EUROPEAN CENTRAL BANK

EUROSYSTEM

Wealth inequality in the euro area: micro-facts and implications for monetary policy

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Everybody cares about wealth

What about monetary policy?

'Tackling any unwarranted redistributive effects is not in the realm of monetary policy in view of its primary objective of price stability. Governments can shape the income and wealth distribution via their policies, notably via targeted fiscal measures' ECB Annual Report 2016

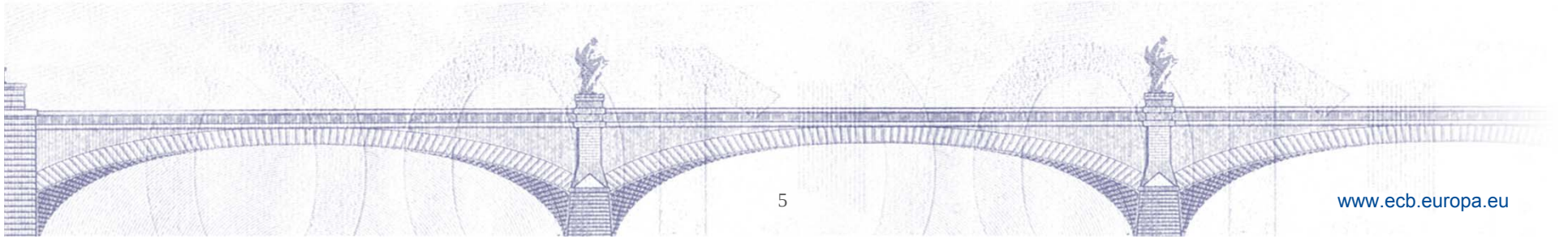
- Yet open questions:
  - should reducing inequality be a secondary goal?
  - even if reducing inequality is not a goal, does inequality matter for the transmission of monetary policy?
  - do unconventional measures generate larger distributional effects?

Outline

Some evidence based on HFCS and tentative answers

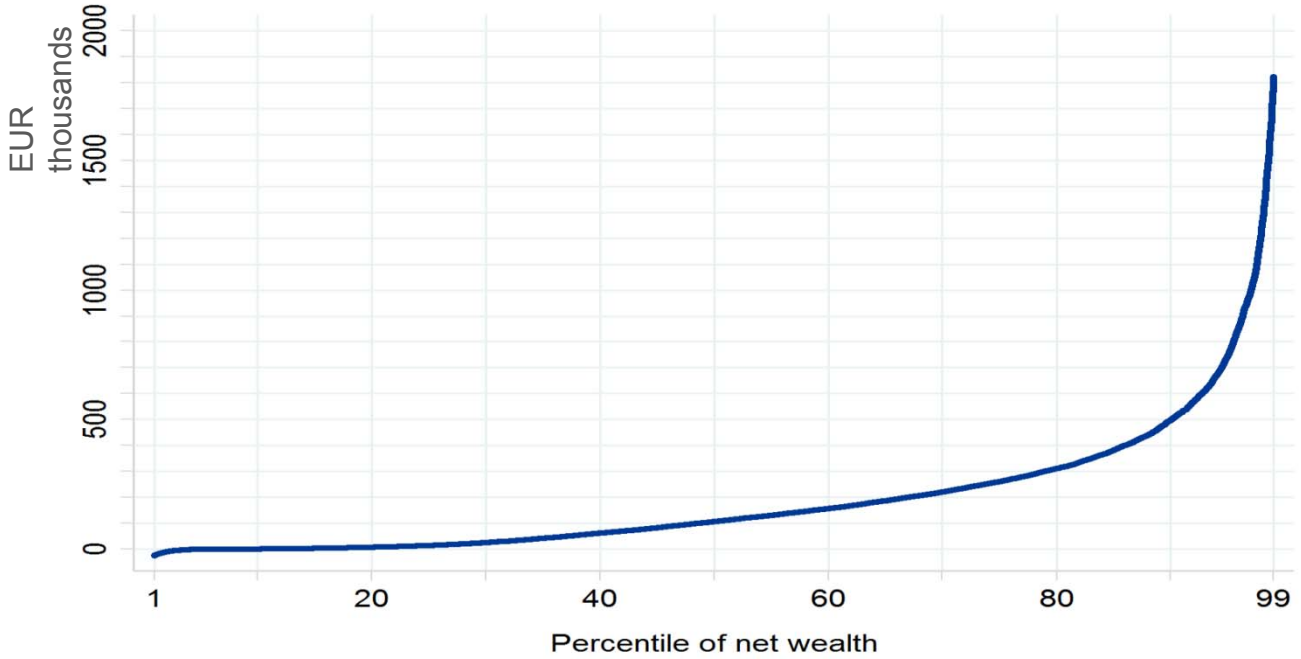
1. Has inequality in the euro area increased in 2010-2014?
2. Does inequality matter for the transmission of M policy?
3. Are unconventional policies especially redistributive?
4. Conclusions

Inequality in the euro area 2010-14



Distribution of euro area net wealth is very skewed

Net Wealth = Total Assets – Total Liabilities
Total Assets = Real Assets (including houses) + Financial Assets
Total Liabilities = Mortgage Debt + Nonmortgage Debt



Source: Household Finance and Consumption Survey – wave 2.

P10: €1,000

P25: €14,100

Median: €104,200

P90: €500,000

P95: €744,200

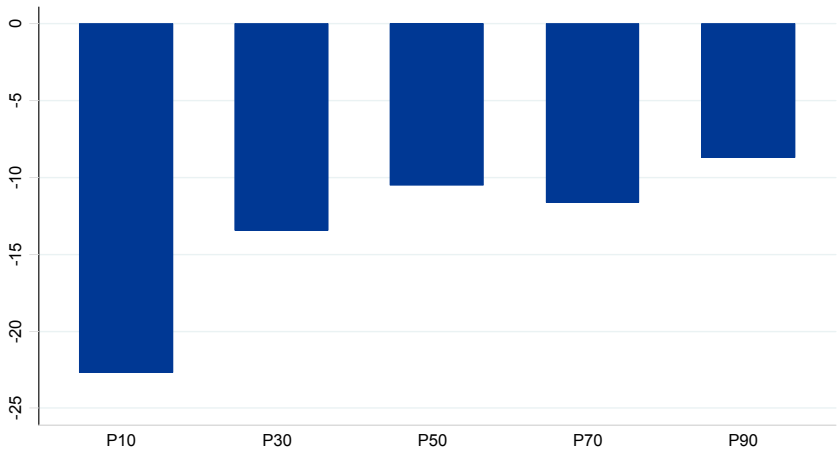
Mean: €223,700

About 4% of households hold negative net wealth.

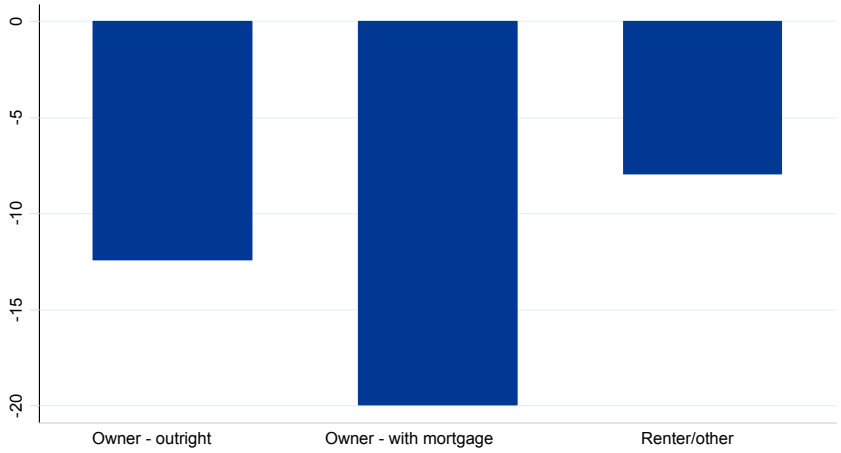
Share of top 10% of HH's in total wealth: 50%

Growth of net wealth in the euro area: 2010-2014

(HICP-inflation adjusted)



By net wealth percentiles



By housing status of the reference person

Source: Household Finance and Consumption Survey – wave 2.

Caveat: income and wealth mobility

Transitions across income quintiles in Spain

Q – Wave 1	Q – Wave 2					
	Q1	Q2	Q3	Q4	Q5	All
Q1	59.2	27.0	9.0	2.7	2.0	100.0
Q2	23.2	35.0	25.9	12.5	3.4	100.0
Q3	12.4	23.6	29.3	25.0	9.7	100.0
Q4	5.2	9.3	25.1	33.4	27.0	100.0
Q5	2.4	5.3	7.0	25.2	60.2	100.0

Transitions across net wealth quintiles in Spain

Q – Wave 1	Q – Wave 2					
	Q1	Q2	Q3	Q4	Q5	All
Q1	70.0	17.1	8.4	2.3	2.3	100.0
Q2	17.6	44.0	27.2	8.7	2.5	100.0
Q3	7.7	23.0	36.0	25.7	7.6	100.0
Q4	3.1	5.5	18.1	45.7	27.6	100.0
Q5	1.3	2.6	3.8	16.7	75.7	100.0

Source: Household Finance and Consumption Survey – wave 1 and wave 2 data.
Data for Spain relate to 2007 and 2010.

Wealth inequality measures in 2010 and 2014

Selected measures of net wealth inequality in the euro area

Indicator	Wave 1	Wave 2	Change
Gini coefficient	68.0	68.5	0.5
S.E.	(0.6)	(0.5)	
P90/P10	427.6	503.5	75.9
S.E.	(50.2)	(32.7)	
P80/P20	40.1	41.0	0.9
S.E.	(2.0)	(2.0)	
P90/P50	4.7	4.8	0.1
S.E.	(0.09)	(0.08)	
P50/P10	91.6	105.7	14.1
S.E.	(10.6)	(8.94)	
Share of top 5%	37.2	37.8	0.6
S.E.	(1.2)	(1.9)	
Share of top 10%	50.5	51.2	0.7
S.E.	(1.0)	(0.9)	
MEMO: Gini of gross income:	42.0	43.2	

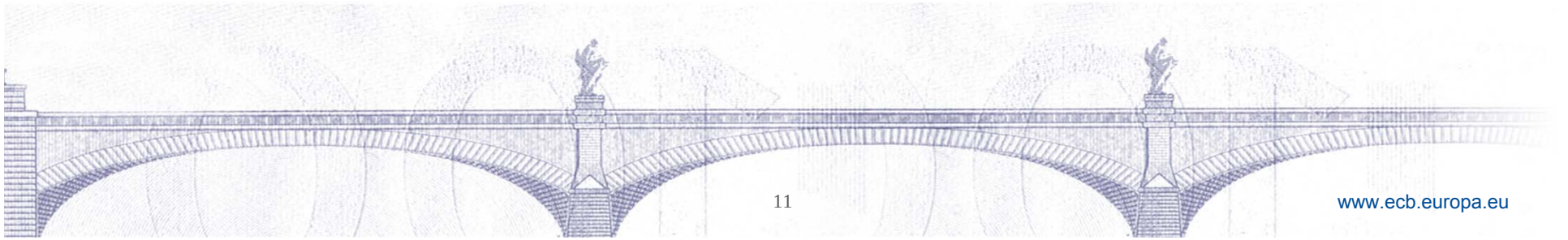
Source: HFCS. The indicators for wave 1 are calculated for nominal variables (i.e. are not HICP-adjusted).
Standard errors reflect uncertainty about the statistics, and are calculated with the Rao-Wu rescaled bootstrap method using replicate weights provided by the countries (1,000 replicates; see Chapter 7 of the HFCS Methodological Report for details). For normally distributed variables, the 95% confidence intervals can be calculated by adding ±1.96 times the standard error to the estimate.

Developments in net wealth 2010-14

- General decline in net wealth, especially lowest wealth quintile
- House price developments are a key factor
  - Net wealth declines are larger for homeowners with mortgage (leverage)
  - … and in countries experiencing house price bust
- Also small increase in debt, but concentrated in top wealth quintile
- Moderate (statistically insignificant) increase in wealth inequality

➢ *The effects of monetary policy on wealth inequality are also likely to be very small?*

Heterogeneity in the MTM



Which reference framework?

Auclert (2017):

$$dc_i = MPC_i \left(dY_i + URE_i \frac{dR}{R} + NNP_i \frac{dP}{P} \right) - \sigma c_i (1 - MPC_i) \frac{dR}{R}$$

- Heterogeneity matters only if MPCs are also heterogeneous
- Relevant dimensions of heterogeneity: in earnings, in interest rate exposure, in inflation exposure
- Note: role of general equilibrium effects (see HANK 2017)

A reference framework

- Consider a temporary increase in interest rates:
  - Increase in interest rate expenditure for poor/indebted with ARM, increase in interest rate income for rich invested in short duration assets
  - ensuing inflation fall → increase in real value of debt of the young/poor and real value of assets of the old/rich

- If poor have larger MPC than rich, amplification of tightening through a “redistribution channel”

- Otherwise, only standard wealth effect and intertemporal substitution

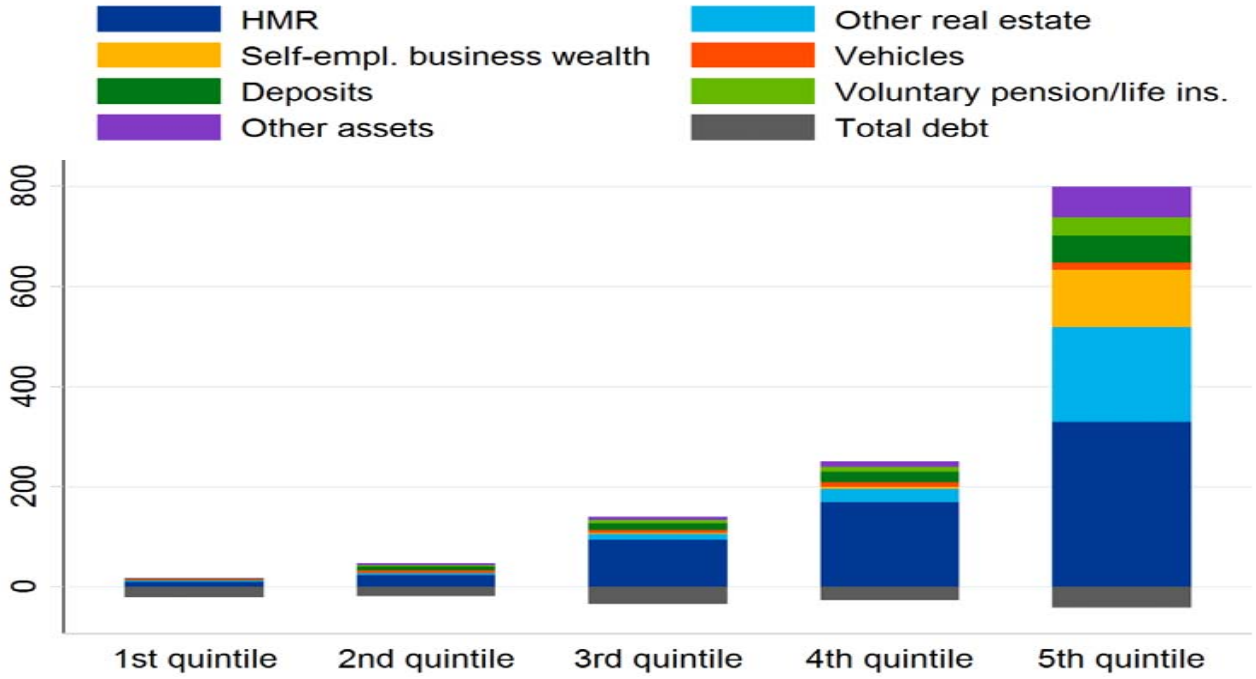
A reference framework

- URE's can be measured from HH surveys
  - Key role of maturity
  - Not all asset price changes matter

- NNP's can also be measured from HH surveys
  - Only nominal assets/liabilities matter

Participation in various asset classes

Mean Assets and Liabilities by Net Wealth Quintile, EUR Thousands



1. Debt is small compared to assets
2. Total assets are dominated by real assets
3. Household Main Residence (HMR) is the largest asset
4. Portfolios are not very diversified, except for the rich

Source: Household Finance and Consumption Survey – wave 2.

Interest rate exposures (preliminary)

- Marked heterogeneity across wealth classes and across countries

country	URE	1	2	3	4	5
DE	2.97	0.26	1.32	2.16	3.25	7.91
ES	-0.01	-1.35	-0.81	-0.33	0.09	2.37
FR	0.89	0.08	0.38	0.58	0.86	2.52
IT	0.49	-0.16	0.00	0.10	0.51	1.99
EA	**0.98**	**-0.24**	**0.35**	**0.43**	**0.94**	**3.38**

By country and net wealth quintile

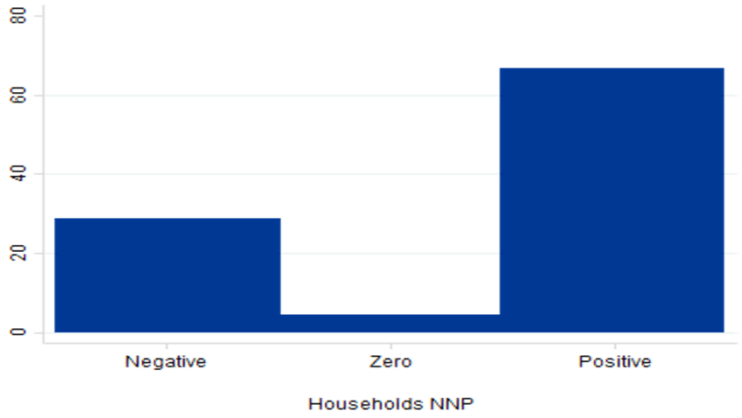
Source: Household Finance and Consumption Survey – wave 2.

Net nominal positions

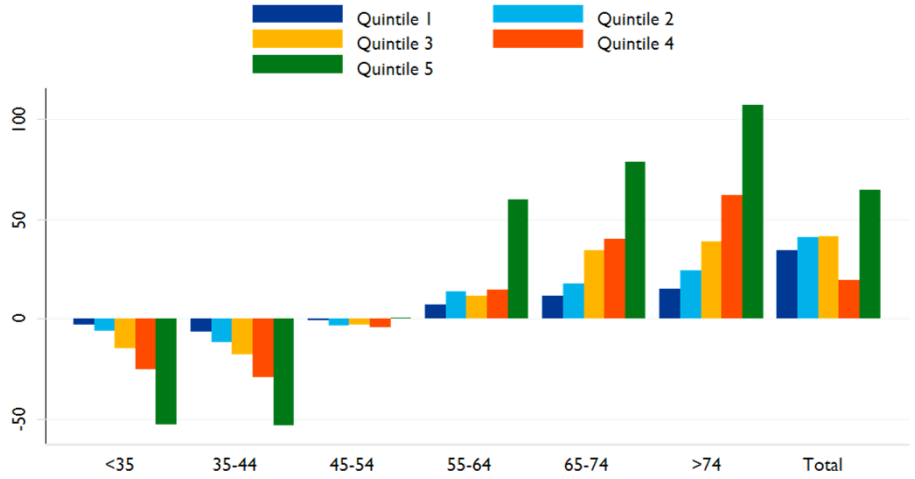
- Unexpectedly low inflation affects more adversely young and middle-aged HHs, who hold larger negative nominal positions
- Negligible effects at current inflation rates

Net Nominal Position = Nominal Assets – Nominal Liabilities

Share of Net Nominal Positions (Percent)



Distribution of Net Nominal Positions Across Age ad Income Quintiles
(EUR Thousands)

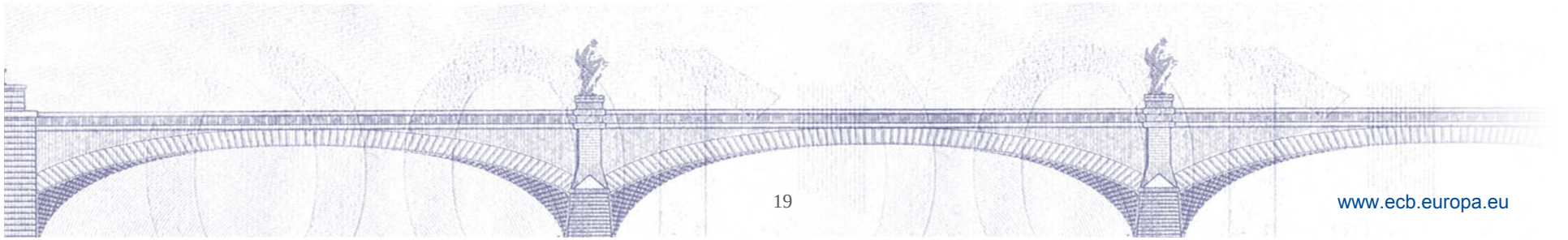


Source: Household Finance and Consumption Survey – wave 2. See also Adam and Zhu (2016).

Summing up

- The distribution/composition of wealth is likely to matter for the transmission of monetary policy
- A more granular approach to the analysis of the MTM is warranted
- MPC heterogeneity?
  - theoretically compelling
  - some evidence

Are unconventional policies special?



Do unconventional monetary policies have larger distributional effects?

$$x_t = E_t x_{t+1} - \sigma^{-1}\left(\widehat{R}_t - E_t \pi_{t+1}\right)$$

$$\pi_t = \lambda\left(\sigma^{-1} + \varphi\right) x_t + \beta E_t \pi_{t+1}$$

Do unconventional monetary policies have larger distributional effects?

$$x_t = E_t x_{t+1} - \frac{1}{\sigma}\left(\widehat{R}_t - E_t \widehat{\pi}_{t+1}\right)$$

$$\widehat{\pi}_t = \lambda\left[\left(\sigma + \varphi\right) x_t + \left(\widehat{R}_t + \widehat{\Lambda}_t\right)\right] + \beta E_t \widehat{\pi}_{t+1}$$

- Policies affecting borrowing conditions are eminently distributional
- … yet they may have smaller distributional effects
- … and they may be welfare improving

Conclusions

- Distributional effects of M policy are receiving increasing attention
- Clear evidence of heterogeneity in exposure to interest rate changes and to surprise inflation
- Heterogeneity likely to matter for the transmission of M policy
- Quantitatively large effects? *Unwarranted*?