Economic inequality and macroeconomic imbalances

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Introduction and literature

Income inequality and household saving

- Keynesians traditionally assume a positive link between personal inequality and the household saving rate because “the rich save more than the poor”

- With upward-looking status comparisons, there may be a negative link between personal inequality and the aggregate household saving rate (“expenditure cascades” model by Frank et al., 2010)

- Growing literature on link between rising income inequality and the decline in saving (and rise in household debt) prior to the Great Recession (e.g. Palley, 1994; Frank, 2006; Cynamon and Fazzari, 2014; Fitoussi and Stiglitz, 2009; Rajan, 2010; Kumhof and Rancière, 2010; Stockhammer, 2013; survey by van Treeck, 2014)

The corporate veil: Functional income distribution and aggregate demand

- If households have a higher propensity to spend out of current income than firms, a falling wage share is linked to a decline in the consumption-to-GDP ratio and, possibly, a fall in aggregate demand

- Existence of a corporate veil, i.e., consumers react differently to a rise in dividends than to an increase in corporate retained earnings (e.g. Feldstein and Fane, 1973; Poterba, 1991; Baker et al., 2007; Atkinson, 2009)
Hypothesis 1

Rising personal inequality, especially at the top, leads to a decrease of household saving and the current account, ceteris paribus.

Hypothesis 2

A fall in the wage share or an increase in corporate net lending leads to an increase in the current account, ceteris paribus.

Hypothesis 3

The joint effects of changes in personal and functional income distribution contribute to a significant degree to the explanation of the global current account imbalances.
Strong increase in top income shares, strong decrease in household saving rate and strong rise in household leverage.

Little variation corporate financial balance, relatively small decrease in wage share.

Shareholder value model favours high profit payouts.
Little variation in top income shares and household financial balance.

Strong increase in corporate financial balance, strong decrease in private wage share.

SME business model favours high profit retentions.
Germany’s current account balance is not due to weakness of business equipment investment

Source: AMECO Database, own calculations
Germany’s current account balance is not driven by foreign direct investment

Source: AMECO Database, Deutsche Bundesbank, own calculations
Illustration - Top income shares and functional income distribution

Personal and functional income distribution, 1980/3-2004/7 (changes)

Source: The World Top Incomes Database and AMECO Database, own calculations
Illustration - Sectoral financial balances

Current account and corporate financial balance, 1980/3-2004/7 (changes)

Household and corporate financial balance, 1980/3-2004/7 (changes)

Source: World Economic Outlook (OECD) and AMECO Database, own calculations

- Corporate financial balance is positively related to the current account
- No systematic relationship between corporate and household financial balance
Estimation methodology

We amend the approach developed by Kumhof et al. (2012) and estimate the following model

\[ CA_{i,t} = \beta_0 + \beta_1 NFA_{i,t} + \beta_2 \text{FISCALBAL}_{i,t} + \beta_3 \text{RelGDPpc}_{i,t} + \beta_4 \text{DEP}_{i,t} \]

\[ + \beta_5 \text{POP}_{i,t} + \beta_6 \text{CREDIT}_{i,t} + \beta_7 \text{CORP}_{i,t} + \beta_8 \text{INEQ}_{i,t} + \epsilon_{i,t} \]  

(1)

- **Countries**: AUS, CAN, CHN, DNK, FIN, FRA, DEU, IRE, ITA, JPN, NLD, NZL, NOR, PRT, ZAF, ESP, SWE, CHE, GBR, USA
- **Sample period**: 1972-2007, four-year non-overlapping averages
- **Cross-sectional demeaning**: i indexes each country in the sample of J countries

\[ \tilde{X}_{i,t} = X_{i,t} - \frac{\sum_{i=1}^{J} (GDP_{i,t} \times X_{i,t})}{\sum_{i=1}^{J} GDP_{i,t}} \]  

(2)

\[ \tilde{X}_{i,t} = X_{i,t} - \frac{\sum_{i=1}^{J} ((EX + IM)_{i,t} \times X_{i,t})}{\sum_{i=1}^{J} (EX + IM)_{i,t}} \]  

(3)

- **Estimation approach**: Pooled OLS and FE estimations with robust standard errors
- **Robustness**: Estimations for the sample of G7/OECD countries, estimations with yearly data, household and corporate financial balance as dependent variable
### Table: Estimation results for large sample, 1972-2007, Trade-weighted demeaning

<table>
<thead>
<tr>
<th>Regressor</th>
<th>(1)</th>
<th>(2)</th>
<th>(3)</th>
<th>(4)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Net foreign assets (% of GDP)</td>
<td>0.077***</td>
<td>0.073***</td>
<td>0.072***</td>
<td>0.080***</td>
</tr>
<tr>
<td></td>
<td>(0.012)</td>
<td>(0.012)</td>
<td>(0.011)</td>
<td>(0.011)</td>
</tr>
<tr>
<td>Fiscal balance (% of GDP)</td>
<td>0.411***</td>
<td>0.408***</td>
<td>0.485***</td>
<td>0.410***</td>
</tr>
<tr>
<td></td>
<td>(0.105)</td>
<td>(0.101)</td>
<td>(0.096)</td>
<td>(0.104)</td>
</tr>
<tr>
<td>Relative per capita income</td>
<td>0.010</td>
<td>-0.592</td>
<td>-1.556</td>
<td>-3.503**</td>
</tr>
<tr>
<td></td>
<td>(1.465)</td>
<td>(1.370)</td>
<td>(1.331)</td>
<td>(1.592)</td>
</tr>
<tr>
<td>Old-age dependency ratio</td>
<td>-0.205***</td>
<td>-0.241***</td>
<td>-0.311***</td>
<td>-0.258***</td>
</tr>
<tr>
<td></td>
<td>(0.078)</td>
<td>(0.072)</td>
<td>(0.072)</td>
<td>(0.080)</td>
</tr>
<tr>
<td></td>
<td>(0.750)</td>
<td>(0.767)</td>
<td>(0.710)</td>
<td>(0.731)</td>
</tr>
<tr>
<td>Private credit (% of GDP)</td>
<td>-0.021***</td>
<td>-0.016**</td>
<td>-0.016**</td>
<td>-0.022***</td>
</tr>
<tr>
<td></td>
<td>(0.007)</td>
<td>(0.007)</td>
<td>(0.006)</td>
<td>(0.007)</td>
</tr>
<tr>
<td>Corporate balance (% of GDP)</td>
<td>0.444***</td>
<td>0.487***</td>
<td>0.464***</td>
<td>0.486***</td>
</tr>
<tr>
<td></td>
<td>(0.098)</td>
<td>(0.094)</td>
<td>(0.083)</td>
<td>(0.086)</td>
</tr>
<tr>
<td>Personal income inequality</td>
<td>-0.317***</td>
<td>-0.266***</td>
<td>-0.224***</td>
<td>-0.133***</td>
</tr>
<tr>
<td></td>
<td>(0.093)</td>
<td>(0.059)</td>
<td>(0.050)</td>
<td>(0.047)</td>
</tr>
<tr>
<td>Constant</td>
<td>0.015</td>
<td>0.528</td>
<td>1.449</td>
<td>3.062**</td>
</tr>
<tr>
<td></td>
<td>(1.198)</td>
<td>(1.098)</td>
<td>(1.077)</td>
<td>(1.285)</td>
</tr>
<tr>
<td>Adjusted $R^2$</td>
<td>0.653</td>
<td>0.673</td>
<td>0.720</td>
<td>0.647</td>
</tr>
<tr>
<td>Countries</td>
<td>20</td>
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<td>20</td>
<td>20</td>
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<tr>
<td>Observations</td>
<td>121</td>
<td>119</td>
<td>118</td>
<td>125</td>
</tr>
</tbody>
</table>

Notes: Dependent variable is the current account balance in % of GDP. All regressions are estimated by POLS. Robust standard errors are reported in parentheses. *, ** and *** denotes significance at 10%, 5% and 1% levels, respectively. The top 1%, 5%, 10% income share, Gini coefficient is used as measure of personal income inequality in Model (1)-(4), respectively.
Estimation for large sample, 1980/3-2004/7, Trade-weighted demeaning

Large effects of corporate financial balance and top 1% income share

Smaller effects of Gini coefficient
Conclusions

Conclusion 1
- An increase in personal income inequality leads to a decrease of the current account, ceteris paribus

Conclusion 2
- Consumers do not fully pierce the corporate veil
  - An increase in the corporate financial balance leads to an increase in the current account, ceteris paribus.

Conclusion 3
- Excessive (retained) corporate profits, rather than weak (equipment) investment restrain domestic demand in Germany and contribute to macroeconomic instability at the European and international level.