the way for profit-led demand regimes (Stockhammer and Wildauer, 2016; Lavoie, 2017). Potential implications for the current account arise when imports fall due to a shift in the demand for consumer and investment goods from abroad. Thus, the effect of changes in the functional distribution on the current account balance is not a priori undisputed.

A flexible theoretical model by Bhaduri and Marglin (1990) gave rise to a plethora of empirical literature investigating whether countries were wage-led or profit-led. The bulk of these papers typically suggest that an increase in the wage share negatively affects the current account balance (Stockhammer and Onaran, 2004; Naastepad and Storm, 2006; Hein and Vogel, 2007; Stockhammer, 2013; Onaran and Galanis, 2014;

Onaran and Obst, 2016; Reddy *et al.*, 2018). While the wage share is positively related to consumption and the demand for import goods, there is a negative effect on exports since rising wages are associated with increasing unit labour costs and less price competitiveness (Stockhammer *et al.*, 2008). For instance, Carrera *et al.* (2016) show that a higher wage share negatively affects the current account balance in a sample of 60 countries and find evidence of a cost channel (exports) and an income channel (imports).

2.2 Personal income inequality

The second debate relevant to this paper deals with the macroeconomic effects of personal income inequality. In the post-Keynesian tradition, personal income distribution affects aggregate demand through consumption and saving. While this strand of literature agrees on the relevance of income inequality for aggregate demand, there is dissonance about the direction of the effect. On the one hand, scholars argue that increasing personal income inequality reduces aggregate demand since low-income households have a higher marginal propensity to consume than richer households (Dynan *et al.*, 2004; Stockhammer, 2013). This is related to the notion of differential savings rates, though not between production factors but between individuals at different positions in the personal income distribution. Thus, aggregate saving rises with inequality while the demand for import goods decreases, leading to a surplus in the current account balance (Behringer *et al.*, 2016). On the other hand, non-conventional theories of consumer behaviour, such as the relative income hypothesis (RIH) developed by Duesenberry (1949), suggest that with higher personal income inequality the consumption-to-income ratio might even increase if consumption externalities are taken into account. Related to the notion of conspicuous consumption by Veblen (1899), Duesenberry stressed that consumption patterns are governed first by emulating peers in a higher position in the social hierarchy and, second, by maintaining an already attained living standard based on past consumption patterns. Frank *et al.* (2014) introduced a model of expenditure cascades where changes in income distribution have a direct impact on aggregate saving. As a result of external status comparisons, every individual's consumption increases with the average consumption of their peers because of the fear of potential losses in status and prestige. Aggregating this effect over the whole distribution results in expenditure cascades where total consumption increases and saving decreases, leading to a higher demand for imports and a deterioration in the current account balance (Kim *et al.*, 2014a; Belabed, 2017). There is evidence that expenditure cascades are stronger if the shift in income distribution happens at the top as consumption patterns trickle down to the bottom (Drechsel-Grau and Schmid, 2014; Frank *et al.*, 2014; Bertrand and Morse, 2016). Rather than contrasting differential savings rates versus expenditure cascades, Bofinger and Scheuermeyer (2018) find evidence for both hypotheses depending on the degree of income inequality in an economy. Moreover, the nexus between personal inequality and aggregate demand is influenced by norms and institutions. The effect of income inequality on the current account balance might be markedly stronger if credit conditions are loose and household debt is barely restricted (Behringer *et al.*, 2016).

2.3 Household debt

Accordingly, the third debate in the literature focuses on the role of household debt in the nexus between income inequality and current account imbalances. The channels

between these variables are complex as they might have independent and combined effects. First, expenditure cascades may boost consumption independently from debt when households are able to sacrifice their savings. Both, [Duesenberry \(1949\)](#) and [Frank *et al.* \(2014\)](#) emphasise that consumption emulation may first reduce household saving and eventually lead to a rise in household debt. Second, household debt could vice versa affect demand irrespective of income inequality, for instance when credit conditions loosen and it becomes more attractive to finance consumption with debt. Third, there might be a joint effect when expenditure cascades rise the demand for credit and credit liberalisation facilitates the supply for credit ([Pollin, 1990](#)). Empirical studies find that credit conditions and household debt affect consumption levels and thus have an impact on the current account ([Kim *et al.*, 2014b](#); [Kumhof *et al.*, 2015](#); [Stockhammer and Wildauer, 2016](#); [Belabed *et al.*, 2017](#)).

Debt-driven growth regimes, i.e. the question of whether debt boosts or curbs demand, crucially depend on the time horizon considered and are prone to instabilities ([Palley, 1994](#); [Dutt, 2006](#); [Hein, 2012](#); [Kapeller and Schutz, 2014](#); [Kim *et al.*, 2014a](#)). In the short run, borrowing relaxes the budget constraint and increases disposable income which fuels consumption growth. With the accumulation of debt, however, increasing repayment obligations reduce current income with negative consequences for consumption in the longer term. Using a debt-augmented consumption function with data for the USA, [Kim *et al.* \(2014b\)](#) find a positive effect of household borrowing but a negative effect of unsustainable debt-servicing burden on consumption. Similarly, [Palley \(2002\)](#), [Boushey and Weller \(2008\)](#), and [Brown \(2008\)](#) show for the case of the US how rising household debt at first stimulates the economy, but increasing debt repayments subsequently worsen financial balance sheets and pose risks to macro-economic outcomes. These empirical findings indicate regime changes from debt-led growth to debt-burdened systems. Thus, rising household debt initially spurs growth and typically causes current account deficits due to higher demand for import goods, but when debt repayments erode the solvency of households, plummeting demand may counterbalance the current account.

For an overview of the theoretical relations, we illustrate the channels between income inequality, household debt, and the current account in [Figure 1](#). The literature in the post-Keynesian and Marxian tradition disagrees on the effect of a rising wage share on aggregate demand and its impact on the current account. According to the theory of differential savings rates, rising income inequality might have a negative effect on consumption and the demand for imports. Following the relative income hypothesis, however, rising personal inequality should have a positive effect on imports but also increases household debt when consumption levels cannot be sustained with current income and savings. Household debt which might be boosted by rising inequality or credit liberalisation is expected to be positively related to the demand for imports. In contrast, unsustainable debt might put a drag on consumer demand and counterbalances the current account. Previous studies regard these channels as crucial for the current account imbalances prior to the Great Recession. Their role in the current account adjustments after the crisis is yet unexplored.

3 Data

For the empirical analysis, we use an unbalanced macro-panel for 31 OECD economies over the period from 1972 to 2017. As several studies point out substantial differences for industrialised and developing countries with regard to the current account,

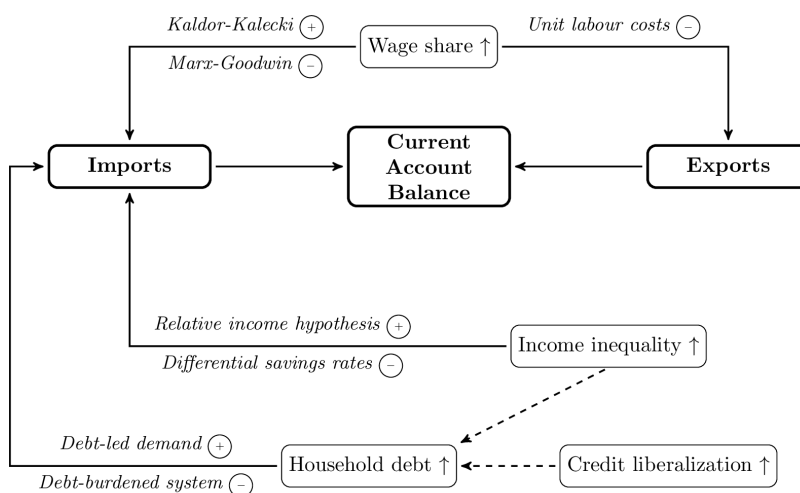


Fig. 1. Theoretical channels affecting the current account balance.

we aim for a large homogenous set of industrial countries (Chinn and Prasad, 2003; Chinn and Ito, 2008). Due to data limitations, we have to exclude five of the 36 OECD member states (Belgium, Chile, Israel, Lithuania, Mexico). The dataset comprises information from the OECD, the World Bank, the IMF, the World Inequality Database (WID) and the European Commission's AMECO database. The restriction of the observation period to 2017 is mainly due to the scarcity of inequality measures since that date. This section focuses on the data for the main channels depicted in Figure 1 and provides a detailed description of all variables and data sources as well as summary statistics in Appendix A1. We provide data and code for replicating tables and figures in this article in a Supplementary Appendix.

The data for current account balances are taken from the World Development Indicators by the World Bank. Figure 2 shows the evolution of the current account balance for the years from 1972 to 2017 with the post-crisis period identified by shading. The average OECD current account only briefly turned positive in the mid-1990s and gradually decreased between the early 2000s and the economic crisis in 2008. After 2008, the average rapidly surged far into the surplus. The standard deviation of the current accounts shows a remarkable rise in imbalances beginning with the late 1990s, eventually leading to a peak prior to the crisis. In the aftermath of the crisis, the divergences within the OECD narrowed substantially, largely due to deficit reductions. Particularly the Baltics, like Latvia (+21 percentage points) and Estonia (+18 pp), and Europe's so-called peripheral countries, like Iceland (+17 pp), Greece (+12 pp), Spain (+12 pp), and Portugal (+11 pp), exhibited immense corrections of their current accounts between 2007 and 2017. These countries were hit hardest by the crisis and domestic demand plummeted due to a destructive mix of rising unemployment, falling incomes, and rigorous austerity measures (Papadimitriou *et al.*, 2013). In contrast, the Scandinavian countries of Norway (−8 pp), Sweden (−5 pp), and Finland (−4 pp) reduced their surpluses. The evolution of the current account balance for all individual countries in our sample is provided in Appendix Figure B1.

Functional income inequality is measured by the share of employee compensation in gross value added. This share is obtained from the OECD National Accounts. While

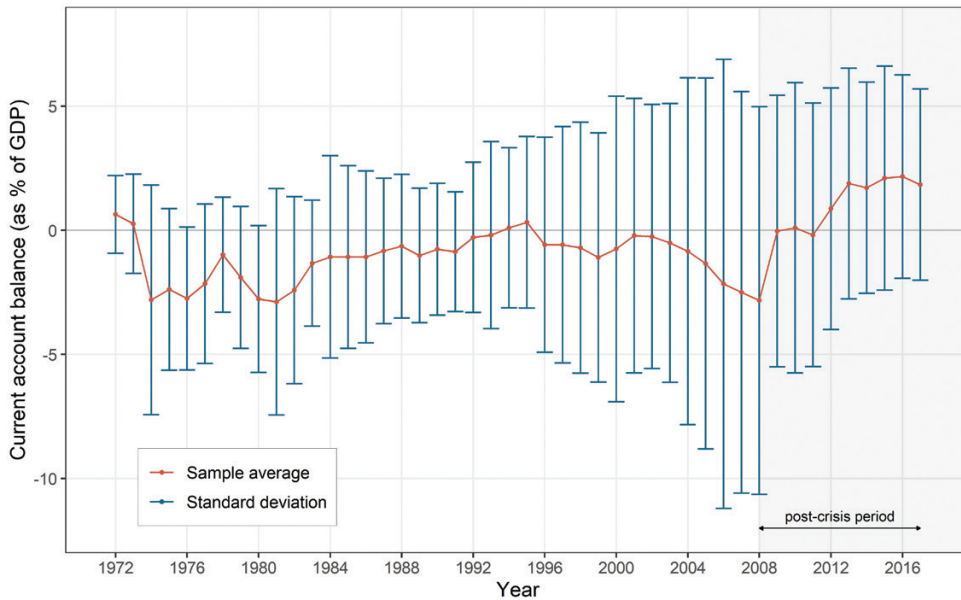


Fig. 2. Current account balances in 31 OECD countries.

employees' labour compensation is clear-cut and broadly available, self-employed workers earn mixed incomes comprising partly labour compensation and partly profits. The dataset follows conventional approaches to assign part of the mixed income to the labour share and the residual part to the profit share. The labour compensation of self-employed workers is thus estimated by imputing equivalent employee wages. Appendix Figure B3 illustrates the evolution of the wage share for each country. In most OECD countries, there is a generally downward trend in wage share. Only a few countries feature a stable or even increasing wage share.

Personal income inequality is measured threefold as the income share of the top 1%, the income share of the top 10%, and the Gini coefficient. The income shares refer to pre-tax national income and are provided by the World Inequality Database (WID). This database uses tax data, national accounts, and Pareto interpolation techniques in order to avoid misreporting in survey income data (Alvaredo *et al.*, 2017; Angel *et al.*, 2019). However, tax records might also be prone to misreporting, since there are potential incentives to report lower income in order to evade tax payments. The Gini coefficient is based on equivalised household disposable income adjusted by taxes and transfers. The data is provided by the Standardised World Income Inequality Database (SWIID). Appendix Figure B2 shows the time series for the personal income inequality measures for all countries. With some notable exceptions, we observe slightly rising inequality for most countries in the last decades; however, changes in these indicators are subtle by nature.

To measure the private debt burden, we use household debt as a percentage of GDP from the Global Debt Database (GDD) provided by the IMF. Household debt includes all private debt such as consumer loans, mortgages, and debt securities. As mentioned above, household debt might be driven by easier access to credit due to loosened credit regulation. Following De Santis and Cesaroni (2016) and Samarina

et al. (2017), we additionally use a sub-indicator from the Economic Freedom Index by the Fraser Institute to capture the degree of financial liberalisation. This variable measures credit market regulation and ranges from 0 (tight credit conditions) to 10 (loose credit conditions). Its calculation is based on three dimensions: the share of private banking ownership, the extent of private sector lending, and the presence of interest rate controls. The time series for household debt is depicted in Appendix Figure B3. There is a distinct pattern for many countries which experienced rising debt up to the crisis and a sharp drop afterwards.

To provide a brief overview of changes in these variables due to the Great Recession, we illustrate the trends in Figure 3. We split the observation period into a pre-crisis era from 1995 to 2007 and a post-crisis era from 2008 to 2017. The tiles indicate whether a variable has increased or decreased in one or both periods. As the diagram shows, there are a few countries that experienced rising current account balances throughout this period, like Germany, Denmark, and the Netherlands. Many countries reveal a rise in the post-crisis era after a decline in the years prior to the Great Recession, like Southern Europe and the USA. As can be seen for the USA, the three indicators for personal income inequality rose in both periods while the wage share declined. All in all, the tiles indicating changes in the direction between the two periods dominate the picture.

4 Methodology

Analysing the determinants of current account balances has a longstanding tradition. Many empirical studies carry out panel estimations in order to identify the long-term relationship between the current account and a common set of covariates (Chinn and Prasad, 2003; Chinn and Ito, 2007, 2008; Gruber and Kamin, 2007; Legg *et al.*, 2007; Phillips *et al.*, 2013). Our empirical analysis is closely tied to the work of Behringer and Van Treeck (2018a, 2018b), who estimate current account determinants for a sample of advanced and emerging economies using standard control variables and several measures of personal and functional income distribution. We extend their specification and estimate

$$CA_{i,t} = \alpha_0 + \beta_1 Debt_{i,t} + \beta_2 PID_{i,t} + \beta_3 FID_{i,t} + \beta_4 (PID_{i,t} * Debt_{i,t}) + X_{i,t}\tau + \mu_t + \varepsilon_{i,t} \quad (1)$$

where CA is the current account balance as a percentage of GDP, $Debt$ measures total private household debt as a percentage of GDP, PID and FID represent proxies for personal and functional income distribution respectively. X is a set of conventional

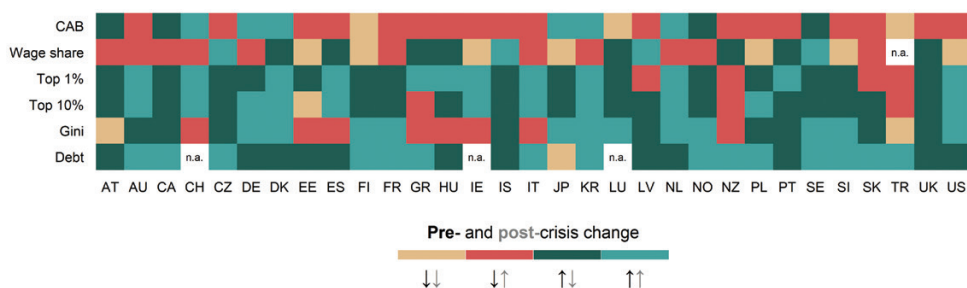


Fig. 3. Pre-crisis (1995–2007) and post-crisis (2008–17) changes in variables.

explanatory variables including output growth, relative productivity, net foreign assets, population growth, old-age dependency ratio, fiscal balance, trade openness, and terms of trade gap. μ_t captures time-fixed effects, $\varepsilon_{i,t}$ is a random disturbance term with zero mean, and $i = 1 \dots N$ and $t = 1 \dots T$ represent country and time. We include an interaction term between personal income inequality and household debt, measuring whether inequality has an additional influence conditioning the level of debt. In an alternative specification, we aim to capture the supply side effect of household debt with the annual credit liberalisation index provided by the Fraser Institute.

A common approach in the empirical literature on current account estimations is to transform the explanatory variables into deviations from a GDP-weighted sample average. As current accounts depend on both domestic and foreign economic conditions, international developments are incorporated by cross-sectional demeaning (except for relative productivity, net foreign assets, and terms of trade which are implicitly related to the rest of world). We aggregate the data to four-year non-overlapping averages in order to exclude the impact of potential business cycle effects on current account dynamics and to mitigate autocorrelation. However, the drawback of this approach is that it reduces the time-series dimension substantially and it becomes costly to include lags in the regression.

We estimate a model with time-fixed effects on cross-sectionally demeaned and four-year averaged data over two periods, namely 1972–2007 and 1972–2017. To take into account the latest available data, the last observation is only an average over the two years 2016 and 2017. Alternatively, we carry out calculations with three-year periods, trade-weighted demeaning, and pooled ordinary least squares (OLS) estimations as robustness checks. Estimating the equation over a sample up to the crisis and, in a second step, extending the sample period to the most recent years, allows us to detect whether parameters are stable when accounting for global adjustments in the aftermath of the Great Recession. All estimated standard errors are robust to heteroskedasticity and arbitrary forms of serial correlation.

5 Results

5.1 Pre-crisis period

Table 1 reports the empirical results of equation 1 for the period prior to the global financial crisis from 1972 to 2007. We abstain from discussing the standard covariates in detail as they are very much in line with previous findings (Behringer and Van Treeck, 2018a, 2018b). We find a strong negative correlation between the current account balance and output growth which might signal a greater demand for imports in the catching-up process of less industrialised countries. The demographic variables are ambiguous with a negative coefficient for the old-age dependency ratio and a statistically insignificant effect of population growth. The negative relation with the dependency ratio could indicate distinct savings and consumption motives of ageing populations (Cooper, 2008). Higher relative productivity, measured as output per worker relative to the three largest economies (USA, Germany, Japan), corresponds to an increase in the current account. This effect is statistically significant but rather small as is typical for samples of industrialised countries (Carrera *et al.*, 2016). The positive relation between the current account balance and net foreign assets is also consistent with previous findings (Chinn and Ito, 2008; Kumhof *et al.*, 2012; Behringer and Van Treeck,

Table 1. Estimation results, GDP-weighted demeaned four-year averages, 1972–2007

	<i>Dependent variable:</i>									
	Current account balance									
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Output growth	−0.416*** (0.137)	−0.280** (0.130)	−0.296** (0.129)	−.276** (0.125)	−0.314** (0.124)	−0.428*** (0.137)	−0.452*** (0.138)	−0.419*** (0.135)	−0.429*** (0.134)	−0.281** (0.123)
Relative productivity	0.038*** (0.011)	0.031*** (0.010)	0.029*** (0.009)	0.022*** (0.009)	0.035*** (0.010)	0.048*** (0.011)	0.045*** (0.011)	0.037*** (0.012)	0.035*** (0.011)	0.026*** (0.010)
Net foreign assets	0.078*** (0.008)	0.073*** (0.007)	0.073*** (0.007)	0.075*** (0.007)	0.072*** (0.007)	0.076*** (0.007)	0.076*** (0.007)	0.076*** (0.007)	0.076*** (0.007)	0.076*** (0.007)
Population growth	0.080 (0.589)	−0.123 (0.548)	−0.098 (0.548)	0.312 (0.550)	−0.286 (0.537)	−0.008 (0.587)	−0.017 (0.587)	0.221 (0.590)	0.397 (0.591)	0.025 (0.543)
Old-dependency ratio	−0.132* (0.078)	−0.116 (0.077)	−0.130* (0.077)	−0.103 (0.075)	−0.114 (0.074)	−0.145* (0.077)	−0.161** (0.077)	−0.132* (0.077)	−0.143* (0.076)	−0.112 (0.072)
Fiscal balance	0.205* (0.070)	0.153* (0.069)	0.159* (0.071)	0.128* (0.069)	0.188*** (0.067)	0.186*** (0.070)	0.192*** (0.072)	0.153** (0.071)	0.136* (0.071)	0.098 (0.067)
Terms of trade × Trade open.	0.010 (0.008)	0.014* (0.008)	0.013* (0.008)	0.015* (0.008)	0.012 (0.008)	0.009 (0.008)	0.009 (0.008)	0.010 (0.008)	0.011 (0.008)	0.013* (0.007)
Household debt	−0.025* (0.014)					−0.025* (0.015)	−0.023 (0.015)	−0.012 (0.015)	−0.028* (0.017)	
Top 1% income share		−0.154* (0.087)				−0.202** (0.089)				
Top 10% income share			−0.089* (0.046)				−0.109** (0.047)			
Gini coefficient				−0.175*** (0.058)				−0.194*** (0.062)	−0.280*** (0.075)	−0.274*** (0.061)
Wage share					−0.072* (0.037)	−0.073 (0.045)	−0.073 (0.045)	−0.112** (0.046)	−0.080* (0.048)	−0.112*** (0.040)
Credit liberalisation										0.169 (0.180)
Gini × Household debt									−0.004** (0.002)	
Gini × Credit lib.										−0.081*** (0.028)
Observations	178	200	198	200	207	175	173	175	175	200
R ²	0.625	0.611	0.615	0.623	0.609	0.651	0.653	0.657	0.666	0.659
Adjusted R ²	0.587	0.577	0.581	0.590	0.577	0.611	0.612	0.618	0.625	0.624
Residual std. error	2.982	2.990	2.979	2.938	2.952	2.915	2.912	2.890	2.861	2.817

Note: * $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$.

2018a, 2018b). We find the strongest positive coefficient for the fiscal balance which might indicate that restrictive fiscal policy also reduces the demand for imports (Zezza, 2012). An improvement in terms of trade dependent on the openness of the economy has a slightly positive, yet mostly insignificant, effect on the current account balance.

We now focus on our variables of interest which we add successively to our baseline. The coefficient for household debt is negative and statistically significant in most of the specifications. This implies that an increase in household debt (relative to trading partners) diminishes the current account balance (relative to trading partners). This can be taken as evidence for household debt boosting consumption and the demand for imports.

Columns 2 to 4 augment the baseline specification with measures of personal income distribution, namely the top 1% income share, the top 10% share, and the Gini coefficient. The coefficients for changes in these inequality measures are strongly negative and statistically significant. The magnitude of the effect is similar to previous findings, indicating a clear deterioration in the current account balance in line with rising inequality. These results are in accordance with the view that consumption and the demand for import goods may be fuelled by upward-looking status comparison. Moreover, this is also backed by the evidence that the coefficient for the top 1% income share is larger than that for the top 10% share.

In column 5, we introduce functional distribution in terms of the wage share. The estimates are negative and mostly significant, implying that an increase in wage share diminishes the current account balance. On the one hand, a higher wage share reflects higher labour costs and reduced price competitiveness in the export markets. On the other hand, a higher wage share also implies rising consumer demand for import goods. The negative link turns statistically insignificant when including the top income shares, but persists when including the Gini coefficient. Since we observe rising personal income inequality and a secular trend for decreasing wage shares in the majority of the countries in our sample, there are counteracting tendencies affecting the current account balances.

Column 9 displays a negative interaction effect between the Gini coefficient and household debt. This suggests that the relationship might not be linear but rather the negative effect of personal income inequality on the current account balance increases with household debt. In column 10, household debt is replaced by the index of credit liberalisation provided by the Fraser Institute. Similarly, the interaction effect with the Gini coefficient is found to be negative. Thus, higher personal inequality has a stronger negative effect on the current account when credit conditions are only laxly regulated.

In summary, our results suggest that the rise in personal income inequality prior to the global financial crisis contributed to a deterioration in the current account balances. This is in line with unconventional consumption theories such as the relative income hypothesis and expenditure cascades. There is also evidence for a negative effect of the wage share, which is consistent with the Keynesian theory on differential saving rates between capital and labour. Household debt mainly yields a significantly negative estimate which can be interpreted as evidence for debt-driven demand for imports. On balance, our results for a sample of 31 OECD countries are consistent with previous findings by Behringer and Van Treeck (2018a, 2018b). At this point, we like to add a note of caution that econometric panel analyses might cover changes in country-specific institutional arrangements over time that could affect the relationship between the variables in single countries. Our empirical approach is confined to reveal

robust long-term links which we find for the observation period spanning over almost four decades.

5.2 Including the post-crisis period

In the next step, we are interested in whether the nexus of income inequality, household debt, and current account balances are stable when including the period after the Great Recession. The available data from the post-crisis era show that macroeconomic imbalances have significantly reduced and income inequality and household debt have also been affected by the economic turmoil. It is unclear whether the links found for the pre-crisis era will still persist in the long run when including the post-crisis adjustment period that has reversed prevailing trends. We are thus keen to determine the sensitivity of the estimates when extending the time period. Table 2 presents our results for the period 1972–2017. As can be seen, the number of observations grows by roughly 50% in the extended sample which could lead to substantial changes in the coefficients if the previous findings do not hold.

While most of the standard control variables are fairly stable in their magnitude and statistical significance, there are two notable exceptions. Population growth now correlates significantly negatively with the current account balance and the link between output growth and the current account is less pronounced in the extended period. In some countries with large readjustments in the current account, population growth reduced notably due to mass emigration during the crisis, as was the case in Spain, Greece, Portugal, Ireland, and the USA.

With respect to our variables of interest, household debt turns statistically insignificant in the extended observation period, indicating that this variable might not be a crucial determinant for current account imbalances when including the crisis episode. In fact, many countries that have been hit hardest by the crisis experienced a substantial decline in household debt relative to GDP between 2008 and 2017, like Ireland (–60 pp), Iceland (–31 pp), Spain (–21 pp), and the USA (–18 pp). The massive deleveraging in the household sector of countries with a debt-led private demand boom prior to the crisis is well-documented in the empirical literature (2019). Interestingly, countries with an increase in household debt during the crisis are often those with declining current accounts, like Norway (+30 pp), Sweden (+19 pp), and Canada (+19 pp). Replacing household debt with the measure for credit liberalisation does not change this finding.

The measures for top-end inequality, the top 1% and 10% income shares, are still negatively correlated with the current account. However, the link is weaker than in the pre-crisis period, implying that expenditure cascades might play a less important role for macroeconomic imbalances throughout the recession. The Gini coefficient, in contrast, is as significant in the extended sample as in the pre-crisis sample. A closer look at the data shows that inequality has actually been rising in some countries with decreasing current accounts, like in Scandinavia, and decreasing in countries with rising current accounts, like Portugal, UK or Poland. This is a surprising result. Finally, the wage share is only statistically significant in some specifications but points into the expected direction. However, the nexus between the functional distribution and the current account is not as strong as before the Great Recession.

In general, the model fit is lower for the extended period. We conclude that the long-term links between inequality, household debt, and macroeconomic imbalances

Table 2. Estimation results, GDP-weighted demeaned four-year averages, 1972–2017

	Dependent variable:									
	Current account balance									
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Output growth	–0.217 (0.134)	–0.153 (0.126)	–0.172 (0.125)	–0.146 (0.123)	–0.173 (0.122)	–0.240* (0.135)	–0.263* (0.135)	–0.217 (0.133)	–0.228* (0.132)	–0.149 (0.124)
Relative productivity	0.057*** (0.009)	0.054*** (0.007)	0.052*** (0.007)	0.045*** (0.007)	0.055*** (0.008)	0.062*** (0.009)	0.059*** (0.009)	0.053*** (0.009)	0.051*** (0.009)	0.051*** (0.008)
Net foreign assets	0.029*** (0.004)	0.032*** (0.004)	0.031*** (0.004)	0.031*** (0.004)	0.031*** (0.004)	0.031*** (0.004)	0.031*** (0.004)	0.030*** (0.004)	0.030*** (0.004)	0.031*** (0.004)
Population growth	–2.052*** (0.513)	–1.909*** (0.485)	–1.897*** (0.486)	–1.523*** (0.490)	–1.945*** (0.481)	–2.085*** (0.512)	–2.089*** (0.513)	–1.802*** (0.515)	–1.686*** (0.515)	–1.649*** (0.497)
Old-dependency ratio	–0.172*** (0.063)	–0.182*** (0.064)	–0.188*** (0.064)	–0.162*** (0.062)	–0.148** (0.061)	–0.193*** (0.066)	–0.201*** (0.067)	–0.165** (0.064)	–0.170*** (0.063)	–0.151** (0.062)
Fiscal balance	0.192*** (0.064)	0.154** (0.063)	0.166*** (0.064)	0.138** (0.064)	0.195*** (0.062)	0.164** (0.064)	0.176*** (0.065)	0.132** (0.066)	0.113* (0.066)	0.124* (0.066)
Terms of trade × Trade open.	0.011 (0.007)	0.014* (0.007)	0.013* (0.007)	0.015** (0.007)	0.013* (0.007)	0.010 (0.007)	0.010 (0.007)	0.012 (0.007)	0.013* (0.007)	0.014* (0.007)
Household debt	–0.008 (0.011)					–0.007 (0.011)	–0.005 (0.011)	0.002 (0.011)	–0.012 (0.013)	
Top 1% income share		–0.137* (0.075)				–0.166** (0.078)				
Top 10% income share			–0.071* (0.041)				–0.085** (0.043)			
Gini coefficient				–0.171*** (0.054)				–0.222*** (0.058)	–0.295*** (0.069)	–0.223*** (0.057)
Wage share					–0.055 (0.035)	–0.050 (0.041)	–0.048 (0.041)	–0.093** (0.042)	–0.068 (0.044)	–0.082** (0.038)
Credit liberalisation										–0.026 (0.177)
Gini × Household debt									–0.003** (0.002)	
Gini × Credit lib.										–0.039 (0.030)
Observations	271	287	285	291	300	262	260	266	266	291
R ²	0.533	0.552	0.553	0.544	0.530	0.566	0.566	0.562	0.569	0.557
Adjusted R ²	0.498	0.520	0.521	0.512	0.498	0.528	0.527	0.524	0.530	0.521
Residual Std. Error	3.405	3.314	3.311	3.314	3.336	3.340	3.343	3.324	3.304	3.284

Note: * $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$.

are not as evident as in the period prior to the crisis. To account for potential regime changes during the Great Recession, we re-estimate the relationship of these variables as interactions with a dummy variable that equals one for the crisis period (2008–15). While time-fixed effects help to account for the impact of the crisis itself, the interactions intend to capture whether these variables have a differential effect relative to the pre-crisis period. The results in Appendix Table B2 show only weak evidence for clear-cut regime shifts. While the interaction terms are mostly statistically insignificant, the change in the sign of the coefficients for household debt and the wage share from negative to positive provides an indication of potential regime changes. The high standard errors for the interaction term with household debt, however, mirror the diverging patterns of debt in our sample that is shown in Appendix Figure B3. It is likely that the coefficients mask important heterogeneities between countries during the crisis which complicates the identification of clear-cut regime shifts. The inclusion of interaction terms might also add some collinearity and thus potentially inflates the standard errors. All in all, the evidence of clear-cut regime changes is weak, but if anything, supports the findings from our main specification, for instance, that the prevailing relationship between household debt and the current account has diminished during the crisis. Appendix Figure B3 shows that a massive deleveraging in the private household sector after the crisis has only taken place in some countries like the USA, Spain, Portugal, and Greece. In other regions like Australia, Canada, France, and Scandinavia, household debt as a percentage of GDP has continued to rise. Hence, only some of the OECD countries have experienced a notable turnaround since the crisis, where debt-led demand with positive effects for imports might have turned into debt-burdened systems with decreasing demand, in line with the post-Keynesian literature (Taylor, 2004; Dutt, 2006; Bhaduri, 2011; Hein, 2012).

Figure 3 suggests that the dropping demand for import goods due to deleveraging has not been compensated by labour income, as post-crisis wage shares have been falling particularly in those countries with decreasing household debt (UK, Spain Portugal). In contrast, the nexus between personal income inequality and current account balances has been remarkably stable throughout the severe economic crisis, as our results for the whole period suggest (Table 2). We conclude that the relation between inequality and macroeconomic imbalances found in previous studies focusing on the origins of the Great Recession also hold when accounting for the massive disruptions beginning in 2007/08.

6 Robustness checks and limitations

In order to examine the validity of our findings, we carry out a series of robustness checks. The selection of these checks is guided by the literature on current account imbalances. First, we repeat our empirical exercise with three-year averaged data. There is no consensus in the literature about the optimal averaging period to account for business cycle fluctuations (Chinn and Prasad, 2003; Kumhof *et al.*, 2012). For better comparability with previous studies on the topic, we use four-year averages in the main results and three-year averages for sensitivity analysis. Second, we take trade flows rather than GDP as the weighting variable. This way, we can assess whether our results change when accounting for trade exposure rather than for the size of the economy. Third, we exclude time-fixed effects from our specification and estimate a pooled ordinary least squares (OLS) model.

In Appendix [Table C1](#), we present the results for the three-year average estimation. In order to obtain feasible periods and to include the latest data from 2017, the pre-crisis period lasts from 1973 to 2008 and the post-crisis period ends in 2017. We focus on the specifications including the inequality variables which correspond to columns 5 to 10 in [Tables 1](#) and [2](#). The results are very stable with respect to the direction and statistical significance of the coefficients. However, we find notable differences in the wage share in the post-crisis period. The estimates with the three-year averages are larger and indicate an even stronger negative relation with current account balances. The personal inequality measures and the variables for household debt and credit liberalisation do not differ substantially.

Appendix [Table C2](#) shows the results with trade-weighted observations. As with GDP, we calculate deviations from the weighted annual sample mean. With regard to the pre-crisis period, the negative correlation between the inequality measures and the current account is slightly stronger than in the main results. Notably, credit liberalisation now displays a significantly positive coefficient, indicating that loose credit regulations improve the current account when trade flows are used as weights. Concerning the post-crisis period, the estimated coefficients have the same signs and magnitudes as in the main results.

Finally, Appendix [Table C3](#) presents the OLS estimates from the pooled sample. In this robustness check, we exclude time-fixed effects that control for unobserved developments affecting all countries at the same time. Instead, we include a crisis dummy that shows the expected strong positive effect on the current account. Again, this specification results in similar estimates as obtained in the estimation with time-fixed effects. The striking difference is that the top 1% income shares are no longer significant in the post-crisis era; however, the top 10% income shares and the Gini coefficient still show a negative correlation with the current account. The wage share displays slightly stronger negative coefficients than in the original estimation, indicating that there might be a secular trend that is captured by time-fixed effects. In contrast to our main results, we do not find a significant relationship between household debt and the current account in the pre-crisis period.

Overall, the robustness checks seem to confirm the consistency of our findings. In the POLS specification, we no longer find any significant effects on household debt prior to the crisis. However, for the functional and personal inequality measures, the results are unambiguous: higher inequality correlates with higher current account deficits in the pre-crisis era and to a lesser extent also in the long run including the crisis.

A limitation of our analysis is that econometric panel analyses might cover changes in country-specific institutional arrangements over time ([Behringer and Van Treeck, 2019](#)). Further research with regard to altering growth regimes and different varieties of capitalism might reveal additional insights on the relationship between household debt, income inequality, and the current account in single countries. Our empirical approach, however, mainly aims to find robust long-term links for a larger set of industrial countries. At the same time, our findings shed light on potential regime changes, i.e. debt-led systems may turn into debt-burdened systems, and different patterns of income distribution across varieties of capitalism ([Behringer and Van Treeck, 2018b](#)). The data shows that the rise in top income shares has been more pronounced in the so-called liberal market economies (LMEs) such as the US, Ireland, and Australia, while wage shares have fallen more strongly in the coordinated market economies (CMEs) including Germany and Austria (see Appendix [Figures B2](#) and [B3](#)). By clearly

distinguishing between the effects of changes in the personal distribution, on the one hand, and the functional distribution of income, on the other hand, we capture the diverging macroeconomic implications of different growth regimes, which is crucial for understanding the evolution of current account imbalances.

Another limitation is the insufficient data available for the post-crisis period. As we attempt to reduce the impact of business cycle fluctuations, we rely on multiyear averages of our data which reduces the number of observations considerably. While the post-crisis period comprises roughly one-third of all observations, the number is too low to carry out sensible estimations only for the period 2008 to 2017. However, we believe that extending the observation period provides sufficient insights to grasp the long-term relation between income inequality and current account imbalances before and after the Great Recession.

7 Conclusion

Macroeconomic imbalances, measured as current account surpluses and deficits, rose rapidly prior to the global financial crisis in the late 2000s (Behringer and Van Treeck, 2018a, 2018b). During the post-crisis period, these imbalances have narrowed considerably across OECD countries and the average current account balance has even become positive. However, some individual countries are still running persistent deficits, like the USA, or surpluses, like Germany. Especially countries at Europe's periphery that have been hit hardest by the crisis, like Spain, Portugal, Greece, and Iceland, experienced a dramatic reduction in their deficits. The deep recession and radical fiscal consolidation appear to have stalled the demand for imports by both the household and the corporate sector (Bluedorn and Leigh, 2011; Papadimitriou *et al.*, 2013; Sinn, 2013). As a result, macroeconomic imbalances have faded from the spotlight and their root causes have fallen into oblivion. This is a deceptive calm as our findings suggest that the underlying long-term relationships are still in place and income inequality has not been tackled yet.

This paper provides evidence that the Great Recession has weakened but not suspended the long-run nexus between income inequality and current account imbalances. The results are stable across different measures of personal income inequality as well as the wage share. Most countries did not experience a notable reduction in inequalities after the crisis, meaning that this still poses a risk for macroeconomic stability. In contrast, the Great Recession had a critical impact on household debts. Those countries that were hit hardest by the crisis, like the USA and Europe's periphery, experienced a sharp drop in household debts. While the accumulation of debt in virtually every country in our sample was associated with rising demand for imports prior to 2007/08, including the post-crisis era no longer shows a significant correlation between these two factors. Potential regime changes and the divergent evolution of household debt across the OECD sample might obliterate any effects in the long run.

Several robustness checks support the validity of our findings. We vary the averaging period, exchange the weighting variable, and remove time-fixed effects. The nexus between personal and functional income inequality and current account balances remains valid when including the post-crisis period which accounts for roughly one-third of the sample observations. Thus, our results show a robust long-term relationship between income inequality and the current account, which is also compatible with the theoretical assumptions.

Given the myriad of potential determinants of the current account, monocausal explanations of macroeconomic imbalances do not seem adequate. With these results, we aim to contribute to the discussion around which factors might play a pivotal role when impeding current account imbalances in the future. Even though the risk of rapidly rising imbalances as seen in the run-up to 2007/08 seems low at the current point in time, the underlying structural conditions that led to the crisis and are elaborated in the literature remain unaltered. Consequently, it will be important to carefully monitor future trends in income inequality and household debts, and their relation to the current account if we are to avert a repeat of the Great Recession in the near future.

Supplementary data

Supplementary data are available at *Cambridge Journal of Economics* online.

Bibliography

- Al-Hussami, F. and Remesal, A. M. 2012. 'Current Account Imbalances and Income Inequality: Theory and Evidence', Kiel Advanced Studies Working Papers, no. 459
- Alvaredo, F., Chancel, L., Piketty, T., Saez, E. and Zucman, G. 2017. Global inequality dynamics: new findings from WID.world, *American Economic Review*, vol. 107, no. 5, 404–9
- Angel, S., Disslbacher, F., Humer, S. and Schnetzer, M. 2019. What did you really earn last year?: Explaining measurement error in survey income data, *Journal of the Royal Statistical Society: Series A (Statistics in Society)*, vol. 182, no. 4, 1411–37
- Behringer, J., Theobald, T. and Van Treeck, T. 2016. *Ungleichheit und makro-ökonomische instabilität: eine Bestandsaufnahme*, Bonn, Friedrich-Ebert-Stiftung, Abteilung Wirtschafts und Sozialpolitik
- Behringer, J. and Van Treeck, T. 2018a. Income distribution and the current account, *Journal of International Economics*, vol. 114, no. 5, 238–54
- Behringer, J. and Van Treeck, T. 2018b. 'Varieties of Capitalism and Growth Regimes: The Role of Income Distribution', IMK Working Paper, Institut für Makroökonomie und Konjunkturforschung (IMK), Hans-Böckler-Stiftung, no. 194
- Behringer, J. and Van Treeck, T. 2019. Income distribution and growth models: a sectoral balances approach, *Politics & Society*, vol. 47, no. 3, 303–32
- Belabed, C. A. 2017. Income distribution, the Great Depression, and the relative income hypothesis, *European Journal of Economics and Economic Policies: Intervention*, vol. 15, no. 1, 47–70
- Belabed, C. A., Theobald, T. and Van Treeck, T. 2017. Income distribution and current account imbalances, *Cambridge Journal of Economics*, vol. 42, no. 1, 47–94
- Belke, A. and Dreger, C. 2013. Current account imbalances in the euro area: does catching up explain the development? *Review of International Economics*, vol. 21, no. 1, 6–17
- Bertrand, M. and Morse, A. 2016. Trickle-down consumption, *Review of Economics and Statistics*, vol. 98, no. 5, 863–79
- Bhaduri, A. 2011. A contribution to the theory of financial fragility and crisis, *Cambridge Journal of Economics*, vol. 35, no. 6, 995–1014
- Bhaduri, A. and Marglin, S. 1990. Unemployment and the real wage: the economic basis for contesting political ideologies, *Cambridge Journal of Economics*, vol. 14, no. 4, 375–93
- Blanchard, O. and Giavazzi, F. 2002. Current account deficits in the euro area: the end of the Feldstein-Horioka puzzle? *Brookings Papers on Economic Activity*, vol. 2002, no. 2, 147–209
- Bluedorn, J. and Leigh, D. 2011. Revisiting the twin deficits hypothesis: the effect of fiscal consolidation on the current account, *IMF Economic Review*, vol. 59, no. 4, 582–602
- Bofinger, P. and Scheuermeyer, P. 2018. Income distribution and aggregate saving: a nonmonotonic relationship, *Review of Income and Wealth*, vol. 65, no. 4, 872–907
- Boushey, H. and Weller, C. E. 2008. Has growing inequality contributed to rising household economic distress? *Review of Political Economy*, vol. 20, no. 1, 1–22

- Brancaccio, E. 2012. Current account imbalances, the eurozone crisis, and a proposal for a “European wage standard”, *International Journal of Political Economy*, vol. 41, no. 1, 47–65
- Brown, C. 2008. *Inequality, Consumer Credit and the Saving Puzzle*, Cheltenham, UK, Edward Elgar Publishing
- Carrasco, C. A. and Peinado, P. 2015. On the origin of European imbalances in the context of European integration, *Panoeconomicus*, vol. 62, no. 2, 177–91
- Carrera, J. E., Rodriguez, E. and Sardi, M. 2016. The impact of income distribution on the current account, *Journal of Globalization and Development*, vol. 7, no. 2, 1–20
- Chinn, M. D. and Ito, H. 2007. Current account balances, financial development and institutions: assaying the world saving glut, *Journal of international money and Finance*, vol. 26, no. 4, 546–69
- Chinn, M. D. and Ito, H. 2008. Global current account imbalances: American fiscal policy versus East Asian savings, *Review of International Economics*, vol. 16, no. 3, 479–98.
- Chinn, M. D. and Prasad, E. S. 2003. Medium-term determinants of current accounts in industrial and developing countries: an empirical exploration, *Journal of International Economics*, vol. 59, no. 1, 47–76
- Cooper, R. N. 2008. Global imbalances: globalization, demography, and sustainability, *Journal of Economic Perspectives*, vol. 22, no. 3, 93–112
- Cota, B., Erjavec, N. and Bogdan, Ž. 2017. External imbalances in emerging and advanced European countries, *Economic Research-Ekonomska Istraživanja*, vol. 30, no. 1, 1553–71.
- De Santis, R. and Cesaroni, T. 2016. Current account coreperiphery dualism in the EMU, *The World Economy*, vol. 39, no. 10, 1514–38.
- Drechsel-Grau, M. and Schmid, K. D. 2014. Consumption savings decisions under upward-looking comparisons, *Journal of Economic Behavior & Organization*, vol. 106, no. C, 254–68.
- Duesenberry, J. S. 1949. *Income, Saving, and the Theory of Consumer Behavior*, Cambridge, MA, Harvard University Press
- Dutt, A. K. 2006. Maturity, stagnation and consumer debt: a Steindlian approach, *Metroeconomica*, vol. 57, no. 3, 339–64
- Dynan, K. E., Skinner, J. and Zeldes, S. P. 2004. Do the rich save more? *Journal of Political Economy*, vol. 112, no. 2, 397–444
- Frank, R. H., Levine, A. S. and Dijk, O. 2014. Expenditure cascades, *Review of Behavioral Economics*, vol. 1, no. 12, 55–73
- Gehringer, A. 2013. ‘Another Look at the Determinants of Current Account Imbalances in the European Union: An Empirical Assessment’, FIW Working Paper no. 105
- Gossé, J.-B. and Serranito, F. 2014. Long-run determinants of current accounts in OECD countries: Lessons for intra-European imbalances, *Economic Modelling*, vol. 38, 451–62
- Gräbner, C., Heimberger, P., Kapeller, J. and Schütz, B. 2020. Is the Eurozone disintegrating? Macroeconomic divergence, structural polarisation, trade and fragility, *Cambridge Journal of Economics*, vol. 44, no. 3, 647–69
- Gruber, J. W. and Kamin, S. B. 2007. Explaining the global pattern of current account imbalances, *Journal of international money and Finance*, vol. 26, no. 4, 500–22
- Hein, E. 2012. *The Macroeconomics of Finance-Dominated Capitalism and its Crisis*, Cheltenham, UK, Edward Elgar Publishing
- Hein, E. 2019. Financialisation and tendencies towards stagnation: the role of macroeconomic regime changes in the course of and after the financial and economic crisis 2007/09, *Cambridge Journal of Economics*, vol. 43, no. 4, 975–99
- Hein, E. and Vogel, L. 2007. Distribution and growth reconsidered: empirical results for six OECD countries, *Cambridge Journal of Economics*, vol. 32, no. 3, 479–511
- Holinski, N., Kool, C., Muysken, J. 2012. Persistent macroeconomic imbalances in the euro area: causes and consequences, *Federal Reserve Bank of St. Louis Review*, vol. 94, no. 1, 1–20
- Kaldor, N. 1966. Marginal productivity and the macro-economic theories of distribution: comment on Samuelson and Modigliani, *The Review of Economic Studies*, vol. 33, no. 4, 309–19
- Kalecki, M. 1942. A theory of profits, *The Economic Journal*, vol. 52, no. 206/207, 258–67
- Kang, J. S. and Shambaugh, J. C. 2016. The rise and fall of European current account deficits, *Economic Policy*, vol. 31, no. 85, 153–99
- Kapeller, J. and Schütz, B. 2014. Debt, boom, bust: a theory of Minsky-Veblen cycles, *Journal of Post Keynesian Economics*, vol. 36, no. 4, 781–814

- Keynes, J. M. 1937. The general theory of employment, *The Quarterly Journal of Economics*, vol. 51, no. 2, 209–23
- Kim, Y. K., Setterfield, M. and Mei, Y. 2014a. A theory of aggregate consumption, *European Journal of Economics and Economic Policies: Intervention*, vol. 11, no. 1, 31–49
- Kim, Y. K., Setterfield, M. and Mei, Y. 2014b. Aggregate consumption and debt accumulation: an empirical examination of US household behaviour, *Cambridge Journal of Economics*, vol. 39, no. 1, 93–112.
- Kollmann, R., Ratto, M., Roeger, W. and Vogel, L. 2015. What drives the German current account? And how does it affect other EU member states? *Economic Policy*, vol. 30, no. 81, 47–93
- Kumhof, M. and Laxton, D. 2013. Fiscal deficits and current account deficits, *Journal of Economic Dynamics and Control*, vol. 37, no. 10, 2062–82
- Kumhof, M., Lebarz, C., Rancière, R., Richter, A. W. and Throckmorton, N. A. 2012. ‘Income Inequality and Current Account Imbalances’, IMF Working Paper 12/08, International Monetary Fund
- Kumhof, M., Rancière, R. and Winant, P. 2015. Inequality, leverage, and crises, *American Economic Review*, vol. 105, no. 3, 1217–45
- Lane, P. R. and Milesi-Ferretti, G. M. 2018. The external wealth of nations revisited: international financial integration in the aftermath of the global financial crisis, *IMF Economic Review*, vol. 66, no. 1, 189–222
- Lavoie, M. 2017. The origins and evolution of the debate on wage-led and profit-led regimes, *European Journal of Economics and Economic Policies: Intervention*, vol. 14, no. 2, 200–21
- Legg, A., Prasad, N., Robinson, T. 2007. *Global Imbalances and the Global Saving Glut—a Panel Data Assessment*, Sydney, Reserve Bank of Australia
- Naastepad, C. and Storm, S. 2006. OECD demand regimes (1960–2000), *Journal of Post Keynesian Economics*, vol. 29, no. 2, 211–46
- Obstfeld, M. and Rogoff, K. 2009. *Global Imbalances and the Financial Crisis: Products of Common Causes*, CEPR Discussion Paper No. DP7606
- Onaran, Ö. and Galanis, G. 2014. Income distribution and growth: a global model, *Environment and Planning A*, vol. 46, no. 10, 2489–513
- Onaran, Ö. and Obst, T. 2016. Wage-led growth in the EU15 member-states: the effects of income distribution on growth, investment, trade balance and inflation, *Cambridge Journal of Economics*, vol. 40, no. 6, 1517–51
- Palley, T. I. 1994. Debt, aggregate demand, and the business cycle: an analysis in the spirit of Kaldor and Minsky, *Journal of Post Keynesian Economics*, vol. 16, no. 3, 371–90
- Palley, T. I. 2002. Economic contradictions coming home to roost? Does the US economy face a long-term aggregate demand generation problem? *Journal of Post Keynesian Economics*, vol. 25, no. 1, 9–32
- Papadimitriou, D. B., Nikiforos, M. and Zezza, G. 2013. *The Greek Economic Crisis and the Experience of Austerity: A Strategic Analysis*, Annandale-on-Hudson, NY, The Levy Economics Institute of Bard College, 125
- Phillips, S. Catão, L., Ricci, L. A., Bems, R., Das, M., di Giovanni, J., Unsal, D. F., Castillo, M., Lee, J., Rodriguez, J., Vargas, M. 2013. ‘The External Balance Assessment (EBA) Methodology’, IMF Working Paper 13/272, International Monetary Fund
- Pollin, R. 1990. *Deeper in Debt*, Washington, DC, Economic Policy Institute
- Portes, R. 2009. Global imbalances, in Dewatripont, M., Freixas, X. and Portes, R. (eds.), *Macroeconomic Stability and Financial Regulation: Key Issues for the G20*, London, Centre for Economic Policy Research (CEPR), vol. 19, 49–65
- Rajan, R. G. 2011. *Fault Lines: How Hidden Fractures Still Threaten the World Economy*, Princeton IL, Princeton University Press
- Reddy, N., Stockhammer, E. and Rabinovich, J. 2018. *Distribution, Wealth and Demand Regimes in Historical Perspective. Duesseldorf Macroeconomic Policy Institute (IMK) at Hans-Boeckler Foundation, USA, UK, France and Germany, 1855–2010*, Post Keynesian Economics Study Group
- Samarina, A. Zhang, L. and Bezemer, D. 2017. Credit cycle coherence in the eurozone: Was there a euro effect? *Journal of International Money and Finance*, vol. 77, no. 8, 77–98
- Samuelson, P. A. and Modigliani, F. 1966. The Pasinetti paradox in neoclassical and more general models, *The Review of Economic Studies*, vol. 33, no. 4, 269–301

- Schmitz, B. and Von Hagen, J. 2011. Current account imbalances and financial integration in the euro area, *Journal of International Money and Finance*, vol. 30, no. 8, 1676–95
- Sinn, H.-W. 2013. Austerity, growth and inflation: remarks on the Eurozones unresolved competitiveness problem, *The World Economy*, vol. 37, no. 1, 1–13
- Solt, F. 2019. *The Standardized World Income Inequality Database*, Version 8, version V3, Cambridge, MA, Harvard Dataverse
- Stockhammer, E. 2013. Rising inequality as a cause of the present crisis, *Cambridge Journal of Economics*, vol. 39, no. 3, 935–58.
- Stockhammer, E. and Onaran, Ö. 2004. Accumulation, distribution and employment: a structural VAR approach to a Kaleckian macro model, *Structural Change and Economic Dynamics*, vol. 15, no. 4, 421–47
- Stockhammer, E. and Onaran, Ö. 2013. Wage-led growth: theory, evidence, policy, *Review of Keynesian Economics*, vol. 1, no. 1, 61–78
- Stockhammer, E., Onaran, Ö. and Ederer, S. 2008. Functional income distribution and aggregate demand in the Euro area, *Cambridge Journal of Economics*, vol. 33, no. 1, 139–59
- Stockhammer, E. and Wildauer, R. 2016. Debt-driven growth? Wealth, distribution and demand in OECD countries, *Cambridge Journal of Economics*, vol. 40, no. 6, 1609–34
- Storm, S. and Naastepad, C. 2014. Europes hunger games: income distribution, cost competitiveness and crisis, *Cambridge Journal of Economics*, vol. 39, no. 3, 959–86
- Taylor, L. 2004. *Reconstructing Macroeconomics. Structuralist Proposals and Critiques of the Mainstream*, Cambridge, MA, Harvard University Press
- Unger, R. 2017. Asymmetric credit growth and current account imbalances in the euro area, *Journal of International Money and Finance*, vol. 73, 435–51
- Veblen, T. 1899. *The Theory of the Leisure Class: An Economic Study in the Evolution of Institutions*, New York, Macmillan
- Zeza, G. 2012. The impact of fiscal austerity in the Eurozone, *Review of Keynesian Economics*, vol. 0, no. 1, 37–54

Appendix

A1. Data

This paper exclusively uses publicly available data. All variables are obtained in annual frequency for the period 1972–2017 where available. The following list presents a detailed description of all measures used in the empirical analysis.

- **Current account balance:** The current account balance is the sum of net exports of goods and services, net primary income, and net secondary income as a percentage of GDP. Data is retrieved from the World Development Indicators (WDI) from the World Bank database (April 2020 version). To cover some of the oldest data points we used the December 2012 version.
- **Output growth:** The different growth performances within the sample are proxied by real annual GDP growth. Data is taken from the WDI database.
- **Relative productivity:** In order to proxy the countries' productivity, output per worker is constructed by taking the ratio of GDP to the working age population relative to the average productivity of the three largest economies in our sample, namely Germany, Japan and the USA. GDP is measured at purchaser's prices in current US dollars and is taken from the WDI database. The working age population refers to the age between 15 and 64 and is also obtained from WDI.
- **Net foreign assets:** Net foreign assets (NFA) are measured as the difference between total assets and total liabilities as a percentage of GDP. Data for NFA are taken from the recently updated and revised External Wealth of Nations Mark II

database provided by [Lane and Milesi-Ferretti \(2018\)](#). Since data for NFA is only available up to 2015, but our empirical analysis spans up to 2017, we assume constant NFA values over the last two years in our sample (2016–17).

- **Population growth and old-age dependency ratio:** Two different measures are employed in order to proxy demographic developments. Firstly, we use the old-age dependency ratio, which is constructed as the ratio of the total population above the age of 65 and the working age population (age 15–64). Secondly, we use the annual population growth rate. Demographic data are taken from the WDI database.
- **Fiscal balance:** The fiscal balance refers to the government net lending position, as percentage of GDP. Net lending can be defined as total general government revenue minus total government expenditure. The primary source for the fiscal balance is the OECD Economics Outlook from May 2018 (No 103). We complement this data with some alternative sources where longer series were available. In particular, we use the World Economic Outlook (WEO) database from the International Monetary Fund to complement data for Australia, Switzerland, Greece, New Zealand and Turkey. For France, we complement the series with data from the European Commission's AMECO database.
- **Terms of trade gap:** Terms of trade are defined as the ratio of the index for export and the index for import prices. Terms of trade are included in the empirical estimations as deviation from a trend, where the latter is estimated by the Hodrick-Prescott filter. Data are taken from the National Accounts statistics from the OECD database.
- **Trade openness:** Trade openness is measured as exports plus imports of goods and services as a percentage of GDP. Data are taken from the WDI database.
- **Household Debt:** To measure the private debt burden, we use total household debt, loans (including mortgages), and debt securities as a percentage of GDP from the Global Debt Database (GDD) provided by the IMF.
- **Top income shares:** To proxy the personal distribution of income, several measures are employed, namely the top 1% and the top 10% income share as well as the Gini coefficient. The top-end income shares are taken from the World Inequality Database (WID). These income shares are reported before taxes and transfers and are computed from both fiscal and net national income.
- **Gini coefficient:** As an additional measure of personal income inequality we use the Gini coefficient of equivalised net household income (post taxes and transfers) from the Standardized World Income Inequality Database (SWIID, version 8.2) provided by [Solt \(2019\)](#).
- **Wage share:** As a proxy for the functional distribution of income, this paper uses labour compensation in total value added from the OECD National Accounts. Labour compensation includes gross wages and salaries payable in cash or in kind, and the value of social contributions payable by employers. Following conventional approaches, the dataset assigns part of the mixed income earned by self-employed workers to the labour share and the residual part to the profit share. The labour compensation of self-employed workers is thus estimated by assuming similar wages as employees.

- **Credit liberalisation:** Credit liberalisation is proxied by an indicator that measures the degree of credit market regulation from the Fraser Institute of Economic Freedom. The index ranges from 1 (tight credit conditions) to 10 (loose credit conditions). While data is generally available on an annual basis from 2000, older data points are mostly reported in five-year intervals. To complete the series, we added the missing values by (yearly) repetition based on the latest available observation.

B1. Tables and figures

Table B1. *Summary statistics of variables used in the empirical analysis (annual data)*

Statistic	N	Mean	Std. dev.	Min	Max
Current Account Balance (% of GDP)	1,263	-0.56	4.93	-24.23	16.18
Output growth (annual %)	1,365	2.79	3.37	-32.12	25.16
Relative productivity (output per worker)	1,362	78.44	44.41	6.17	250.92
Net foreign assets (% of GDP)	1,221	-20.91	56.07	-661.02	262.60
Population growth	1,456	0.57	0.66	-2.57	3.80
Old-age dependency ratio	1,457	20.68	5.44	6.39	46.17
Fiscal balance (% of GDP)	1,152	-2.19	4.23	-32.06	18.67
Terms of trade gap	1,319	-0.10	2.76	-23.66	14.52
Trade open	1,354	75.41	47.10	9.08	378.50
Household debt (% of GDP)	1,085	50.32	30.01	0.08	139.43
Top 1% income share	1,226	9.51	3.60	2.38	28.26
Top 10% income share	1,219	32.13	6.37	15.34	61.45
Gini coefficient	1,241	28.98	4.54	17.50	43.50
Wage Share (% of GVA)	1,267	51.95	7.22	22.64	66.19
Credit liberalisation index	1,370	7.87	2.28	0.00	10.00

Table B2 Estimation results including a crisis dummy, 1972–2017

Dependent variable:								
Current account balance								
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Output growth	-0.230* (0.135)	-0.148 (0.126)	-0.167 (0.125)	-0.146 (0.122)	-0.176 (0.122)	-0.244* (0.136)	-0.269* (0.137)	-0.224* (0.133)
Relative productivity	0.056*** (0.009)	0.054*** (0.007)	0.052*** (0.007)	0.045*** (0.007)	0.055*** (0.008)	0.061*** (0.009)	0.058*** (0.009)	0.052*** (0.009)
Net foreign assets	0.030*** (0.004)	0.032*** (0.004)	0.032*** (0.004)	0.031*** (0.004)	0.031*** (0.004)	0.031*** (0.004)	0.031*** (0.004)	0.031*** (0.004)
Population growth	-2.005*** (0.516)	-1.907*** (0.484)	-1.902*** (0.486)	-1.575*** (0.487)	-1.980*** (0.481)	-2.081*** (0.517)	-2.084*** (0.519)	-1.835*** (0.519)
Old-dependency ratio	-0.169*** (0.063)	-0.186*** (0.064)	-0.189*** (0.064)	-0.163*** (0.061)	-0.155*** (0.061)	-0.198*** (0.067)	-0.204*** (0.067)	-0.165*** (0.064)
Fiscal balance	0.202*** (0.065)	0.154** (0.063)	0.167*** (0.064)	0.134** (0.063)	0.200*** (0.062)	0.172*** (0.065)	0.185*** (0.067)	0.135*** (0.066)
Terms of trade × Trade open.	0.011 (0.007)	0.014** (0.007)	0.014* (0.007)	0.016** (0.007)	0.012* (0.007)	0.010 (0.008)	0.009 (0.008)	0.011 (0.007)
Household debt	-0.013 (0.012)					-0.008 (0.013)	-0.006 (0.013)	0.002 (0.013)
Household debt × crisis	0.015 (0.018)					0.004 (0.020)	0.005 (0.020)	0.005 (0.020)
Top 1% income share		-0.083 (0.086)				-0.125 (0.090)		
Top 1% income share × crisis		-0.211 (0.163)				-0.133 (0.169)		
Top 10% income share			-0.046 (0.046)				-0.068 (0.049)	
Top 10% income share × crisis			-0.106 (0.091)				-0.058 (0.095)	

Table B2 *Continued*

	Dependent variable:							
	Current account balance							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Gini coefficient				-0.120** (0.059)				-0.176*** (0.064)
Gini coefficient × crisis				-0.257** (0.117)				-0.214 (0.131)
Wage share					-0.075** (0.037)	-0.068 (0.046)	-0.066 (0.046)	-0.106** (0.047)
Wage share × crisis					0.101 (0.073)	0.079 (0.088)	0.076 (0.089)	0.036 (0.094)
Observations	271	287	285	291	300	262	260	266
R^2	0.534	0.555	0.556	0.552	0.533	0.570	0.569	0.570
Adjusted R^2	0.497	0.522	0.522	0.519	0.500	0.527	0.525	0.527
Residual std. error	3.407	3.310	3.308	3.291	3.331	3.344	3.349	3.314

Note: * $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$.

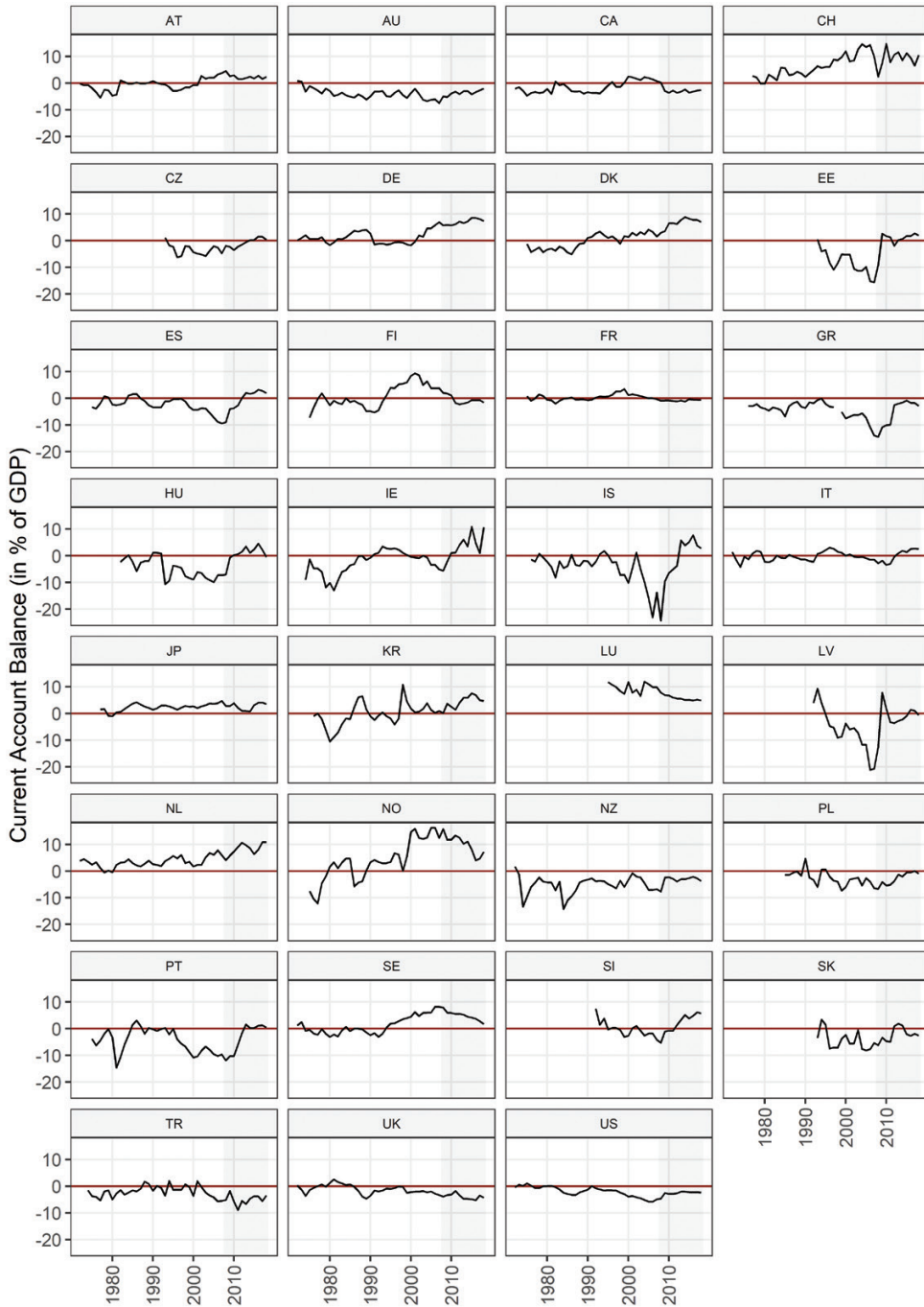


Fig. B1. Current account balance as a percentage of GDP

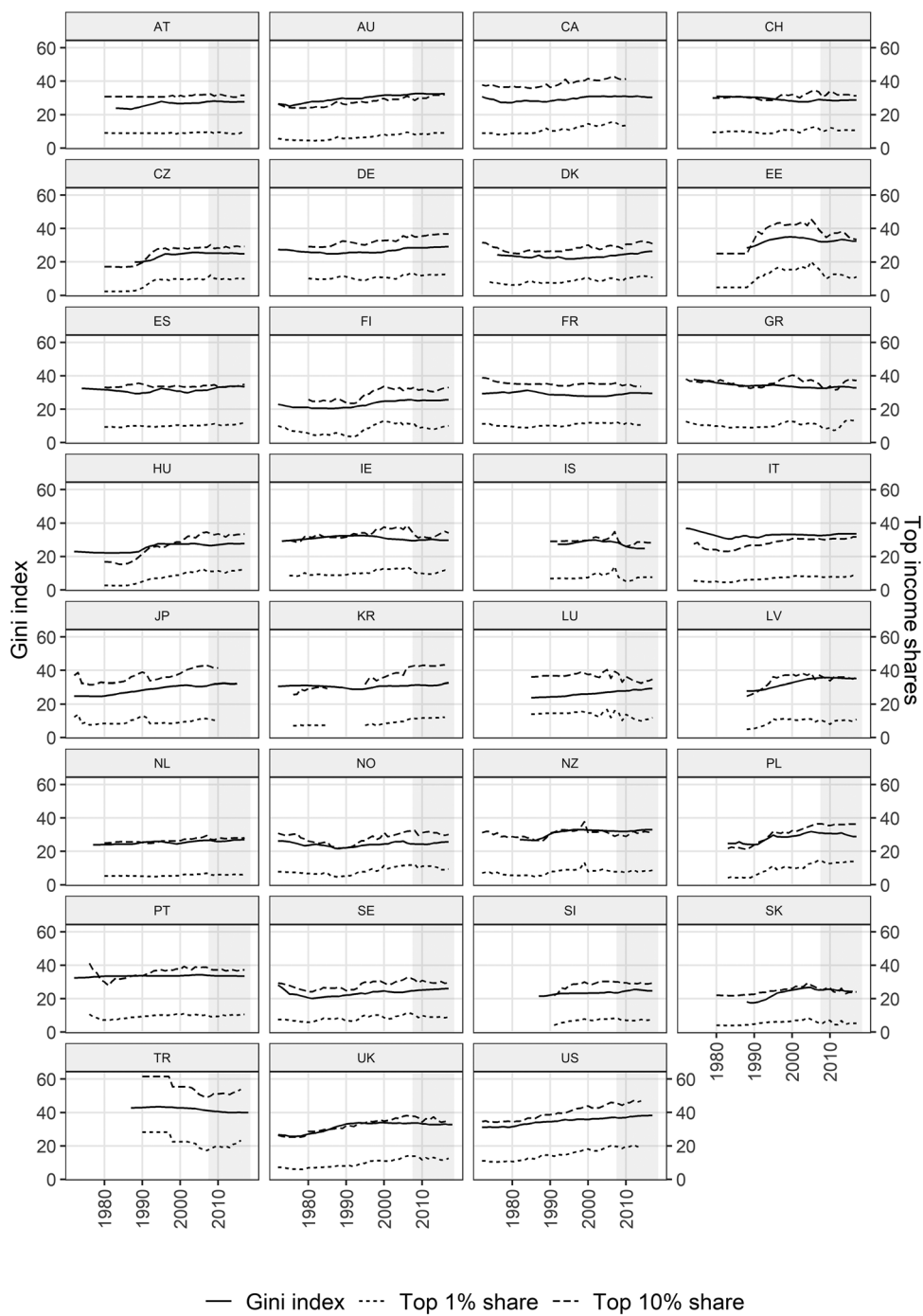


Fig. B2. Measures of personal income inequality.

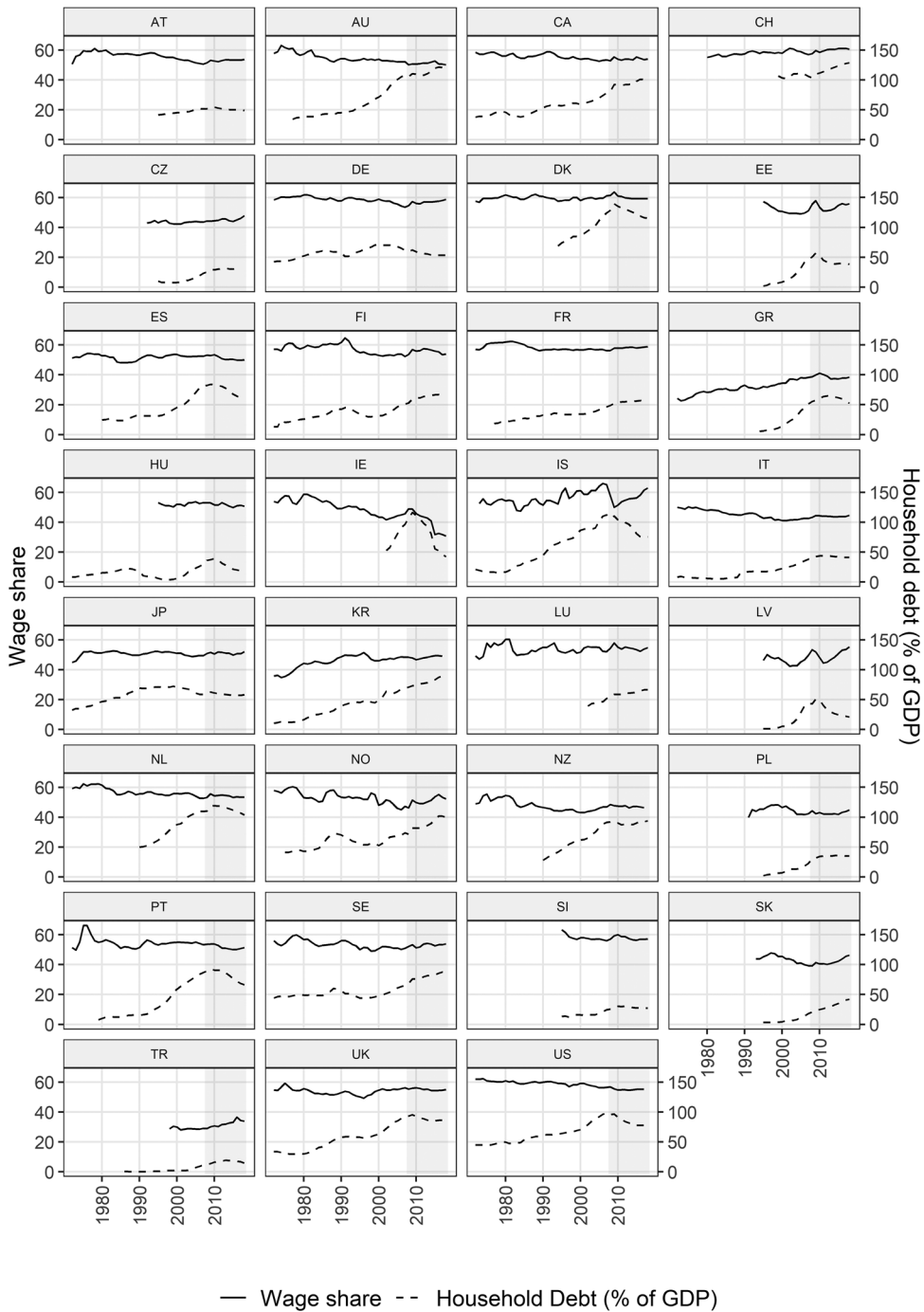


Fig. B3. Wage share (left) and household debt (right).

C1. Robustness checks**Table C1.** *Estimation results, GDP-weighted demeaned three-year averages, 1973–2008 and 1973–2017*

Dependent variable:										
Current account balance										
Including post-crisis										
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Output growth	-0.321** (0.133)	-0.360*** (0.135)	-0.302** (0.130)	-0.293** (0.129)	-0.102 (0.114)	-0.271** (0.129)	-0.303** (0.131)	-0.234* (0.126)	-0.237* (0.125)	-0.134 (0.114)
Relative productivity	0.050*** (0.010)	0.046*** (0.009)	0.038*** (0.010)	0.036*** (0.010)	0.030*** (0.008)	0.067*** (0.008)	0.065*** (0.008)	0.057*** (0.008)	0.055*** (0.008)	0.055*** (0.007)
Net foreign assets	0.076*** (0.006)	0.076*** (0.006)	0.077*** (0.006)	0.078*** (0.006)	0.075*** (0.005)	0.031*** (0.004)	0.031*** (0.004)	0.031*** (0.003)	0.030*** (0.003)	0.030*** (0.003)
Population growth	-0.126 (0.533)	-0.162 (0.532)	0.160 (0.537)	0.321 (0.540)	-0.036 (0.470)	-2.415*** (0.483)	-2.431*** (0.484)	-2.070*** (0.485)	-1.974*** (0.486)	-1.840*** (0.454)
Old-dependency ratio	-0.135* (0.069)	-0.153* (0.069)	-0.112 (0.068)	-0.114* (0.068)	-0.082 (0.062)	-0.230*** (0.064)	-0.240*** (0.065)	-0.193*** (0.061)	-0.195*** (0.060)	-0.170*** (0.057)
Fiscal balance	0.223*** (0.061)	0.231*** (0.063)	0.183*** (0.062)	0.168*** (0.062)	0.108* (0.058)	0.197*** (0.059)	0.209*** (0.060)	0.161*** (0.060)	0.143** (0.061)	0.140** (0.060)
Terms of trade × Trade open.	0.009 (0.006)	0.009 (0.006)	0.009 (0.005)	0.009* (0.005)	0.009* (0.005)	0.005 (0.005)	0.005 (0.005)	0.004 (0.005)	0.005 (0.005)	0.003 (0.005)
Household debt	-0.025** (0.012)	-0.023* (0.012)	-0.012 (0.012)	-0.024* (0.014)		-0.004 (0.011)	-0.003 (0.011)	0.005 (0.011)	-0.007 (0.012)	
Top 1% income share	-0.202*** (0.076)					-0.157** (0.073)				
Top 10% income share		-0.108*** (0.040)					-0.080** (0.040)			
Gini coefficient			-0.207*** (0.056)	-0.273*** (0.065)	-0.280*** (0.052)			-0.220*** (0.056)	-0.279*** (0.064)	-0.220*** (0.053)
Wage share	-0.082** (0.041)	-0.083** (0.041)	-0.124*** (0.041)	-0.095** (0.044)	-0.111*** (0.034)	-0.081** (0.039)	-0.080** (0.039)	-0.127*** (0.040)	-0.104** (0.042)	-0.100*** (0.035)

Table C1 Continued

Dependent variable:									
Current account balance									
Pre-crisis			Including post-crisis						
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Credit liberalisation				0.251 (0.159)					0.039 (0.168)
Gini × Household debt			−0.003* (0.002)					−0.003* (0.002)	
Gini × Credit lib.				−0.114*** (0.029)					−0.060* (0.032)
Observations	232	230	233	267	319	317	326	326	360
R ²	0.677	0.679	0.684	0.688	0.563	0.563	0.562	0.567	0.557
Adjusted R ²	0.645	0.647	0.652	0.660	0.527	0.527	0.527	0.531	0.524
Residual Std. error	2.932	2.927	2.898	2.785	3.437	3.438	3.410	3.396	3.344

Note: $p < 0.01$; $p < 0.05$; $p < 0.1$.

Table C2. Estimation results, trade-weighted demeaned four-year averages, 1972–2007 and 1972–2017

<i>Dependent variable:</i>										
Current account balance										
Including post-crisis										
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Pre-crisis										
Output growth	-0.442*** (0.137)	-0.464*** (0.137)	-0.436*** (0.134)	-0.453*** (0.133)	-0.316** (0.125)	-0.241* (0.135)	-0.262* (0.135)	-0.215 (0.133)	-0.227* (0.132)	-0.161 (0.125)
Relative productivity	0.048*** (0.011)	0.045*** (0.011)	0.037*** (0.012)	0.035*** (0.011)	0.026** (0.010)	0.062*** (0.009)	0.060*** (0.009)	0.053*** (0.009)	0.051*** (0.009)	0.052*** (0.008)
Net foreign assets	0.075*** (0.007)	0.075*** (0.007)	0.075*** (0.007)	0.076*** (0.007)	0.077*** (0.007)	0.031*** (0.004)	0.031*** (0.004)	0.031*** (0.004)	0.030*** (0.004)	0.032*** (0.004)
Population growth	-0.051 (0.585)	-0.052 (0.585)	0.185 (0.589)	0.393 (0.588)	0.017 (0.555)	-2.123*** (0.513)	-2.121*** (0.514)	-1.819*** (0.517)	-1.683*** (0.516)	-1.650*** (0.500)
Old-dependency ratio	-0.155** (0.077)	-0.172** (0.078)	-0.142* (0.077)	-0.151** (0.076)	-0.114 (0.074)	-0.198*** (0.066)	-0.205*** (0.067)	-0.163** (0.064)	-0.167*** (0.063)	-0.148** (0.062)
Fiscal balance	0.200*** (0.069)	0.205*** (0.071)	0.168** (0.071)	0.156** (0.070)	0.132* (0.068)	0.162** (0.064)	0.173*** (0.065)	0.132** (0.066)	0.112* (0.066)	0.139** (0.066)
Terms of trade ×	0.008 (0.006)	0.008 (0.006)	0.007 (0.006)	0.006 (0.006)	0.005 (0.005)	-0.004 (0.004)	-0.004 (0.004)	-0.004 (0.003)	-0.005 (0.003)	-0.005 (0.003)
Trade open.										
Household debt	-0.026* (0.015)	-0.024 (0.015)	-0.014 (0.015)	-0.014 (0.015)		-0.006 (0.011)	-0.004 (0.011)	0.003 (0.011)	0.003 (0.011)	
Top 1% income share	-0.208** (0.089)					-0.170** (0.078)				
Top 10% income share		-0.114** (0.047)					-0.088** (0.043)			
Gini coefficient			-0.190*** (0.062)	-0.205*** (0.061)	-0.212*** (0.058)			-0.222*** (0.059)	-0.243*** (0.059)	-0.204*** (0.056)
Wage share	-0.077* (0.045)	-0.075* (0.045)	-0.114** (0.046)	-0.079* (0.048)	-0.123*** (0.041)	-0.055 (0.041)	-0.053 (0.041)	-0.101** (0.042)	-0.075* (0.043)	-0.099*** (0.038)

Table C2 Continued

<i>Dependent variable:</i>										
Current account balance										
Pre-crisis					Including post-crisis					
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	
Credit liberalisation				0.379** (0.190)					0.025 (0.182)	
Gini × Household debt			−0.005** (0.002)					−0.004** (0.002)		
Gini × Credit lib.				−0.049* (0.029)					0.007 (0.031)	
Observations	175	173	175	200	262	260	266	266	291	
R ²	0.652	0.654	0.657	0.646	0.566	0.565	0.560	0.568	0.551	
Adjusted R ²	0.612	0.614	0.618	0.608	0.528	0.527	0.522	0.529	0.514	
Residual Std. Error	2.911	2.906	2.890	2.873	3.341	3.345	3.330	3.304	3.306	

Note: * $p > 0.1$; ** $p > 0.05$; *** $p > 0.01$

Table C3. Pooled ordinary least squares estimation results, GDP-weighted demeaned four-year averages, 1972–2007 and 1972–2017

Dependent variable										
Current account balance										
Including post-crisis										
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Output growth	-0.487*** (0.135)	-0.503*** (0.134)	-0.472*** (0.132)	-0.479*** (0.131)	-0.336*** (0.121)	-0.234* (0.135)	-0.245* (0.134)	-0.232* (0.130)	-0.243* (0.129)	-0.169 (0.121)
Relative productivity	0.034*** (0.011)	0.033*** (0.011)	0.025** (0.011)	0.024** (0.011)	0.016* (0.010)	0.052*** (0.009)	0.051*** (0.009)	0.044*** (0.009)	0.043*** (0.009)	0.045*** (0.008)
Net foreign assets	0.079*** (0.008)	0.079*** (0.007)	0.078*** (0.007)	0.079*** (0.007)	0.079*** (0.007)	0.034*** (0.004)	0.033*** (0.004)	0.033*** (0.004)	0.032*** (0.004)	0.033*** (0.004)
Population growth	0.114 (0.603)	0.080 (0.592)	0.428 (0.593)	0.598 (0.592)	0.167 (0.553)	-1.915*** (0.534)	-1.944*** (0.530)	-1.590*** (0.522)	-1.472*** (0.521)	-1.451*** (0.505)
Old-dependency ratio	-0.133* (0.080)	-0.158** (0.079)	-0.119 (0.077)	-0.132* (0.077)	-0.119 (0.074)	-0.173** (0.069)	-0.185*** (0.069)	-0.155** (0.065)	-0.161** (0.064)	-0.152** (0.063)
Fiscal balance	0.206*** (0.072)	0.215*** (0.073)	0.151** (0.072)	0.134* (0.072)	0.094 (0.068)	0.158** (0.067)	0.171** (0.068)	0.102 (0.066)	0.081 (0.067)	0.101 (0.067)
Terms of trade × Trade open. Crisis Dummy	0.005 (0.008)	0.005 (0.008)	0.007 (0.008)	0.008 (0.008)	0.013* (0.007)	0.010 (0.008)	0.010 (0.008)	0.010 (0.007)	0.012 (0.007)	0.014* (0.007)
Household debt	-0.020 (0.015)	-0.020 (0.015)	-0.007 (0.015)	-0.024 (0.017)		2.117*** (0.485)	2.076*** (0.484)	1.656*** (0.462)	1.632*** (0.459)	1.714*** (0.455)
Top 1 % income share	-0.199** (0.091)					-0.001 (0.012)	-0.001 (0.012)	0.007 (0.011)	-0.009 (0.013)	
Top 10% income share		-0.123*** (0.047)				-0.116 (0.079)	-0.076* (0.043)			
Gini coefficient			-0.242*** (0.061)	-0.334*** (0.074)	-0.316*** (0.061)			-0.274*** (0.058)	-0.355*** (0.068)	-0.267*** (0.057)

Table C3 *Continued*

Dependent variable										
Current account balance										
Pre-crisis										
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Wage share	-0.072 (0.047)	-0.069 (0.046)	-0.118** (0.047)	-0.085* (0.049)	-0.106*** (0.040)	-0.051 (0.043)	-0.048 (0.043)	-0.104** (0.043)	-0.076* (0.044)	-0.082** (0.038)
Credit liberalisation					0.175 (0.178)					-0.057 (0.177)
Gini × Household debt				-0.004** (0.002)					-0.004** (0.002)	
Gini × Credit lib.					-0.066** (0.029)					-0.022 (0.030)
Constant	-3.216*** (1.110)	-3.125*** (1.066)	-2.480** (1.040)	-2.629** (1.031)	-1.918** (0.910)	-5.290*** (0.888)	-5.178*** (0.863)	-4.991*** (0.824)	-5.127*** (0.820)	-5.099*** (0.733)
Observations	175	173	175	175	200	262	260	266	266	291
R ²	0.603	0.618	0.626	0.636	0.625	0.497	0.505	0.520	0.529	0.516
Adjusted R ²	0.579	0.595	0.603	0.611	0.603	0.475	0.483	0.499	0.507	0.495
Residual Std. error	3.032	2.977	2.943	2.913	2.894	3.523	3.494	3.408	3.382	3.371

Note: ***p < 0.01; **p < 0.05; *p < 0.1.

