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THE NTA AGE-PATTERNS OF PRODUCTION, TRANSFERS, CONSUMPTION AND SAVING

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agenta

Ageing Europe – An Application of
National Transfer Accounts for Explaining
and Projecting Trends in Public Finances

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EUROPEAN NATIONAL TRANSFER ACCOUNTS

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Ageing Europe – An Application of National Transfer Accounts for Explaining and Projecting Trends in Public Finances

Project Acronym: AGENTA
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DELIVERABLE 1.4: The European NTA Manual

Submission date: 30.06-2016
Project month: 30
Dissemination Level: PU
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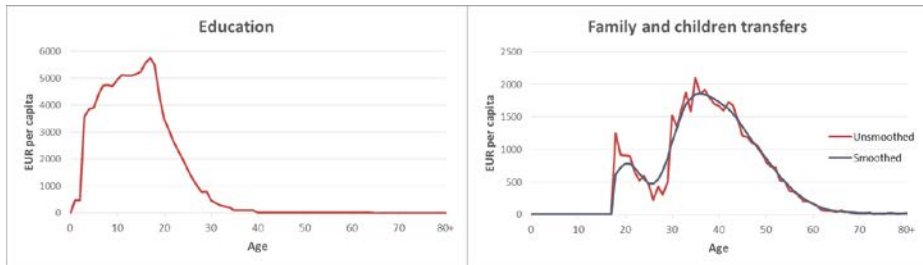
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INTRODUCING AGE INTO THE SNA

Basic procedure:

1. estimating aggregate control from the SNA and/or related sources
2. estimating the age distribution of the variable using survey data or administrative sources (weighted averages)
3. adjusting the age profile to match the aggregate control from SNA
4. smoothing: to minimize the random variation; Friedman's SuperSmoother

Germany, 2010



Source: Istenič, Hammer, Šeme, Lotrič Dolinar, Sambt, 2017 (forthcoming)

DATA SOURCES

Three different types of data:

1. data from national accounts → to construct aggregate controls
2. population data → to adjust age distribution to the aggregate control
3. survey/administrative data → to obtain the distribution of variables by age
 - EU-SILC 2011 (income recorded for the calendar year preceding the interview; age at the end of income reference period; upper age limit 80+)
 - HBS 2010 (five-year age groups only)

ECONOMIC LIFE CYCLE

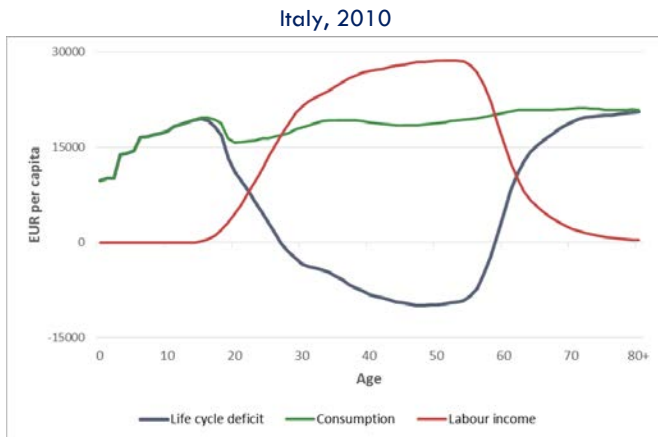
Labour income

- Earnings
- Self-employment labour income

Consumption

- Private consumption
- Public consumption
- education, health, and other

Life cycle deficit =
consumption – labour income



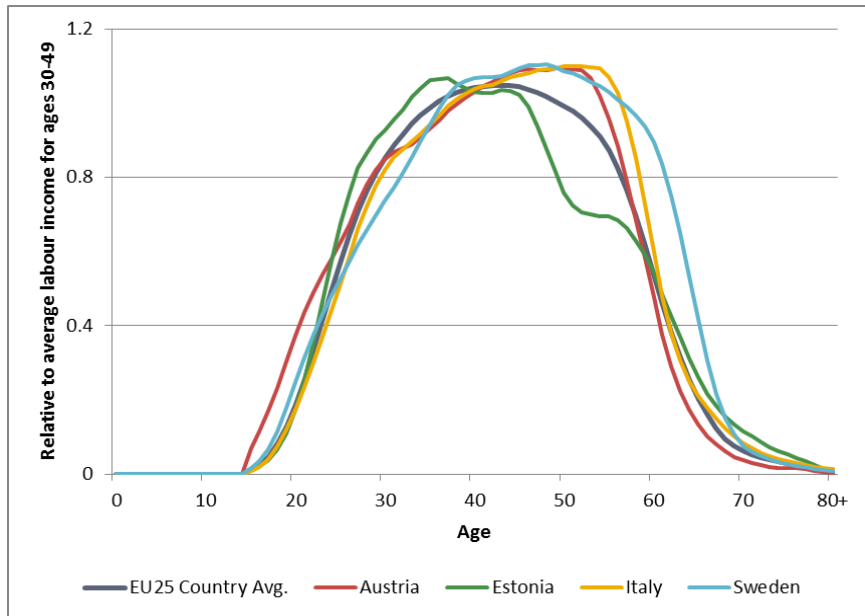
Source: Istenič et al., 2017

LABOUR INCOME

- individual level data; source: EU-SILC
- Earnings include:
 - cash/non-cash gross income (also holiday leave payment, compensation for food, transportation)
 - employer's social contributions
 - income of individuals younger than 16
- Self-employment labour income operating profit/loss less interest on business loans



TOTAL LABOUR INCOME

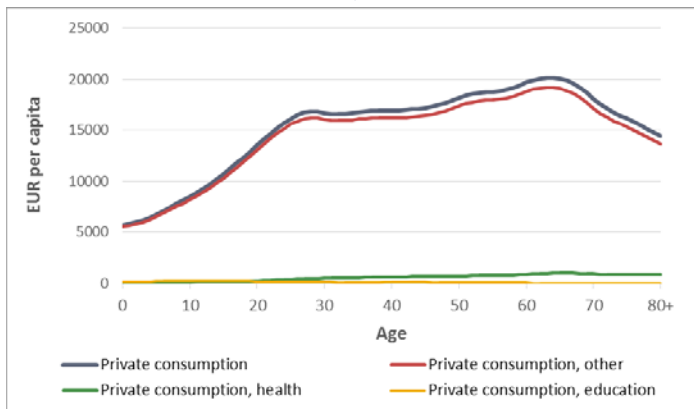


Source: Istenič et al., 2017

PRIVATE CONSUMPTION

- household level data
- the allocation rules are introduced
- sources: HBS, EU-SILC (imputed rents)

Austria, 2010



Source: Istenič et al., 2017

■ Education

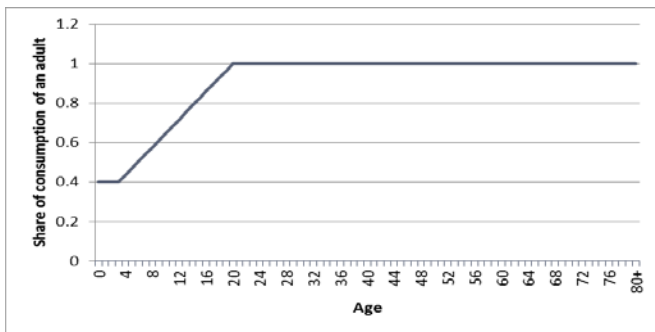
- source: HBS
- combining data on household expenditures and number of enrolled in different levels of education
- pre-primary and primary, secondary, post-secondary non-tertiary, and tertiary education
- unit costs are equal for all household members enrolled in a specific level

■ Health

- source: HBS
- regression method to estimate the share of household member's expenditure

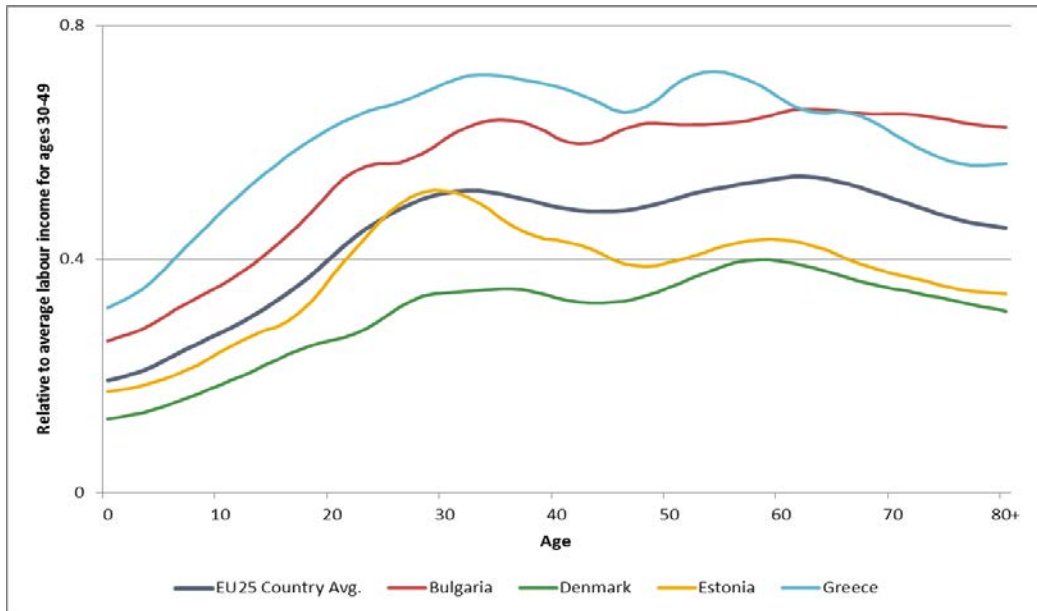
PRIVATE CONSUMPTION, OTHER

- modified Deaton's equivalence scale



- allocation of household expenditures: share of a member/sum of shares of all members

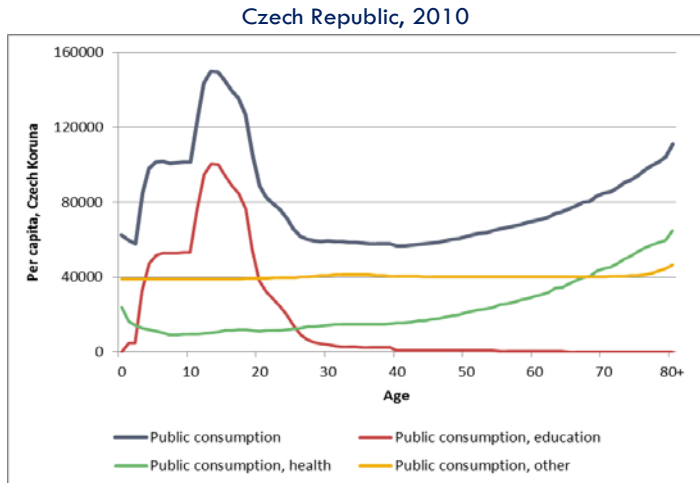
TOTAL PRIVATE CONSUMPTION



Source: Istenič et al., 2017

PUBLIC CONSUMPTION

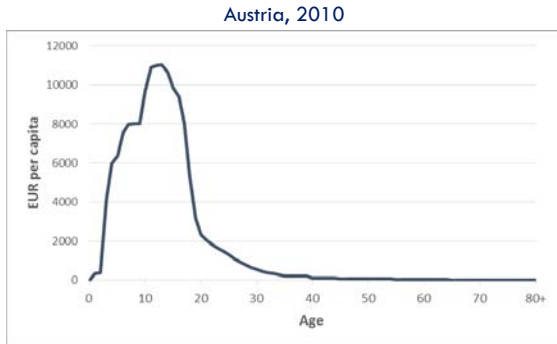
- sources: administrative records, in some cases survey data



Source: Istenič et al., 2017

PUBLIC CONSUMPTION, EDUCATION

- deriving the aggregate consumption expenditure by education level (data sources: Eurostat - COFOG, UNESCO)
- calculate the expenditure per enrolled person for each level (Eurostat)
- calculating enrolment rates by level at each age
- calculating per capita expenditures

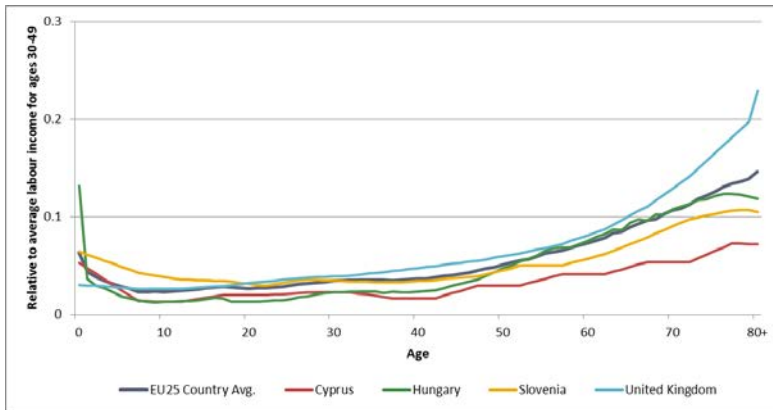


Source: Istenič et al., 2017

PUBLIC CONSUMPTION, HEALTH

- comparable administrative data source for all EU countries is not available
- using the pre-calculated age profiles of health care consumption from the Ageing Working Group

Selected EU countries, 2010



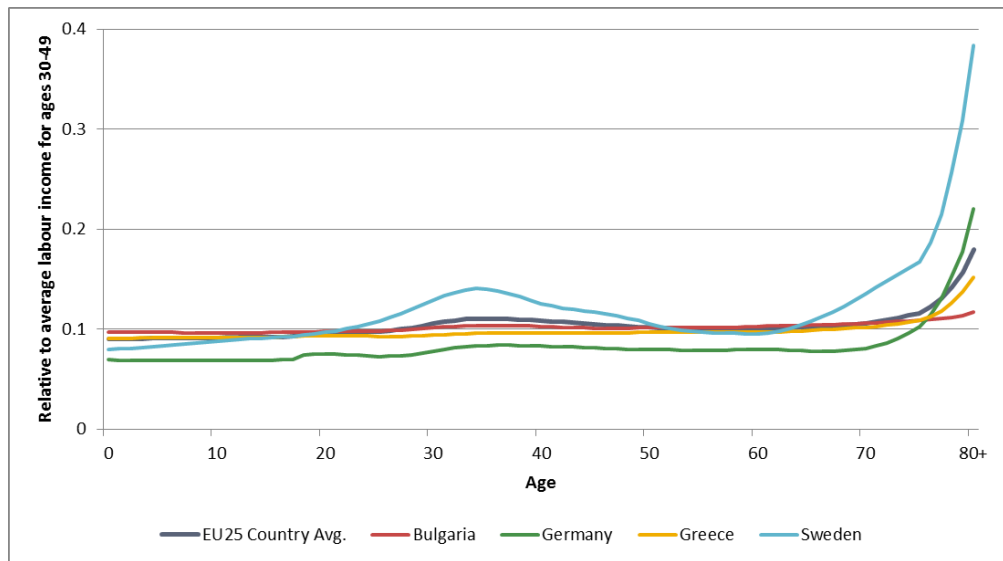
Source: Istenič et al., 2017 (based on AWG 2012/15)

PUBLIC CONSUMPTION, OTHER

Composed of two categories:

- collective consumption (allocated equally to all individuals)
- individual consumption (allocated to beneficiaries of public programmes)
 - *old age and sickness and disability* – long-term care distribution (source: AWG)
 - *unemployment, family and children, and housing* - taking the age profiles of the corresponding public cash transfers (explained later)

PUBLIC CONSUMPTION, OTHER



Source: Istenič et al., 2017

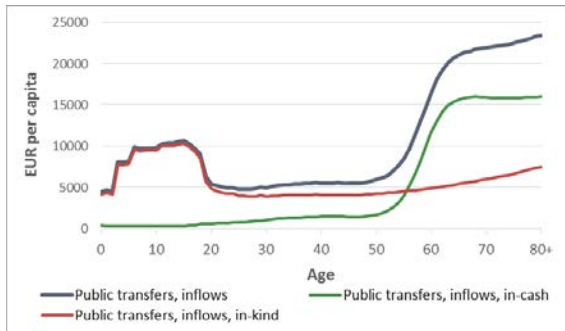
AGE REALLOCATIONS

- Public age reallocations
 - Net public transfers = public transfer inflows – public transfer outflows
 - Public asset-based reallocations = public asset income – public saving
- Private age reallocations
 - Net private transfers: inter-household and intra-household transfers
 - Private asset-based reallocations = private asset income – private saving

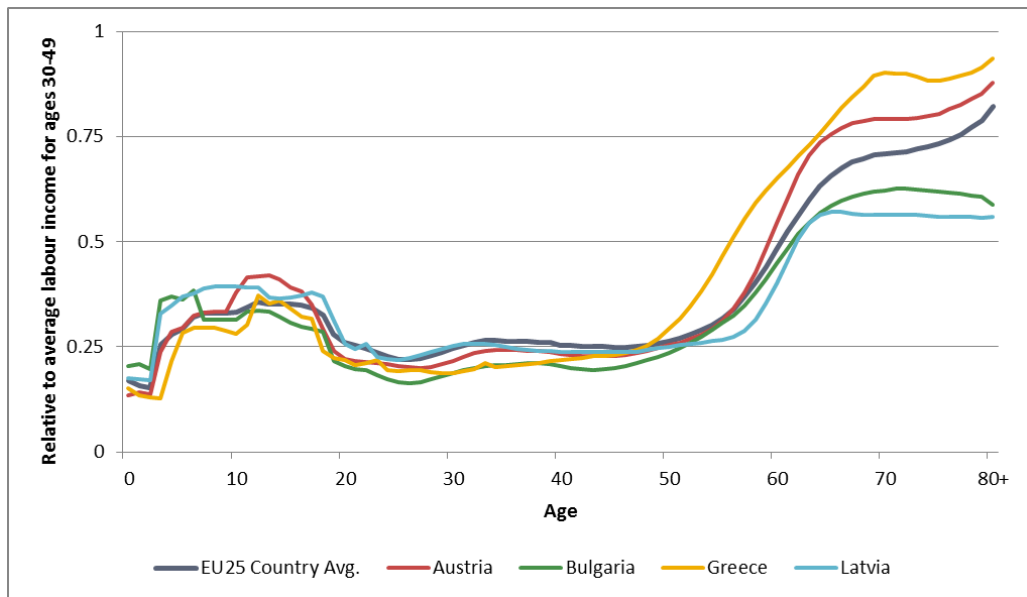
PUBLIC TRANSFER INFLOWS

- assigned to the beneficiaries of specific public program
- public transfer inflows in-kind = public consumption
- public transfer inflows in-cash: direct payments by the government → reported in EU-SILC
 - subcategories: education, health, pensions, unemployment, housing, family and children allowances, miscellaneous social protection

Italy, 2010



PUBLIC TRANSFER INFLOWS



Source: Istenič et al., 2017

PUBLIC TRANSFER OUTFLOWS

- taxes, social security contributions, other current transfers

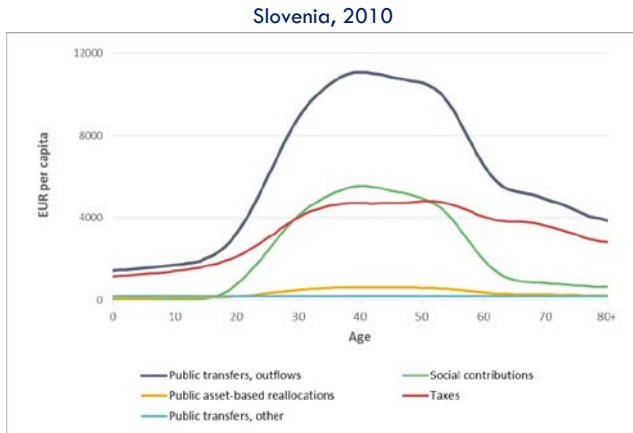
- ↳ taxes on asset income

- ↳ taxes on labour income

- ↳ taxes on consumption

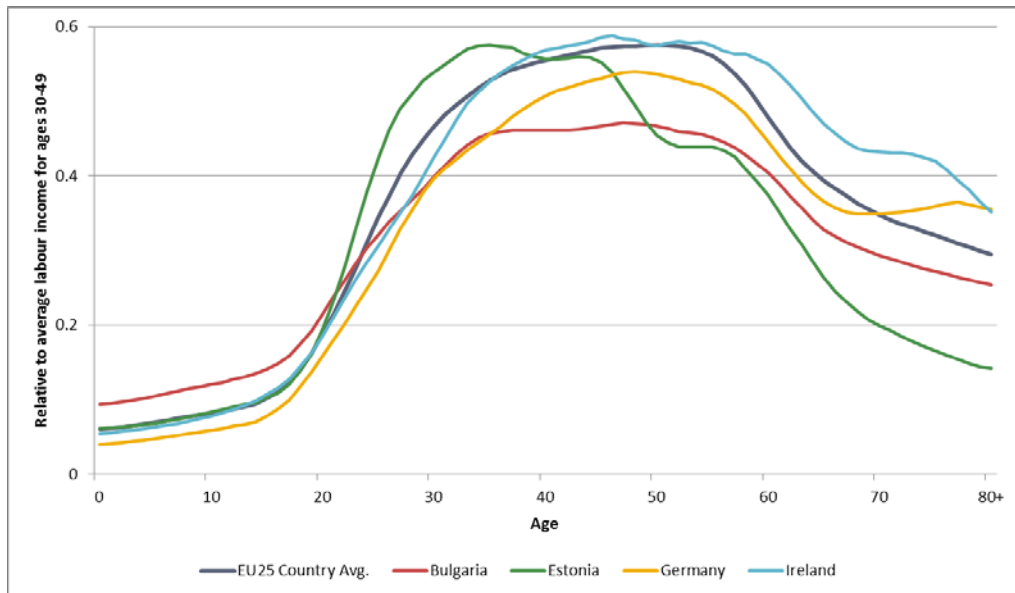
- the age patterns are based on already calculated age profiles

- if public outflows are insufficient to finance inflows, a public transfer deficit is generated (=public ABR)



Source: Istenič et al., 2017

PUBLIC TRANSFER OUTFLOWS

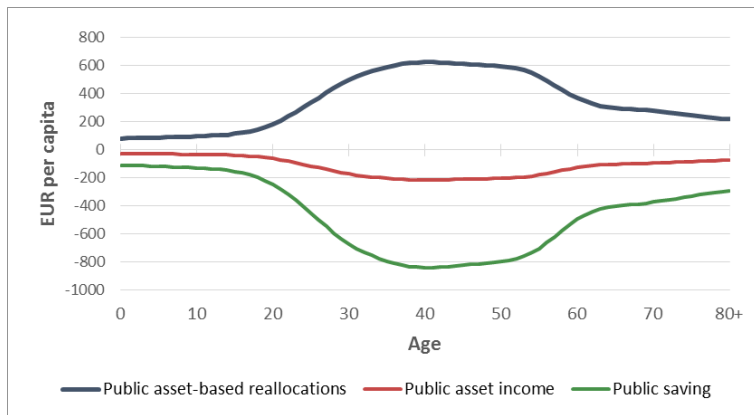


Source: Istenič et al., 2017

PUBLIC ASSET-BASED REALLOCATIONS

- to compile the age profiles we use the public transfer outflows (excluding ABR) age profile

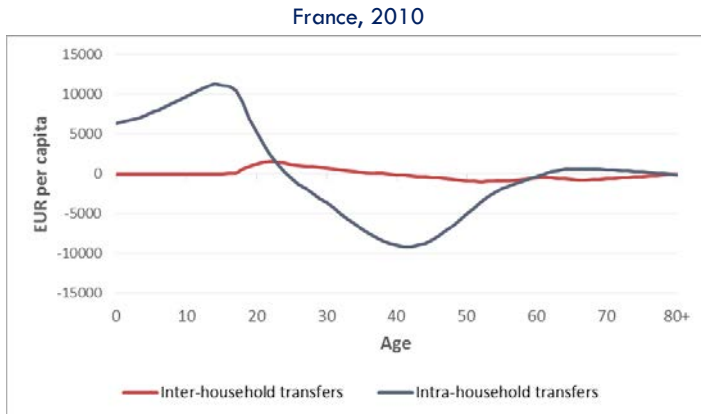
Slovenia, 2010



Source: Istenič et al., 2017

PRIVATE INTER-HOUSEHOLD TRANSFERS

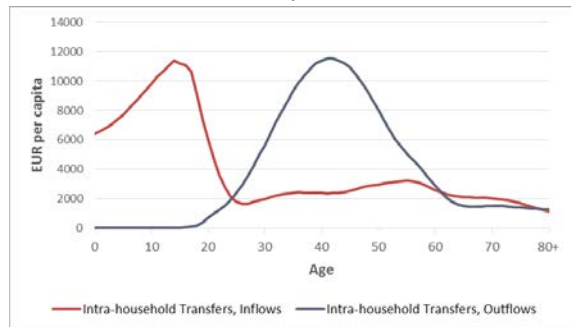
- reported on the household level (source: EU-SILC) → flowing to/from the household head
- relative importance of inter- and intra-household transfers



PRIVATE INTRA-HOUSEHOLD TRANSFERS

- an indirect estimation method
- using household structure from EU-SILC + already calculated age-profiles
- non-head members with the deficit receive inflows from members in surplus
- if household total deficit $>$ household total surplus \rightarrow deficits are financed by household heads (ABR)

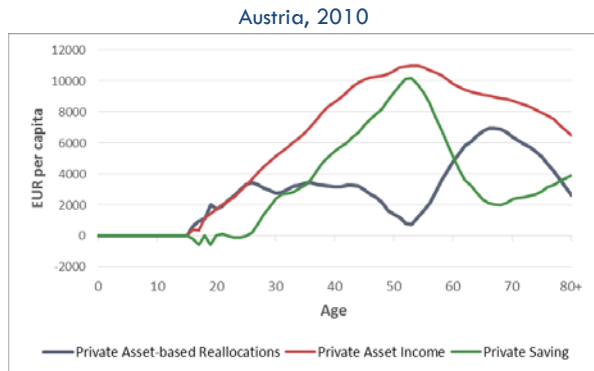
France, 2010



Source: Istenič et al., 2017

PRIVATE ASSET-BASED REALLOCATIONS

- **Private asset income**
- Source: EU-SILC
 - Capital income
 - Property income



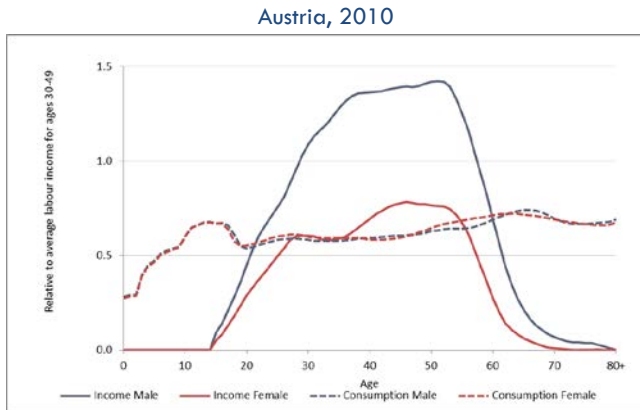
Source: Istenič et al., 2017

- **Private saving** – residual category:

$$S^f(a) = Y^l(a) - C(a) + \tau^g(a) + \tau^{inter}(a) + \tau^{intra}(a) + Y^{Af}(a) + Y^{Ag}(a) - S^g(a)$$

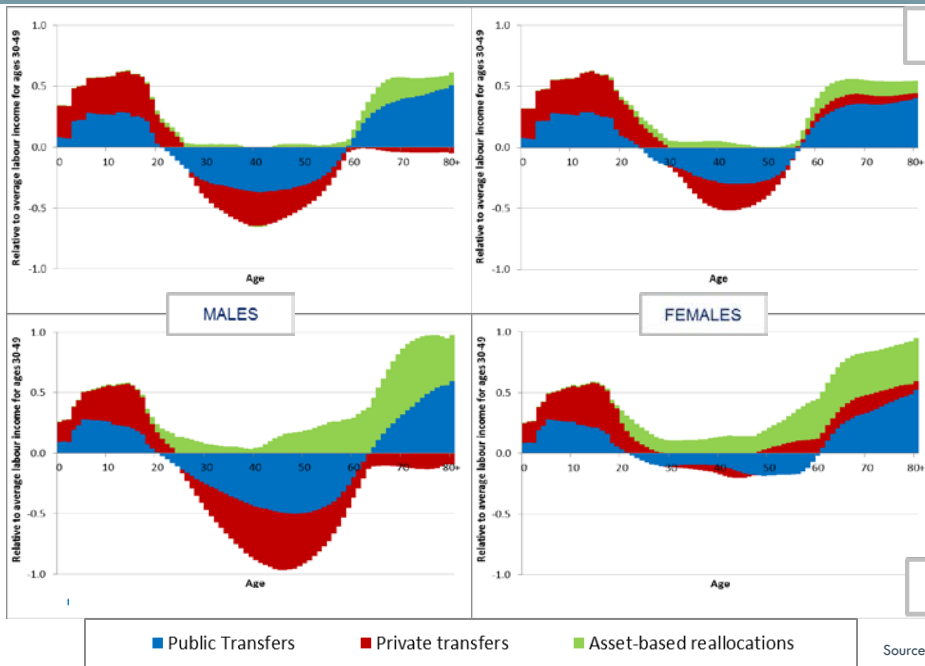
GENDER EXTENSION

- age-and gender-specific averages
- limitation: non-availability of macro controls
 - gender-specific age profiles adjusted to match the total



Source: Istenič et al., 2017

GENDER-SPECIFIC LCD FINANCING



SLOVENIA

MALES

FEMALES

UNITED KINGDOM

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Wittgenstein Centre

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