

Capital Income in the Eurozone*

A story about gaps and how Pareto could help us out

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Motivation

- Aims of the project with focus on the 2nd wave of HFCS
 - How concentrated is capital income across the Eurozone?
 - Do these countries offer particular patterns?
 - How well is capital income covered in surveys?

DATA SOURCES



Data Sources & Concepts

■ Surveys

- HFCS (*Household Finance and Consumption Survey*), mainly 2nd wave
- EU-SILC (*Survey on Income and Living Conditions*), corresponding years
- Drawback: Missing rich (Forbes, ..)

■ Comparable Statistics

- National Accounts from Eurostat, corresponding years

■ Unit of measurement

- Household
- Market income

Comparability: National Accounts vs. Surveys

National Accounts	HFCS,EU-SILC
Interest (D.41)	Financial income
Income of corporations (D.42)	Business income
Reinvested earnings on FDI (D.43)	
Insurance policy income (D.44)	
Rents* (D.45)	Estate income

*) According to National Accounts System, renting of houses is counted as self employment whereas renting of land is counted as rents (D.45).

Capital Income: Coverage in Germany

	NA, Bn. €	SILC (Coverage,%)	HFCS (Coverage,%)
DE	390.59		

Source: Eurostat, HFCS 2014, EU-SILC, own calculations

Remarks: Surveys are corrected for different target population according to (Honkkila and Kavonius, 2013). [Details](#)

Capital Income: Coverage in Germany

	NA, Bn. €	SILC (Coverage,%)	HFCS (Coverage,%)
DE	390.59	7.3	

Source: Eurostat, HFCS 2014, EU-SILC, own calculations

Remarks: Surveys are corrected for different target population according to (Honkkila and Kavonius, 2013). [Details](#)

Capital Income: Coverage in Germany

	NA, Bn. €	SILC (Coverage,%)	HFCS (Coverage,%)
DE	390.59	7.3	6.8

Source: Eurostat, HFCS 2014, EU-SILC, own calculations

Remarks: Surveys are corrected for different target population according to (Honkkila and Kavonius, 2013). [Details](#)

Where it should have stopped..

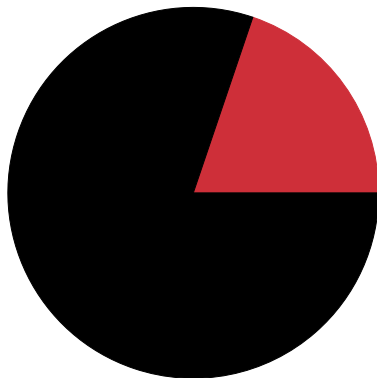
	Capital Income		
	NA, Bn. €	SILC (%)	HFCS (%)
SK	0.82	2.4	67.1
FR	124.84	77.3	60.9
FI	9.04	51.2	52.7
LV	1.00	6.0	39.0
EE	0.83	9.6	34.9
ES	48.98	39.0	26.2
HU	4.04	3.5	23.3
NL	49.34	21.0	17.4
PT	14.88	7.9	17.3
CY	1.16	14.7	16.4
BE	31.43	9.2	15.4
SI	0.78	47.4	12.8
IE	5.66	8.3	12.5
AT	25.70	6.7	11.6
DE	390.59	7.3	6.8
PL	17.14	6.0	5.6
IT	181.38	5.7	4.7
GR	8.86	4.0	2.9

Source: Eurostat, HFCS 2014, EU-SILC, own calculations (excluded MT and LU)



..and where it all began:

Missing capital income in HFCS, 2nd wave



HOW MUCH OF THE
MISSING CAPITAL INCOME
IS DUE THE MISSING RICH?



Our approach

Approach

- 1 Estimate wealth of missing top1% in accordance with Vermeulen's approach (see e.g. Vermeulen (2016))
 - Adjustment of assets and liabilities to National Accounts
 - Estimation of top1% based on Pareto distributions
- 2 Apply a *reasonable* rate of return to the estimated wealth of the missing top1% and calculate the income
- 3 Evaluate the impact of the increased capital income due to the missing top1% on the coverage ratios



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Immediate upcoming questions

- What kind of assets should be considered?
- What means *reasonable*?



What kind of assets?

Vermeulen's approach

..requires net wealth (→ real and financial assets, liabilities)

Only comparable (HFCS,NA) assets and liabilities

- Financial assets, see e.g. Andreasch and Lindner (2016)
- Real assets and liabilities, see e.g. Kavonius and Törmälehto (2010) or Honkkila and Kavonius (2013)
- Whenever possible we only consider the private sector S.14, otherwise we refer to S.14+S.15

What is *reasonable*?

Derive rate of returns from National Accounts

- PRO: Conservative approach
- CON: Only averages



(PRELIMINARY) RESULTS



Results of estimation (Pareto threshold 500.000 €)

Country	HFCS (Bn. €)	NA (Bn. €)	Gap (Bn. €)	Estimated Top% (Bn. €)	Gap Closed (%)
AT	2,94	24,19	21,25	3,20	28
BE	4,72	30,14	25,42	5,09	37
CY	0,20	0,92	0,72	0,24	53
DE	26,42	393,43	367,01	58,32	22
ES	12,77	60,42	47,65	18,94	57
FI	4,62	8,99	4,37	2,57	128
FR	75,45	125,39	49,94	35,66	184
GR	0,25	8,90	8,65	2,67	34
HU	0,88	4,52	3,64	0,98	45
IT	8,35	182,02	173,67	43,22	29
LV	0,39	0,99	0,60	0,50	124
NL	8,29	49,01	40,72	6,97	36
PL	0,93	15,2	14,27	3,48	29
PT	2,57	14,47	11,90	2,46	39
SI	0,10	0,81	0,71	0,13	30
SK	0,54	1,03	0,49	0,17	142

Source: HFCS 2014, Eurostat, own calculations (excluded MT and LU)



Conclusion

- Gaps can be closed to a certain extent,
- but there is still a considerable gap!





Andreasch, Michael and Peter Lindner (2016): “Micro- and Macrodata: a Comparison of the Household Finance and Consumption Survey with Financial Accounts in Austria”. In: *Journal of Official Statistics* 32.1, pp. 1–28.



Honkkila, Juha and Ilja Kristian Kavonius (2013): *Micro and macro analysis on household income, wealth and saving in the euro area*. Working Paper Series 1619. European Central Bank.



Kavonius, Ilja Kristian and Veli-Matti Törmälehto (2010): “Integrating Micro and Macro Accounts – The Linkages between Euro Area Household Wealth Survey and Aggregate Balance Sheets for Households”. In: *Prepared for the 31st General Conference of the International Association for Research on Income and Wealth, St. Gallen, 22–28 August 2010*. URL: <http://www.iariw.org/papers/2010/7aKavonius.pdf> (visited on 05/23/2017).



Piketty, Thomas (2014): *Capital in the Twenty-first Century*. Harvard University Press.



Vermeulen, Philip (2016): “Estimating the top tail of the wealth distribution”. In: *American Economic Review: Papers & Proceedings* 106.5, pp. 646–650.

Different target populations [back](#)

Example: Austria

- Eurostat: 8.363.404
 - HFCS: 8.021.944 (96%)
 - EU-SILC: 8.283.237 (99%)
-
- Consideration of different target population, according to Honkkila and Kavonius (2013)
 - Value of NA is compared with (HFCS-value/0,96)
→ better comparison on macroeconomic level

Coverage: Reasons for deviation

HFCS 2014	AT	BE	CY	DE	EE	ES	FI	FR	GR	HU	IE	IT	LV	NL	PL	PT	SI	SK
coverage capital income (%)	12	15	16	7	35	26	53	61	3	23	13	5	39	17	6	17	13	67
response rate (%) ¹	50	30	60	19	64	32	64	65	41	39	60	43	53	32	54	85	41	53
no oversampling ²	x											x		x				
kind of interview ³							CATI			31% CAWI				CAWI	PAPI			
income period ⁴					2012	2010		2014	2014	2014	2012	2014						2012
register data ⁵							x	x			x							
obligatory participation ⁶									x									x
no multiple imputations ⁷							x	x			x	x						

Sources and remarks: HFCS 2014 Documentation: ¹ table 5.1, ² table 4.6, ³ table 3.1, Standard = CAPI (*Computer Assisted Personal Interview, Standard = 2009, Paper and Pencil Interview, Computer Assisted Telephone Interview, Computer Assisted Web Interview*, ⁴ table 9.1, Standard = 2013, ⁵ table 3.3, ⁶ table 5.1, ⁷ p.49