Income distribution and current account imbalances

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Outline

1. Introduction and hypotheses
2. Illustration of the hypotheses for the G7 & China
3. Panel estimations
4. Concluding remarks

Outline

- We reconsider the link between income distribution and aggregate demand in a macro panel:
  - How does rising (top-end) personal income inequality affect household saving and the current account?
  - How do shifts in the functional income distribution (profits or corporate income vs. wages or household income) affect aggregate demand and the current account?

1. Introduction and hypotheses

- Large and growing literature on inequality-crisis nexus
  - 'Orthodox dissenters' (e.g. Kumhof, Rajan, Stiglitz vs. Krugman) and Post Keynesians (e.g. Brown, Fazzari, Hein, Palley, Stockhammer)
  - Did rising inequality in the U.S. & U.K. contribute to lower household saving, higher debt and current account deficit? Probably yes...
  - But why were the effects of rising inequality so different in Germany, China and Japan (current account surpluses)?

- Which measures of income distribution shall we look at to explain patterns of aggregate demand?
  - Many Post Keynesians focus mainly on functional income distribution (e.g. Bhaduri-Marglin, Hein, Onaran, Stockhammer)
  - 'Orthodox dissenters' focus almost exclusively on personal income distribution
  - Gini coefficients or top income shares? Bofinger vs. Kumhof at INET conference 2012

Change in inequality apparently very similar in the U.S. and in Germany...

Figure 1. **Income inequality increased in most, but not all OECD countries**
Gini coefficients of income inequality, mid-1980s and late 2000s
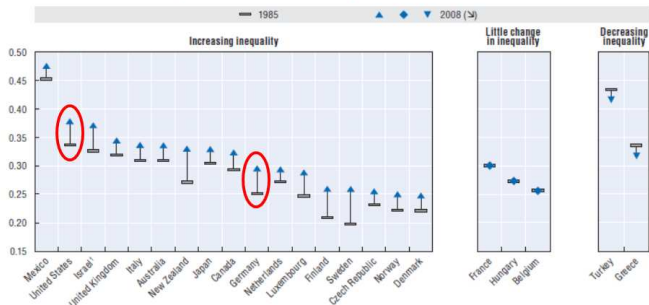
Note: For data years see Table 1. "Little change" in inequality refers to changes of less than 2 percentage points.
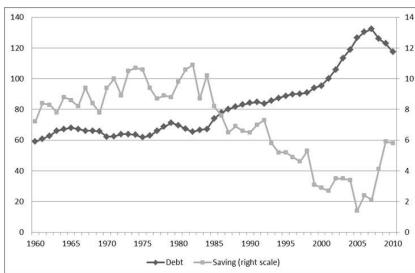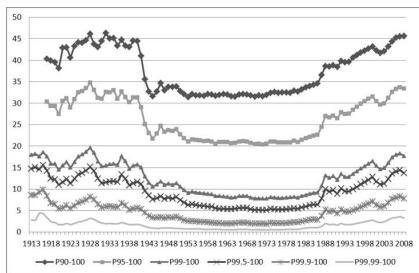1. Information on data for Israel: http://dx.doi.org/10.1787/888932315602.
Source: OECD Database on Household Income Distribution and Poverty.

Change in Gini coefficient of disposable houisehold income, mid-1980s-mid-2000s
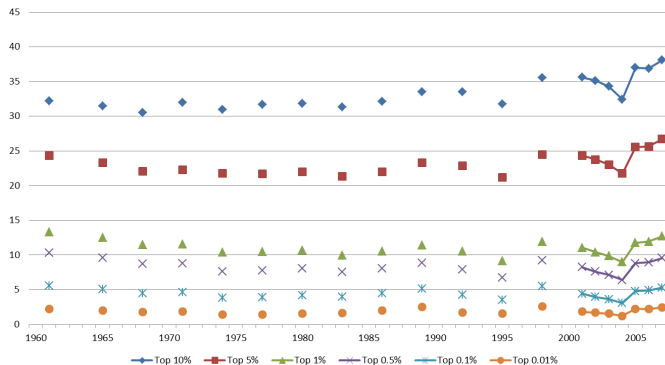
Strongly rising top income shares, lower saving and household debt in the United States...

Top income shares (left), saving and debt in per cent of household disposable income (right), USA
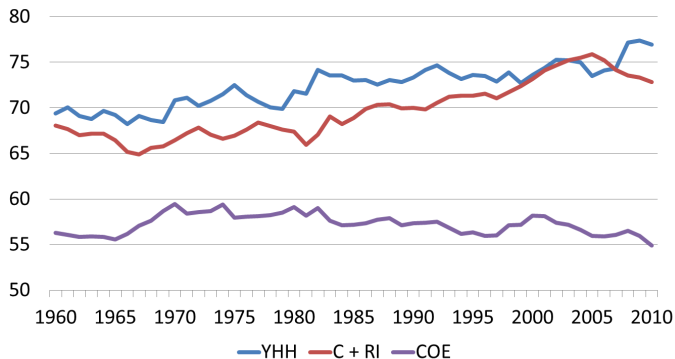
Hardly any increase in top income shares in Germany...
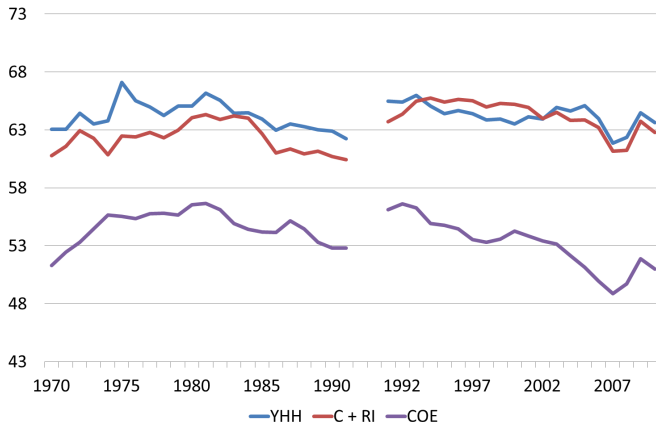

Top income shares, Germany

Functional income distribution remarkably stable in the United States...

Wage share, household disposable income and consumption+residential investment in % of GDP

Stronger shift in functional income distribution in Germany...

Wage share, household disposable income and consumption+residential
investment in % of GDP

1. Introduction and hypotheses

- An observation

  1. Distinction between "U-shape" and "L-shape" countries in terms of top household income shares (Atkinson, Piketty, Saez) needs to be qualified: wage share has declined more in the "L-shape" countries than in the "U-shape" countries.

- Two hypotheses

  1. The more top-end inequality rises in one country (relative to its trading partners), the stronger the negative effect on the private household financial balance and the current account.
  2. A falling wage share in one country (relative to its trading partners) is linked to an improvement of the current account via its effect on the corporate financial balance.

- Remember:
  - Household financial balance + Corporate financial balance + Fiscal balance = Current account balance

The expenditure cascades model (Frank et al., 2010)

- Consumption demand of household i, C_i, depends on:
    1. its own income, Y_i $(+)$
    2. the consumption of households with a marginally higher income, C_{i+1} $(+)$

$$C_N = kY_N \qquad \text{for} \qquad i = N \qquad (1)$$

$$C_i = \alpha kY_i + (1-\alpha)C_{i+1} \qquad \text{for} \qquad i = 1,...,N-1; 0 < \alpha < 1 \qquad (2)$$

→ A rise in top income shares exerts downward pressure on the saving rates of all households below the top

→ A rise in the Gini coefficient may have only a small effect on the saving rates, when the shift in distribution occurs towards the middle or the bottom of the distribution

→ When firms retain their profits rather than passing them on to top income households, expenditure cascades may be weaker (the 'corporate veil')

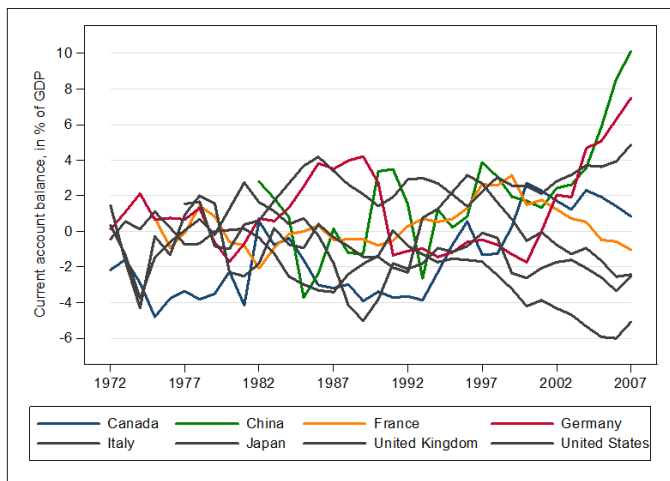# Outline

Functional and personal income distribution
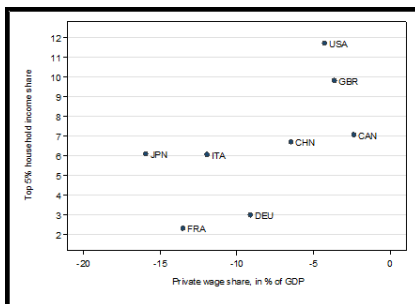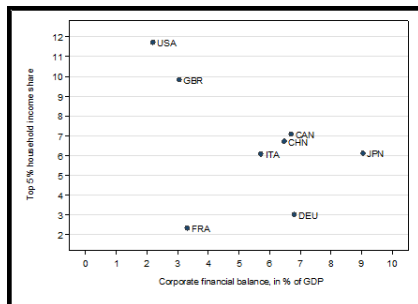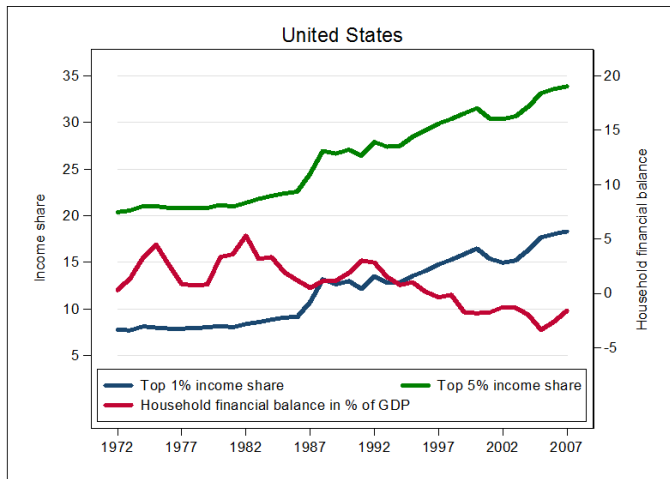

Changes in percentage points, 1980/3-2004/7 (four-year averages)
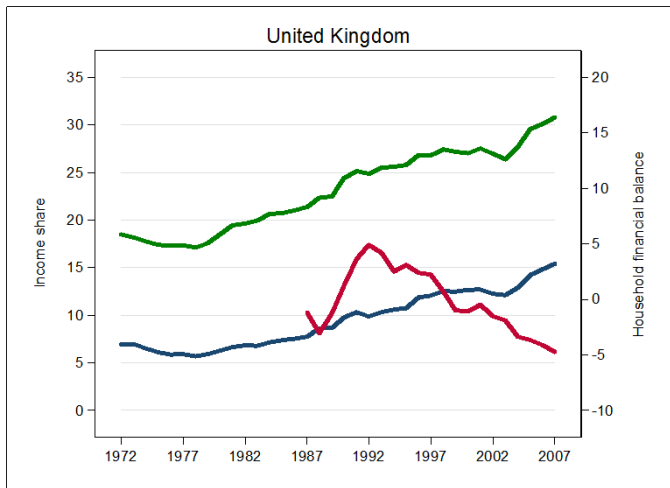
Current account balances in per cent of national GDP)

Top income shares and household financial balance, United States, 1972-2007

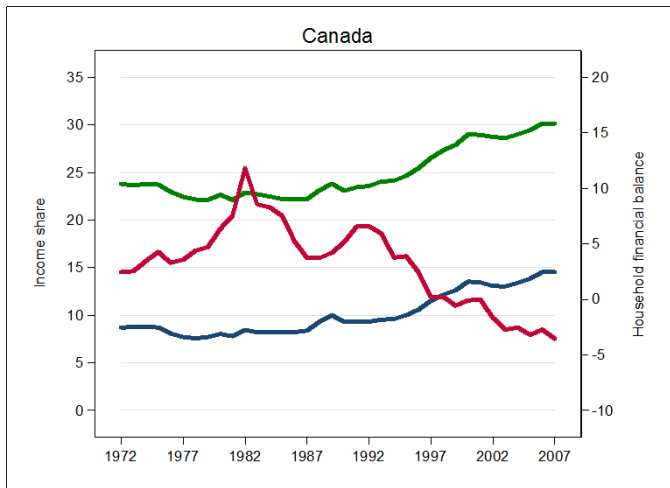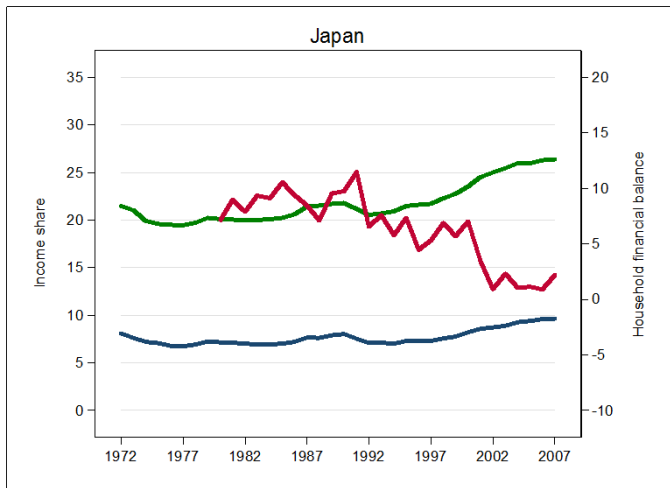Top income shares and household financial balance, United Kingdom, 1972-2007
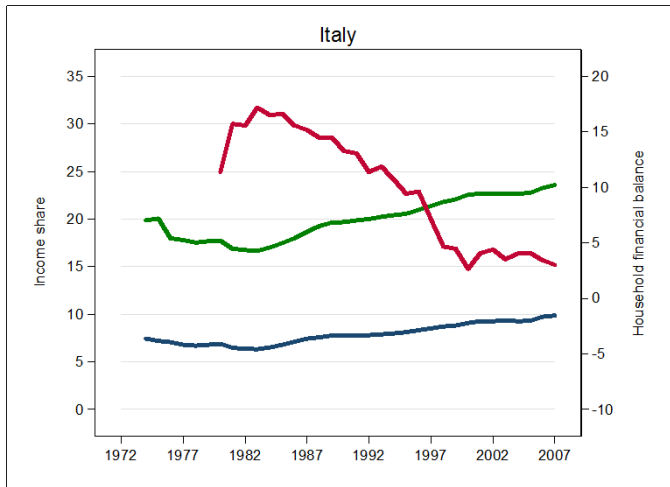
Top income shares and household financial balance, Canada, 1972-2007
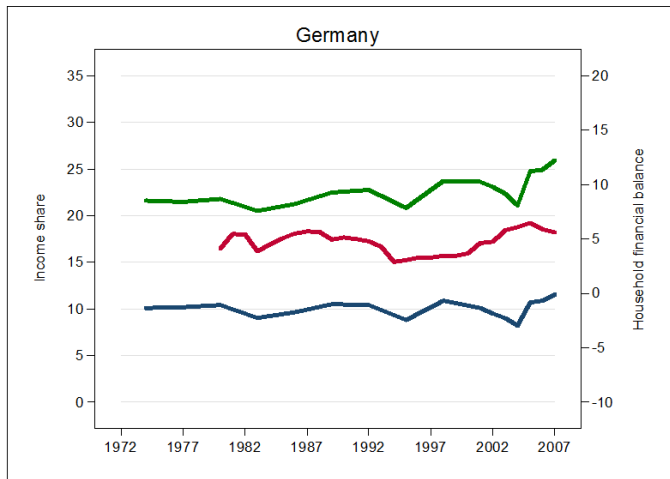
Top income shares and household financial balance, Japan, 1972-2007
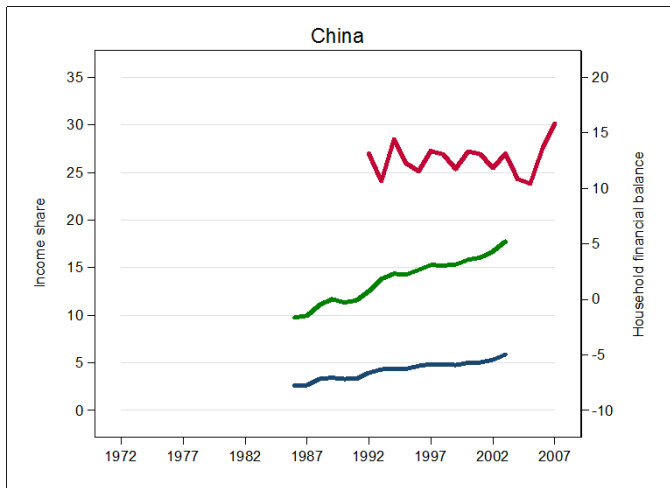
Top income shares and household financial balance, Italy, 1972-2007

Top income shares and household financial balance, Germany, 1972-2007

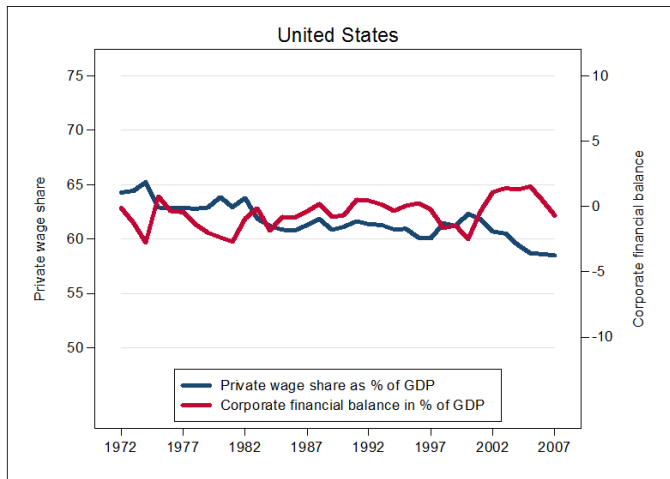Top income shares and household financial balance, France, 1972-2007

Top income shares and household financial balance, China, 1972-2007

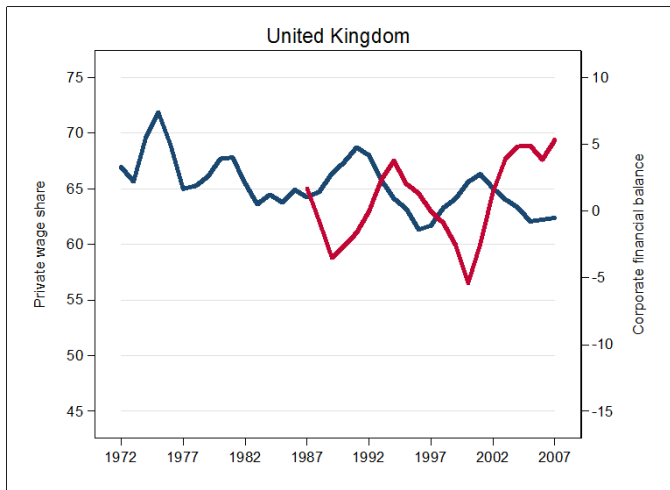Private adj. wage share and corporate financial balance, United States, 1972-2007

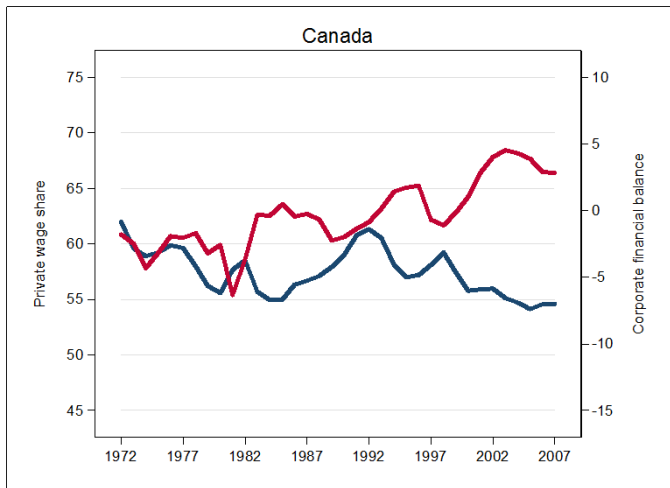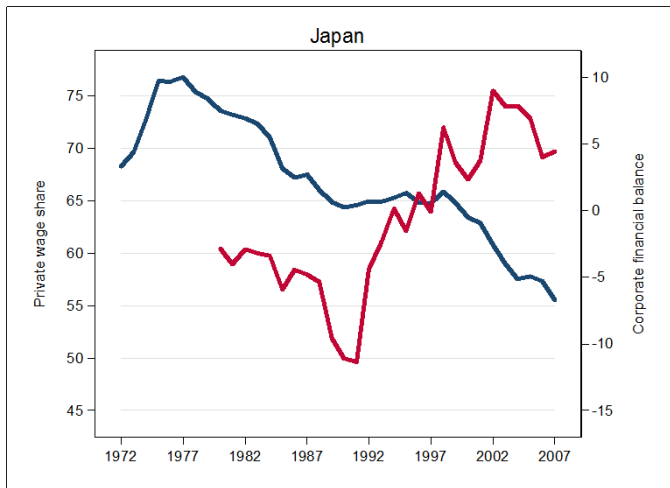Private adj. wage share and corporate financial balance, United Kingdom, 1972-2007

Private adj. wage share and corporate financial balance, Canada, 1972-2007

Private adj. wage share and corporate financial balance, Japan, 1972-2007

Private adj. wage share and corporate financial balance, Italy, 1972-2007

Private adj. wage share and corporate financial balance, Germany, 1972-2007
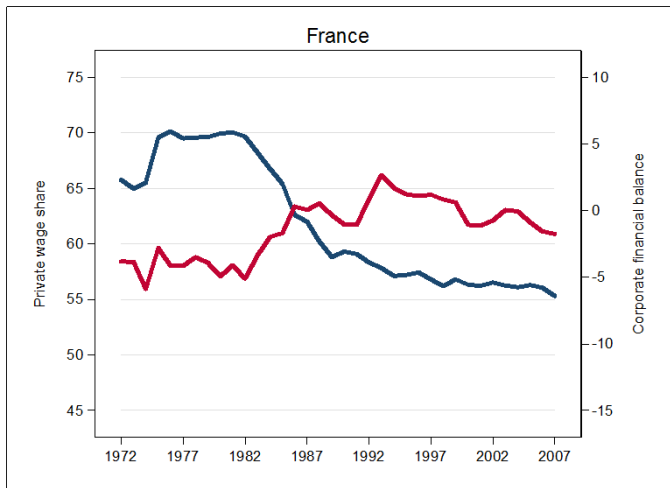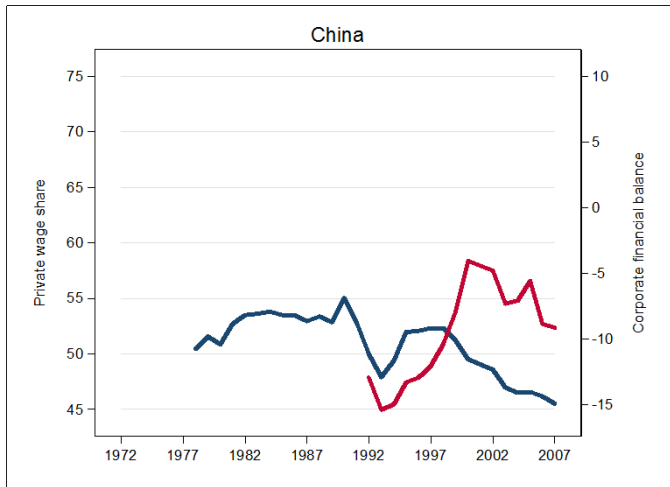
Private adj. wage share and corporate financial balance, France, 1972-2007

Private adj. wage share and corporate financial balance, China, 1972-2007

Outline

3. Panel estimations

$$CA_{i,t} = \beta_0 + \beta_1 NFA_{i,t-1} + \beta_2 FISCAL_{i,t} + \beta_3 RelGDP_{i,t} + \beta_4 DEMO_{i,t} + \beta_5 FIN_{i,t}$$
$$+ \beta_6 CORP_{i,t} + \beta_7 INEQ_{i,t} + \varepsilon_{i,t} \quad (3)$$

- Explanatory variables
    - $NFA_{i,t-1}$: net foreign assets
    - $FISCAL_{i,t}$: fiscal balance
    - $RelGDP_{i,t}$: relative per capita GDP
    - $DEMO_{i,t}$: measures of the demographic situation
    - $FIN_{i,t}$: a measure of financial development
    - $CORP_{i,t}$: measures of the corporate veil or functional income distribution
    - $INEQ_{i,t}$: measues of personal income inequality
- We also estimate the model using the household financial balance and the corporate financial balance as the endogenous variable.
- Sample period: 1972-2007
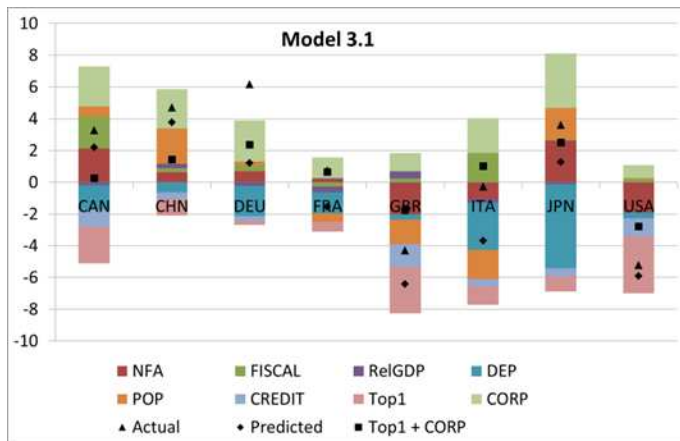
3. Panel estimations

- We apply pooled OLS and fixed effects estimations to data with and without cross-sectional demeaning (based on both GDP and trade weights) (several robustness checks)
- Demeaned variables are constructed as $\tilde{x_{it}} = x_{it} - \sum_{i=1}^{J} w_{it} x_{i,t} / \sum_{i=1}^{J} x_{i,t}$, where $w_{i,t}$ is the weighting variable. We use GDP-weighted and trade-weighted demeaning.
- We use four year non-overlapping averages for the sample period 1972-2007
- Two sets of estimations: G7 countries and sample of 20 countries (limiting factor: top income shares from World Top Incomes Database)

3. Panel estimations

- Estimation results are in the paper...
- Main results
  - Personal income distribution
    - Very strong and robust negative effects of top 1% and top 5% income shares
    - Weaker but still considerable negative effects of top 10% income share
    - Weakest and least robust effect of Gini coefficient
  - Functional income distribution
    - Strong positive effect of corporate financial balance on current account balance
    - Smaller but still considerable negative effect of private wage share on current account balance

Estimation for large sample, no demeaning: Large effects of corporate balance and top 1% income share

Contribution analysis, change 1980/3-2004/7

Estimation for large sample, no demeaning: Smaller effects of Gini coefficient
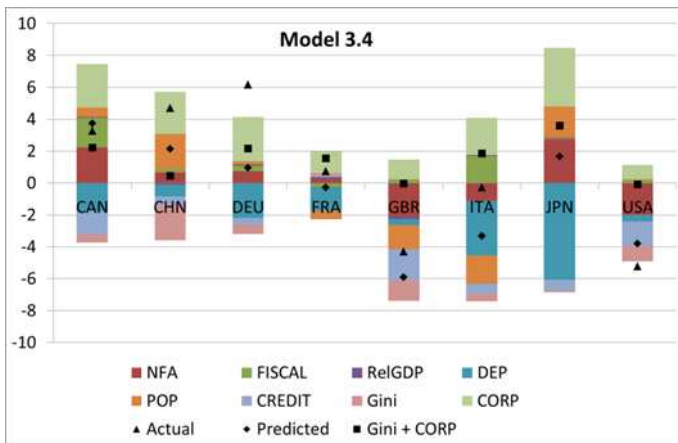

Contribution analysis, change 1980/3-2004/7

Estimation for large sample, GDP demeaning: Large effects of corporate balance and top 1% income share

Contribution analysis, change 1980/3-2004/7

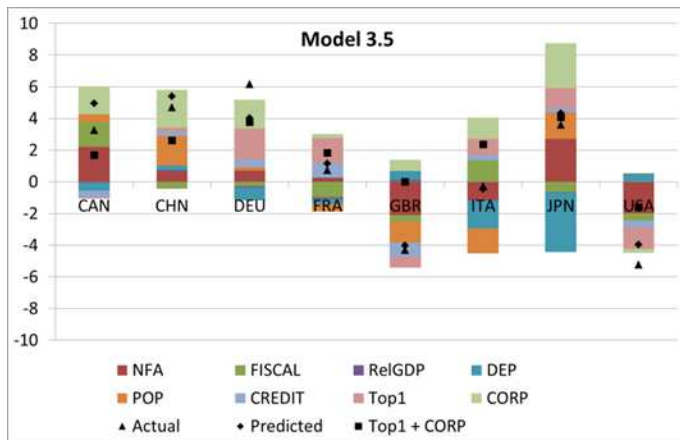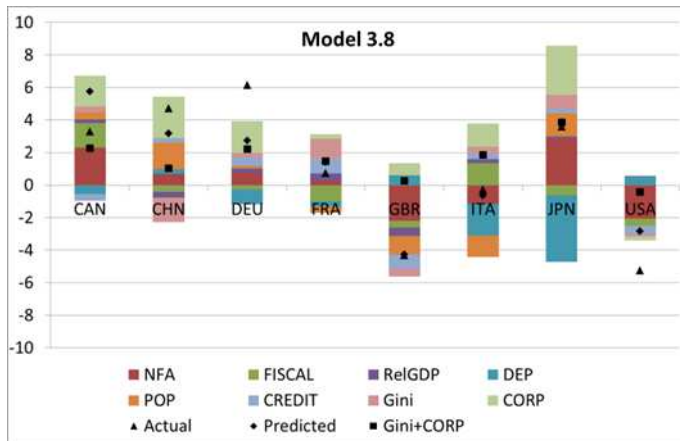Estimation for large sample, GDP demeaning: Smaller effects of Gini coefficient

Contribution analysis, change 1980/3-2004/7

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4. Concluding remarks

- There is some evidence in support of our hypotheses
- The lack of attention paid to functional income distribution in the mainstream is unfortunate
- Post Keynesians are starting to integrate the personal income distribution into their models
- Our panel analysis downplays the importance of social norms and institutions for explaining different reactions of households to rising income inequality
- We have also been working on combining the PK wage-led/profit-led analysis with the expenditure cascades hypothesis in a stock-flow consistent model, calibrated for the U.S., Germany and China