PERSONAL DISTRIBUTION IN POST-KEYNESIAN ECONOMICS

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OVERVIEW

- Empirics
  - Functional income distribution
  - Personal income distribution
  - Wealth distribution
- Post-Keynesian Theory
  - Overhead costs
  - Wage-/ profit led
  - Expenditure cascades
FUNCTIONAL INCOME DISTRIBUTION

- Thoroughly researched by Post-Keynesian economics (e.g. Stockhammer/Onaran 2008, Lavoie 2009, Onaran/Galanis 2012, Hein 2015 etc.)

- Secular falling trend in many countries, with cyclical elements

- Additional aspects:
  - export-led neo-mercantilist vs. debt-led consumption vs. domestic demand-led countries;
  - middle-income countries
  - managerial labour and overhead

- Contradicts Kaldor’s 1st „remarkable historical consistency“, Not a focus in much of neoclassical theory
FUNCTIONAL INCOME DISTRIBUTION:
ADJUSTED WAGE SHARE IN CONTINENTAL EUROPE

Source: European Commission, AMECO-DB
ADJUSTED WAGE SHARE IN ANGLOSAXON COUNTRIES

Source: European Commission, AMECO-DB
PERSONAL INCOME DISTRIBUTION

- Recent surge in interest in mainstream economics
- Long-run inequality: u or wave?
- Income concentration at the top: rising?
- Income composition at the top: are classes still relevant?
HISTORICAL PERSONAL INCOME INEQUALITY

Kuznets

Piketty

Milanovic
PERSONAL INCOME INEQUALITY: WITHIN- VS BETWEEN COUNTRIES

Quelle: Lakner, Milanovic (2016)
IS INEQUALITY ABOUT TO DECLINE?
DISTRIBUTION OF ABS. GLOBAL INCOME GAINS 1988-2008

Source: Milanovic (2016)
PERSONAL INCOME DISTRIBUTION: TOP 1% SHARE IN NATIONAL INCOME (UK, US 1908-2008)

Source: WWID, Alvaredo et al. (2012)
TOP 1% SHARE IN NATIONAL INCOME, CONTINENTAL EUROPE 1891-2006

Source: WWID, Alvaredo et al. (2012)
STRUCTURE OF HOUSEHOLD INCOME (AUSTRIA 2010)

Source: HFCS 2010; Altzinger, Humer, Moser (2016)
FUNCTIONAL INCOME DISTRIBUTION BY INCOME LEVEL (AUSTRIA 2010)

**Bottom 99%**
- Employment: 51%
- Self-employment: 36%
- Capital: 5%
- Pensions: 7%

**Top 1%**
- Employment: 45%
- Self-employment: 26%
- Capital: 23%
- Pensions: 6%

Source: HFCS 2010; Altzinger, Humer, Moser (2016)
FUNCTIONAL BY PERSONAL INCOME DISTRIBUTION:
CAPITAL/TOTAL INCOME OF THE TOP 1% IN EUROPE

Source: HFCS 2010; calculations Miriam Rehm
WHAT IS THE ECONOMIC MAINSTREAM DOING?

- DINA: Distributional National Accounts (OECD, Eurostat etc.)
- Initiated by Stiglitz-Sen-Fitoussi Commission, propelled by Piketty, Saez, Atkinson and their students
- Link personal-functional distribution in the SNA
LINKS PERSONAL-FUNCTIONAL DISTRIBUTION

- Imputations from micro data in SNA
- Classes
- Saving rates
SYSTEM OF NATIONAL ACCOUNTS (SNA) AND DISTRIBUTION: IMPUTED RENTS

- Imputed rents = non-cash income from owner-occupied housing ("non-paid" rents)

- Largest item imputed from micro data in SNA

- 3 Methods:
  - Rental equivalence (hedonic regressions) – standard approach
  - Capital approach
  - Self-assessment
IMPUTED RENTS BY GROSS INCOME (AUSTRIA)

Source: HFCS 2010; Fessler, Rehm, Tockner (2015)
IMPUTED RENTS MORE EQUAL WITH COMMON SNA APPRAOCH (AUSTRIA, 2010)

Source: HFCS 2010; Fessler, Rehm, Tockner (2015)
CLASSES

- Does the functional distribution still describe society well?
  - Managers (employees like capitalists)
  - Contingent workers (self-employed like workers)

- 7 classes:
  - 3 capitalist
  - Self-employed
  - 3 workers
## INCOME DISTRIBUTION BY CLASS

<table>
<thead>
<tr>
<th>Class</th>
<th>Wages</th>
<th>Profits</th>
<th>Interest</th>
</tr>
</thead>
<tbody>
<tr>
<td>The 1%</td>
<td>1.3</td>
<td>14.3</td>
<td>25.7</td>
</tr>
<tr>
<td>Rentiers</td>
<td>0.9</td>
<td>6.1</td>
<td>39.0</td>
</tr>
<tr>
<td>Industrialists</td>
<td>0.4</td>
<td>8.9</td>
<td>0.8</td>
</tr>
<tr>
<td>Self-employed</td>
<td>0.2</td>
<td>7.2</td>
<td>1.1</td>
</tr>
<tr>
<td>High-skilled empl.</td>
<td>1.5</td>
<td>0.4</td>
<td>0.6</td>
</tr>
<tr>
<td>Medium-skilled empl.</td>
<td>1.0</td>
<td>0.2</td>
<td>0.4</td>
</tr>
<tr>
<td>Low-skilled empl.</td>
<td>0.7</td>
<td>0.1</td>
<td>0.1</td>
</tr>
</tbody>
</table>

Source: HFCS 2010; Fessler, Rehm, Tockner (2015)
## WEALTH DISTRIBUTION BY CLASS

<table>
<thead>
<tr>
<th>Class</th>
<th>Safe assets</th>
<th>Risky financial</th>
<th>Safe fi. assets</th>
</tr>
</thead>
<tbody>
<tr>
<td>The 1%</td>
<td>18.7</td>
<td>18.8</td>
<td>44.2</td>
</tr>
<tr>
<td>Rentiers</td>
<td>3.4</td>
<td>6.8</td>
<td>7.1</td>
</tr>
<tr>
<td>Industrialists</td>
<td>2.5</td>
<td>1.7</td>
<td>0.7</td>
</tr>
<tr>
<td>Self-employed</td>
<td>1.6</td>
<td>1.1</td>
<td>0.8</td>
</tr>
<tr>
<td>High-skilled empl.</td>
<td>1.0</td>
<td>1.3</td>
<td>1.1</td>
</tr>
<tr>
<td>Medium-skilled empl.</td>
<td>0.6</td>
<td>0.7</td>
<td>0.3</td>
</tr>
<tr>
<td>Low-skilled empl.</td>
<td>0.5</td>
<td>0.3</td>
<td>0.2</td>
</tr>
</tbody>
</table>

Source: HFCS 2010; Fessler, Rehm, Tockner (2015)
## Debt Distribution by Class

<table>
<thead>
<tr>
<th>Class</th>
<th>Mortgages</th>
<th>Unsecured Debt</th>
</tr>
</thead>
<tbody>
<tr>
<td>The 1%</td>
<td>4.3</td>
<td>5.8</td>
</tr>
<tr>
<td>Rentiers</td>
<td>3.4</td>
<td>2.0</td>
</tr>
<tr>
<td>Industrialists</td>
<td>1.3</td>
<td>2.2</td>
</tr>
<tr>
<td>Self-employed</td>
<td>1.4</td>
<td>1.7</td>
</tr>
<tr>
<td>High-skilled empl.</td>
<td>1.5</td>
<td>1.3</td>
</tr>
<tr>
<td>Medium-skilled empl.</td>
<td>0.8</td>
<td>0.8</td>
</tr>
<tr>
<td>Low-skilled empl.</td>
<td>0.5</td>
<td>0.6</td>
</tr>
</tbody>
</table>

Source: HFCS 2010; Fessler, Rehm, Tockner (2015)
SAVING RATES

- Differential saving rates (by income): core Post-Keynesian assumption
- Empirically (at least) 3 ways:
  - Savings out of profits are (relatively) higher than savings out of work income
  - Savings of capitalists are (relatively) higher than of workers, if the former receive mainly profit income and the latter mainly work income
  - Savings from high incomes are (relatively) higher than from low incomes, if high incomes have a larger share of profit income and lower incomes have a higher share of work income
SAVING RATES

- Macrodata with some distributional information (standard calculation):

\[ s_{\text{decile}} = \frac{\sum_{i=1}^{n} C_{\text{decile}}}{\sum_{i=1}^{n} Y_{\text{decile}}} \]

- Properties:
  - Upward sloping
  - Bottom 40-60% have negative saving rates

- Macroeconomic stability?

- Microdata:

\[ s_{\text{decile}} = \frac{\sum_{i=1}^{n} \frac{C_{\text{household}}}{Y_{\text{household}}}}{n} \]

- Bottom 20% have negative saving rates
SAVING RATE FROM MACRO DATA (AUSTRIA)

Net income deciles

Source: Konsumerhebung 2009/10, calculations Miriam Rehm
WEALTH DISTRIBUTION

- Until recently no standard definition
- Much worse data quality compared to income
- Much more unequal than income distribution
- Yet, conceptually crucial
DATA SOURCES FOR WEALTH

- Tax data (e.g. wealth taxes, inheritance taxes)
  - Advantages: Often long time horizons, broad coverage
  - Disadvantages: Tax base and deductibles, tax avoidance and evasion

- Surveys (e.g. SCF for US, HFCS for EU)
  - Advantages: Socioeconomic information
  - Disadvantages: Voluntary participation, underreporting
## WEALTH: DEFINITION

<table>
<thead>
<tr>
<th>Non-financial (real) assets</th>
<th>Liabilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Owner-occupied housing, other real estate</td>
<td>Mortgages</td>
</tr>
<tr>
<td>Consumer durables</td>
<td>Other investment loans</td>
</tr>
<tr>
<td>Vehicles</td>
<td>Consumer durable loans</td>
</tr>
<tr>
<td>Intellectual property</td>
<td>Education loans</td>
</tr>
</tbody>
</table>

### Financial assets

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Currency and deposits</td>
<td></td>
</tr>
<tr>
<td>Bonds and other debt securities</td>
<td></td>
</tr>
<tr>
<td>Equity in own unincorporated enterprises</td>
<td></td>
</tr>
<tr>
<td>Shares</td>
<td></td>
</tr>
<tr>
<td>Mutual funds and other investment funds</td>
<td></td>
</tr>
<tr>
<td>Pension funds</td>
<td></td>
</tr>
</tbody>
</table>
## PARTICIPATION IN ASSET CLASSES IN EUROPE

<table>
<thead>
<tr>
<th>Asset Class</th>
<th>Bottom half &lt; 50%</th>
<th>Affluent 51-95%</th>
<th>Wealthy 96-100%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vehicles</td>
<td>62</td>
<td>85</td>
<td>91</td>
</tr>
<tr>
<td>Main residence</td>
<td>28</td>
<td>92</td>
<td>94</td>
</tr>
<tr>
<td>Other valuables</td>
<td>37</td>
<td>51</td>
<td>62</td>
</tr>
<tr>
<td>Other real estate</td>
<td>8</td>
<td>35</td>
<td>78</td>
</tr>
<tr>
<td>Self-employment business</td>
<td>7</td>
<td>14</td>
<td>50</td>
</tr>
<tr>
<td>Current accounts</td>
<td>92</td>
<td>97</td>
<td>99</td>
</tr>
<tr>
<td>Savings accounts</td>
<td>57</td>
<td>63</td>
<td>67</td>
</tr>
<tr>
<td>Money owed to the household</td>
<td>9</td>
<td>6</td>
<td>10</td>
</tr>
<tr>
<td>Bonds</td>
<td>2</td>
<td>8</td>
<td>20</td>
</tr>
<tr>
<td>Shares</td>
<td>4</td>
<td>14</td>
<td>35</td>
</tr>
<tr>
<td>Mutual funds</td>
<td>6</td>
<td>16</td>
<td>32</td>
</tr>
<tr>
<td>Other financial assets</td>
<td>2</td>
<td>2</td>
<td>8</td>
</tr>
</tbody>
</table>

Source: HFCS 2010, calculations Miriam Rehm
WEALTH DISTRIBUTION: INEQUALITY IN THE EURO AREA

Source: HFCS 2010; Sierminska and Medgyesi 2013; Holzner, Jestl, Leitner 2015
# UNDER-REPORTING OF TOP WEALTH (HFCS)

<table>
<thead>
<tr>
<th>Mio. Euro</th>
<th>Max. wealth HFCS 2010</th>
<th>Min. wealth Forbes list</th>
</tr>
</thead>
<tbody>
<tr>
<td>Germany</td>
<td>76</td>
<td>818</td>
</tr>
<tr>
<td>France</td>
<td>153</td>
<td>810</td>
</tr>
<tr>
<td>Italy</td>
<td>26</td>
<td>893</td>
</tr>
<tr>
<td>Spain</td>
<td>409</td>
<td>780</td>
</tr>
<tr>
<td>Netherlands</td>
<td>5</td>
<td>958</td>
</tr>
<tr>
<td>Belgium</td>
<td>8</td>
<td>1.920</td>
</tr>
<tr>
<td>Portugal</td>
<td>27</td>
<td>1.110</td>
</tr>
<tr>
<td>Austria</td>
<td>22</td>
<td>1.560</td>
</tr>
<tr>
<td>Finnland</td>
<td>15</td>
<td>958</td>
</tr>
<tr>
<td>USA (SCF)</td>
<td>806</td>
<td>737</td>
</tr>
</tbody>
</table>

Source: Vermeulen 2014
UNDER-REPORTING OF TOP WEALTH IN THE HFCS

Source: Vermeulen (2014)
THEORY
MANAGER PAY & OVERHEAD COSTS

- Managers’ salaries are wages by accounting standards
- Conceptually, are they profit/capital income?
- Important for the definition of costs: variable or fixed?
OVERHEAD LABOUR (PALLEY 2005, LAVOIE 2009)

- Wages and salaries: split between workers (variable costs) and managers (overhead costs)

- Ratio of wages depends endogenously on the capacity utilization (Lavoie 2009)

- Increase in overhead costs:
  - Target return pricing (firms have a target profit rate (based on total unit costs), and will thus raise prices when costs rise
  - Wage share of workers will fall, wage share of managers will rise
  - Profit share depends on capacity utilization and autonomous investment
WAGE-/PROFIT-LED (CARVALHO/REZAI 2016)

- Redistribution towards workers through lower wage inequality

- Direct effect: Lower saving out of wages => higher differential between saving out of wages and profits => more wage-led

- Indirect effect: Via the demand regime (wage- or profit-led):
  - Wage-led and weakly profit-led => more wage-led
  - Strongly profit-led => more profit-led
W/P-LED: REDUCTION IN PERSONAL INCOME INEQU.

Source: Carvalho und Rezai (2016)
WAGE-/PROFIT LED (PRANTE 2017)

- Saving rate dependent on wage inequality

- Parameter $\eta$: demand and supply-side factors impacting the savings rate (interpreted as indebtedness)

- $\eta > 0$: wage inequality rises -> propensity to save falls (expansionary)
  $\eta < 0$: contractionary

- Combined with wage-/profit led: may overcompensate effect of changes in the functional distribution of income
WAGE-/PROFIT LED (PALLEY 2017)

- Generalizes Carvalho/Rezai: Capitalists-managers and workers-capital owners. Both groups receive wages, save, own capital, and receive profits.

- Redistribution to workers (wage share or ownership) raises capacity utilization, due to lower aggregate saving.

- Increasing workers' ownership of capital => more profit-led (workers receive + spend a greater share of profits, enhancing profits' effect on capacity utilization).

- Increasing workers' share of the wage bill makes the economy more wage-led (workers receive + spend a greater share of wage, enhancing their effect on u).
Redistribution can change regime from wage- to profit-led:
- Larger differences in savings rates
- Weaker reaction of investment to profitability
- Larger economy
- Redistribution to workers' income
EXPORT- VS. DEBT-BASED GROWTH REGIME

- Personal inequality
- Higher private indebtedness
- Higher firm savings
- Credit-based demand, current account deficit
- Foreign demand, current account surplus

Source: Adapted from Behringer, Theobald, vanTreeck 2016
EXPENDITURE CASCADES (BEHRINGER, THEOBALD, VAN TREECK 2016, KAPELLER, SCHÜTZ 2015)

- Higher consumption of higher incomes (because inequality is increasing)
- Relative income hypothesis: Households beneath want to keep up => indebtedness
- Inverts the effect of inequality on consumption (positive!)
WEALTH INEQUALITY (ONARAN EA. 2011, STOCKHAMMER, WILDAUER 2015)

- Empirically tests expenditure cascades, but also incorporates wealth in wage-/profit led model

- Distinction between financial wealth and residential investment (determined like consumption expenditures)

- No empirical support for an effect of personal inequality on consumption and investment

- But aspects of the wealth distribution do have an effect
CONCLUSION

- Post-Keynesians have quite a headstart on the mainstream in linking the functional and the personal income distribution

  - 3 broad model groups: standard PKE model including overhead labour, wage-/profit led model with personal income inequality, expenditure cascades

- Yet, the personal income distribution is under-researched compared to the functional distribution in PKE

  - Empirically, both have been becoming more unequal / unfavourable to workers

- The wealth distribution has received even less attention

  - It is key both theoretically (foundation of classes) and
  - Empirically much more unequal than the income distribution