



**Wealth and the distribution of wealth
in the Netherlands
by Arjan Bruil**

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Aim of the paper

- Two objectives:
 1. extend wealth concept of the SNA by including the estimates for **implicit wealth in social insurance schemes**
⇒ **TRANSFER ASSETS**
 2. **distribution** of all wealth components
- Three **conceptual steps** in estimation:
 - *estimation at micro level, based on individual characteristics*
 - *aggregation*
 - *adjustment to national accounts*

Data sources

- **Income Panel Survey (IPS)**

- register panel with information from different administrative sources (incl. tax data)
- approximately, 277,000 people in 97,000 households in 2012
- detailed financial information by individual and household: bank deposits, shares and bonds, company assets of the self-employed, loans and mortgages etc.

Ownership of wealth components might not be straightforward however, even if information is available at individual level

- information on age profiles of benefits for unfunded pensions, disability pensions, survivor pensions, and unemployment schemes as well as funded pension schemes

- **Pension claims statistics (PCS)**

- entitlements of individuals below retirement age

Estimation of transfer assets

- **Sum needed by government to cover all outstanding obligations** if it decides to terminate social insurance schemes
 - entitlements that are accrued to date, as in SNA practices
 - based on Schmitz, Barb & Bruil (2015) for supplementary pension table of SNA 2008 and ESA 2010

Unfunded state pensions

- **For individuals who receive pension benefits**, the age profile (the average old age pension benefit by age and gender) known from IPS \Rightarrow benefits transformed into entitlements using the life expectancy and discount rate
- **For individuals below retirement age**, 2% of average pension benefit a year multiplied by year lived in the Netherlands, using life expectancy, projected retirement age and discount rate
 - entitlements in unfunded pension schemes independent of labour history and simply depend on years lived in the country
- **Discount rate** most influential element in the model
 - Drawn from Dutch Central Bank as published in the interest rate term structure (*consistently with funded pension schemes*)
- Future increases due to indexation not taken into account

Other social security schemes

- Include all social security schemes:
 - survivor benefits
 - unemployment schemes
 - disability insurance schemes
- The population that participates in these schemes is **working age** and participation ends when retirement age is reached
- **Similar method**: age profiles from IPS with population data
- Net present values are calculated using the same discount rate as we used for the unfunded pensions

From micro to macro

- For transfer assets: **distribution among individuals is starting point** and macro estimates are results of age profiles by gender
 - For distributional purposes allocate these age profiles to households using demographics in the population

As a result elderly households have more unfunded pension entitlements, but less unemployment and disability entitlements.

Younger households are allocated relatively less pension entitlements and more unemployment entitlements

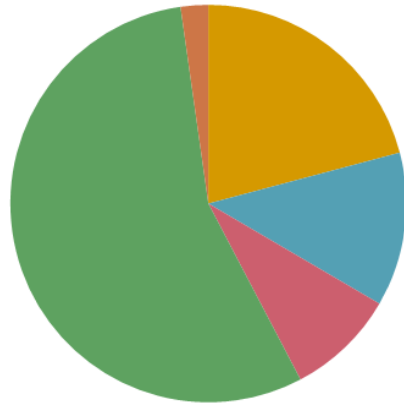
Macro adjustment

- **Financial and non-financial account:** micro data sources contain necessary information to distribute the national accounts totals
 - Conceptual link made as closely as possible between the SNA and available micro data; otherwise proxy variable
 - Discrepancies due to differences in population, measurement or concepts
- **Distributions are balanced (proportionally) to be numerically consistent with the national accounts totals**

Households' net worth, 2012

Financial assets

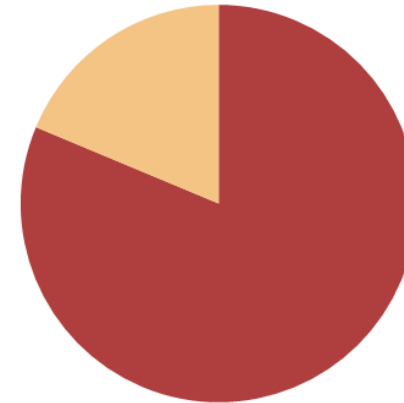
1.9 trillion euros



- Currency and deposits
- Stocks and bonds
- Insurance technical reserves
- Pension entitlements
- Other financial assets
- Mortgages
- Other financial liabilities

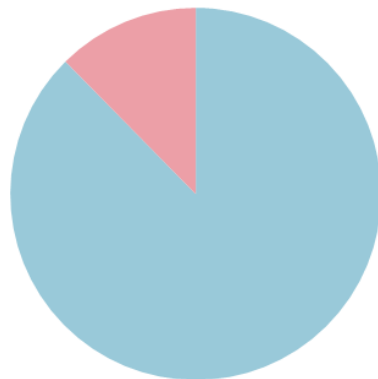
Financial liabilities

0.8 trillion euros



Non-financial assets

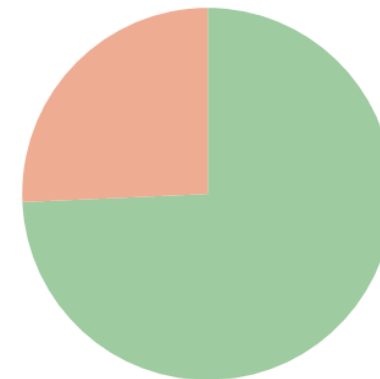
1.5 trillion euros



- Dwellings
- Other non-financial assets
- Unfunded pension entitlements
- Other transfer assets

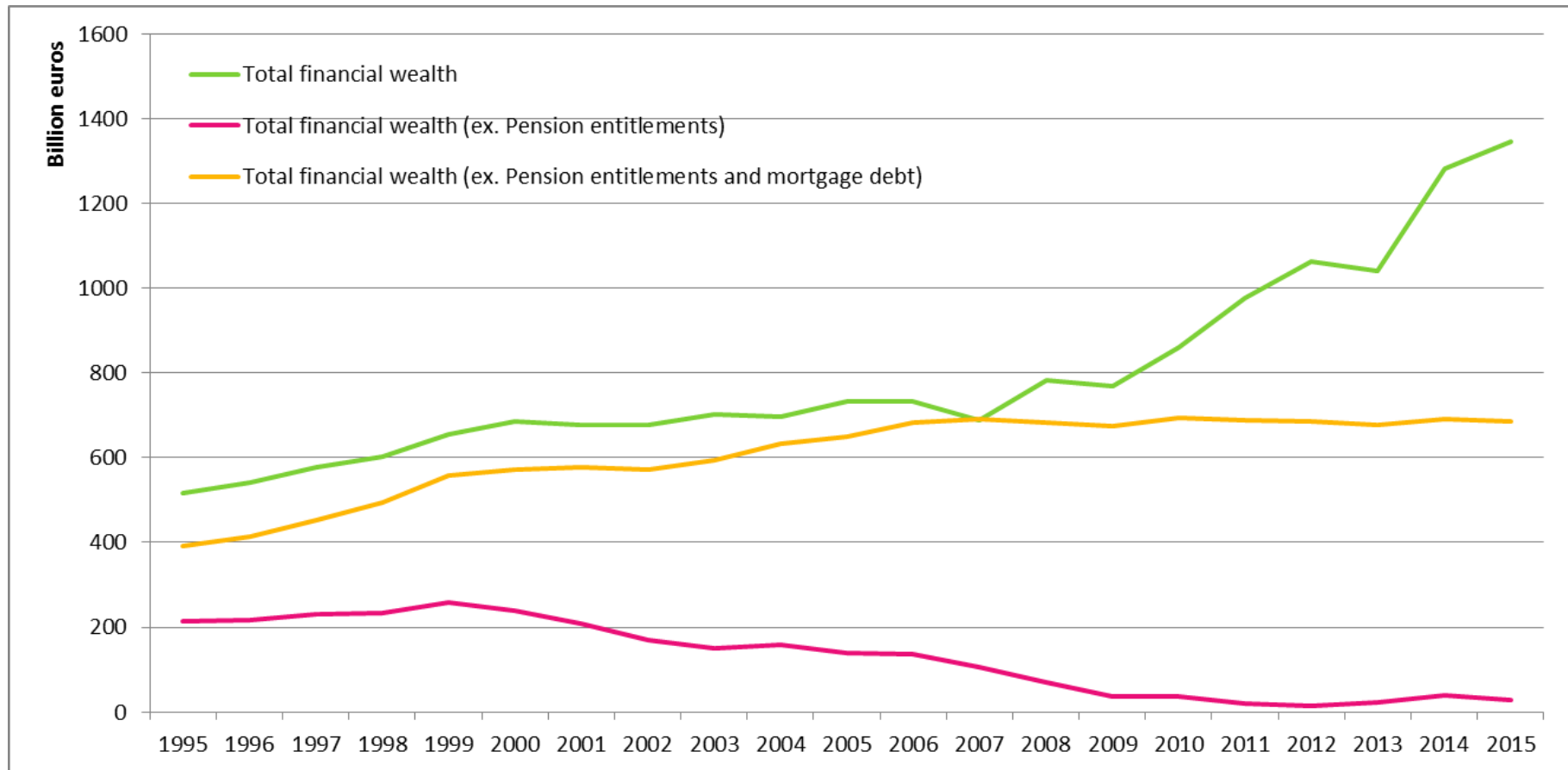
Transfer assets

1.7 trillion euros



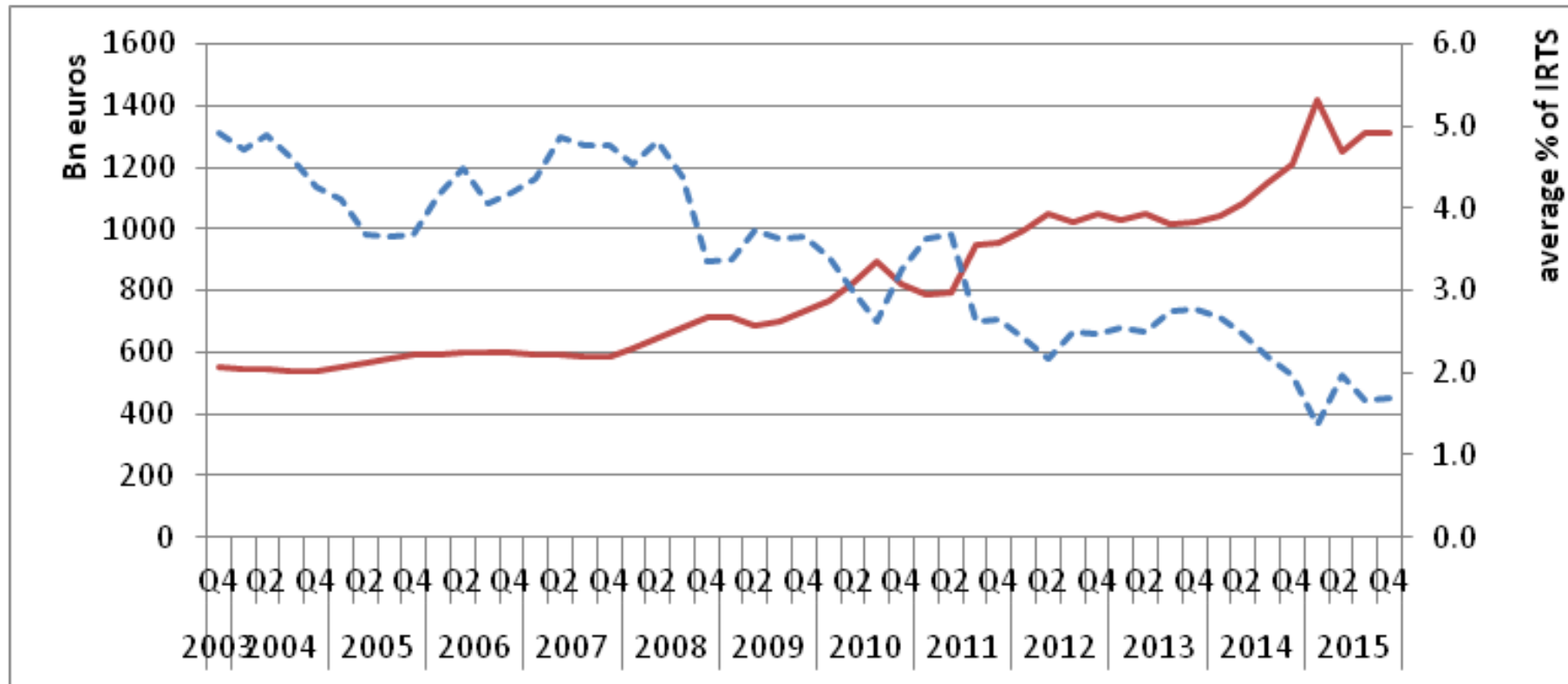
Total household net worth = 253 thousand euros per capita

Total financial net worth



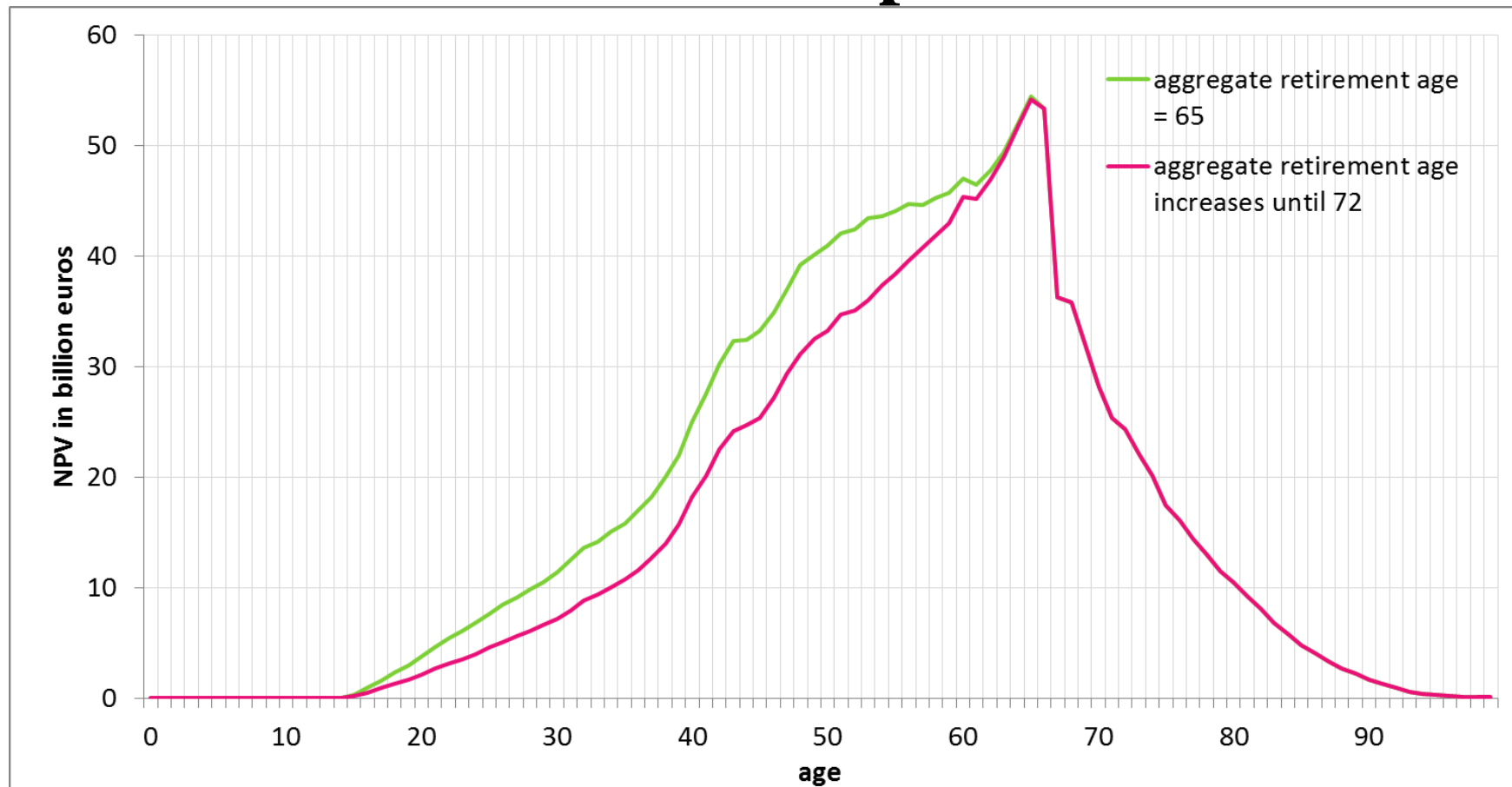
- Financial net worth: households became richer over the years
- Excluding pension entitlements, financial net worth decreased because mortgage debt rose more than financial assets did
- Excluding mortgage debt as well, because this has a counterpart in the non-financial accounts, Dutch households own in 2015 about as much funds as they did in 2007

Pension entitlements and interest rate term structure



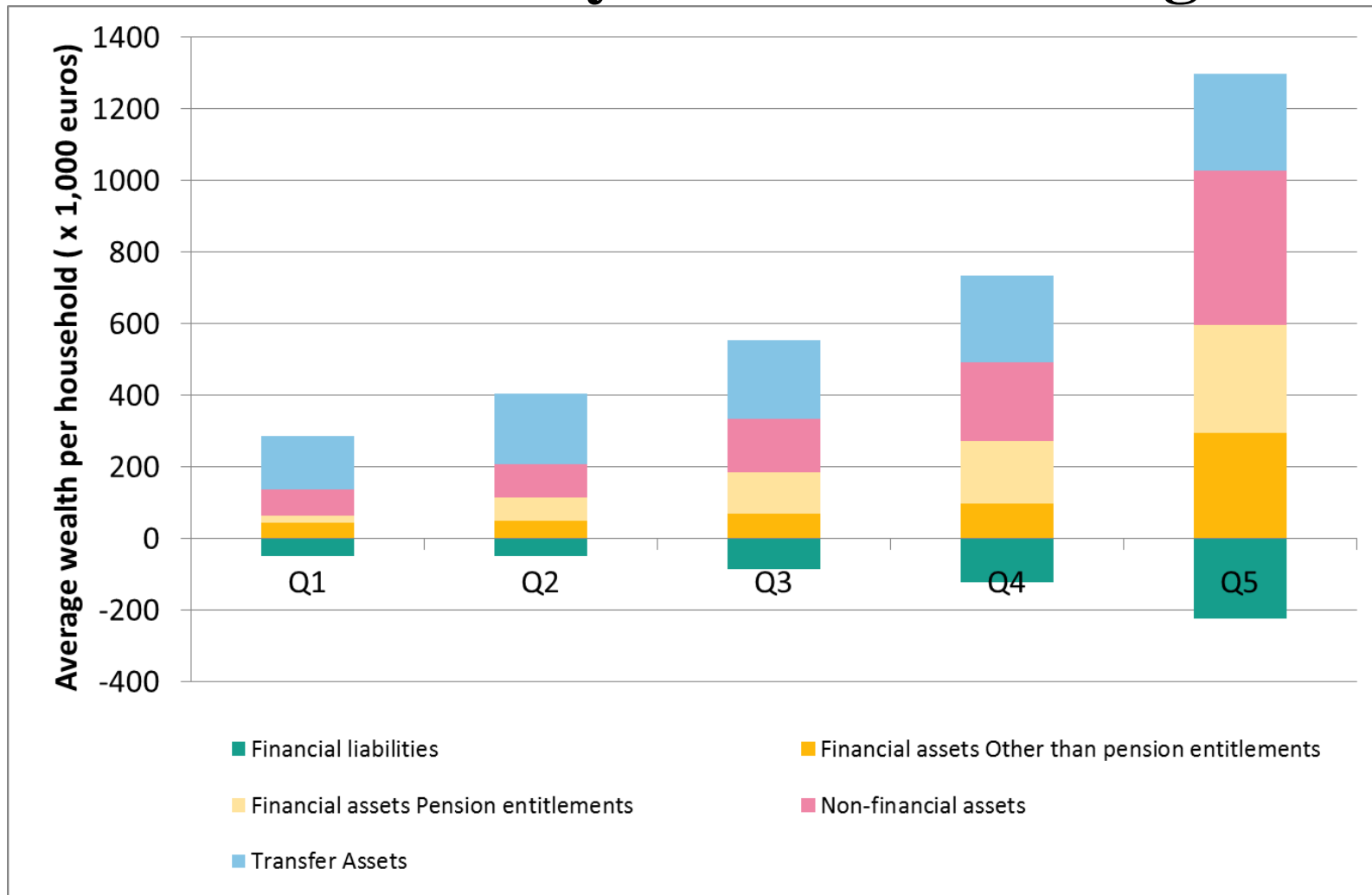
- Interest rate term structure gives market yields for outstanding obligations depending on duration of loan. For elderly (younger) people, with relative short duration of their remaining entitlement, interest rate is low (higher)
- Pension entitlements increased because of the influence of falling interest rates

Unfunded state pensions



- Sustainability of unfunded pensions improved owing to rise in retirement age (in 2012) to 67 years in 2023, after which indexed to life expectancy (estimated at 72 in 2060)
- Area below line = total unfunded pension entitlements
- Difference between lines = wealth loss per age group due to rise to 72
- Loss bore by generations younger than 65

Net wealth by standard of living



- Households with highest incomes have highest wealth as well, but households with lowest incomes still own a positive amount of wealth

Pension entitlements and transfer assets

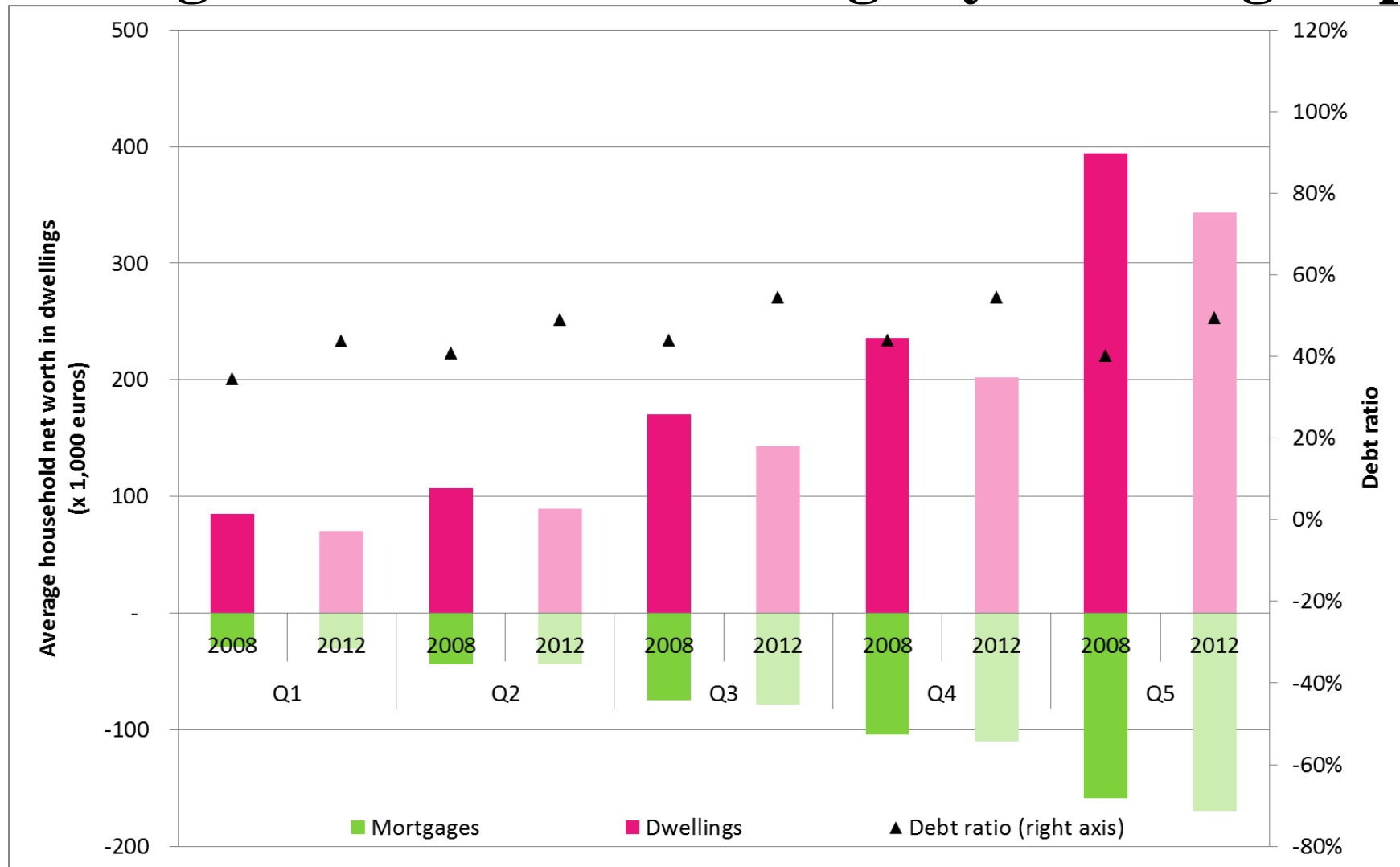
- **Different impact on wealth inequality**
 - Transfer assets depend mostly on demographics, funded pension entitlements are income dependent
 - Main transfer asset component is unfunded state pension benefit which does not depend on labour history, but only on the number of years someone lived in the Netherlands
- Disability and unemployment benefits are often in lower income quintiles, but entitlements are also estimated for other quintiles
 - Distribution of transfer assets does not differ much over the income quintiles, while distribution of flows in a given year go to lowest quintiles

Average net worth in dwellings by age of head



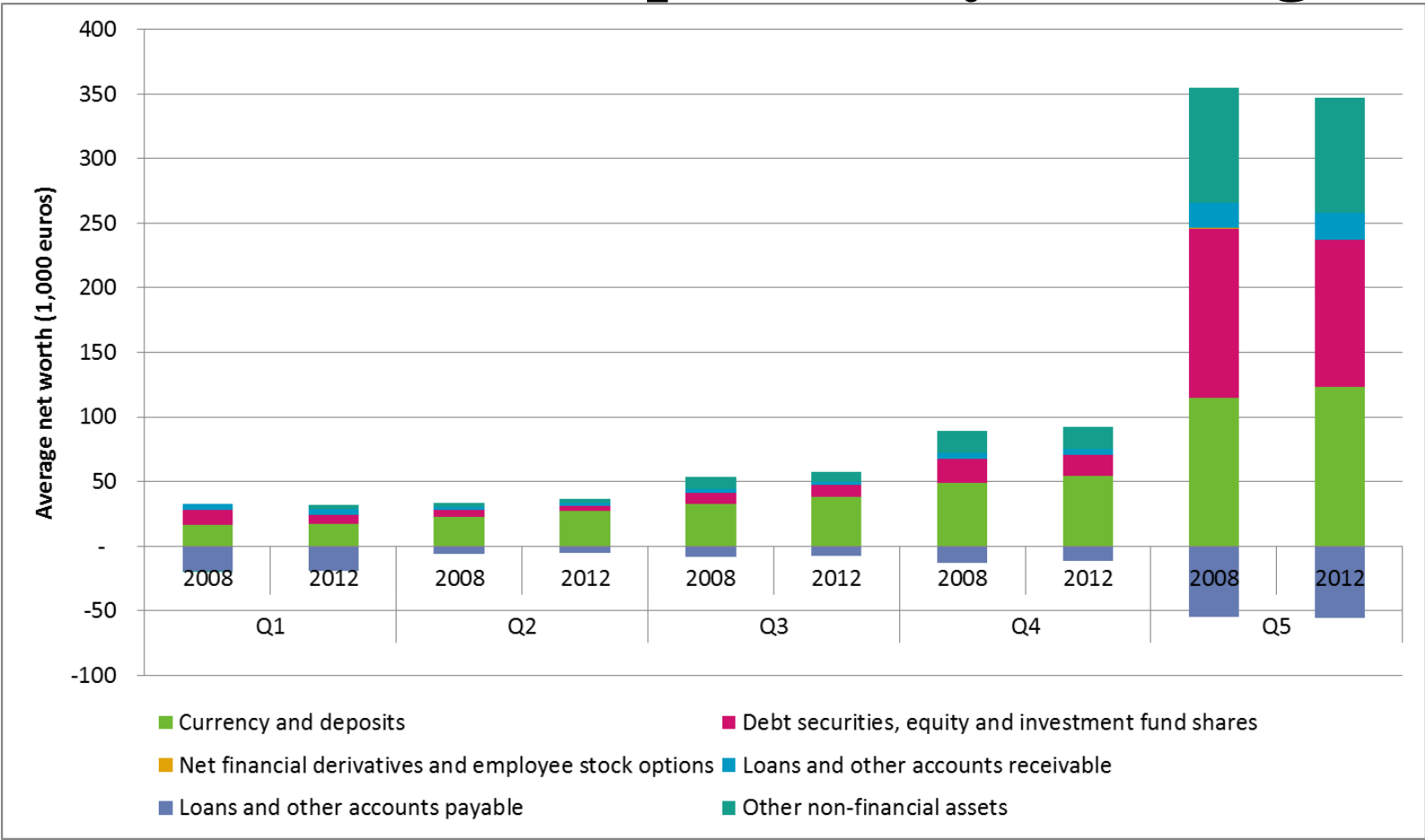
- Debt ratio shows that mortgage debt as a total is a risk, but mainly for the young, not so much for the group of elderly households

Average net worth in dwellings by income group



- Debt ratio is relatively stable across income groups
- Result of demographics, many elderly households are in lowest income quintiles

Other net worth components by income group



Conclusions

- We extend the scope of wealth within the SNA with **implicit wealth in social security schemes**. Transfer assets are almost as large as the traditional, financial assets in the SNA, and even larger than the value of the assets held in non-financial means. This is a direct result of the welfare state in the Netherlands, with its large public and private transfer schemes. The largest part of transfer assets is the unfunded pension schemes, which is the largest scheme in size of benefits and participants

Comments

- Very interesting paper and valuable effort to account for the value that social protection has for households
- From micro to macro: exploit more the micro dimension
- Four questions about:
 - methodology
 - underlying philosophy

Methodological comments

- Core of paper is estimation of NPV of social benefit schemes

General formulation:

$$\sum_{t=t_0}^T p_t \frac{Y_t}{(1 + r_t)^{t-t_0}}$$

p_t : probability of receiving benefit Y_t : benefit r_t : discount rate

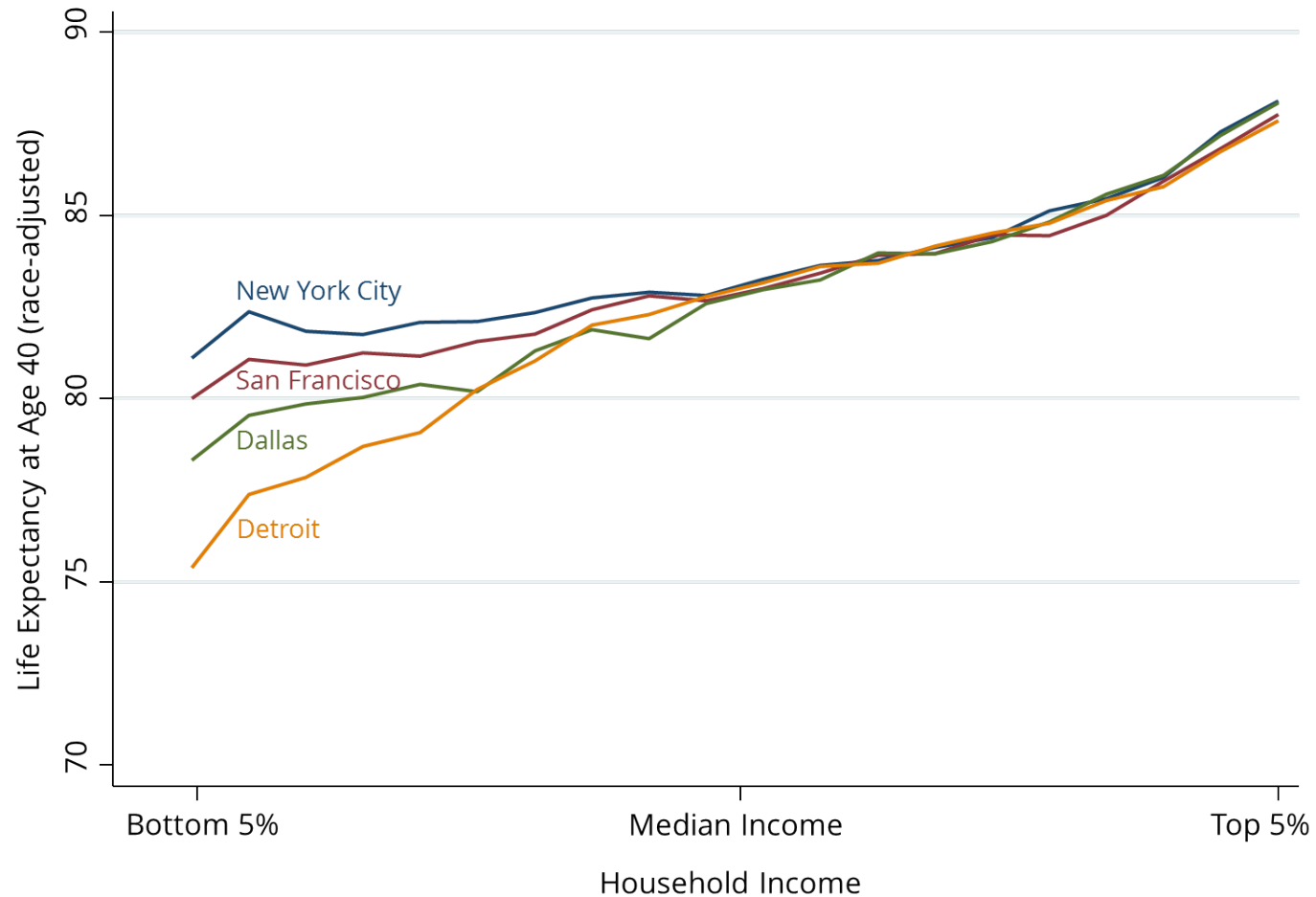
For unfunded pensions:

$p_t = 1$ for $t \leq \textit{life expectancy}$

$p_t = 0$ for $t > \textit{life expectancy}$

1. What about mortality rates by socio-economic conditions?

Local life expectancies by income



Source: Raj Chetty et al., *JAMA* 2016

The Health Inequality Project: <https://healthinequality.org/>

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1. What about mortality rates by socio-economic conditions?
2. What about p_t for, say, unemployment benefits?
3. Is it enough a single estimate? Should we not provide a range of estimates based on different assumptions?

Philosophical comment

- Wealth plays an important role in protecting standard of living and smoothing consumption. From this perspective, to understand level and composition of household holding we need to control for social protection

4. Does this imply that we can straightforwardly add up personal wealth and ‘transfer assets’?

I am not convinced: (1) transfer assets are not saleable, although they influence lifetime consumption; (2) transfer assets are not in the control of individuals

Thank you for your attention!