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Income Inequalities between Age Groups in Europe and their Change from 2008 to 2016 - Extended Abstract

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Abstract The paper measures and analyses age-specific income and its changes between 2008 and 2016 in European countries. For this purpose we develop and calculate a set of indicators based on macro and micro data. First, we use aggregate economic data from the European System of Accounts to measure changes in gross and net income by type of income. Second, we use micro-data from the European Union Statistics on Income and Living Conditions to analyse in detail how these changes affected men and women in distinct age groups. We show that the income of the younger age groups stagnated or declined since 2008, while it continued to increase for the older population. Causes are a decline in employment and real wages in the economic crisis and an increase in average pensions relative to primary incomes.

Keywords Generational Economy · Intergenerational Equity

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1 Introduction

The economic developments since 2008 have affected the income of distinct age groups in different ways. We use indicators based on macro- and micro-economic income data to address the following questions: (1) How did incomes of distinct age groups change between 2008 and 2016? Can these changes be attributed to changes in employment, working hours, wages and social benefits? (2) How did changes in income affect young adults compared to older working age adults and retirees? Are economic inequalities between generations widening over time?

An age-perspective on income is important to understand economic decisions of individuals and for assessing social protection systems. The population at each life stage faces specific economic challenges.

1.1 Literature

The macro economic developments between 2007 and 2016 resulted in a reallocation of income between generations. Literature and data indicate that the income of young people has suffered much stronger as a result of the economic crisis, compared to older generations.

Chen et al. (2018) show that, as consequence of the economic crisis, the poverty rates among the young increased in the last years, while they declined for the elderly. They conclude that public social protection systems shield the elderlys real incomes from the impact of the crisis but offer little assistance to young individuals. Young generations typically lack asset wealth that acts as buffer and, due to temporary contracts, young are more likely to be affected by labour market downturns. Among the most important determinants are the increasing unemployment and stagnating wages for job entrants.

Corlett (2017) analyses income and inequality between and within generations in the UK, identifying seven distinct generations born between the year 1881 and 2000. He finds that the Millenials, born from 1981-2000, are the first generation with lower real incomes in their late 20s than the previous generation. Economy-wide effects have a big impact on progress in generational living standards for different parts in the income distribution. The income of pensioner households increased much stronger than working age incomes since 2001, with the results that the income of pensioner households is higher than of the working age population.

1.2 Outline

Our paper provides a comprehensive analysis of changes in income of distinct age groups during the last decade in European countries. For these purpose we use a range of indicators that capture and track these changes.

First, we use aggregate economic data to analyse the overall development of labour and capital income, taxes and social benefits. Main data sources are the European

System of Accounts (ESA), data on government expenditure by function and data on the tax structure. These data allow an analysis by income from employment, self-employment and transfer income. Data on government expenditure is used to identify changes in expenditure on old age vs. on young groups of the population.

Second, we use micro-data from EU-SILC to analyse the distribution of income at distinct age groups in detail. Our focus is on the distribution of income between and within age groups. For this purpose we use several indicators, including age-specific means and percentiles, as well as the share of persons in each age-group earning above median. Do get insights into the changes in income, we decompose changes in income into its components.

With our work we provide a comprehensive and detailed source of information on age-specific income and its changes during the last decade. All indicators can be accessed online at. The information allows a better understanding of decision of individuals and consequently of macro-economic developments.

2 Changes in income: evidence from macro-economic data

How did income per capita change between 1995 and 2017? Using ESA data in combination with data on tax structure we analyse size and structure of disposable income of the household sector and its changes over time. Surprisingly many countries still struggled in 2017 to return to the level of real income per capita before the crisis that started around 2008.

2.1 Disposable income

Disposable income represents the income of households that is disposable for consumption and saving. It accounts for taxes and social contributions paid, and social benefits (in cash) received. In all European countries the economic downturn starting at 2008 affected the growth of income, many countries experienced a decline in the per capita levels. The countries differ considerably in the level of decline and how long they required to return to a growth path. Sweden, Norway, Poland and Bulgaria are among the countries that experienced high growth rates and were not strongly affected by the crisis. By contrast, Greece, Italy, Spain, and Portugal are the countries with huge effect of the crisis, resulting in lower income in 2017 than in 2008.

Disposable income can be divided into net primary income and transfer income. Transfer income consist mostly of public social benefits, including pensions, unemployment benefits and family benefits. Social benefits increased in the aftermath of the economic crisis, most notably in the countries which experienced the strongest decline in disposable income. However, in several countries the increase is seems to be not only an effect of the crisis. The strong increases in public transfers in Greece before 2008 is also one of the causes of the public debt crisis. Social transfers are

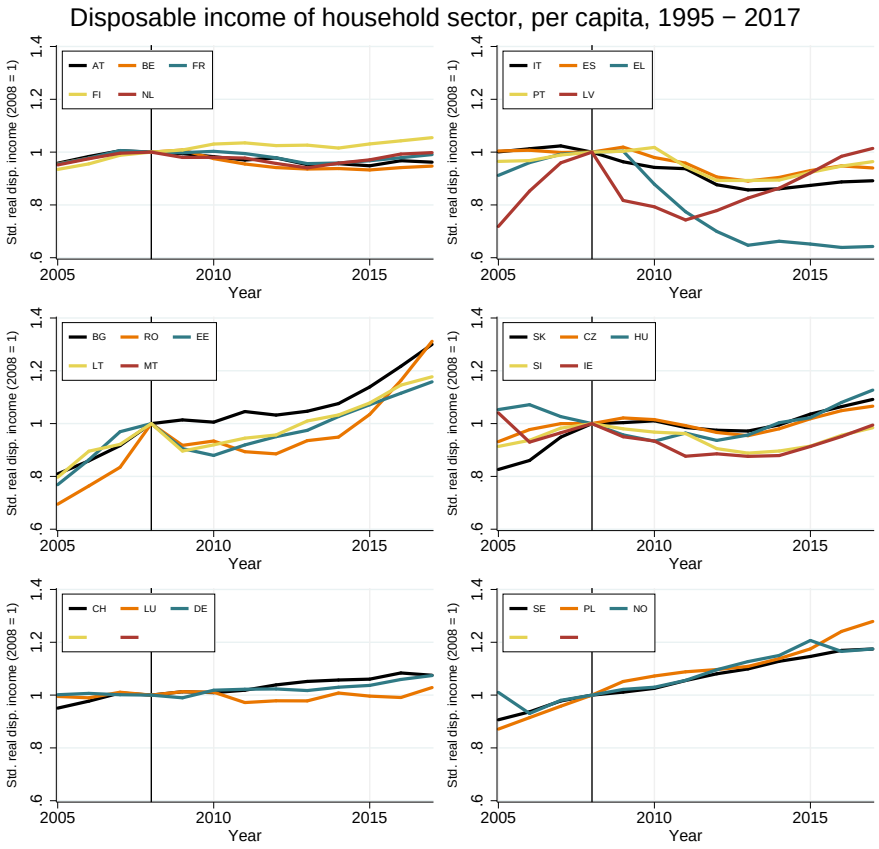

Fig. 1 Disposable income

largely transfers between households, mostly form the employed population to inactive persons in retirement. Consequently, the share of transfers affect the income distribution between generations in favor of the elderly population.

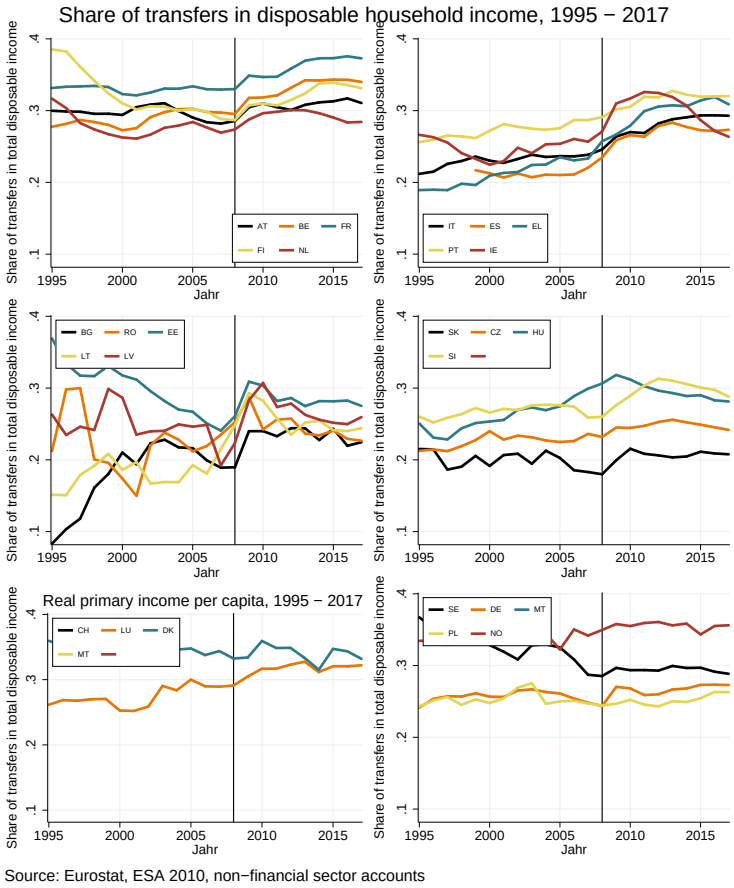

Fig. 2 Share of transfer in disposable income

3 Income by age

We use EU-SILC data to analyse age-specific income and its change between 2008 and 2016. First, we analyse the composition and distribution of individual income and its change in the 2007-2016 period. Second, we use several indicators to analyse equivalised household income, which accounts for redistribution within households and can be used as a measure of economic wellbeing.

We are currently working on this part of the paper, we therefore give only an overview using one country as example.

3.1 Individual income

We assign all income components of households to individuals. The quantitatively most important types of income and given at individual level in EU-SILC. This includes income from employment, income from self-employment, pensions and unemployment benefits. Income components that are given at household level include family benefits, imputed rents, asset income and income of persons younger than 16.

For allocating income at household level to individuals we use several different rules, depending on the type of income. Family benefits are assigned to the parents of the economically dependent children in the household. These transfers are partly targeted at the person reducing paid work and taking over most of the care responsibilities, usually the mother. Therefore, the family benefits are shared within couples according to the inverse share of their labour income. If one of the partners devotes the time solely to childcare and domestic work, this partner receives all of the family benefits. Imputed rent is regarded as type of asset income and assigned to the persons that are responsible for the accommodation. Asset income is assumed to shared among all adults in the household.[1] The personal income of persons below 16 is assigned to the 15-year-old members, or the oldest child in case there are no 15 year old.

Figure 3 shows individual income and its components for 2008 and 2016 in Austria. The real income of the young population stagnated during this period, while the income of pensioner age groups from 60-79 increased.

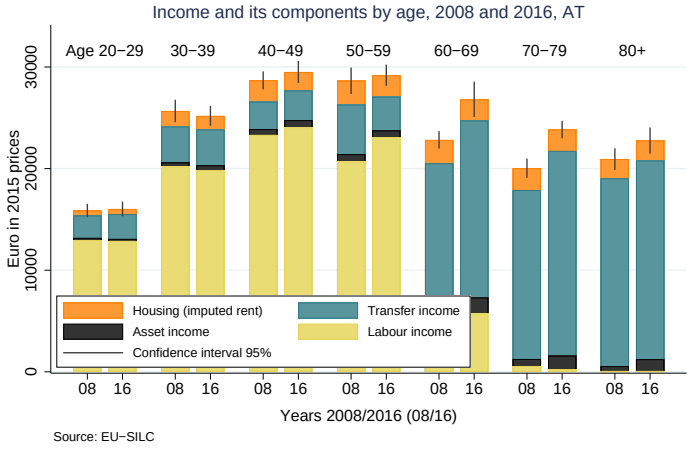

Fig. 3 Incomes by type, 2008 and 2016

[1] We evaluated the sensitivity regarding this assumption by assigning all asset income to the person responsible for the accommodation. Because only a small part of asset income is actually captured in EU-SILC, the exact allocation rule does not affect our results.

The changes were similar, independent of income level. Figure **??** shows the changes in individual income for the median in each age group, as well as for the first and fourth quintile in each age group.

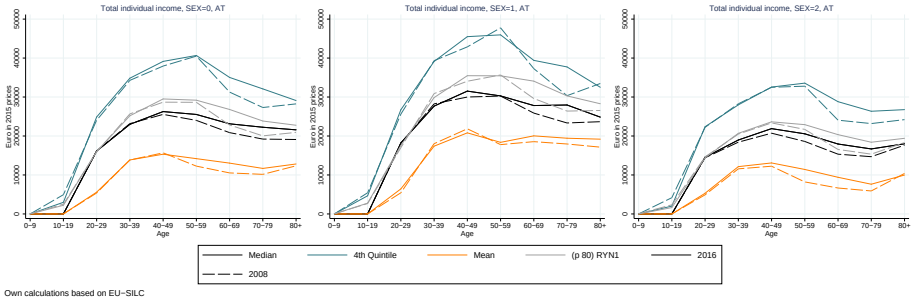

Fig. 4 Individual income, median, mean and quintiles, 2008 and 2016

3.2 Changes in employment and working hours

How did employment change between 2007 and 2017 at the extensive and intensive margin? We use data from EU-SILC and the Labour Force Survey to estimate full-time and part-time employment rates by 10-year age groups. The labour force survey has advantages as it is considerably larger than EU-SILC and focuses solely on labour participation.

While in Austria we do not observe large changes in employment rates between 2008 and 2016 (Figure 5), we observe a considerable reduction in working hours per employed person (Figure 6)

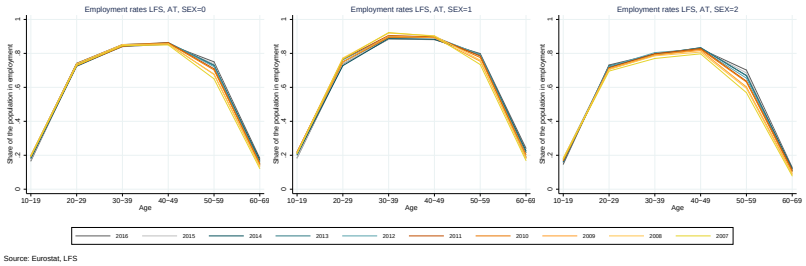

Fig. 5 Age-specific employment rates in LFS, 2007-2016

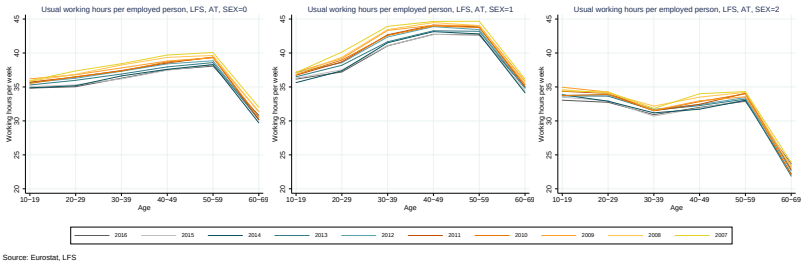

Fig. 6 Age-specific working hours per employed person LFS, 2007-2016

3.3 Equivalised household income by age

Individual income is not appropriate to assess the economic situation at distinct ages and life stages. First, income is shared and finances also the needs of economically dependent household and family members UN (2011). Second, a measure of economic wellbeing should take into account economies of scale in consumption. The needs for housing space and facilities do not increase proportionally to household size (OECD, 2019).

A common way to analyse income by demographic groups is an analysis of equivalized household income by household types. Equivalized household income (EHI) expresses the income of an household in terms of single-household equivalents, taking into account number of household members and their age. Eurostat uses the OECD-modified equivalence scale, assigning a value of 1 to the first adult household members, 0.5 to additional adult household members and 0.3 to children. According to this scale, a couple with two children would require a income that is $(1 + 0.5 + 2 * 0.3) = 2.1$ times higher, compared to a single household, to be equally well off.

Figure 7 shows the quartiles of EHI by age groups. The gains in income between 2007 and 2016 are concentrated in older age groups. Of the population below the age of 40 only the third quartile increased slightly.

Figure **??** plots quartiles of EGI by life stages. We observe at least small income gains at all life stages, with the strongest increase for older workers without dependent children and retirees. The gains are similar over the whole income distribution.

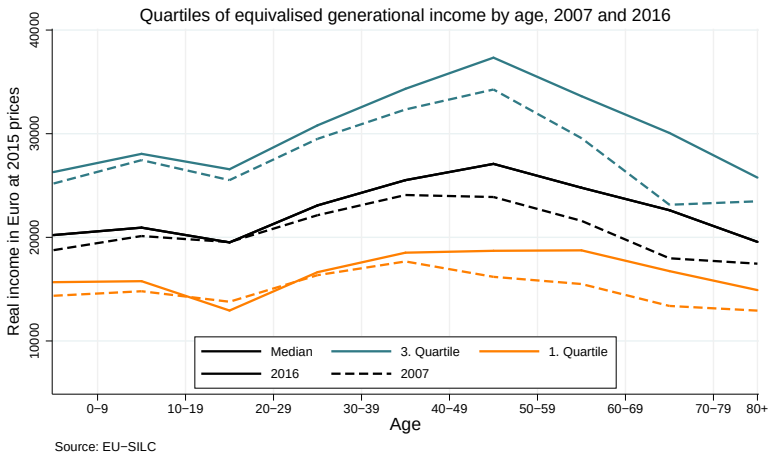

Fig. 7 Quartiles of equivalised household income, 2007 and 2016

4 Indicators

In this section we will summarize the information from the previous two chapters in a set of indicators that provide comprehensive, but nevertheless compact and easy to understand information on age-specific income and its changes between 2008 and 2016. Currently we have not yet calculated the indicators and decided which indicators should be included.

5 Conclusion

(1) How did incomes of distinct age groups change between 2008 and 2016? Can these changes be attributed to changes in employment, working hours, wages and social benefits?

(2) How did changes in income affect young adults compared to older working age adults and retirees? Are economic inequalities between generations widening over time?

The 2008 crisis affected income and its growth in the majority of European countries. With few exceptions was income in 2016 at about the same level as in 2008. In Greece Italy and Spain income increased considerably. In the countries which we analysed so far, we observe a decline in the income of younger generations compared to the older working age population and retirees.

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