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NATIONAL (TIME) TRANSFER ACCOUNTS WORKSHOP

agenta

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

Vienna, November 22, 2017

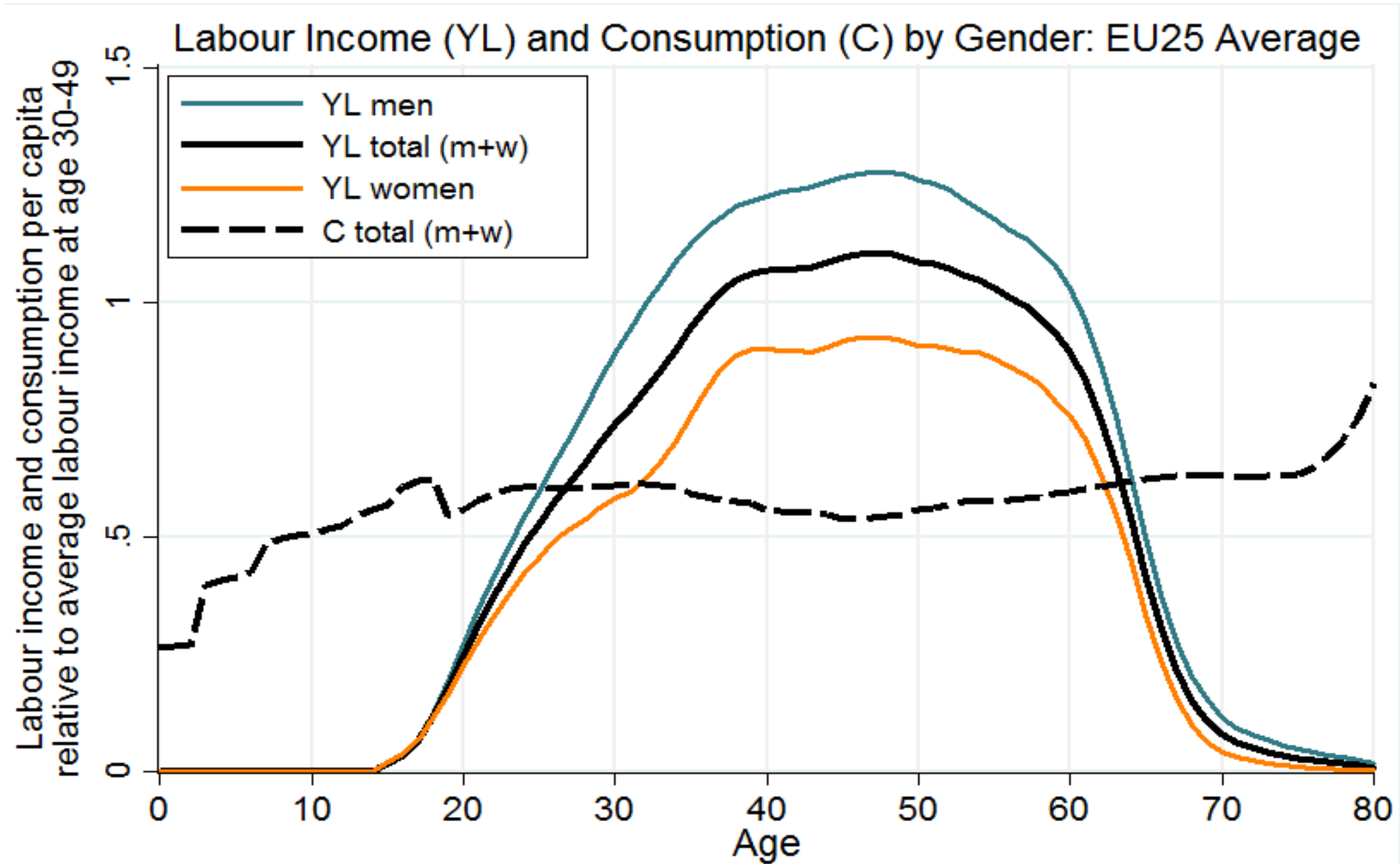
National Transfer Accounts

NTA introduce demographic information into economic data (age, sex, education, migration status)

National Transfer Accounts (NTA) measure by demographic groups:

- **Production and the generation of income**
 - **Distribution income:** public and private transfers
 - **Use of income:** consumption and saving
-
- The dataset contains the per-capita averages of income, transfers contributions, transfer benefits, consumption and saving by demographic group => age-profiles

National Transfer Accounts



Satellite Accounts

NTA are satellite accounts of the System of National Accounts (SNA)

Satellite accounts provide a framework linked to the central accounts and which enables attention to be focussed on a certain field or aspect of economic and social life in the context of national accounts (OECD Glossary of Statistical Terms). Examples are satellite accounts for the environment, or unpaid household work.

⇒ **National Transfer Accounts** introduce demographic information into the SNA

⇒ **National Time Transfer Accounts** extend the SNA production boundary to include household production and add demographic information (household satellite accounts by gender and age)

Global National Transfer Accounts Project

NTA-Project: www.ntaccounts.org



- Founders and coordinators: Ronald D. Lee (University of Berkley), Andrew Mason (East West Center Hawaii)
- Teams from 50 countries
- Development of methodology and collection of data

Literature:

- Lee, R. and Mason, A., editors (2011). *Population Aging and the Generational Economy: A Global Perspective*.
- UN (2013). *National Transfer Accounts Manual: Measuring and Analysing the Generational Economy*. United Nations

AGENTA Project

AGENTA project:

www.agenta-project.eu



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

- Joint research project of 9 European partners funded by the European Union's FP7 framework programme (grant agreement no 613247.)
- Explaining and forecasting public transfers in the light of demographic change
- Important part of the project: **gender-specific NTA and NTTA for European countries**
- Use of harmonized and publicly available data from Eurostat (ESA, EU-SILC, HBS...)
- NTA for almost all EU countries
- Using exactly the same methodology

Data Explorer

European National Transfer Accounts 2010



Countries

EU25 Population Avg. refers to the average individual in the 25 included countries.
EU25 Country Avg. to the average over all countries not weighted by population size.

Austria Italy

Select/deselect all

Central NTA Variables

1. Labour income (YL)

Select/deselect all

Units

Norm

Non-central NTA Variables

For a description of the variables and their abbreviation check the list of NTA variables.

Select additional variables

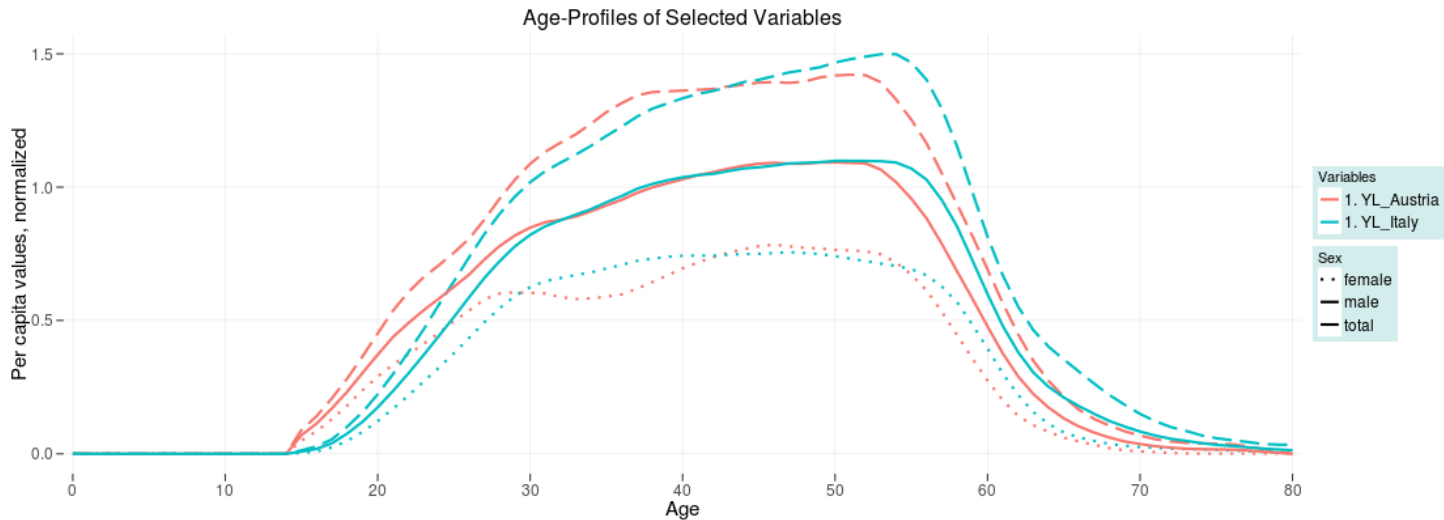
Select/deselect all

Sex

- Total
- Men
- Women

Quick Plot Country Subplots Variable Subplots Download in wide format Download in long format

This plot previews your selection and displays the first 15 of the selected age profiles.



Information and Help

A preliminary version of the [European NTA Manual](#) describes in detail the data sources and methodology. The final manual will be available in November 2017. The [NTA manual](#) of the global NTA project describes the NTA methodology in general.

Citation: We suggest the following citation: Istenic, T., Seme, A., Hammer, B., Lotric Dolinar, A., Sambt, J. (2016). European National Transfer Accounts. Available at: <http://www.wittgensteincentre.org/ntadata>.

Outline

- Until 9:45:** European National Transfer Accounts (NTA) and the European System of Accounts (ESA)
- 09:45-10:30:** The NTA age-patterns of production, transfers, consumption and saving
- 10:50–11:30:** National Time Transfer Accounts (NTTA): household satellite accounts by age and gender
- 11:30–12:30:** The AGENTA data explorer and selected applications of NTA and NTTA
- 13:30–13:55** The future of European NTA
- 14:00–14:45:** A close look behind the curtain: details and potential difficulties with NTA and NTTA
- 14:45-16:00:** Measuring population ageing



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EUROPEAN NATIONAL TRANSFER ACCOUNTS (NTA) AND THE SYSTEM OF NATIONAL ACCOUNTS

Vienna, November 22, 2017

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

Bernhard
Hammer



The Generational Economy

Generational economy

- The social institutions and economic mechanisms used to reallocate resources between generations and age groups and over age (time)
 - Intergenerational transfers
 - Asset based age reallocations
- Intergenerational reallocation of resources key function of societal institutions: family, public transfer system
- The size economic flows across generations or age groups

The Generational Economy

„Recent“ life course developments:

- **Educational expansion**
- **Longevity**

⇒ Emergence and prolongation of three distinct life-stages: childhood/youth, working age, retirement

⇒ Age reallocation of resources: transfers between generations, age-reallocation of resources through asset accumulation (generational economy)

- Recognition of the importance generational economy in economics: Samuelson (1958), OLG models; Modigliani (1966), life cycle model of consumption;

⇒ Understanding the generational economy requires appropriate data!

The Generational Economy and the State

„Temporary demographic dividend“ in the second half of the 20th century:

- Baby boomers entering workforce
- High productivity growth
- Decreasing fertility, increase in employment rates of women

⇒ **Expansion of the public system of old age provision**

- The public transfer system constitutes of implicit liabilities (promise to redistribute sufficient resources from working age population to elderly)
- Longevity and baby boomers approaching retirement questions sustainability of the system
- Auerbach, Gokhale & Kotlikoff (1991): Generational accounting

⇒ GA's require age-specific economic data on public transfers!

Beyond GDP: Demography in the SNA

Beyond GDP - measuring aspects of the economy that are not captured in National Accounts:

- Generation of new indicators and measures
- Adding information to the SNA

Advantages of the System of National Accounts

- Thought out well, not easy to generate alternative system
- Contain central economic information (income, transfers, consumption, saving)
- Extensive data collection: statistical offices, support from supranational organizations
- Comparable across countries

Demography in the SNA: NTA Approach

The NTA approach:

1. Take **aggregates from the System of National Accounts (ESA95)**
2. Use **survey data and administrative data** to estimate distribution across demographic groups
3. Estimation of transfers within households

Linking NTA and the SNA

National Accounts

- Measure transactions between institutional units
- SNA include aggregates by sector (corporations, households, public sector, NPISH)

National Transfer Accounts

- Measures transactions and flows between individuals
- NTA measures aggregates by demographic groups (age-groups, gender), distinguishing public sector, private sectors and the rest of the world

Sequence of National Accounts

1. Production account	Records the activity of producing goods and services: $output - intermediate\ consumption = value\ added\ (GDP)\ in\ basic\ prices$
2. Generation of income account	Shows the types of primary incomes: $value\ added - compensation\ of\ employees - mixed\ income = operating\ surplus$
3. Allocation of primary income account	Net national income for the total economy: $operating\ surplus - consumption\ of\ fixed\ capital + compensation\ of\ employees + mixed\ income + property\ income = balance\ of\ primary\ incomes\ (net\ national\ income)$
4. Secondary distribution of income account	$Balance\ of\ primary\ incomes - cash\ transfers = disposable\ income$
5. Redistribution of income in kind account	$Disposable\ income - transfers\ in\ kind = adjusted\ disposable\ income$
6. Use of disposable income accounts	$Adjusted\ disposable\ income - final\ consumption = saving$
7. Capital account	$Saving + net\ capital\ transfers - capital\ formation - change\ in\ inventories - acquisition\ less\ disposals\ of\ valuables = net\ lending/borrowing$

Reminder: National Transfer Accounts

National Transfer Accounts (NTA) measure by demographic groups:

- **Production and the generation of income**
- **Distribution of primary incomes:** public and private transfers
- **Use of income:** consumption and saving

Values for the total economy (no distinction by demographic groups)?

National Transfer Accounts - Introduction

3. Allocation of primary income account	Net national income for the total economy: <i>operating surplus – consumption of fixed capital + property income + mixed income + compensation of employees = balance of primary incomes (net national income)</i>
4. Secondary distribution of income account	<i>Balance of primary incomes – cash transfers = disposable income</i>
5. Redistribution of income in kind account	<i>Disposable income – transfers in kind = adjusted disposable income</i>
6. Use of disposable income accounts	<i>Adjusted disposable income – final consumption = saving</i>

Central NTA Quantities in the SNA

NTA	SNA
Labour income (YL):	Compensation of employees, labour share of mixed income (2/3)
Asset income (YA):	Net operating surplus, net property income, capital share of mixed income (1/3)
Public transfer outflows (TGO):	Taxes, social contributions
Public transfer inflows (TGI):	Social benefits (cash), social transfers in kind, collective consumption
Private transfers (TF) (inter-household transfers):	Other current transfers, social contributions and benefits, consumption of NPISH
Consumption (C):	Final consumption expenditure of public and private sectors
Saving (S):	Net saving

NTA Accounting Identity

$$\underbrace{YL + YA + TG + TF}_{\text{disposable income}} = \underbrace{C + S}_{\text{use of income}}$$

Labour income + asset income + net transfers = consumption + saving

$$\underbrace{C - YL}_{\substack{\text{age reallocations/} \\ \text{life cycle deficit}}} = \underbrace{TG + TF}_{\text{transfers}} + \underbrace{(YA - S)}_{\text{asset based reallocations}}$$

Consumption - labour income = transfers + asset based reallocations

System of National Transfer Accounts

Life cycle account	Consumption – labour income = age reallocations (life cycle deficit)
Transfer account	<i>Age reallocations - public transfers - privat transfers = asset based reallocations</i>
Asset based reallocation account	<i>asset based reallocations – asset income = -saving</i>

System of National Transfer Accounts

The System of National Transfer Accounts, Austria 2010, NNI p.c.				
		Age 0-24	Age 25-59	Age 60+
Life Cycle Account	Consumption	19,731	22,094	25,091
	- Labour income	-5,442	-34,391	-3,642
	= Age reallocations	14,289	-12,297	21,449
Transfer Account	- Transfers	-13,489	15,251	-16,160
	= Asset based reallocations	800	2,953	5,289
Asset Based Reallocation Account	- Asset income	-523	-7,847	-7,924
	= -Saving	277	-4,894	-2,634

System of National Transfer Accounts

Aggregate NTA 2010, in % of NNI		Austria	Bulgaria	Italy	Sweden
	NNI per capita	25,332	3,550	18,863	28,499
Life Cycle Account	Consumption	87.4	94.5	99.4	82.1
	- Labour income	-76.8	-66.4	-73.8	-75.3
	= Age reallocations	10.6	28.0	25.6	6.8
Transfer Account	- Transfers	0.9	-6.4	1.4	1.8
	= Asset based reallocations	11.5	21.6	27.0	8.6
Asset Based Reallocation Account	- Asset income	-23.2	-33.6	-26.2	-24.7
	= -Saving	-11.7	-11.9	0.8	-16.1

Life Cycle Account

Consumption:

- Public consumption. Final consumption expenditure of the public sector: health, education, other. (EUROSTAT, general government expenditure by function, COFOG)
- Private consumption. Final consumption expenditure of households and NPISH: health, education, imputed rents, other. (EUROSTAT, household consumption purpose, COICOP)

Labour income:

- Labour and asset income corresponds largely to net national income
- Labour income: compensation of employees (wages and salaries, employers' social contributions), labour share of mixed income (2/3 of mixed income)

Life Cycle Account

Year 2010, in % of NNI	Austria	Bulgaria	Italy	Sweden
Consumption in % of NNI	87	94	99	82
Private consumption	61	72	70	47
Health	2	3	2	2
Education	0	1	1	0
Other	59	68	67	45
Public consumption	26	23	29	35
Health	7	6	10	9
Education	7	4	6	8
Other	12	13	14	18
- Labour income	77	66	74	75
- Compensation of employees	68	56	61	72
- Labour share of mixed income	9	11	13	3
Age reallocations	11	28	26	7

Public Transfers

Public transfer outflows

- Taxes, social contributions, other current transfers

Public transfer inflows

- Social benefits other than social transfers in kind, social transfers in kind, collective consumption
- Social benefits (cash transfers) by type: EUROSTAT, ESSPROS
- Transfers in kind (=public consumption): consumption expenditure according to COFOG
- Categories: education, health, old age, other

Private Transfers

- Private transfers are transfers without the public sector as intermediary: transfers between households (inter-household) and within households (intra-household, not in SNA)
- Inter-household transfers: organized by corporations, NPISH and households: social contributions and benefits, consumption of the NPISH, other current transfers (alimony payments...)

Transfer Account

Year 2010, in % of NNI	Austria	Bulgaria	Italy	Sweden
LCD	11	28	26	7
- Net public transfers	1	1	1	2
Outflows	56	42	58	59
- Inflows	-55	-41	-57	-57
- Health	-9	-6	-11	-10
- Education	-7	-4	-6	-8
- Social protection, old age	-21	-14	-25	-20
- Other	-19	-16	-16	-19
- Net private transfers	0	-7	0	0
Asset Based Reallocations	11	22	27	9

Asset Based Reallocation Account

Asset income:

- Net operating surplus (without consumption of fixed capital)
- Net property income from ROW
- Capital share of mixed income

Saving:

- Net saving

Asset Based Reallocation Account

Year 2010, in % of NNI	Austria	Bulgaria	Italy	Sweden
Asset Based Reallocations	11	22	27	9
Asset income	23	34	26	25
Private asset income	25	33	31	23
Public asset income	-2	0	-5	2
Saving total	12	12	-1	16
Public saving	-2	-2	-5	2
Private saving	14	13	4	15

Aggregate Excel Sheet

Sources:

European National Transfer Accounts Manual: will be online soon at www.wittgensteincentre.org/ntadata

The *Excel file for the aggregate values* contains the data required for the calculation of aggregate values and show in details the calculations:

www.wittgensteincentre.org/ntadata